The London medical dictionary: including, under distinct heads, every branch of medicine, viz. anatomy, physiology, and pathology, the practice of physic and surgery, therapeutics, and materia medica ; with whatever relates to medicine in natural philosophy, chemistry, and natural history (Volume 1).

Contributors

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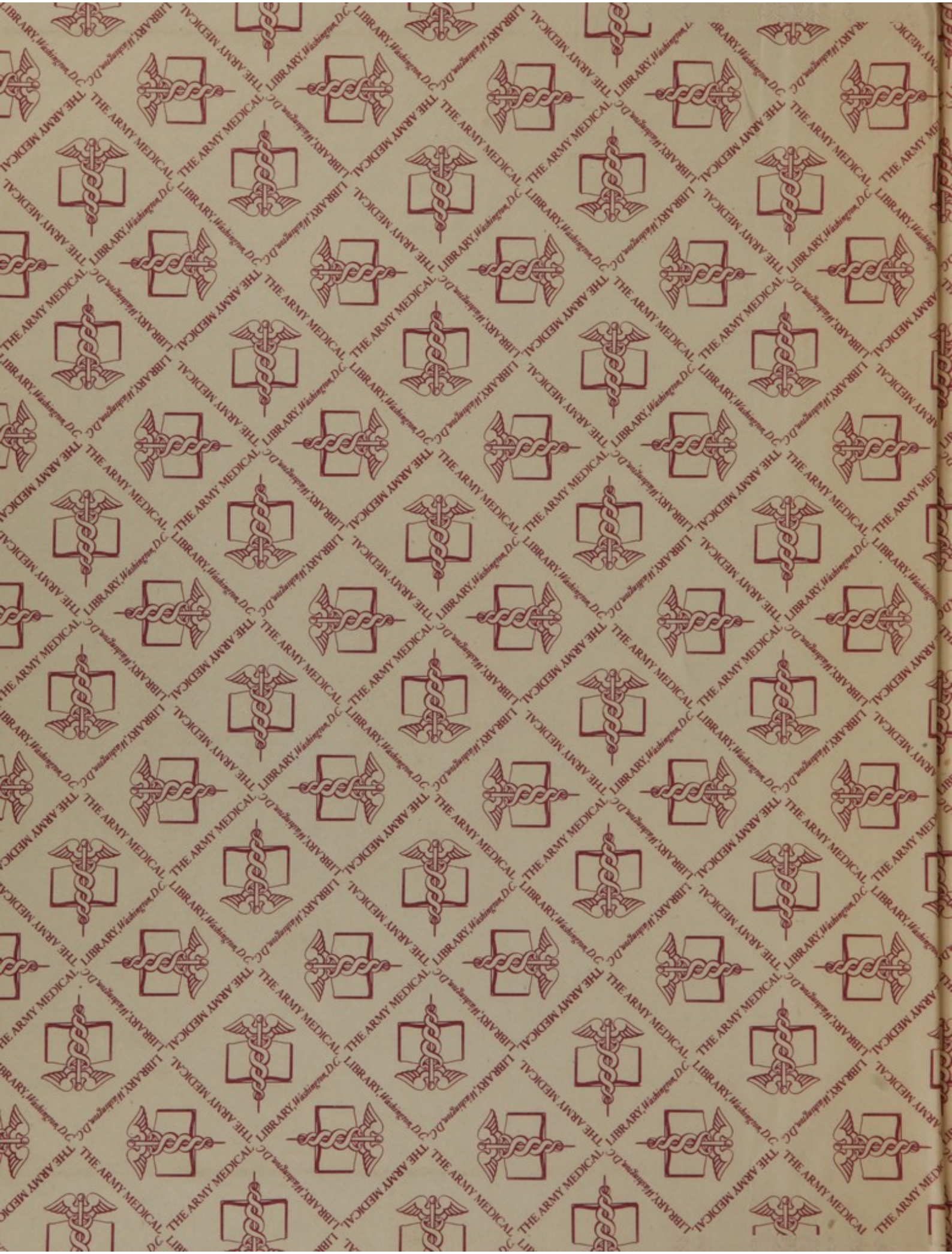
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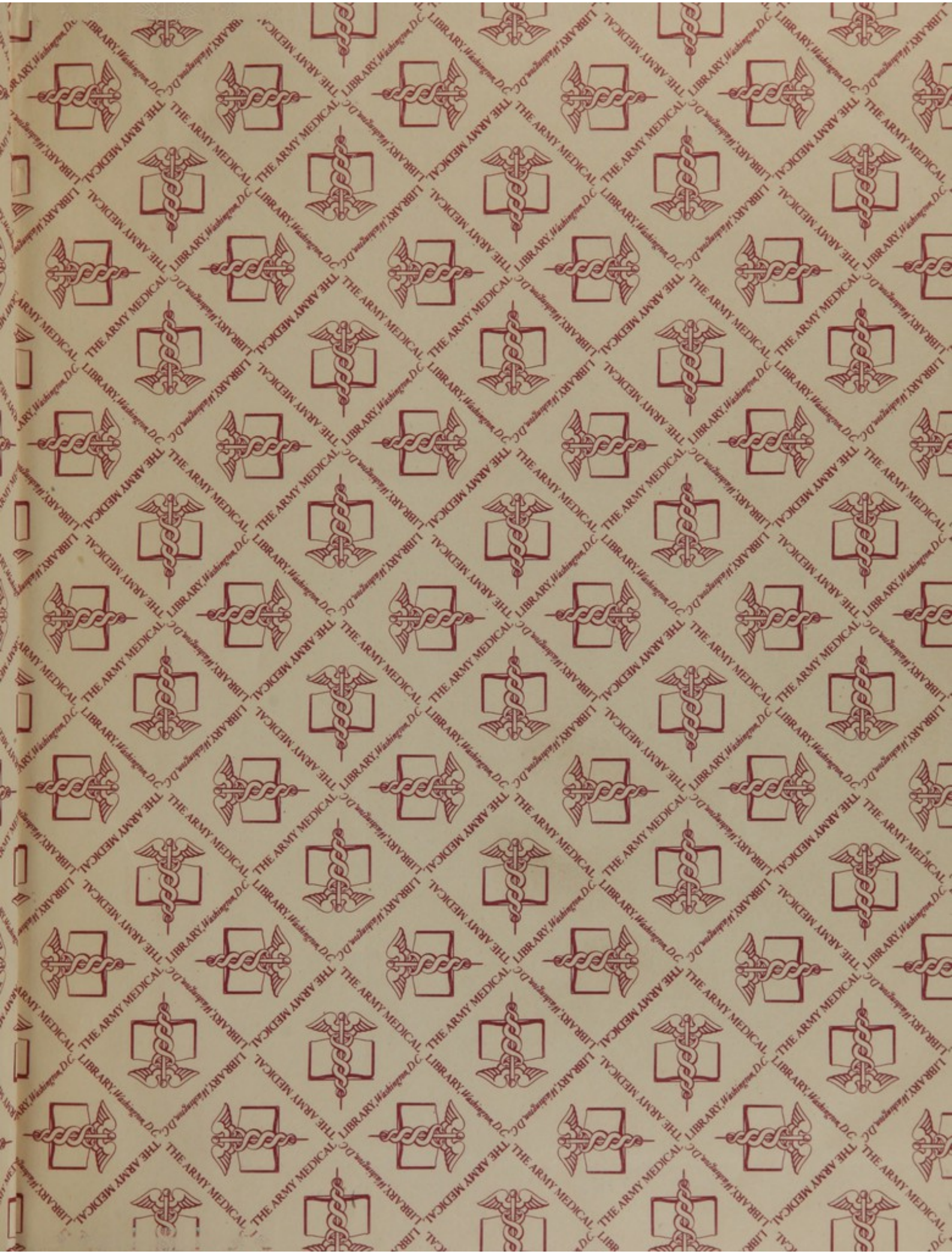
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THE

LONDON MEDICAL DICTIONARY;

INCLUDING, UNDER DISTINCT HEADS,

EVERY BRANCH OF MEDICINE,

VIZ.

ANATOMY, PHYSIOLOGY, AND PATHOLOGY,

THE PRACTICE OF

PHYSIC AND SURGERY,

THERAPEUTICS, AND MATERIA MEDICA;

WITH WHATEVER RELATES TO MEDICINE IN

NATURAL PHILOSOPHY, CHEMISTRY,

AND

NATURAL HISTORY.

BY BARTHOLOMEW PARR, M. D.

FELLOW OF THE ROYAL SOCIETIES OF LONDON AND EDINBURGH, AND SENIOR PHYSICIAN OF THE DEVON AND EXETER HOSPITAL.

Creditur, ex medio quia res arcessit, habere
Sudoris minimum; sed habet————tanto
Plus oneris, quanto veniæ minus. HOR.

Lexican contexat, nam cætera quid moror, omnes
Pœnarum species, hic labor unus habet.
SCALIGER.

VOL. I.

LSCO

PHILADELPHIA:

PUBLISHED BY MITCHELL, AMES, AND WHITE.

William Brown, Printer.

1819.

ANNEX
Dict.

0321

TO THE RIGHT HONOURABLE

SIR JOSEPH BANKS, BART.

KNIGHT OF THE BATH,

PRESIDENT OF THE ROYAL SOCIETY.

SIR,

YOUR kind permission of addressing these volumes to you, as it affords me an opportunity of acknowledging the many obligations you have conferred, I received with the greatest satisfaction. A work, nearly approaching in its object that department of science in which you are so eminent; which rests on the observation of Nature in all her varied forms as her securest foundation;—in fact, THE NATURAL HISTORY OF THE BODY AND MIND, cannot, I trust, to YOU be unacceptable. Should it appear to be executed in a manner worthy the approbation of yourself and the public, my highest ambition will be gratified.

I have the honour to be, SIR,

Your very obliged and faithful

Humble servant,

BARTHOLOMEW PARR.

Exeter, November, 1808.

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PREFACE.

IF a dictionary be sometimes the refuge of indolence, it is an useful resource in circumstances of emergency. It offers a collection of opinions, at one view, and within moderate limits, suggests hints from sources beyond the reach of common acquirements, beyond the extent of a common library, and leads the inquiring mind into paths of which he might not have suspected the existence, or been unable to pursue the intricacies. If these be the general advantages of a dictionary, this form is peculiarly applicable to a science where emergencies frequently occur, where the time for reflection is short, and the practitioner, from anxiety and distress, unfitted for cool consideration. A man of sensibility is, in such circumstances, obliged to conceal his pangs under the appearance of composure, and to cover doubt and hesitation by a seeming calmness and confident decision. His situation, also, is often little adapted for deriving assistance from numerous authors, in different languages; nor is his mind always so carefully regulated by education as to pursue a chain of reasoning strictly inductive, or to detect error, under the semblance of plausible improvement. To bring before him, therefore, the opinions of distant eras and countries, to offer what the ablest professors have thought, to describe how they have acted, must be a valuable acquisition to one class, while, to the intelligent and experienced, it may be no useless remembrancer—an index to those sources of information which may be more minutely, and, therefore, more advantageously followed. It is not the least of the advantages of the following pages, that they detect many reputed discoveries of modern times, in the neglected authors of former periods; and the sanguine admirer of what is new may learn, from the reception which any proposal has formerly experienced, to appreciate with greater accuracy its value.

To attain these objects has been the anxious wish of the author; and, with these in view, he can scarcely have entirely failed. This work is not the design of a moment: projected in the eagerness of youth, it is completed in the maturity of experience; constantly kept in his sight; a deposit of the accumulated stores of reading and observation.

To excel former works, under this title, at least such as had appeared when the plan was first laid, seemed no very difficult task. They chiefly consisted of definitions and short explanations, or were diffuse collections, from different authors, in the same form, frequently in the same words. He who consulted the latter work might well exclaim, *inopem me copia fecit;* while those who applied to the former caught the shadow, instead of the substance—learnt the etymology of a title, when they wanted a remedy for the disease.

The lexicon of Erotian (perhaps Herodian), the Voces Græcæ of Julius Pollux, the lexicon of Herodotus Lycius, and others, published by Henry Stephens, with the Œconomia of Fæsius, appended to his edition of Hippocrates, are scarcely more than elucidations of the terms used in the ancient authors. De Gorris (Gorræus) was more full in his explanations, and more extensive in his views. The Definitiones Medicæ, first published in 1564, afterwards, by his grandson, in 1622, contain a satisfactory view of medicine, as it was left by the ancients, and no imperfect account of the medicinal plants described by Theophrastus and Dioscorides. Blanchard seems chiefly to have copied Gorræus, and scarcely advances beyond the definitions of his predecessor. Castellus is equally unsatisfactory; but the edition of *Bruno*, published at Geneva, in large quarto, and the still more extensive one which appeared at Naples, in 1761, are valuable, though unequal collections. The former contains the Arabic, the Hebrew, the Greek, French, and Italian appellations, added by Bruno, under the title of *Mantissa Tetraglotta*, and the latter many of the modern improvements.

Our own countrymen received, early in the last century, the assistance of Quincy, who has transcribed and abridged the definitions of his predecessors, adding the principal doctrines of the mechanical philosophy, and their application to medicine. Indeed the latter seems to have been his chief object; and, when Newton had, with the assistance of mathematics, expanded our view, and found the solar system subservient to one principle, gravity, it was supposed that the same success would follow their introduction into every science; and nothing but demonstration was talked of and expected. This work has been lately published, with numerous improvements, by Dr. Hooper; but within limits which necessarily preclude any very extensive disquisitions.

About the middle of this century, Dr. James offered a vast work of this kind to the public, in three ponderous folios. The erudition which he displays is extensive, and his explanations are often satisfactory. He has collected all the learning of his predecessors, preserved their controversies, and added whatever a diligent attention to the works of the ancient physicians could contribute to the former stock. In the more strictly practical part of his dictionary, he has collected, with the same care, and has copied, not always with sufficient discrimination, the opinions of different practical authors. The diffuseness of his

language contributes, however, to lessen the advantages which such a work ought to possess, as a ready resource in cases of difficulty; nor, in the mass of contending opinions, is it always easy to collect those comprehensive views, which will at once lead to a decisive and discriminated practice.

Some later dictionaries in our language are, in general, slight glossaries, with slender claims, which may be fairly allowed. One other work, of a more respectable bulk, and more plausible pretensions, we may be, perhaps, expected to notice; but any observations which we might offer would appear to be dictated rather by the spirit of rivalship than of sound criticism. We wish not to disturb the opinions of those who approve it.

There are numerous collections from authors, sometimes of reference only, but more often copies of detached passages, arranged, in many instances, alphabetically, which, though not properly dictionaries, demand some attention. While the works which have been styled definitions and glossaries preclude disquisitions, these reject mere verbal explanations. They approach nearly to our prototypes, particularly the dictionary of Dr. James; but are different in their pretensions, as well as in their execution, and of unequal value.

Moronus first published his *Directorium Medico-practicum*, at Leyden, in 1650, professing to give a list of the opinions of the most eminent physicians, who had written either in the form of consultations, epistles, replies, observations, or histories on different diseases. This Directory was published in octavo, and, thirteen years afterwards, a more enlarged edition, by Sebastian Scheffer, in quarto, appeared. Without impeaching the accuracy of Moronus, we may remark, that his work is very unsatisfactory, from the general objects of his references. Under each disease we find a list of authors, without the slightest hint in whose volumes we are to seek the pathology or cure, by whom the remedies are discriminated and adapted with the most scientific care, or where the greatest number of idle fancies obscure the merit of attentive observation.

The Sylva Medica of *J. G. Walther* is far more valuable. His references are copious and distinct; his synonyms, including the barbarous and obsolete appellations, numerous; his chemical compositions, in which, however, he could not soar beyond the state of the science at that time, detailed with accuracy. His work was published at Bautzen, in Germany, 1679, in quarto, illustrated by an index of authors and diseases. Had Walther fulfilled the promises of his title, the Sylva would have been highly useful; but his omissions are numerous, and his references so general, that they are often of little real value. A similar work was published at Frankfort, previously to the former publication, by M. Martianus Lipenius, in folio, 1759, with a copious index, which we have been unable to procure.

Walther was followed by MANGETUS, a most voluminous collector, who published his BIBLIOTHECA MEDICO-PRACTICA at Geneva, in 1698, &c. in four thick folio volumes; and, twenty-six years afterwards, the BIBLIOTHECA CHIRURGICA, in volumes equally numerous and bulky. Each collection is a tedious cento, from different authors, without a scientific arrangement, almost without any apparent design. From many vast collections, the observations are selected, without a reference to the volume, and the editions are seldom so carefully distinguished as to ascertain the real merit of the passage transcribed. Yet Mangetus was not merely a tasteless compiler, but a man of sound judgment and accurate discrimination, as he has evinced by his critical remarks in his BIBLIOTHECA SCRIPTORUM MEDICORUM.

BONETUS was a collector almost equally indiscriminate, and his POLYALTHES, a posthumous work, was published at Geneva, in 1691. The title is derived from the name of a supposed daughter of Æsculapius, who appears to have received it from her extensive powers of healing. This work, however, scarcely belongs to the present subject, since it consists of a close, but extensive commentary on the syntagma of J. JOHNSON, the IDEA MEDICINÆ UNIVERSÆ. A former work, entitled MERCURIUS COMPILATITIUS, denominated from the statues of Hermes, placed in the highways, to point out the road, was more professedly a compilation, in an alphabetical order, but without a nice selection of authorities. In the following year, the same author's MEDICINA SEPTENTRIONALIS COLLATITIA appeared, containing the discoveries of the Germans, the English, and the Danes, chiefly from their transactions, in an order not alphabetical.

The ENCYCLOPEDIÆ of DOLÆUS are similar collections, arranged according to the subjects: the Encyclopedia Chirurgica was an early work, published in 1659; the Encyclopedia Medica only in 1691.

This inundation of compilations, at the end of the seventeenth century, appears to have exhausted the spirits and the industry of collectors, since several years elapsed before a similar attempt was published. The first work of this kind seems to have been the SYNOPSIS of DR. ALLEN, a physician at Bridgewater, in octavo, which, though not in alphabetical order, contained the opinions of different physicians on the principal diseases, and it was one of the first English publications in which the opinions of Boerhaave were popularly detailed. A third volume appeared, in English, in 1756.

The LEXICON PHYSICO-CHEMICUM REALE of G. H. BEHR was published in 1738, in quarto, and followed by a smaller work, entitled BIBLIOTHECA MEDICA, by CHRISTOPHER WILLIAM KESTNER. Neither of these have we been able to procure.

A French work, PLANQUE'S BIBLIOTHEQUE CHOISIE DE MEDECINE, appeared at Paris, in

1738, and eight successive volumes were published, at different periods. It contains, however, extracts only from the periodical works of France, and other countries, but chiefly from the former, with little selection or discrimination. It is, in every respect, a trifling collection.

The most important publication, in this form, is the BIBLIOTHECA CHIRURGICA of JEROME DE VIGILIIS VON CREUTZENFELD, in two volumes quarto, published at Vienna in 1781. This is an excellent collection, and more valuable, since the Bibliotheca Chirurgica of Haller is, in so many respects, imperfect and erroneous.

The last compilation of this kind is the most valuable, the INITIA BIBLIOTHECÆ PRACTICÆ, by PLOUQUET, published at Tubingen, in eight volumes, small quarto, to which two supplementary volumes were afterwards added. It includes a catalogue of the best authors, under the different diseases, each arranged alphabetically, distinguishing those who have treated generally on the complaint—the causes and remedies assigned and recommended. The references are particular, accurate, and numerous; perhaps more numerous than select. The author has collected from every source, and seems to possess a most accommodating belief in all the tales of wonder, from Schenkius, the authors of the Ephemerides Naturæ Curiosorum, and those whose narratives rather excite contempt than confidence. The remedies, too, are frequently the most trifling and ridiculous. But, on the whole, this collection is full, correct, and instructive.

A Dictionary of Medicine was, some time since, published by Dr. Motherby, and continued, in successive editions, by him and Dr. Wallis. When a new work of this kind was required by the public, it was supposed that it was requisite only to add the modern improvements to the ancient structure; nor was it suspected that what had received the sanction of the public, in five successive editions, could be wholly contemptible. It was, however, soon discovered that the substance was no less erroneous, than the form was unpleasing; that, to render it instructive, without offending the reader of taste and education, required more attentive care than was necessary for a simple revisal. The discovery was not, however, made before a part of the first volume had been printed, which has occasioned some of the unconnected sentences of the former work, and some of the disgraceful references, to remain. When the defects appeared, in their fullest view, the whole was examined with a severer scrutiny, and the subjects investigated in the original authors; nor was a single opinion allowed to remain, which had not the support of authority or experience. The work is, consequently, to be considered as original, and the names of Motherby and Wallis are consigned to the oblivion, from which they had, for a time, escaped, though their labours have been lately copied, often servilely, in publications professedly original.

If the necessary extent of a work of this nature be considered, it will be at once obvious

that the bulk should not be unreasonable, and it has been consequently limited to two quartos. The requisite additions were supposed sufficient to supply the rejected parts of the folio. But absurdity mocks calculation, and numerous observations and disquisitions, at first studiously retrenched, might, we found, have been retained, since much space was gained by the smallness of the type, and the size of the page; more, by avoiding controversies, employing a concise, comprehensive style, increased vigilance in detecting absurdity and error. Though the utmost care was exerted to avoid its necessity, an Appendix thus became expedient; and, when once admitted, every means of increasing its utility was adopted. The words suppressed were few; but it soon appeared that numerous additions and corrections might be useful. In a long period, destined to the study and practice of a profession, under circumstances which brought every new production before his eyes, and called for his decision, the author thought that the principal questions were decided in his mind, and had little doubt of rendering his work consistent. After the lapse of several years, however, subjects must assume a different hue; and the medical questions are too numerous for constant recurrence. When, therefore, the subjects were again reviewed, some facts appeared in a different light, and it was by no means proper that truth should be sacrificed to consistency. The change of opinion was, however, pointed out in the concluding article; and, by the assistance of the Appendix, the references were not only better compacted, but the inconvenience from these variations was avoided. The minuter errors, which inadvertently crept in, before the imperfections of Dr. Motherby were fully discovered, are by this means also corrected, and the whole work is rendered more regular and consistent. It is not, therefore, an appendix, but amendments, that might make a part of another edition. The author becomes a critic on himself, and, he thinks, has sometimes proved a severe one. For this reason, he has changed the title of the additional part, and styled it, "Second Thoughts," CURÆ POSTERIORES.

A new work of this kind, from the peculiar circumstances of the era, was required. Since the last publication of any tolerable compendium of medicine, no inconsiderable progress had been made in every branch. Every quarter of the globe, and the new continent, if Australasia merits this name, have been visited, with anxious care, by the eager votaries of natural knowledge; and the highest Andes have not escaped the researches of Humbolt and his coadjutors. From these investigations medicine and natural history have gained considerable advantages; and if new remedies have not added to the length of lists already crowded, we have ascertained, in many instances, the true botanical relations of those formerly known; and, from the improvement of the natural system, in the hands of Ventenat, the successor and pupil of Jussieu, the first of the French botanists, we can, in many instances, supply what accidents, or the chances of war, may for a time deny.

Chemistry, during this interval, has become a new science, and the refinement of its analysis has been applied to the most important purposes of medicine. We now know, with

the most minute accuracy, the nature of the blood, and the *greater number* of animal fluids; we know, too, that the circulating mass is scarcely changed by diseases, once supposed to reside exclusively in it. The natural and morbid states of the secreted fluids are also, by the application of this science, more easily understood, and we are thus taught to disregard many imaginary sources of terror.

The difference between the animal and vegetable mixed, and again, between vegetables and minerals, is now, also, more clearly defined: the limits of each are ascertained; and, though, in the progress of our knowledge, we find nature, as usual, passing, by almost undistinguishable shades, from one to the other, we can assert, with some confidence, from what points they diverge, and where they coincide. If we find the fibrin in bran, and the prussic acid in bitter almonds, we cannot, for a moment, mistake them for animal substances: if we discover the phosphoric acid in the human body, and the kali in the leucite, we shall not mistake one for a mineral, nor the other for a vegetable.

In the analysis of the vegetable substances used in medicine, and in ascertaining the real chemical nature of mineral preparations, whose utility has been established by the most extensive experience, the same science has lately become most beneficial to mankind. These acquisitions have improved and simplified our pharmacopœias; nor are our formulæ now crowded with heterogeneous, discordant ingredients, our mineral waters loaded with imaginary and incongruous impregnations, or disgraced by contradictory powers. We approach the era when the vegetable principles will be still more clearly understood, when the gum and the resin will not be the ultimate results of our analysis; but we shall, probably, be able to offer only the rudiments of such investigations, under the additions to the article CORTEX PERUVIANUS.

Improvements in ANATOMY have been less splendid. Indeed, whatever the minutest accuracy could ascertain, in the investigation of the structure of the human body, was apparently found in the works of Winslow, Haller, Morgagni, Monro, and Hunter. Nature is, however, inexhaustible; and the ample harvest of former anatomists left valuable gleanings for Camper, Walther, Scarpa, Sandifort, Comparetti, Soemering, and Loder. Comparative anatomy has been, in the later periods, cultivated, with equal success, by Spalanzani, Cuvier, and Blumenbach.

If the improvements which have been made in the explanation of the various functions of the human body are examined, the branch of medicine entitled PHYSIOLOGY, we shall not have much reason to congratulate ourselves on extraordinary success. The minuter operations of nature are carried on in the first "elements" of our system: the sacred shrine of the goddess is inaccessible. The agents are also the living organs, and we can scarcely

ascertain in what life ultimately consists; the operations of the body are affected by the mind, and we know neither the nature of the latter, nor the medium of the connection. The principal improvements, therefore, in this branch will consist in simplifying our views, in generalizing our facts, and, by strict induction, clearing the subject from erroneous theories. In a few instances, some advances have been made; but, while life itself is mysterious, the laws by which its operations are regulated will remain in equal obscurity.

Pathology will partake of the imperfections of physiology; but it fortunately happens that although the theory may fail, the means of relief are within our reach. In this branch of medicine also our objects are more simple and discriminated. It has been the fashion to ridicule nosology; but, since the publication of Dr. Cullen's system, greater progress has been made in accurately distinguishing diseases than in the five hundred preceding years. The various kinds of asthma, cutaneous diseases, fevers, particularly those of the puerperal state, with many other complaints, confounded even in the best authors, are now clearly distinguished. It is singular, that concussions of the brain have been very imperfectly discriminated from the effects of fracture, of depression, and of extravasation, in works of established reputation.

The practice of medicine has received equal improvement in the simplicity of its views, and the distinctness with which the circumstances of diseases are discriminated. It no longer consists of a farrago of medicines, accumulated merely because each has been recommended, nor of general formulæ, without an object; but the views of the practitioner are directed by the changes often suggested by indications, and these are produced by the simplest means. Our medicines also, as their properties are more distinctly known, are selected with juster skill, with more pointed precision, and we trust that something has been added in this work to the distinction of their more peculiarly appropriated virtues. New medicines glitter for a time, like meteors; and the power of every new remedy is, during the prevalence of the fashion, undoubted. The scepticism of advanced life distrusts the fallacious glare, calmly inquires, and cautiously tries, before it decides. Conscious of the various sources of error, the resolution is at last adopted with doubt and hesitation. Yet no one is wholly free from the temptation of novelty: each is apt to trust with confidence to his own plans; and, in the hands of a discoverer, we always find a medicine infallible.

Surgery is still more improved by the general discrimination and boldness of modern practitioners, and by the happy daring of distinguished characters in this department. If it has been our lot sometimes to detract from the civic wreath, by sullying the gloss of novelty, we mean not to lessen their fame. In them it may have been the first suggestions of bold decision, tempered by judgment, by experience, and a confidence in their own powers; nor should the

occurrence of the same ideas in a forgotten author lessen the credit which such improvements claim. While surgery is thus more distinct in its views, and more decisive in its conduct, it has equally succeeded in shortening the sufferings of the patient, by hastening the cure. The operations of surgery are now performed with equal intrepidity and skill.

In the pursuit, however, of novelty, it must not be forgotten that our ancestors were neither blind zealots nor deliberate homicides. They must not be blamed because they were unable to anticipate the discoveries of future eras; and their merit must rather be appreciated by the situations in which they were placed, or the means in their power. They observed diseases individually, but spoke of them collectively: they did not always distinguish accidental from pathognomonic symptoms; and, from the farrago of medicines which they employed, it was difficult often to determine whence the advantages arose. Yet their attention and fidelity deserve our regard; their judgment often claims our respect, and their sagacity our praise; nor will the practitioner recur to even their loosest narratives without interest and advantage. In the conduct of this work we have often repaired to the original authors, and been sometimes amply repaid. Boasted discoveries have been detected in their germ, and infallible remedies in the forgotten pharmacopœias of the middle ages.

A dictionary, though it apparently consist of scattered limbs, often incongruous, should, however, be rendered as much as possible a whole: one spirit should pervade it, and system should collect its diverging rays into a focus. Systems, indeed, are often employed to distort facts for their support, or to conceal those which should oppose them; and the numerous idle theories which, like passing spectres, have glared and vanished, at once, rendered the word suspicious. To be aware of each abuse is the best means of avoiding it; but by the term system we rather mean the reduction of facts to general principles, which may connect and unite them, should the principle itself be erroneous. Thus, if in every instance we find spasm and convulsions connected with debilitating causes, it is no injury to science to consider them as arising from debility; and they evidently consist in irregular action. Debility, thus connected with irregular action, is a bond of union of the most extensive influence, and brings into one view observations widely scattered. Should the principle be erroneous, it will be at once discovered, when brought to the test of observation and experience; and if these oppose it we shall be soon led to sounder views. It cannot be injurious but from suggesting inert practice, useless innovations, or dangerous refinements. Such generalizations, in the hands of Bacon, Newton, and Herschell, have been highly beneficial to science; nor can these weapons be wholly ineffectual, if wielded by inferior powers. In the present circumstances, no facts have been distorted to support a theory: where the principle can only be carried to a certain extent; where, in some of its bearings, the security fails; and where facts are apparently discordant, the reader is at once apprised.

The advantages of such connected views must be obvious. In the scattered practical observations, opinions have differed as widely as the statures and complexions of the authors. Each can only be with justice appreciated on its own foundation; and the motley character, a work compiled with little discrimination, must soon render it disgusting. If, in the course of the inquiry, any general connection, any link, which will connect the apparently discordant facts to one principle, be discovered; if this link be furnished, as has often happened, by the author's own limitation of his plan or remedy, these facts will at once combine with the others, and form a dependant part of the whole. It will thus be more easily retained, and contribute to illustrate the collateral subjects.

Were a work of this kind a mere compilation, even the same article would not be consistent; for it is not easy to find the author from whom the pathology, and the whole of the practice, could be properly taken. Should the talents of each be equally exerted in every part, new views and new plans must in many instances have arisen. If, then, the plagiarist cannot find the whole in any work, he must constantly submit, like many of our predecessors, to inconsistencies. He may detail the pathology with ability; but his practice will be at variance. He may explain the structure of a part; but it will have little connection with the elucidation of its functions. Were the practice of Burserius, for instance, appended to the pathology of Cullen, without those explanations which the different views and designs of each author would suggest, the reader might suspect that two distant parts of a work had by accident joined; or, if the theory of Darwin were followed by the solemn indications and the judicious pratical remarks of Van Swieten, they would appear the "ægri somnia," and might justly be styled "vanæ species."

In the conduct of this work it has been the great object to collect information the most extensively useful within the shortest compass: a concise and comprehensive language has been, consequently, adopted. In detailing the sentiments of other authors, their opinions, rather than their words, have been preserved; we thus not only avoid the tautology and diffuseness too common among the greater number of medical writers, but connect the subject with other parts of the work, and point out its influence on other branches of the science. A fertile source of prolixity, in medical publications, is the detail of cases, which, though sometimes useful in illustrating the author's doctrine, more frequently shows its weakness. As these cases are crowded with circumstances, often uninteresting, the general result, and those portions of the narrative which limit or influence the consequences, are alone preserved. Controversies have been, for the same reason, avoided. Of these it is sufficient to point out the existence, and the works in which they may be most advantageously examined; and if a little dogmatism in decision sometimes appears, this tone has not been adopted without the most attentive consideration of the different and opposite arguments.

As the form is that of a dictionary, and the object to afford a ready resource in emergencies, each article is designed to be in itself satisfactory, that, in the moment of necessity, it may not be requisite to turn over two quartos. For this reason, in each will be found an abridged view of the subject, with an immediate reference to those pages where it is treated more satisfactorily. The references are, indeed, the bond of union between the distinct portions of the work, and the connection has, by their means, been kept up with peculiar care. Though sometimes numerous, they are select, and, we trust, satisfactory.

ANATOMY is the foundation of the whole science, and the structure of the different organs is essential in the explanation of their functions; while, in the practice of surgery, the minutest investigation of the course of the arteries, and the exact situation of the more important organs, can alone insure success. In a work of this kind, however, extreme minuteness is unnecessary; for dissection alone can convey those accurate and vivid ideas which must direct the surgeon's hand. The descriptions are chiefly designed to convey general instruction, or, in the more important parts, to assist the recollection of what dissection had, at an earlier period, taught. The great difficulty was, therefore, to steer between accounts, uselessly vague, or unnecessarily minute; nor is it to be expected that every reader will concur with the author in his determinations in these respects.

IN PHYSIOLOGY the latest opinions have been detailed, and these have been carefully connected with former theories, sometimes showing that modern philosophers have not always those considerable claims to originality which have been so liberally allowed. PATHOLOGY, in modern medical publications, is almost a new science; but the facts which illustrate the natural history of the human body, in a morbid state, connected with the appearances on dissection, have been collected with great diligence, often from the almost forgotten pages of Morgagni, or the neglected ones of Bonetus; assisted by numerous instructive narratives from the different collections of "Essays," "Observations and Inquiries," and "Transactions," in our own language. This part of our labour teaches one melancholy lesson, that many diseases are beyond the reach of human art, whether the changes be considered as causes or effects. But it also represses overweening confidence, prevents disappointment, and, by a sagacious prognostic, secures the credit of the science and the practitioner. The general pathology is that of Gaubius, with the judicious retrenchments and additions of Cullen, farther improved by the new discoveries of the chemical nature of the animal fluids; for, no work has been copied through the whole article, except where the quotation is distinguished, in the usual way, by inverted commas, or where the general substance is acknowledged.

The PRACTICE OF MEDICINE has been detailed with unusual care. The plans of the most approved and scientific authors have been carefully considered, and, whatever science or empiricism has at different eras suggested, is carefully noticed, with those distinctions which

may render the discovery more useful and effectual. To accumulate every medicine which has been recommended, in the manner of Lieutaud, would not be difficult; but to discriminate the circumstances, in which alone each plan will be effectual, is not equally easy, though such discrimination can only render the directions valuable or salutary. A real dogmatic practice, viz. pursuing indications, arising from the knowledge of a proximate cause, would gratify the pride of science, and be most advantageous to the patient. The expectation is, however, vain; for in very few instances can an immediate cause be established. Though this, however, be beyond our attainment, we can, in many cases, ascertain general principles, which will assist our practice. Whatever be the cause of fever, for instance, the balance of the circulation is evidently disturbed; and to restore the equilibrium contributes very essentially to the cure. It has been a great object, through the whole work, to ascertain such principles; but they often fail, and the physician must then pursue, under proper regulations, the *juvantia* and *lædentia* which observation has ascertained. When the medicine is determined, the form is easily adjusted; but, except in a very few instances, what are styled formulæ are omitted. These are the refuge of ignorance, indolence, or quackery. Every one can transcribe what is printed, and every old woman will eagerly affix a name to a disease: few will venture, from a class of medicines, to select the particular remedy or the dose. If it were possible always to discriminate the circumstances in which the different plans are advisable, formulæ might be added; but, to those who can distinguish, they are useless, and to others furnish a weapon, which may be fatal, rather than salutary. The alternative is too dangerous; and, while the disposition to quackery pervades every individual, from the highest ranks to the meanest, while those who claim distinction, in other sciences, arrogate it in this also, what may prove mischievous must be concealed.

SURGERY has many advantages, when compared with the practice of medicine. The objects are often before the eyes of the surgeon; the changes daily conspicuous, and show not only the state of the organ, but often of the constitution. If the object be beyond his sight, the touch will assist; and, in the most doubtful cases, the inductions are fewer, the conclusion more certain. When an operation is to be performed, as the situation of every part is known, he is ready, in every emergency; and, having obtained, by experience, a steady command of his hand, his eye, and his mind, he can meet every difficulty unruffled. Yet, as in anatomy, description cannot go far. The eye must witness the conduct of some more experienced practitioner; and operations on the dead subject must assist in giving a steadiness and a command of minute muscular exertion. As practical surgery is viewed in different lights, the directions may appear too general or too minute; but, where description could best avail, it has been most full and particular.

There is one step between the practice of medicine, and the particular remedies, too cursorily passed over by the authors on the materia medica, viz. the THERAPEUTICS, or those

general doctrines respecting medicines nearly related, which may facilitate our judgment in the selection. As a subdivision of the theoretical course in universities, it has not generally obtained a sufficient share of attention; in Dr. Cullen's Materia Medica it has had an unusual portion; but it is there subservient to his own system, and not so general in its views as the importance of the subject demands. It may be added also, that the extensive associations, usually styled classes of medicine, are too indiscriminate to direct the practice. Subordinate groups are necessary, and these, in imitation of Dr. Duncan, have been added; but the orders are in a great measure new, and are carefully connected, on one hand, with the particular remedies, and, on the other, with the indications of cure.

The MEANS EMPLOYED FOR THE CURE OF DISEASES are either *natural* or *chemical*. By the former are meant those productions of nature which require no preparation, or only the separation of the more active from the more inert portions; chiefly the vegetable or animal substances, since there are few mineral productions which do not require some process to adapt them for use. The vegetable kingdom offers numerous remedies, of very unequal value, uncertain origin, or variously mixed and adulterated. To attain the desired purpose, or to avoid injury, it is first necessary to ascertain the real plant from which the medicinal portion is procured; a circumstance not easy, in a kingdom supposed to consist of more than 60,000 species. The investigations, however, of Linnæus himself, of his pupils Bergius, Murray, and Thunberg, have greatly facilitated the task; and the lacunæ have been, in a great measure, filled up by the labours of Sir Joseph Banks, Mutis, Loueiro, Des Fontaines, Bruce, La Marck Cavanilles, and Roxburgh. Few now remain, whose parent plant has not been accurately and scientifically distinguished. To refer, then, to the Linnæan system, especially in its most improved form, lately published by Wildenow, is sufficient to identify the plant. As, however, the system from the pen of Wildenow is uncommon, and not yet complete, a reference to the Species Plantarum, a work in every hand, has been preferred, and Wildenow, or later observers, have only been referred to, when it did not appear in the earlier work of Linnæus himself. No modern naturalist of credit has escaped attention in this department. The system of Linnæus is not only useful, in identifying the plant, but on account of its numerous references, to each observer who has treated of it: among the rest, to Caspar Bauhine. This author is the link between ancient and modern naturalists; and, under the appellation which he assigns to each plant, we may discover its name in the works, not only of the ancient physicians, but of the ancient botanists, at least so far as the identity of the plant can be ascertained. It has been usual to transcribe the specific character; but, without the generic, it would be of little value, and to add, also, the synonyms of C. Bauhine would make every trifling article disproportionally long; so that the species plantarum is only noticed. As the botanical relations of plants are supposed to be connected with their medical powers, the natural orders have been particularly attended to.

Prejudice, superstition, and fancy, have greatly extended the list of vegetable remedies; but, in a work of this kind, though every absurdity has not a claim to considerable attention, yet the most ridiculous medicines only should be wholly omitted. There are, therefore, very few which have not shared some notice. In enumerating their virtues, it was difficult to avoid the exaggerated commendations of some authors, or the sceptical, contemptuous tone of others. In many instances, therefore, the praises of the former have been adopted, with marks of hesitation, doubt, or disbelief, sufficiently pointed; and those who have not travelled over the dreary waste of forgotten authors, would be surprised at the number of supposed properties omitted.

The animal substances are few, and their sources sufficiently known. It is sufficient, therefore, to have referred, in general, to the Systema Naturæ, and, in the lower orders of animated nature, to Sonnini's Continuation of Buffon's Natural History, or the minuter French naturalists, in the Memoirs of the Institute, the Annals of the National Museum, and the numerous tribe of monographists. Natural history has, indeed, of late, approached more nearly the confines of medicine. The latter is strictly the history of the human body and mind, in their natural and morbid state, and comparative anatomy, with its physiology, is the link which unites man to the lower orders, whose structure and whose functions are often beyond the reach of our investigation. The deficiencies are those of our knowledge; for, when this is extended, the chain is less broken, the connections more obvious. The natural history of the lower orders has, however, been little cultivated in this kingdom. It is singular that an animal, so extensively useful as the leech, has never been scientifically described in our language, except in these pages, and the hydatis, so common a source of disease, is by no means generally known to be an animal.

To identify the few mineral bodies which are used without preparation, we have referred to the system of the judicious and accurate Haüy, which well merits an English dress; but the greater number, which form a valuable part of the materia medica, require a careful, and often an operose, preparation. Medicine, in these cases, calls in CHEMISTRY to her aid; nor is the assistance confined to the mineral kingdom. It has been hinted that, in vegetable bodies, different means are employed to separate the more active from the inerter portions, often to change the form, or to concentrate their virtues. This art has been employed from the time of Galen, and has been styled *Galenical*, in opposition to *chemical*, PHARMACY; which treats of the necessary operations in preparing medicines, more strictly chemical. On the latter subject we greatly want a system co-extensive with the present state of chemical knowledge. Dr. Duncan's New Dispensatory is a most valuable work in this line; but as its subjects are so numerous, he is often compelled to be more concise than we could wish. The lacunæ, in this part of the subject, have therefore been filled up from the works of the latest and best chemists, particularly from that valuable collection, the Annales de Chimie.

The utility of chemistry, however, is not confined to the preparation of remedies. Its light has illuminated the most obscure recesses of the medical science. The nature of the animal fluids, in a state of health and disease, has been illustrated by the more refined analysis of modern chemistry, and, by its assistance in the practice of medicine, we guard against those mixtures which might weaken or destroy the virtues of the different ingredients in a formula. It may appear that this part of our subject has been expanded to an extent, which the real connection of chemistry with medicine will scarcely justify, and that chemical disquisitions occasionally trench on medical ones. In the progress of the work, in the moment of writing, the connection, however, became daily more striking; and as this, we trust, is not the ephemera of a day, it was necessary to give the younger reader every advantage of which he might, at a future period, avail himself. Till near the conclusion of these pages, there was, however, no chemical system to which we could refer. Dr. Thomson's Chemistry, a very valuable work, embraced a most extensive outline, and Dr. Aikin's Chemical Dictionary had not appeared. Neither, however, was applicable to medical inquiries, and it was necessary, not only to explain the chemical relations, but to apply them, so far as they would admit, to the principal object.

When we spoke with disrespect of the mechanical physicians, it was not with a design of depreciating the utility of NATURAL PHILOSOPHY. Though we do not calculate, with Borelli, the momentum of muscular action; with Sanctorius and Keil, the proportion of the surface of the lungs to that of the whole body; with Bellini, the acceleration or retardation of the motions of fluids, circulating through vessels passing off at different angles; yet this science will be found highly useful. The human body, though an animated machine, is constructed on the justest and most nicely balanced mechanical principles: of these the surgeon, in reducing luxations and fractures, will require a minute knowledge. The eye is a most curious optical, the ear an exquisite acoustic, machine; and the human voice, both in compass, variety, and clearness of tone, excels every musical instrument. At present, indeed, our attention is chiefly directed to the evolution and communication of heat, to the effects of the electrical and Galvanic fluids, if they really differ, and their very striking relations to that principle with whose mobility our life is most intimately connected. Indeed the relation of Galvanism to the minuter component parts of bodies has rendered it an agent of peculiar power, in the hands of the analytical inquirer; and we are indebted to Mr. Davy for one of the most important steps, in this branch of science, which has added lustre to any era. Yet all these are accessary sciences, and only of value, in the present work, so far as they assist the explanation of diseases, or direct the practice of medicine. We do not offer these volumes as a dictionary of physics, or of natural history, although they contain a larger share of each than is to be found in many works, which have been distinguished by this title. We do not offer it as a continuation of Dr. Motherby's Dictionary, which, with all its faults, has been unmercifully pillaged, without acknowledgment.

To have retained so many useless synonyms may, perhaps, require an apology. In fact, they were found in the pages of the work last mentioned, and had been introduced before its glaring defects showed that it was an unfaithful guide. Many could not be traced to an adequate authority; but it would have been improper to have rejected what others might, perhaps, find useful, and for which there might have been authorities, though we had not discovered them. Numerous, however, as they seem, more have been rejected than retained.

The references may appear, also, unreasonably numerous, and almost ostentatiously confined to foreign authors. The medical writings of our own country have not, however, been neglected; but these are, in general, within the reach of every practitioner: these only are pillaged, in every modern dictionary, while of many authors of credit the names are often unknown. We have too fastidiously arrogated exclusive merit to ourselves, and it appeared proper to point out the valuable observations of Senac, of Quarin, of Stoll, De Haen, Colin, Sarcone, &c. as well as of many Swedish and Danish physicians. Even Morgagni, as we have said, has been, of late, neglected. To lessen the extent, the Roman numbers relate to the larger portions of the work referred to—the Arabic numerals to the lesser.

In the CURÆ POSTERIORES many additions have been made, some of which, in the progress, had escaped attention, and others were designedly omitted, lest they might render the volumes too bulky. Various observations had also occurred in different publications and different collections since the articles were printed, and it was the author's ambition to render the work complete to the moment of publication. Somewhat may still have escaped him; but those who feel inclined to censure omissions, should look with candour on what has been done. The additions are referred to some convenient portion of the article; but they do not relate exclusively to that part, and are generally to be considered as a commentary on the whole, to avoid breaking them into too many detached parts.

To point out what is new, in these volumes, would be a tedious task: almost every article, at least every article of importance, may be styled original, scarcely in any instance copied from former authors, and usually connected with the collateral subjects. As already observed, it was designed to render the work one consistent whole, and the general principles will be found to pervade every portion; nor are the doctrines which limited the distinction of CONCUSSIO, forgotten under the article ULCUS.

Of the PLATES we shall add only a short account. The subjects have been chosen with great care; but the objects of the choice we must now explain. It is not necessary to say why the different VIEWS OF THE SKELETON have been selected: these have always formed a portion of similar representations; and, as the basis of the whole, are highly necessary. The LIGAMENTS have been imperfectly represented, in every English publication, and the value of

the present work is greatly enhanced by the elegant and accurate views of these connecting substances, from the superb volume of Caldani.

VIEWS OF THE MUSCLES have usually followed; but would have required many plates, without an adequate advantage. In the general practice of physic and surgery little could be gained by such representations, and we have already remarked, that it is impossible to teach the minutiæ of anatomy by verbal instruction or engraved copies. If the osteology is well understood, descriptions will convey ideas sufficiently accurate for general purposes.

The course of the larger ARTERIES is of more importance, and these have been represented, with care, from the works of Haller, not separately, but as related to the adjoining parts; and they recur in different plates, which contain the lymphatics and the vicera. The volumes of Mr. Hewson, and Mr. Cruickshanks, and the elegant engravings of Mascagni, have supplied the LYMPHATICS; Loder, Haller, and Sandifort, the INTERNAL VISCERA. As the situation of these is often of considerable importance, in ascertaining the seat of a complaint, they have been represented in every view, and with great care, as the English works have been unusually deficient in this part.

The separate portions have been also supplied from the best anatomists. The elegant plates of Soemering have furnished REPRESENTATIONS OF THE EYE; Mr. C. Bell's Anatomy those of the EAR. We could not find a more accurate view of the STOMACH than in Cowper; and on again examining it, we perceive the constriction, mentioned by Mr. Home, as dividing the cardiac from the pyloric portions. Mr. Cooper has also supplied a good representation of the UNIMPREGNATED UTERUS, and its appendages; while, for the GRAVID UTERUS, and the natural situation of the FŒTUS IN UTERO, we have been indebted to the classical work of Dr. W. Hunter. Some other detached parts of less importance are represented in the plates of the arteries and the lymphatics.

A VIEW OF THE BRAIN has been supplied by Loder; and, when we reflected that, in very few circumstances, the course of the different nerves, in their progress, was of importance, and that, in these, the minute accuracy, acquired only by dissection, was requisite, we avoided enhancing the price of our work, by plates not generally useful. The SURGICAL INSTRUMENTS represented are those most commonly employed, in the more improved practice of the art.

A NEW

MEDICAL DICTIONARY.

A. The letter a, with a line above it, thus, ā, is used in medical prescriptions for ana, *of each;* sometimes it is written thus, āā; e. gr. ℞ Mel. sacchar. et man. ā vel āā, ℥j. i. e. Take of honey, sugar, and manna, of each one ounce.

A, in composition, implies a negative, as in A'CHYLUS—from α priv. and χυλος, *chylus*—deficient in chyle.

A'AVORA, a species of palm found in Africa, and the American Islands. The nucleus of the fruit resembles an almond; it is mild and nutritious, and is used by the natives as an astringent, particularly in cases of diarrhœa. The parenchyma which surrounds the kernel is eaten by cows and other animals: by maceration it affords an oil which is used as a condiment, and to burn. The plant is figured in La Marck's Illustrations of Natural History, Pl. 896, but has not been arranged in the botanical systems. It has been transplanted to Guiana, and often confounded with the cocoa-nut tree.

A'BACTUS, (*driven away.*) It is applied to abortions, procured by medicine.

A'BACUS, (from a Hebrew word ABAK, *dust.*) A table used for preparations; so named, because mathematicians used to draw their figures on tables sprinkled with dust. It generally means an instrument very anciently employed to facilitate arithmetical operations.

A'BACUS MAJOR. A trough used in the mines, wherein the ore is washed.

ABALIENA'TUS, *corrupted.* Celsus. In English, we use only the word *alienated*, which is applied to injuries of the mental powers.

A'BANET. See BANDAGE.

A'BANGA. See ADY.

ABAPT'ISTON, or ABAPTI'STA, (from α priv. and βαπτιζω, *immergo, to sink under.*) The perforating part and shoulder of the instrument called a TREPAN, to prevent its sinking suddenly upon the membranes of the brain, when the operator perforates the skull: the present practice renders this precaution needless, by having substituted a much more manageable instrument. See TREPANUM.

ABAR'TAMEN. See PLUMBUM.

ABARTICUL'ATIO, (from *ab*, and *articulus, a joint.*) See DIARTHROSIS.

A'BAS. Dr. Turton has made A'bas a synonime with Tænia, or Tape-worm; a mistake, we presume, for Tinea, the Moth-worm. See *Castelli Lexicon Medicum.* See TINEA—ACHOR—EPILEPSIA.

ABA'SIR. See SPODIUM ARABUM.

ABBA'ISSEUR, a term given by Winslow to one of the muscles of the eye, depressor oculi of Albinus.

ABD'OMEN, the BELLY, from *abdo, to hide;* as its contents lie hid in it. The last syllable is only a termination; as from *lego, legumen.* It is also called *Imus Venter. Alvus. Gaster. Katocælia.* FÆSIUS calls it *Dertron; Nedys;* and the viscera contained within, *Nedya.*

The body is generally divided into three cavities, called, by anatomists, venters: viz. the head, or *upper venter;* the breast, or *middle venter;* and the abdomen, or *lower venter.*

The belly is divided, on its outer surface, into four regions, called the *epigastric*, the *umbilical*, the *hypogastric*, and the *lumbar.* See EPIGASTRIUM, UMBILICALIS REGIO, HYPOGASTRIUM, and LUMBARIS REGIO. These are all contained betwixt the circumference of the false ribs, and the bottom of the ossa innominata.

The belly is separated from the breast externally, by the extremities of the ribs, and internally by the diaphragm; and it is terminated below by the musculi levatores ani.

The bottom of the belly, named *Neiæra*, on its fore part, is called the pudenda; and on its back part, the buttocks, and anus; and underneath, betwixt the anus and the pubes, the perinæum; indeed, the name of perinæum is given to the whole space from the os coccygis: that part which lies between the anus and pubes is distinguished, according to Dr. Hunter, by the term

fore perinæum, and that from the coccyx to the anus the *hind* or *back* perinæum.

The cavity of the belly, formed by the above-named parts, all which are covered with the membrana adiposa and the skin, is lined on the inside by the peritonæum. This cavity contains the stomach, intestines, mesentery, mesocolon, liver, gall-bladder, spleen, pancreas, glands of the mesentery, vasa lactea, receptaculum chyli, kidneys, renal glands, ureters, bladder, and the internal parts of generation.

Though we have employed common language, in the expression of the cavity of the belly, in reality there is no cavity. The peritonæum may be compared to a flaccid bladder, behind and on the outside of which the intestines and other supposed contents are placed. This membrane is then folded around them, and the two sides of the bladder, after enfolding the intestines, are brought together, forming the mesentery: within these folds of the mesentery the lacteals pass towards the blood vessels. The peritonæum is therefore contiguous on its internal surfaces, or only separated by a vapour called an halitus, which, after death, condenses into a watery fluid; this fluid in dropsies is greatly augmented, and is said by the more correct authors to be contained in the cavity of the *peritonæum*.

The principal arteries of the belly are, the *epigastric*, which are the lowest portion of the internal mammary artery, the *inferior aorta*, the *cæliac*, the *upper mesenteric*, the *hæmorrhoidal artery*, the *renal*, called emulgent, the *spermatic artery*, the *lower mesenteric artery*, the *lumbar*, the *iliac*, the *lower epigastric arteries*, and the *pudicæ*.

The principal nerves of the belly are, the stomachic, formed by the extremity of the eighth pair; the lower portion of the great sympathetic nerves, the two semilunar or plexiform ganglions, the hepatic, splenic, renal, upper and lower mesenteric plexus, the nerves of the loins and sacrum, also the origin of the crural and sciatic nerves.

The appendix ensiformis, the lower pointed extremity of the sternum, the cartilaginous portions of the last pair of true ribs, those of the first four pairs of false ribs, all the fifth pair, the five lumbar vertebræ, the ossa innominata, the os sacrum, the os coccygis, form the bony sides of the cavity of the belly.

The diaphragm, the muscles called, particularly, musculi abdominis, the quadrati lumborum, the psoæ, the iliaci, the muscles of the coccyx, and of the intestinum rectum, form the greatest part of the circumference of this cavity. As auxiliary parts, some portions of the sacro lumbares, longissimi dorsi, &c. might be added.

The muscles belonging to the belly are five pair; viz. the *obliqui externi*, the *obliqui interni*, the *transversales*, the *recti*, and the *pyramidales*. Their action is necessary to expiration, as they pull down the thorax, and they are very useful in efforts to speak loud: they assist also in the expulsion of the fæces and urine. Some people, who find a difficulty in going to stool, or have a suppression of urine, are said to relieve themselves by pressing the abdomen with their hand: the expulsion of the fœtus also is greatly assisted by the abdominal muscles. Mr. Pott was of this opinion. He said, that he had seen a child, which lived nearly three weeks, though it had no abdominal muscles; that this child could not either propel or expel the fæces nor urine perfectly, without artificial aid. Mr. Haighton also found that the most violent stimuli, when applied to the stomach either externally or internally, were in his experiments insufficient to produce an evacuation of its contents, without the concurring efforts of the diaphragm, and muscles of the abdomen.

There is a sinus on each side of the cartilago xiphoides, between the transversalis and recti muscles, into which, on the left side, the stomach is sometimes pushed by violent vomiting; a disease called Gastrocele. This tumor is in the upper part of the linea alba. The disorder is attended with excessive pain, which is greater when the person is up, and gradually goes off when he lies in a horizontal posture, a circumstance which distinguishes the disease. There is a continual vomiting; every thing taken in is immediately rejected; and hence succeeds an atrophy. All hernias of the linea alba require the same management; but this of the stomach demands particular attention. They are easily reduced, and should be kept up by a truss: if the rupture does not recede, the stricture must be enlarged and reduced in the same manner as in other ruptures. Happily this case is very rare; when it occurs, little more can be done than to alleviate general symptoms: if it cannot be returned by the hand, any operation will be a doubtful aid, as inflammation soon comes on, and the admission of air into the cavity of the abdomen immediately increases it.

Pain and other disorders of the belly sometimes happen from keeping it too cool. The circulation of the blood from the viscera in the belly, by the vena portæ to the liver, and afterwards in the liver, is greatly promoted by the alternate compression, which the contents of the belly receive from its muscles and the diaphragm: and it is of service in dissecting living animals, that, when the viscera of the belly are exposed to the air, this circulation of the blood towards the liver, by the portæ, is much impeded, or totally stopped. Hence it follows, that in proportion as the action of the muscles of the belly is impaired, and the cavity laid open, this circulation, so necessary to the animal economy, must be obstructed.

The muscles of the belly and peritonæum are subject to inflammations, which have been mistaken for inflammation in the liver or the intestines: to distinguish them, see Hepatitis; Inflammatio musculorum abdominis, et Peritonitis.

The rheumatism sometimes affects the muscles of the belly, which has been mistaken for a colic, or for an inflammation of some of the viscera within: in this case, however, the usual symptoms of inflamed viscera are absent, and the medicines which are useful in the colic are without effect in this complaint.

For the management of wounds in the belly, see the article Vulnus.

ABDO'MINAL *Ring*. An opening in the abdomen, formed by the tendinous fibres of the external oblique near the os pubis, through which the round ligaments of the uterus, and the spermatic vessels in the other sex, pass. Through this ring portions of the intestine sometimes come down, forming ruptures. See Hernia.

ABDUCE'NTES NERVI, part of the sixth pair; so

called because they are lost on the abductores oculi.

ABDU'CTIO, (from *ab* and *duco*, *to draw*,) a species of fracture, when a bone near the joint is so divided transversely, that the extremities recede from each other. Cælius Aurelianus uses this word for a strain. Abductio properly signifies leading from or drawing away, and it is from the action of the muscles that the divided ends of fractured bones recede. *Abruptio* is used in the same sense, as are also *Apoclasma*, and *Apagma*.

ABDU'CTOR, (from *abducere*, *to draw from*.) Those muscles are called abductors which draw backwards the moveable parts into which they are inserted; of which there are several in the human body, viz.

1. ABDUCTOR AURIS, called also *triceps auris*, and *retrahens auriculam*, *bicaudalis muscularis*, *intricatus musculus*, *detractor auris*; a muscle of the external ear, called by Winslow the *posterior musculus auris*. It is called *triceps*, because it has sometimes three beginnings. It is composed of a few fleshy fibres, which arise from the superior and fore part of the apophysis mastoideus, and descend obliquely to their insertion, in the middle of the concha auriculæ. It covers the posterior ligament. Dr. Hunter thinks the ear has only two muscles belonging to its external parts that the retrahens auriculam arises from the mammillary process of the temporal bone, and is inserted into the lower external part of the ear, to pull it backward.

2. ABDUCTOR DIGITI MINIMI MANUS. Riolan calls it *hypothenar*. It rises from the os pisiforme of the carpus, runs upward on the inside of the hand, and is inserted into the external side of the little finger, or its first joint. It helps to separate the little finger from the rest, and also to bend it. It is the *flexor parvus minimi digiti* of Albinus.

3. ABDUCTOR DIGITI MINIMI PEDIS. It rises fleshy and tendinous from the semicircular edge of a cavity on the outside of the inferior protuberance of the os calcis; it has another tendinous beginning from the os cuboides, and a third from the upper part of the os metatarsi minimi digiti. It is inserted into the upper part of the first bone of the little toe externally and laterally. It draws the little toe outwards from that next to it.

4. ABDUCTOR INDICIS. It arises fleshy by two heads from the metacarpal bone of the fore finger, and the first bone of the thumb, and is inserted by its tendon into the basis, or first joint of the fore-finger, laterally next the thumb. It brings the fore-finger from the middle-finger, and near to the thumb. Cowper calls it *adductor pollicis*. Douglas says, its use is to bring the index towards the thumb; whence, in respect of this, it may be styled *adductor*; and, in respect of that, *abductor*.

5. ABDUCTOR OCCULI, called also *indignatorius*, or the scornful muscle; *musculus exterior*; also, *abducens*, *iracundus*, and *rectus externus*. It rises tendinous and fleshy from the foramen lacerum, without the orbit. It is inserted by a thin tendon into the sclerotis, on that side next the nose. It moves the eye towards the little angle.

6. ABDUCTOR POLLICIS MANUS, called also *thenar* by Riolan; and abductor brevis pollicis manus, by Albinus. It rises by a broad, tendinous, and fleshy beginning, from the inner part of the traversa ligament of the carpus, and from one of its bones which articulates with the thumb, and is inserted tendinous into the second joint of the thumb. It draws the thumb from the fingers.

7. ABDUCTOR POLLICIS PEDIS, called also *thenar*. It rises fleshy from the inside of the os calcis, and tendinous from the os naviculare, and forms a strong tendon, which is inserted at the inner part of the first bone of the great toe, upon its sesamoid bone. It pulls the great toe from the rest. It often has a tendinous origin from the edge of the os cymbiforme, receiving near this bone some tendinous filaments from the tibialis anticus. These two muscles, No. 6, 7, are called *Thenar*, because they make part of the *Thenar*.

ABELICE'A, (from α priv. and βιλος, *a dart*; i. e. without thorns.) See BRASILIUM LIGNUM.

ABELMO'SCHUS. (A-bel-mosch, ARAB. or *Granum Moschi Rumph. hirsuta Margr. Brazil*, *Moschus Arabum*. Also, *Alcea Indica*, *Alcea*, *Abrette*.) The seed of a plant which has the flavour of musk, called the MUSK MALLOW. The plant is the HIBISCUS ABELMOSCHUS Lin. Sp. Pl. 980, indigenous in Ægypt, and many parts of both the Indies. The seeds are flat, kidney-shaped, the size of a pin-head, grey or brownish without, and white within. They are very fragrant, and their scent is like a mixture of amber and of musk; to the taste they are of a slightish aromatic bitter. The Arabs mix them with their coffee; though their chief use is as a perfume; but, from their peculiar flavour, as well as other sensible qualities, they seem to merit more attention than has hitherto been paid to them as a medicinal substance. The best comes from Martinico. Those which appear new, plump, dry, and well scented, are preferable.

ABERRA'TIO, (from *aberro*, *to wander*.) In medical writings it expresses Nature's deviating from her usual progress. *A Lusus Naturæ*. See also LUXATIO.

ABE'SAMUM, DIRT OR CLAY.

ABE'SSI. See REBIS.

ABEVACU'ATIO, or ABVACUATIO, (from *ab* dim, and *evacuo*, *to pour out*,) a partial or incomplete evacuation of the faulty humours, whether by nature or art, called *Apocenos*, partial fluxes, as watery eye, gonorrhœa, &c.

A'BHEL, one of the appellations of savine. Q. V.

A'BIES, (probably from απιος, a wild pear, the fruit of which the cones of the fir resemble.) FIR, called also *Elate Theleia*.

The fir-tree is an evergreen, and coniferous, with numerous, narrow, stiff leaves, standing solitary, or unconnected at their bases with one another.

Six species afford materials for medical use. Linnæus includes the *abies* in the genus of *pinus*.

1. ABIES, *Pinus sylvestris* Lin. Sp. Pl. 1418.

2. ABIES, the YEW-LEAVED OR SILVER FIR. *Pinus alba* Lin. Sp. Pl. 1418.

These two species are natives of the northern regions; the second grows on dry mountainous places; the first in lower and moister grounds. Norway, Switzerland, and some parts of Germany, afford great quantities of them. They are indigenous in some parts of Britain; but are chiefly to be met with in plantations. The branches, and the fruit gathered in autumn, abound

with resinous matter, and yield, on distillation, an essential oil, and a liquor impregnated with a peculiar acid, called ACIDUM ABIETIS; and, when added to water, is thought to communicate to it both the flavour and other properties of tar-water. This acid resembles the acetous, differing only by the addition of the turpentine which comes over with it; and the famous tar-water was not very different: it contained only a larger portion of the essential oil. This acid and the tar-water have produced good effects in some obstinate coughs, particularly in that chronic catarrh which is benefited by warm diuretics. Decoctions of the wood and tops promote perspiration and urine; are sometimes useful in rheumatic cases; and been considered as serviceable in healing internal ulcerations, particularly of the urinary passages. They are injurious if any fever attends; but may be useful where the circulation of the fluids is too languid.

3. ABIES CANADE'NSIS, *vel* VIRGINIA'NA, the CANADA or VIRGINIAN FIR; *pinus Canadensis* of Linnæus, Sp. Pl. 1421.

4. ABIES BALSAME'A, BALM OF GILEAD FIR; so called from the fragrance of the leaves when rubbed. PINUS PINES Lin. 1418. PINUS LARIX Lin. 1420. It is the *pinus balsamea* of Linnæus, 1421.

All the parts of these trees contain a bitterish, pungent, essential oil, which by exposure to the air becomes a resin: turpentines are obtained by making incisions in their trunks at a proper season. For the different kinds of turpentines, see TEREBINTHINA.

The common red fir affords the greatest quantity of turpentine; and from the turpentine is obtained white resin, see RESINA; tar, see PIX LIQUIDA; pitch, see PIX NIGRA; and Burgundy pitch, see PIX BURGUNDICA.

The silver fir produces the Strasburg turpentine; it is far more grateful than the common sort, and called liquid resin, to distinguish it from the dry resin, which resembles frankincense.

From the Canada fir is obtained a still finer and more grateful turpentine, called *Bals. Canadense;* it is discharged, during the summer heats, through incisions made in the trees, transparent, and almost colourless. It is a good substitute for the bals. capivi. See CAPIVI BALSAMUM.

The balm of Gilead fir emits from its cones in large quantities a turpentine with a fragrance resembling the balm of Gilead. Spirit of wine extracts a resin both from the cones and the leaves of a similar quality. See BALSAMUM.

Rectified spirit of wine, digested on fir, extracts all its active parts, with some of its mucilage. The cones of all the sorts yield the most agreeable tincture.

Water dissolves a portion of the oil by the assistance of the gum combined with it. The wood and the cones are taken at the latter end of Autumn, for their oil; and in distillation with water a large quantity of essential oil arises. The oil drawn from the wood is nearly similar to the oil of turpentine. That obtained from the fresh cones is superior in subtility and fragrance to all the oils of turpentine usually met with. NEUMANN.

The tops and the cones of the fir-tree are moderately warm, promote perspiration, and increase the discharge by urine. Four ounces of the fresh tops are put to a gallon of diet-drink. Fermented with beer, they impart to it a very salutary warmth, highly useful in cutaneous complaints, scurvy, &c.

A spirit distilled from the young leaves is a succedaneum for the aq. Hungarica.

The *Ess. Abietis Pharmacop. August.* is the balsam of the fir-tree, joined with scurvy-grass: the fir-cones, while young, tender, and of a red colour, are bruised and digested two days in four times their quantity of spirit of scurvy-grass, then the tincture is pressed out.

The tops and leaves of the silver fir are used in making BRUNSWICK MUM.

A'BIES CEMBRA, Lin. 1419, affords the *balsam of Libanus*, or the *Carpathian balsam*.

A'BIES MUNGHOS SCOPOLI, an alpine tree of Hungary, which produces the *oleum templinum*, or *Krumholze oil*.

ABIETA'NUM OLEUM. See TEREBINTHINA ARGENTORATENSIS.

A'BIGA HERBA, *chamæpytis*, or ground-pine. It is probably so called from *abigo*, *to expel*, as it is said to promote delivery. Blancard thinks its name is derived from its leaves resembling those of the abies.

ABLACTA'TIO, (from *a* priv. and *lacto*, *to suckle*.) ABLACTATION, or WEANING a child from the breast. Also called *Apogalactismus*. When the mother wants health, or strength; is affected with any constitutional disease, or the milk is in small quantity; has too small nipples, or ill-formed ones; when the infant will not take the breast;—it is adviseable to wean the child; indeed, often absolutely necessary. It can never be useful to continue the breast more than eight or nine months; but generally, if a child is favoured with a good supply by sucking, during its first three or four months, and is healthy, it will rarely be the worse for weaning at a more early period. If it feeds well with the spoon, and is free from disorders in its bowels, a tendency to convulsions, &c. weaning may be attempted at any time. But, if the child refuses to feed; or, though the diet be changed to gravy and beef tea, the bowels should be disordered, another nurse should be sought for, and weaning must be deferred until more favourable circumstances attend. In general, the sooner a child is weaned, the more easily it parts with the breast. Prudence directs to accustom a child to early feeding with the spoon, and to continue it until the breast may be wholly omitted. In general, children should be fed during the first months three or four times a day; and, if not suckled in the night, once at least, if not twice, during that period. Suckling in the night should, if possible, be avoided; for the mother, especially in the higher ranks of life, wants some hours of respite. If the child is early brought to regular hours of feeding, it will soon give little trouble.

The food should be simple and light; without wine, or spices. Well fermented bread, baked hard, and reduced to powder, will make a proper food, when boiled smooth in water. Should the stomach be flatulent, a few caraway seeds may be added. If this food turn sour, beef or mutton tea (prepared by infusion only) may be occasionally substituted, or a little beef gravy may be given. A child will in feeding always first endeavour to drink. He may be allowed to do so with moderation. A little time should be suffered to elapse, and the soaked bread should then be offered. If refused, he may drink again, but in less quantity; and

should he still refuse the bread, it is a sign that he does not require any solid food. In feeding, he should be in a sitting posture, or, if recumbent, should be occasionally raised, gently moved, and amused. After feeding, he will soon sleep; but a child should never be awakened, unless the sleep be uneasy or morbidly continued.—Moss, Cadogan, and Armstrong. See Teething.

ABLE'PSIA, ablepsy, (α priv. and βλεπω, *video.*) Blindness, want of sight, rashness, indiscretion.

ABLU'ENTIA MEDICAMENTA, (from *abluo, to wash off.)* Medicines suited to wash off from the external or internal surfaces of the body any matters improperly adhering to them.

ABLU'TIO, (from *abluo, to wash away,)* ablution. A washing or cleansing either of the body or intestines. In chemistry, it signifies the purifying of a body by repeated effusions of a proper liquor: this is done various ways, by cohobation, circulation, &c. See Cohobatio.

ABO'MASUM, (from *ab*, dim. and *omasum, the stomach of a beast.)* The name of the fourth stomach of a beast that chews the cud. The first is called *venter*, or rather *ventriculus*, the word used for it in Aristotle being χοιλια; the second *reticulum*, or *cecryphalos;* the third *omasum*, or *omasus;* the fourth *enystron*, the same as *abomasum*, which completes the digestion, according to Gorræus. Aristotle says it is the second ventricle, or thick part of the stomach of ruminating animals, in which the food is concocted.

ABO'RTUS, ABO'RSUS, ABO'RTIO; (from *ab, defect*, and *orior, to arise.)* Aboriri quasi intempestive oriri. Abortion or miscarriage. The birth of a child before its due time; or, the destroying a child in the womb: termed also *convulsio uteri, deperditio, diaphthora, ectrosis, exambloma, examblosis, amblosis, apophallesis, apophalsis, apophthora.*

Miscarriages happen at any period of pregnancy, and from innumerable causes; most frequently in the third and beginning of the fourth month: but those which happen in the sixth, or later, are more difficult and dangerous.

Women who are very fat, who have miscarried before, and who easily or without any particular inconvenience, during the time of miscarriage, or soon after, part with their burden, are most subject to this accident.

The causes are various; *violent emotions, frights, poisons, violent purges, immoderate exercise, particularly in riding or dancing*, an *obstinate diarrhœa, the small-pox*, and *other acute diseases; too much blood, great loss of blood*, and *not* unfrequently *an incautious use of the lancet.* See Dr. Wallis's Essay on Injudicious Bleeding in Pregnancy. Habitual miscarriages happening at stated periods, without manifest cause, are very common among women of fashion, from the more general causes of weakness, viz. *indolence, sitting up late at night, fear, grief*, &c. In general, the causes may be reduced to what immediately affects the child, the placenta, the membranes, or the mother. Thus, the death of the child; membranes too weak; the funis too short; the placenta separated or diseased, are causes of abortion.

As to the mother, besides the causes above enumerated, the two following are very common ones. The first is *too great a stricture of the uterus;* in which case it is not capable of a dilatation sufficient to make room for the fœtus as it increases in bulk: this is known *by violent pains, a great tension* and *hardness of the belly.* Bleeding, and whatever relaxes, are indicated in this case. The second is a *relaxation of the uterus*, which renders it unable to support the inosculations of the vessels of the placenta into itself, after the fœtus and placenta, &c. are grown to a certain weight; and of all others, this is the most frequent. In these two cases, the miscarriage always happens about a stated time of the woman's pregnancy.

An approaching miscarriage, or the death of the child, is to be apprehended by the *breasts growing suddenly flabby; a painful weight in the loins*, which reaches to the thighs; *pains about the navel, head*, and *eyes; coldness in the extremities: when violent means have been used to expel the fœtus, convulsions occasionally come on; pains in the belly*, like a cholic, and *sometimes more like labour pains; shiverings; fainting;* and after the time of quickening, *the motion of the fœtus is more languid*, and *less frequent than usual:* as the miscarriage draws nearer, *the pains of the loins increase, extending to the hips; the orifice of the womb begins to be dilated; a watery discharge is perceived, which becomes bloody;* at *length blood, pure or clotted, comes away.* The most certain sign is the discharge of a flesh-coloured flaky substance, which comes away with the waters; this is the tunica decidua, or spongy chorion; and when it peels off from the womb, and appears with the waters, a miscarriage is unavoidable.

Healthy women, who have naturally a loose belly, a moist uterus, and have brought forth large infants with easy labour, who are lean, but not very sanguine, bear miscarriages more easily; but in general, they are ever to be considered as more dangerous than natural labours; for more violence is necessary to discharge the imperfect fœtus than when it has arrived at its full maturity; the placenta is also more firmly attached during the growth of the fœtus than when it is full grown; and besides the danger of a fatal hæmorrhage from the adhesion of the placenta, the os tincæ does not so easily dilate before the full period of gestation. If a part of the placenta is separated before the burden is delivered, the uterus cannot contract sufficiently to close the bleeding vessels. These hæmorrhages are extremely dangerous, and often fatal.

In constitutions subject to this misfortune, be careful to avoid whatever has been formerly suspected to cause it, and also guard against every known cause that may possibly endanger the patient. In the first months keep the belly gently open with laxatives; and avoid all exertions, even the most moderate. If violent pains come on, at the third month, in a robust habit, some blood may be taken; and if symptoms of plethora should be strong, this may be done, though nervous weakness may be otherwise evident.

If pains come on after bleeding, tinct. opii camphorata, or tinct. opii cum infus. cinchonæ, is necessary.

In very relaxed habits, the bark is useful; but in general, the tincture of opium, or the pulvis opiatus with nitre, are the best remedies. The bowels must however be kept open with castor oil or moderate doses of salts; and should a tenesmus keep up local irritation, it may be quieted by an opiate or a starch clyster with from 80 to 100 drops of the tinctur. opii. Rest,

with opiates, cool drinks, gentle laxatives, and moderate but not violent astringents, are the best remedies. Should miscarriage be connected with any other general disease, this must be the chief object of attention.

As precautions to prevent miscarriages during pregnancy are not so efficacious as those used betwixt a miscarriage and the next impregnation, the advantage of this interval should be embraced, the particular disorders should be attended to and removed, and the general vigour restored so far as possible: to this end cold-bathing will greatly contribute, if it is used near bed-time, or after the dinner is well digested. The chalybeate waters are excellent in this case; they should be drank at the spring, early in the morning, to the quantity of three or four half pints; their use must be continued two or three months, and exercise within the strength should be used at the same time.

Lime-water has been supposed to be singularly useful both in curing a disposition to, and preventing threatened miscarriages, in those who have often miscarried before. If in these cases the water was made fresh when used, and drank before the heat excited by the ebullition on quenching the lime was gone off, the efficacy has been thought to be the greater. This plan, however, wants the sanction of extensive experience.

Convulsions and *Floodings* coming on pregnant women demand immediate help from art, to extricate the fœtus from the womb; and though properly belonging to the article of midwifery, yet very naturally fall under this of *Abortion*. These cases admit of no delay. Labour must be brought on, and the child turned, if necessary.

A cure is uncertain when convulsions come on in time of labour, except you can deliver the child; and as in some cases delivery is impracticable, on account of the length of the neck of the womb, if the woman cannot be relieved by medicines, death must inevitably be the consequence. If then the convulsions come on in the beginning of labour, bleed freely, and repeat the operation according to the strength of the woman and the violence of the disease. Empty the bowels with a clyster; if time admits, apply a blister on the nape of the neck and on the extremities. If the fits go soon off, if in the intervals the senses are entire, and there is no fever, wait the event; but if there is vomiting, the pulse be low, the patient comatose, the child must be taken off. If the patient is convulsed three, four, or five hours together, foams at the mouth, and the pulse is disordered, delivery must be hastened.

If convulsions come on after the labour is in some measure advanced, they will have the same effect as labour-pains, and the child will be delivered by them. If they have not this effect, if the head of the child is low enough for the forceps, these may be employed. If not, by giving opiates largely by the mouth, or by clyster, dashing cold water in the face, according to the plan of Denman, or giving the fox-glove, as recommended by Dr. Hamilton, the convulsions may be checked till weakness occasions the dilatation of the os tincæ.

After labour comes on, the convulsions lessen, and during every pain cease; which shows that the irritation is on some of the nerves above the os internum. They rarely continue after delivery, and a large opiate, with a mild nourishing diet, is only requisite. They sometimes come on after delivery; either from the irritation of after-pains or some other cause. In these cases, the bowels must be emptied by a clyster, and opium given freely either by the rectum or the mouth. Convulsions, after delivery, are seldom fatal: before delivery, about six or seven in ten will elude the most active and best concerted measures.

Floodings.] Floodings happening to pregnant women are very different in their effects, so are as differently to be regarded. Pregnant women have the menses sometimes to the last; but they are pale, thin, and do no harm. Those floodings which do not require delivery come on gradually, but generally with the usual pains of menstruation: they are not continual; and, with due care, they cease. Those which cause miscarriage or death, appear suddenly, and in large quantities; they flow with slight occasional intermissions only. In the first case, the os tincæ is not affected; in the latter it opens.

In the early months, the causes are, violent shocks, sudden or great frights, &c.; but in the latter months, the separation of the placenta, in whole or in part, is always the cause: the uterine arteries pour their blood into the cellular part of the placenta; hence, when any of these cells are torn, all the blood carried by them must be discharged by the os internum. The placenta adhering to the os internum may be the cause of flooding; in which case the discharge increases as the os internum dilates.

The signs of an approaching flooding are, *restless pains like labour*, *pain in the eye-balls*, *troublesome dreams:* if the flooding is internal, *the os tincæ will be stopped with clotted blood*, *the belly will swell*, *the pulse fail and flutter*, *and faintness*, *with giddiness*, *come on.* Floodings are more or less dangerous, according as pregnancy is advanced, because the diameters of the vessels are proportionably enlarged. Flooding preceding delivery is, for the most part, followed with a dead child: and, generally, a flooding in the first months is followed by a miscarriage.

If the flooding threatens speedy danger, attempt nothing till the patient's friends are apprised of it, and insist on your endeavours. It is seldom that any manual assistance is given in the first five months, for till this time the os tincæ is but little altered, and indeed the pregnancy is often somewhat uncertain; but afterwards the os tincæ opens, so that the fœtus can be brought away by force. In the latter months, if a flooding comes on, if at the same time the pulse is tolerably firm, the colour remains, the loss of blood not very considerable, and if no pains which will assist delivery come on, we must wait their effects. If the discharge abates on the rupture of the membranes, pains come on, and all seems well, a little patience is only necessary; but, if the flooding continues, if the pulse is low and unequal, if the strength fails, the face grows pale, fainting and cold sweats come on, the delivery must be hastened as fast as can be done with safety.

If death is not so near, take as much time as symptoms will permit: if the flooding is just come on, the strength and spirits not yet failing, the os tincæ will be softened by the continued discharge; it will more easily dilate, and the birth will be less difficult. A little delay will be consequently advantageous.

If the violence of the symptoms demand immediate help,

proceed without waiting for pains, for they seldom return after the flooding is so violent as to cause fainting or convulsions; nor must we wait for a considerable dilatation of the os tincæ, which without pains is not to be expected: indeed the pains are the less necessary, as the hæmorrhage assists in relaxing it.

If flooding happens during the first six months, bleed according to the state of the pulse, keep the patient still in bed; and though she is faint, cold, or low, give no warm cordials, for they increase the discharge in proportion as they raise the spirits. If a vomiting attends, the neutral mixture, and such light food as passes soon into the circulation, such as broths, salep, milk, &c. may be given in very small quantities, lest vomiting should be excited; but let the supplies be frequent. Relieve costiveness by clysters that are barely laxative. If anxiety and wakefulness are distressing, let opiates be repeated, at due distances, in small doses. The bark joined with opiates, and sometimes with nitre, is very effectual. The pulv. stypt. Ph. Ed. above named, is also not to be omitted; and cloths dipped in cold water may be applied to the region of the uterus.

If this disaster happens in the seventh or eighth month, the danger is far greater than in the former months; for the diameter of the vessels is enlarged, and the neck of the uterus is rigid; so that if the flooding is violent, the woman may be lost before the best helps can be of any use. In this case, as in the former months, it is the best not to attempt delivery till a laxity of the parts is come on; for were we to attempt it in their rigid state, we should increase the flooding, tire ourselves, and exhaust the woman, and this without being able to deliver her.

The most dangerous time is the last month of pregnancy, for then the diameters of the vessels are at their greatest dimensions. If in this case the blood runs off in a full stream, introduce the hand, break the membranes, and, taking the advantage of the waters, turn the child, and bring it footling. If at this period a flooding happens, or in the time of labour, and the patient loses not a great quantity in a short space of time, she may bear it, and in the course of labour-pains it will stop, and the labour go on well. If the woman is plethoric, and not much weakened by the discharge, if the child presents fair, break the membranes to restrain it, and allow time for the labour to come on afterwards.

If, during labour, a flooding is caused by a laceration of the placenta in delivering the first of twins, immediately introduce the hand, turn the remaining child, and bring it away by the feet; then the uterus will contract, and the diameters of the vessels will be lessened: but if the flooding precedes the delivery of a twin, and then abates, let the other remain a little, and recruit the woman with caudle or jelly; for in twin cases the belly is vastly distended, and the vessels are very much dilated and full, and a sudden emptying of them may cause a syncope, or even death.

The placenta is not only sometimes loose, but also is sometimes fixed over the os tincæ, in which case delivery must be effected with all convenient speed. To deliver with safety when thus circumstanced, introduce one finger into the os tincæ; then two, and gradually the rest, until the whole hand is introduced; dilate the parts by degrees; then, if the membranes first offer, break them, and get the feet of the child, by which bring it away, and deliver the rest at discretion. But if the placenta presents at the os uteri; 1st, you will know by the touch; for, on introducing the finger, neither the membrane nor the naked head is perceived; on the contrary, thick and soft flesh is felt, distinguished from that of a child by being softer, and also without form. 2dly, This case is always joined with a flux of blood, to the danger of both the mother and the child; therefore the birth must be hastened without waiting for pains; a finger must be introduced into the os tincæ, and the placenta removed until the membranes can be reached; which done, tear them to come at the feet of the child: if you cannot push the placenta from the os tincæ, force your finger through its middle, and make way by dilating your fingers for the membranes to descend; this done, break them, and, by the running off of the waters, the uterus will contract, and gradually lessen the flooding: if, on the waters being discharged, the head presents, endeavour to remove the placenta, so as to give way to the head, then the pains may bring forth the child; but if it is in a preternatural posture, bring it away by the feet.

If the flooding happens from a blow, and there is a great discharge in a little time, delivery must be hastened as speedily as possible; and if the hæmorrhage abates not on the child being brought away, the placenta must be hastened too. Remember, that during delivery an assistant should gently press the belly of the woman, and continue the pressure a little while after the placenta is delivered; the woman must be supported by frequent small quantities of caudle.

The floodings which happen after delivery are sometimes very dangerous; this kind is generally owing to the womb being suddenly emptied, and so not having time to contract the diameters of the vessels, they remain open, and the blood by its own specific gravity pours out. The chief intention here is to contract the uterus: to which end the properest means is the application of cloths dipt in vinegar, or vinegar and water: these should be laid on the back and region of the womb. Also stupes impregnated with a mixture of cold water and vinegar, or cold water alone, and passed up the vagina to the os tincæ, have been recommended. A hand may be placed on the belly, to press the uterus towards the pubes. *But the greatest specific in this case is an opiate: it should be given in large doses; for if the woman can be once composed, if it be but for a few minutes, the flooding will almost certainly cease; and when it once ceases, it rarely returns.*

To deliver a woman without pains, or to force labour, the subsequent directions should be pursued: lay her on her back, with her heels upon the bed, having assistants to keep her steady. The operator may be in any position that he finds most convenient; in the course of one labour he will generally find occasion to sit, stand, and kneel; the elbow of the introduced arm should be supported by the knee, to give additional strength, and to prevent the arm from being wearied. The hand of the operator being well smeared with hog's lard, or unsalted butter, he must gradually dilate the external parts by introducing the fingers one after another, moving them in a rotary manner; then begin to dilate the os internum, proceeding gently and gradually, resting at intervals both for his own and the wo-

man's ease: when the hand has passed into the uterus, he must break the membranes, but permit not the waters to run off before he has found the feet, and the child is properly turned; the feet secured, proceed as in delivering by the feet. When the child is delivered, if the placenta adheres, but the flooding is not so violent as to render the bringing it away immediately necessary, opiates are the most likely means of promoting the separation and exclusion of it, by relaxing the parts concerned, and removing the stricture which always accompanies the pain: give the tinct. opii gutt. xxx. vel opii gr. ij.

Though many later authors have written well on *abortion*, and some moderns have added many improvements, yet Hippocrates deserves to be read on this subject.

See Dr. Leake's Medical Instructions, edit. 6. and also his Practical Observations. Denman's Aphorisms on Uterine Hæmorrhages. Smith's Letters to Married Women. On the Management of Children, &c. by William Moss, Surgeon. On Uterine Hæmorrhages, by M. Leroux, Surgeon. London Med. Journal, i. 59.

ABORTIVE MEDICINES. Medicines designed to procure abortion; with which were we acquainted, we should be cautious of describing. This effect is, however, difficult to be produced; and the most decisive plans have been only effectual by the destruction of the woman. Such medicines have been styled *Ecbolica* and *Amblotica*.

A'BRETTE. See Abelmoschus.

ABRO'MA, (from α neg. and βρωμα, *food*, i. e. *not fit to be eaten*.) A tree of New South Wales, which yields a gum.

ABRO'TANUM, southernwood. *A. Mas Caspar Bauhine Artemisia Abrotanum L. Sp. Pl.* 1185.—*Abr. Fœmina C. Bauh. Santolina Chamæ Cyparissus L.* 1179, *Fol.*

The leaves of these plants are slightly tonic and diuretic. One species, the "Rupestris," is said by Haller to be warm and stimulant, and employed by the Alpine shepherdesses as an emmenagogue. The female southernwood is supposed to be also an anthelmintic and an antispasmodic. Both are, however, confined to external use, but are not very commonly employed. They are chiefly used as antiseptics, and the female is, as usual, the weaker species. Their appropriate menstruum is alcohol; and, in substance, they may be given from a drachm to any quantity the stomach can bear: in decoction, the proportion may be regulated by the taste, as the power is inconsiderable. Six pounds of the fresh tops afford about a drachm of essential oil, of a bright yellow colour, and of an odour resembling that of the plant.

ABROTONI'TES, (from ἄβροτονον, *southernwood*,) a wine impregnated with abrotanum. About one hundred ounces of one, to seven gallons of the other, are put together; and after standing a few days, the wine is fit for use.

A'BRUM. See Succinum.

A'BRUS. This seems to be the Glycine Abrus of Linnæus, Sp. Pl. 1025, though removed in some of the later systems to a separate genus. It is a plant of both the Indies; and resembling the liquorice in its botanical relations and qualities, has obtained this name, particularly in Jamaica. This is the plant, whose perforated seeds are employed in forming necklaces.

ABSCE'DE and ABSCEDE'NTIA, (from *abscedo, to depart from*.) Decayed parts of the body, which, in a morbid state, are separated, *absceded*, from the sound.

ABSCE'SSIO, } an abscess; (from *abscedo, to de-*
ABSCE'SSUS, } *part*;) or from *abs* and *cedo, to retire*.) A cavity containing pus, or a collection of matter in a part. So called, because the parts which were joined are now separated; one part recedes from another, to make way for the collected matter. Termed also *Diapyema; dubletus*, an Arabic term; and *exitura*.

Αποστημα and αποστασις, used by Hippocrates, are translated by Celsus, *abscessus*, and sometimes *vomica*. Paulus Ægineta seems to limit the signification of *abscessus* to suppuration, by defining αποστημα to be an *abscess*, or a corruption of the fleshy parts, muscles, veins, and arteries.

The words αφισταμαι and αφιστημι, which signify to *recede* or *retire*, are used by Hippocrates with great latitude. He means by them any critical removal of offending humours, however discharged; also the change of one disease into another, as a quincy into a peripneumony, &c. See Apostasis. But the present practice seems universally to consider an *abscess* as that tumour which follows an inflammation, for almost every abscess is the consequence of inflammation.

The proper seat of *abscesses* is the cellular membrane.

The source of the purulent matter in abscesses is not yet determined. It has been supposed, with some appearance of reason, to be derived from a solution of the solid parts in the exuding serum; and experiments, made by digesting animal substances in serum, have been adduced as supporting this opinion. On the other hand, it has been contended, particularly by De Haen, that purulent matter may be formed without suppuration, without a destruction of the solid parts, or previous inflammation; and it is certain that membranes will, at times, assume a purulent appearance, where little or no previous inflammation has taken place: in such cases, the appearance of pus has been attributed to a change in the state of the extreme vessels, by which they have become secretory organs separating a peculiar fluid. It is also certain, that purulent matter may be distinguished, chemically, from other fluids of the body; and microscopical observations show it to be composed of spheroidal particles, swimming in a fluid. It is, however, evident, that pus is in very few instances, if ever, produced without destruction of the solid parts, which are lost in the fluid discharged; and that new granulations of flesh are formed under its protection. If it destroys the animal substance, it contributes to its reproduction: it regenerates instead of corroding. In this place, however, we speak of mild purulent matter; in the language of surgery, *laudable pus*; the formation of which we shall afterwards attempt to explain. See Inflammation, Malignant Ulcer, Cancer, and Hectic.

The inflammatory heat continuing to increase, in opposition to the usual means, a suppuration will certainly follow. *If the patient feels frequent shiverings*, a formation of pus is probably commenced. This shivering is pro-

duced by the absorption of some of the pus, or its thinner parts; but when the matter is enclosed in a cyst, or surrounded by an inflamed surface, this absorption rarely or never happens. Whatever be the source of the pus, as it must be derived from the vessels, their tension is removed, the many blood-vessels which before were compressed are freed, the blood circulates freely, the heat abates, and the part is less red, but gradually becomes more soft.

In the progress of an *abscess* on the external parts, the tumour increases, as well as its heat, pain, and redness; a pulsation is perceivable in the tumour, and an evening hectic comes on. The pain and tension then cease, the hardness of the part at length yields to the touch, and the skin bursting, gives a vent to the contained matter.

An *abscess* should be carefully distinguished from a *hernia*, an *aneurism*, and from a *varicous tumour*.

A hernia, as will appear hereafter from its seat, its effects, and the absence of pulsation, cannot easily be mistaken for an abscess: and a varicous vein, as it is neither attended with heat, with pulsation, nor fever, can scarcely ever lead the practitioner into error. An aneurism may be supposed to be an abscess; or, on the other hand, an abscess may be mistaken for an aneurism, as each may be attended with inflammation or pulsation. The practitioner, however, who finds a painful tumour beating strongly, if in the course of a large artery, will carefully attend to the previous symptoms. Has much fever preceded? has no violent strain occasioned it? can the finger be passed between the tumour and the artery? It is then an abscess. Has the tumour increased slowly, without fever, come on from strong exertion; and does the pulsation, on pressing between it and the artery, appear more evident? It is then aneurism: but to this subject we shall return. See ANEURISM.

If, during the treatment of an *abscess*, the patient is sleepless and feverish; if he breathes with difficulty and loathes his food; if the pus when discharged, is ill-coloured, fetid, and sanious; if blood or spongy flesh appears in the cavity of the ulcer; if faintings come on during or after the times of dressing; the prognostic is unfavourable: on the contrary, if these symptoms are absent, or but in a moderate degree, a favourable issue may be expected. By improper treatment an abscess is easily converted into a mortification. Deep-seated *abscesses* are sometimes difficultly discovered by the touch; but as no considerable suppuration can happen in the body without being soon after accompanied with a hectic fever, the slightest appearance of this fever at once determines the case.

Abscesses from their seat and their consequences are often highly dangerous; and it is of the greatest importance to prevent or discuss them. The abscess, for instance, in the psoas muscle, is generally fatal. We can, however, seldom succeed in the attempt to discuss them. The psoas abscess has, indeed, in the opinion of many practitioners, been prevented by active bleeding; yet, in the early stages, it is with great difficulty discriminated; and to use so violent a remedy for every slight strain would be highly improper. Active emetics have also contributed to dissipate the congested fluids of inflamed parts, and these have at times removed the inflammation of the testicle; but neither remedy can be employed with the necessary violence in internal inflammations. If we bleed too copiously in pneumonia, we check the expectoration, and the patient dies: if we give emetics in hepatitis, we aggravate inflammation, or burst an abscess, if any has formed.

When suppuration is to be promoted, endeavour,

1st. To convert into pus the congested fluids.

2dly. To assist the discharge of the matter when it is duly digested.

3dly. To heal up the opening, or ULCER; for thus the *abscess* is denominated when the matter is discharged.

In order to the accomplishment of the first intention, in strong habits, avoid every stimulant, apply warm and moist applications, which will long retain their heat and not grow hard. The bread and milk poultice, occasionally with the roots of the white lily, united with a little oil, or the meal of lintseed made into a poultice, which contains already an oily matter, are only necessary. Even leeches, which lessen inflammation, will occasionally relieve the vessels, and increase the salutary effusion. If the abscess is deep, or the suppuration does not rapidly increase, a little of the digestive ointment may be added to the poultice, a stimulating fomentation may be employed, or a gum plaster laid on the part.

While externals are applied, the state of the constitution is not to be neglected; too much heat endangers a mortification, and with too little every attempt will be abortive. If the heat runs high, reduce it nearly to a state of health by bleeding and a cooling regimen. If costiveness incommodes, gentle laxatives or a clyster may be used. If a defective heat retards the suppuration, warming medicines, and a cordial diet, are required.

For a due fulfilling the second intention, the whole of the tumour, or nearly so, must be converted into pus, before a discharge can be admitted; otherwise all that remains unsuppurated will digest slowly and with difficulty. To this, however, there are some exceptions:—the abscesses which are critical in malignant fevers must be opened soon: nature cannot finish the operation; she must be relieved, and the discharge afterwards regulated or corrected. Again, if a due discharge is not obtained as soon as the pus is perfected, it putrifies, and forms an unfavourable opening; or it will be absorbed, and cause a fatal hectic fever. The time of opening is generally to be known *by the prominence observed being very thin, the matter fluctuating on the lightest pressure, and an abatement of the pain, heat, and pulsation in the part.*

Abscesses are opened either with a knife, lancet, or the caustic; but in general the first is to be preferred, for it is less painful than the caustic. The opening may be as far as the skin is discoloured; or a circular piece may be taken out if the discoloration spreads. The opening must be, if possible, in a depending part; or as near to it as nature points. When the bad quality of an *abscess* is likely to retard its future incarnation, an opening made by a caustic best prevents the lips of the wound from growing callous. Venereal buboes, and some indolent or scrofulous tumours, if not in the face or neck, are soonest healed after opening with a caustic; and such of these as neither will give way to suppurating nor discutient medicines are effectually de-

stroyed by caustics, and the eschar soon is cicatrised. See the article Escharotica.

Many advise not to open critical *abscesses* before they are digested. Sharpe says, that "very little of the morbid matter is deposited in them before they are fully ripe, therefore till then they should not be opened." It is certain that, by a premature discharge, the ulcer becomes foul, and heals with difficulty.

When the knife is used, if a nerve, vein, or artery, is in danger, let a director guide the incision, which is best begun on the lower side, for then the matter is discharged most freely, and the operator least incommoded by it. If possible, its course should be according to that of the fibres of the subjacent parts: thus, if the skin is very near a nerve, the use of the part will not be injured by cutting it across.

In some cases, particularly in abscesses of the breast, the abdomen, and in very large abscesses of other parts, where the discharge of the matter *at once* would be injurious from the debility it would occasion, or where the admission of air would be dangerous, a seton is passed, from above, below; (see Seton). The matter is then discharged slowly, the access of air prevented, and the irritation occasioned by the motion of the cotton contributes to the diminution of the sac, in consequence of the inflammation excited, which produces adhesion. The length of the upper part of the cotton should be considerable, that it may be drawn down, and the purulent part be occasionally cut off. When the matter of a psoas abscess passing along the fibres of the muscles appears at the surface near the groin, or, penetrating through them, at the back, the matter has been evacuated slowly by using a small trocar, which admits but of a little, if any, air. When the wound closes, the perforation is repeated. We have not, however, found this plan very efficacious.

As to the third intention, it may be observed, in general, that, when the opening and discharge are made, the case is considered as a common wound, and the treatment is as directed in the article Vulnus. The first dressing may be dry lint, covered with pledgets of soft tow. Afterwards, if the part is tender, and the matter good, when the applications are removed, be content without wiping it very clean, as it is thus irritated. Pledgets that are spread with ointments need not be warmed, except the patient complains of their coldness, and then hold them to the fire, but not so long as that their surfaces melt. Observe a proper posture, which will favour the discharge. Repeat the dressings once or twice a day, as the quantity or the quality of the discharge requires; the seldomer they need a repetition, the sooner will the cure be perfected; and as the air offends not, except by long exposure to it, all hurry is unnecessary. Bell on Ulcers, edit. iii. p. 54. 93. Kirkland's Medical Surgery, vol. ii. 49. 62.

1. Absce'ssus abdo'minis. *An abscess of the Belly.* See Inflammatio. musc. abdom. N° 10.

2. Abscessus ani. *An abscess of the Anus.* A large quantity of fat fills up the cavity on each side of the anus, and is the seat of this disorder. The causes are various; as *contusions*, *wounds*, *inflammations*, *difficult labour*, *hard riding*, *a dysentery*, *the venereal disease*, &c. *Abscesses* sometimes are suddenly formed in this part; at others they advance very slowly. *In the first case* the appearances are in the beginning no other than those of a common boil; but the symptoms soon increase, quickly proceeding to a more formidable state. *In the latter*, though the suppuration makes but little progress, the pain and tumour sufficiently determine the nature of the complaint. The pus, whether it makes its way through the skin or through the intestines, is frequently so tedious in its passage, that the adjacent fat is more or less corroded, and sinuses are formed of different shapes and sizes. Sometimes the maturation is extended on every side, rendering the cure both difficult and uncertain. When *abscesses* in this part are left to themselves, they rarely fail to degenerate into fistulas, and occasion troublesome callosities.

As soon as the tumour is formed, endeavour with all possible speed to bring on suppuration; and, when this is in some degree advanced, procure a speedy discharge. To this end, let the patient stand on the ground with his feet asunder, and lean over a table upon his belly; then the operator, introducing a finger into the anus, will perceive the matter in a fluctuating state; in which case, without waiting for the external signs of suppuration, he will make an opening into it with a knife: by pressing the finger in the anus on the *abscess*, and another on the external part, a judgment may be formed where to make the puncture; for, by the finger in the rectum, the pus may be pressed externally, so as to be perceived by the finger there. When the opening is made, endeavour to enlarge the wound as you withdraw the knife; and, for the better application of proper dressings to the bottom, another incision may be made transversely. If the rectum is laid bare, an incision must be made in it also, as far as the accident extends, in order to its reunion with the adjacent parts, for the regeneration of flesh is obtained with great difficulty on the surface of this intestine. When the matter surrounds the anus, the cure is hardly to be performed without cutting off all that is bare. See an extraordinary instance of this kind in the Med. Mus. vol. iii. p. 251. 257.

A proper opening being made, the dressings, &c. are as in *abscesses* in general. Though Aetius observes, that when this disorder extends round the anus, while the wound is filling up, a constriction of the circumjacent parts, and an obstruction of the passage of the anus occur; to prevent it he advises introducing a canula there, and continuing it till the cure is finished. But how far a good habit of body, with other favourable circumstances, may encourage our hope of success this way, the practitioner can only judge by the circumstances, and his own experience. When the cause is venereal, these tumours suppurate slowly; and without a gentle mercurial ptyalism a cure is hardly to be effected. See Fistula. See Kirkland's Med. Surgery, vol. ii. 201.

3. Abscessus arthri'ticus. See Abscessus intestinorum, N° 17.

4. Abscessus auris. *An abscess in the Ear.* The symptoms attending an *abscess* in this part have nothing peculiar, except that the pain is very exquisite.—See Otaglia.

5. Abscessus axi'llæ. *An abscess in the Arm-pit.* *Abscesses* are often formed by injuries in the arm, hand, or fingers; and sometimes by a fever. When the fever is of a malignant kind, these tumours sup-

purate but slowly; and when ripe, an opening should be made with the caustic; or, if great debility prevails, it must be opened more early with the knife. This disorder when it terminates the plague is usually called a bubo, *q. v.* See also Abscessus in'guinis, No. 16.

6. Abscessus ca'lcis. *An abscess of the Heel.* The common causes of an *abscess* may produce it, but generally it is from scrofula. If there is a caries, the best method is to pass an actual cautery through a canula. Wiseman says it saves much time, and that thus the caries seldom separates in the form of a scale, but moulders away insensibly with the matter.

7. Abscessus ca'pitis. *An abscess on the Head.* Wounds on the head generally are the most speedily healed; when an *abscess* is brought to the state of a wound, the same advantages attend it, and the common methods suffice for the cure. When *abscesses* are seated on the sutures, they may be troublesome by inflaming the dura mater which passes through them, and is continued to the pericranium. Every where on the scalp, a caustic is the best method of opening *abscesses*, especially if the long confinement of the matter hath rendered the skull carious, for it makes some way for the raspatory, which is always used, except on the sutures: exfoliation here is very slow, therefore rasping is used, and then incarnation can immediately proceed. *Abscesses* over the forehead are best opened by incision; but care should be taken that the direction of the muscular fibres may be followed, for a transverse wound may cause the eye-lids to fall over the eye. Abscesses on the head are sometimes owing to a diseased bone from a venereal affection, and are then most troublesome, since in these small vessels the action of mercury is for a long time weak and almost imperceptible.

8. Abscessus ce'rebri. *An abscess in the Brain.* Instances of this kind have occurred; and if the trepan is used early enough, the case ends well; but it seldom happens that the situation of the abscess can be determined with sufficient accuracy to enable us to employ that instrument, except it is in consequence of external violence. Abscesses, from internal causes, are generally seated in the external parts of the brain.

9. Abscessus co'lli. *An abscess of the Neck.* This part is affected with tumours of every kind, but generally the scrofulous and encysted occupy it. *Abscesses* here are apt to become fistulous; but by a proper compress and bandage this consequence is often prevented. An opening in this part is best made with a lancet; but if the jugular vein is near, some care is required not to wound it.

10. Abscessus diaphra'gmatis. *An abscess of the Diaphragm.* See Paraphrenitis.

11. Abscessus digito'rum ma'nuum, et pe'dum. *Abscesses of the Fingers and Toes.* See Paronychia.

12. Abscessus do'rsi et lumbo'rum. *An abscess in the Back and Loins.* For a particular account of this complaint, see Psoas, seu Lumborum Abscessus, et Arthropuosis.

13. Abscessus gingiva'rum. *An abscess of the Gums*, also called *Parúlis*, a *Gum Boil.* These tumours are very painful, the inflammation is often more diffused than in other parts, and more or less attended with a swelling in the cheek, or perhaps the whole face. The tooth-ache, the *general causes of inflammation*, a *carious tooth*, &c. induce this complaint. Mr. John Hunter observes, that gum-boils seldom arise from any other cause than inflammation in the cavity of a tooth, the effect of which extends all over the face, but more particularly to the gums; that sometimes this complaint originates from a disease in the socket of the tooth; or in the jaw, without any connection with the tooth. Through bad management, or neglect, they are apt to degenerate into fistulous ulcers. During the inflammation, to assuage the pain, let the patient hold any warm fluid constantly in his mouth, spitting it out, and taking fresh quantities, as may be needful to keep up an equal degree of heat for a considerable time. If the suppuration cannot be avoided, let figs be split and held in the mouth upon the boil, and white bread poultices, wrapped in thin linen cloths, applied externally upon the cheek of the affected side; and as speedily as is convenient let the *abscess* be opened, for the contained matter soon corrodes the adjacent parts, and affects the bone. After the discharge, the poultice may be continued a little longer, and the mouth washed three or four times a day with warm wine and honey of roses. If a bad tooth is the cause, it must be extracted before any attempts are made by medicines, or, at least, as soon as the discharge of the *abscess* will permit. If the ulcer degenerates into a fistula, inject warm wine and honey of roses into it; and if it is suspected that the bone is carious, add to this injection a little of the tinct. myrrh. or of the vin. aloes. If these methods fail, proceed as for the exfoliation of a carious bone. On this subject, see Mr. John Hunter's Natural History of the Human Teeth, part ii. Bell's Surgery, iv. 203.

14. Abscessus gla'ndulæ lachryma'lis. *Abscess in the Lachrymal Glands.* The supposed causes of these *abscesses* seem not to have any such effect. To prevent their usual termination, an opening must be made into them, for the performance of which Mr. Sharpe hath given very ample instructions in his Treatise of the Operations of Surgery. See also Ware on the Fistula Lachrymalis, and Wallis's Nosologia Methodica Oculorum.

15. Abscessus he'patis. *An abscess of the Liver.* A suppuration is prognosticated if an inflammation continues in the liver several days; if the pain remits, and is followed by a pulsation in the same place, and if shiverings come on, with a countenance of a yellowish colour; soon after which a tumour and a sense of weight are perceived in the region of the liver: a hectic fever follows, with thirst, and an extreme feebleness. Aretæus observes, that a pain generally extends to the throat, and to the extremity of the shoulder, and a dry, but not very frequent, cough afflicts the patient. He further remarks, that this disorder is sometimes mistaken for a tumour of the peritonæum; but that the latter is more irregular, and is not circumscribed by the limits of the hypochondrium.

The consequences of an *abscess* in this viscus are:

1st, The liver is corroded and consumed. In this case, after a tedious icterical wasting, a slow fever, great anxiety, a sanious and fœtid diarrhœa, &c. the patient dies.

2dly, The *abscess* breaks inwardly, and discharges a sanious pus into the belly: thus the rest of the viscera

are affected, a consumption of the whole body hastily advances, and an ascites, &c. usher in death.

3dly, The pus sometimes passes by the biliary ducts into the intestines, and, regurgitating into the stomach, causes dark, offensive vomitings; or passing downwards, produces a violent diarrhœa. Acid and acescent substances may palliate for a time, but the end is always fatal.

4thly, The tumour may adhere to the peritonæum, and form an external *abscess*, evident both to the sight, and touch. *Here alone is any hope to perfect a cure:* a caustic may be applied and left to suppurate; or, if the pulsation be evident, an opening may be made with the knife. If the pus is well conditioned, and the symptoms soon subside, the patient will recover; but, otherwise, this case is also fatal in its end.

5thly, Aretæus informs us, that if the tumour does not suppurate, the excrements have an offensive and putrid odour; the food passes crude and undigested, because of the weakness of the stomach and of the intestines; for the liver, so disordered, sends forth bile too defective to assist the digestion; whence some are afflicted with a sharp corroding heat, are daily worse, and death is soon their delivery. Some recover from both the dysentery and the *abscess*, but a dropsy terminates the scene. If, however, these symptoms remit, and the pus in the stools becomes white and of a good consistence, and the patient can again digest his food, we may still hope. As the best crisis, he notes that by urine, for thus the least offence is given. See Bell's Surgery, v. 387. Kirkland's Med. Surgery, ii. 185. London Med. Journal, vii. 22.

16. Abscessus in'guinis. *An abscess in the Groin*, is sometimes occasioned by injuries done to the parts below, as in the knees, legs, or toes; a pestilential fever may be the cause, in which an *abscess* in the groin is often critical, but the venereal disease is the most frequent. See Bubo. If opened with a knife, be careful not to wound the inguinal artery. In venereal cases a caustic is preferable, as it dissolves part of the induration which too often remains after the greatest part is suppurated, and assists in digesting the remainder. If *abscesses* in the groin, or in the arm-pit, are from the crisis of a fever, the caustic should be employed, and the discharge kept up, till all danger from the fever is over. In glandular parts all that is hardened should be perfectly dissolved; for instances have occurred of cancers proceeding from the remaining indurations.

17. Abscessus intestino'rum. *An abscess in the Intestines.* When an *abscess* in the intestines is discharged, the case is sometimes mistaken for a dysentery; indeed, if the ulceration continues long, its treatment will be the same as in the dysentery, though at first the methods are far from similar. Before an *abscess* is formed in these parts, there is always a throbbing pain felt near the part affected. At the beginning of the suppuration there are unequal shiverings, which increase and remit; and a fever, with exacerbation of the symptoms in the evening. When this accident follows an inflammation in the bowels, it begins in about four days after the attack of the inflammation, at which time a shivering comes on, which extends through the whole body; and an obtuse pain, with a sense of weight, is perceived in the part affected. After the pus is formed, the symptoms abate, and the pain nearly ceases, till the time of breaking approaches, and then the pain is renewed; but it is of a different kind, not pulsatory and shooting, but tensive, with a sense of weight. Sometimes the belly is violently constipated; and, after the discharge, a quantity of aqueous pus is thrown out by stool. See Aetius Tetrabib. iii. serm. i. cap. 42. In about fourteen days the pus makes its way into the cavity of the belly, and produces inconveniences similar to those arising from a discharge of the like kind from the liver: or, passing into the intestines, it runs off by stool. In this case, entire membranes are discharged, and a consumption often follows.

If, on the first attack, the means recommended against an inflammation of the intestines fail, little more is to be done than to supply the patient with emollient and gently detergent broths, to support his strength by bark, and sheath the suppurated parts by a mixture of wax and soap. Opiates should be given, to relieve pain, and, by lessening the action of the intestines, to allow the pus to thicken, under which new granulations may form. If, by the continuance of the excretions, the dysenteric state is produced, the same means are to be employed as in a dysentery.

Musgrave, in treating of the irregular gout, observes, that sometimes a gouty dysentery degenerates into an *abscess* in the bowels; hence properly called Arthriticus. Celsus indeed observes, that large *abscesses* in these parts are sometimes the consequence of fevers and pains, especially of pains in the belly. If the purulent discharges are excessive, moderate them with small doses of the tinct. opii; in case of faintness, a glass or two of wine may now and then be allowed; avoid all acids, acrids, and high cordials, and let the diet chiefly consist of jellies, agglutinating broths, &c.: at last, when all appearances of purulency have vanished, the myrrh, or the bals. Peruv. in a decoction of bark, may be used, both to restore and to prevent a relapse. Warner on the Gout.

18. Abscessus perito'næi. There are some instances of apparent inflammation of the intestines, where the peritonæum is only affected. The disease we shall particularly notice under this title, when we shall add the methods of distinguishing it, and the remedies adapted for it: at present we shall only remark, that *abscess* is its common termination; and, as the whole membrane is affected, even when the existence of the disease is certain, the cure is hopeless. The patient often lives for a long time, but sinks, at last, in an incurable hectic. See Peritonitis. An *abscess* rarely occurs in the muscular parts of the abdomen, without an affection of the peritonæum. Should it happen, it must be rapidly brought forward, though there is little hazard of its penetrating inwards.

19. Abscessus ischia'ticus. *An abscess in the Hip*, a species of *Arthrophuosis*. When an *abscess* forms itself in the socket, or the head of the thigh-bone, there are usually a great swelling and lameness in the hip, and in time matter collects in this cavity. Instances have also occurred in which it hath passed through the bottom of the acetabulum into the belly; and in these cases, when the patient went to stool, the matter, by straining, was forced back, and through the external wound. Mr. Pott observes, that this disease originates in the hip-joint; yet, in this case, the leg of the affected side is shorter than the other, the pain begins where the disease

originates, i. e. about the great trochanter. "It is (he says) a distemper of the joints and ligaments that surround it." He further adds, that, "if we see scrofulous affections of any kind, in the beginning, if there is any remedy in art, I believe it to be issues; therefore, in scrofulous hips, apply a large caustic on the part, large enough to admit of five or six peas, and keep up the discharge as long as it appears to be necessary." Alas! though this method, if early used, is much to be depended on, like many other valuable means, it is usually applied too late. It is distinguished from a relaxation of the hip-joint by a painful tumour, hectic fever, &c. Issues may be useful in both; but the Bath waters, recommended in cases of relaxation, would be fatal in cases of abscess.

20. Abscessus lumbo'rum. See Psoas, seu Lumborum Abscessus.

21. Abscessus ma'nuum. *Abscesses on the Hands.* For the most part they are strumous; when not, the common methods suffice for their removal.

22. Abscessus pro'pe maxi'llas. *Abscesses about the Jaws.* Besides the common causes, a carious tooth, the tooth-ache, an injury done to the socket of the jaw in extracting a tooth, &c. may produce an *abscess* in these parts. *Abscesses* under the chin are frequently found in children, but they easily give way to the common methods. The conglobate glands under the jaws are very subject to suppuration, and are often mistaken for strumous swellings, but they differ greatly from them. The strumous kind are contained in a cyst, which requires to be destroyed by escharotics after the matter is discharged; but these are managed and cured with ease by the ordinary methods of digestion.

23. Abscessus mediasti'ni. *An abscess of the Mediastinum.* In such situations there is but little to be done for the relief of the patient: however, it is observed by several practitioners, that in the venereal disease this disorder is peculiar and frequent. The use of the trepan has been recommended to give an opening to the matter, through an aperture in the sternum. The attempt would, however, be rash and injudicious. The presence of matter, in the mediastinum, is always uncertain, and its situation more so. The admission of air also into this cavity must be highly dangerous: yet it has been attempted with apparent success by Mr. Blair (London Medical Review, vol. iv). A paper on this case occurs in the xvth volume of the same work. The cavity of the chest has certainly been opened with advantage to discharge water, pus, and wind. See Kirkland's Med. Surgery, ii. 183.

24. Abscessus mesente'rii. *An abscess of the Mesentery.* Suppurations in this part are not suspected, because neither heat nor pain is to be perceived in it; but these symptoms, though common, yet are not essential to inflammation and suppuration, as they depend on the sensibility of the parts. It may be observed, that pus is no where more readily formed than in parts where the texture is loose; and *abscesses* in the mesentery are far from being rare, and are generally to be discovered by a continual hectic fever, an oppressive uneasiness in the belly, a discharge of a sanious matter by stool, and sometimes pain and heat in the intestines. The sanious matter is also not unfrequently absorbed by the lacteals, mixed with the blood, and conveyed to the glands of the trachea, the kidneys, &c. Hence large imposthumes of the mesentery are often accompanied with discharges of purulent urine, or a spitting of purulent matter, though at the same time no injury hath happened either to the lungs or to the kidneys. If the *abscess* is seated in a place less fit for the excretion of its contents, very troublesome pains, resembling a colic, are produced: if the matter is discharged into a cavity of the belly, it soon produces a gangrene. Horstius, Bartholine, and Tulpius, give instances of the pus being emptied into the cavity of the intestines, and discharged by stool; but, notwithstanding all these circumstances, for the most part the diagnostics are very obscure; nay, these *abscesses* have been unsuspected, and dissection after death hath alone discovered them. If these tumours are suspected, they must be distinguished both from an inflammation and a scirrhus. In general, the prognostic is doubtful; for if the *abscess* breaks, and discharges a putrid matter into the belly, sudden death follows: if after the rupture the ulcer is not speedily cured, it induces a gangrene, a dropsy, or a consumption. If this complaint is manifest, and the tumour can be perceived, emollients may be applied externally, and internally may be administered aperient and gentle purgative medicines, and remedies used in obstructions of the liver and spleen, &c. These suppurations are generally in the glands of the mesentery, and are then symptoms of scrofula. These glands are often found after death in a scirrhous state, and thus are frequently the companions of a cancer here, or in some other glandular part. Riverius speaks largely and well on this subject. See his Prax. Med. lib. xiii.

25. Abscessus na'rium. *An abscess in the Nostril. Ozæna.* This, from the pain it occasions, is exceedingly troublesome. If in the inflammatory state it can be removed by bleeding, purging, blistering the back, &c. much trouble to the patient will be saved; if, in spite of all, suppuration advances, emollient injections may be thrown up the affected nostril, and a warm cataplasm laid upon the nose. Wiseman observes, that the matter, when digested, is very tough. See Bell's Surgery, iv. 76. Pearson's Principles of Surgery, i. 255. White's Surgery, 265.

26. Abscessus ny'mphæ. *An abscess in the Nymphæ.* See Alæ.

27. Abscessus o'culi. *An abscess in the Eye.* From the small-pox most frequently, though from other causes this accident sometimes happens. When the seat is in the transparent part of the cornea, it is discovered by the peculiar whiteness of its appearance. When it is in the opaque part of the cornea, the eye is swelled, but more particularly so where the *abscess* is seated. If its seat is deeper, the first evidence of its existence is generally the extravasation of its contents in the aqueous humour. Those on the transparent cornea are generally cured by cautiously opening them with the point of a lancet, carefully avoiding the pellicles of this coat which lay beneath. In the other two kinds there is great danger of losing the sight, for they discharge themselves into the anterior chamber of the eye; though sometimes a cure is effected without any remaining inconvenience. When the matter of these diffuses itself so as to spread over all the pupil of the eye, then is formed the hypopyon; if only a part of the pupil is covered, the matter forming itself into a speck

like those at the bottom of our nails, is called an onyx. Heister, in his Surgery, gives a different account of the hypopyon and the onyx. In the cure of the chemosis, first use remedies to resolve the inflammation; if these fail, proceed as follows. While the contents of the *abscess* are not yet dispersed, but extend into the hole of the pupil, place the patient fronting a good light, with his head laid on the back of an easy chair, then make an incision into the transparent part of the cornea, under the hole of the pupil, taking care that the point of the lancet does not touch the iris, which lies behind the pus; make the aperture long enough to give a free vent, then gently inject a little warm water therein. Afterwards apply a compress, wetted in a collyrium of rose-water, well mixed with a little of the white of an egg: keep the compress constantly moist with this fluid by sprinkling it from time to time, and drop some of it three or four times in the day in the orifice on the cornea. Some days after the first discharge, a fresh collection of pus sometimes presents itself, which is discharged by introducing a fine stillet into the incision. See on these subjects Wallis's Nosologia Methodica Oculorum.

27. Abscessus oss'ium. *An abscess of the Bones.* Observations in practice prove, that not only in the cellular parts near the joints, but also in the middle cavities of the large bones, inflammations have degenerated into *abscesses*. The observation of Ruysch, in which he says, "that he found, in the middle cavities of the large bones, round bony pipes, separate from the rest of the bones in which he saw them," may be referred to this article. See Abscessus perio'stei. 35.

28. Abscessus pa'lpebræ. *An abscess in the Eye-lid*, when externally situated, requires no peculiar management different from *abscesses* in general, except that in opening it, when situated near the cilia, great care is required not to enter the lancet any deeper than is barely necessary to evacuate the *abscess*; if the edge of the eye-lid is cut, an incurable wateriness is endangered. The direction of the incision is safest in the course of the orbicular muscle. An *abscess* situated on the inside of the eye-lids may be opened with a lancet, and then washed with brine, or other proper collyria.

29. Abscessus pancrea'tis. *An abscess of the Pancreas.* This complaint is the most common in scorbutic habits. Riolan says, that its presence is properly guessed at by a sense of weight in the region of the stomach, no hardness nor tumour being manifest in the hypochondria, particularly if there are other marks of latent obstructions in the abdominal viscera; a difficulty of breathing from the compression of the diaphragm also occurs; and sometimes by pressing near the side of the stomach a tumour is perceptible, and then the pressure causes pain. *Though the diagnostics are generally very obscure or uncertain, yet it may be observed that a hectic fever, long watchings, short sleeps followed by a sense of weariness, fainting, and cold sweats, are certain attendants of this disease:* Yet the same symptoms attend abscesses, and even infractions of the other viscera; and no peculiar plan of treatment is applicable to the abscess of the pancreas. See Riverius's Prax. Med. lib. xiii. cap. 4.

30. Abscessus paro'tidis. *An abscess of the Parotid Glands*, also called *Parotis*. The parotid glands suppurate with difficulty; the less so when the general habit is disordered, when a venereal, scorbutic, pestilential, or other affection attends. They are apt to become fistulous; though, when they arise in children, unattended by any other disease, there is no danger of ill consequences; and in such circumstances the best remedies are purgatives, mixed with small doses of calomel, frequently repeated. In more advanced life, Trillian lays it down as a rule, that the cure must begin with bleeding: and Celsus, with great judgment, proposes, that, "when the parotis is unattended with any other disorder, the cure may begin with repellents and discutients; but, on the contrary, if any other complaint hath preceded or attends, suppuration must be immediately promoted." The management under suppuration is the same as in other similar cases, viz. the Bubo, q. v. and Kirkland's Med. Surgery, ii. 142. In some instances, it begins without any fever, like a swelling of a conglobate gland. It enlarges considerably, suppurates in one minute point; and the whole soon becomes a ragged foul ulcer. A hectic, with considerable emaciation, terminates the complaint. We are seldom aware of its nature soon enough to employ medicine: and from its event this has been styled a malignant parotid.

31. Abscessus pec'toris et ma'mmæ. *An abscess of the Breast.* For the former, see Vomica. The latter is an external disorder, which happens, for the most part, to women. Bruises sometimes are the cause; but, generally, a too active separation of the milk, or taking cold while the woman continues to suckle. Inflammation of the lungs and pleura often produce *abscesses* in the breast, externally, and upon the ribs, which, in bad constitutions, prove fistulous, and render the bones underneath carious. A frequent cause is from not letting the child suck until two or three days after its birth. An early application of the child to the breast, or otherwise emptying the breasts before they are turgid with the milk, would in general prevent this complaint. Another cause is the use of astringents, to repel the milk. When an *abscess* arises from the milk, it is called *sparganosis*. If these *abscesses* burst at the top, sinous ulcers are sometimes the consequence; and this happens, too, from laxity in the habit, and a debility in the constitution. When inflammatory tumours happen in the breasts of pregnant women, or of those who are nurses, we ought to be very cautious in the use of repellents; in sanguine habits, bleeding and opening medicines are necessary, with a cooling regimen. If such tumours do not very easily and speedily give way, suppuration should be promoted, for this is the best way of preventing its increase, but the supposed bad consequences have no real foundation, for a *cancer is never the consequence of a milk-sore.* The common white bread poultice, for neatness and efficacy, equals, if not excels, all other applications, as a suppurant in these cases; it should be applied, and renewed as frequently as is necessary for keeping up an equal warmth, which will be every two or three hours, and continued till the *abscess* breaks of itself; and then we have only to enlarge the opening a little, if it be too small, or alter its direction if not sufficiently low. A small opening is generally preferable to a large one, as it heals both sooner and more kindly; some advise to make an opening during the state of inflammation, because of the pain which attends these tumours; but

by these premature discharges fresh collections will be formed, and thus may the whole breast be wasted. An *abscess* here should be opened by incision, never by a caustic: only if the lancet passes near the nipple, if possible, it should be directed semicircularly, both to avoid cutting it, or the areola, for thus the beauty of the part is best preserved, and future suckling not prevented. It sometimes happens that, in order to heal a present *abscess*, or to prevent the formation of new ones, it is absolutely necessary to wean the child, and gradually divert the milk from the breasts. See Bell's Surgery, v. 396. Kirkland's Med. Surgery, ii. 160—175. Pearson's Principles of Surgery, i. 73, &c. White's Surgery, 441.

32. Abscessus pe'dum. *Abscesses in the Feet.* Of all the sorts that affect these parts, the strumous, which are most common, are the worst, for in these instances the bones are usually affected; but *abscesses* of every kind are bad, as they are apt to form sinuous ulcers, and produce caries in the bones. The applications and general management are here as in other cases.

33. Abscessus perica'rdii. *An abscess of the Pericardium.* Little has been said by authors concerning this subject, any further than dissections have proved that such a disease exists, and that it has sometimes come on independent of any symptoms indicative of pneumonic affections, with which the state preceding suppuration is often joined. If these have preceded, the usual methods of checking inflammation must be attempted.

34. Abscessus perinæ'i. *An abscess in the Perinæum.* An *abscess*, if suspected to be forming in this part, should be prevented, because of its troublesome effects; it retards, or totally prevents, the discharge of urine. In other circumstances it may penetrate into the bladder, or rectum, and produce a troublesome or incurable fistulous opening. It may happen from any cause, but the most common origin is a venereal affection; and we have seen it from a misplaced gouty inflammation. It requires no peculiar treatment, except particular care to keep the abscess clean; and as the part is seldom susceptible of very active inflammation, the applications should be warm and antiseptic. The original cause will require minute attention according to its nature. See a singular case in Le Dran's Observations. See Kirkland's Med. Surgery, ii. 253. and Pott's Works.

35. Abscessus perio'stei. *An abscess of the Periosteum.* This case is known *by evident inflammation, swelling, and pulsation in the part, and irregular shiverings. As the suppuration approaches and proceeds, all the symptoms are augmented; but the principal sign* is the *irregular horripilation.* Sometimes the diagnostics are obscure, because the quantity of matter collected, though productive of violent symptoms, is too small to raise a sensible tumour, and in such cases the pain does not remit, though the pus is formed; besides, the matter gradually increasing in quantity, unless it corrodes the periosteum, passes between it and the subjacent bone, and thus, by gradually separating them, keeps up a most violent pain. An accident of this kind soon lays the bone bare, and corrupts by destroying the vessels which nourish it. If the pus corrodes the periosteum, and spreads through the softer parts, it produces fistulous ulcers. When this disorder is manifest, a speedy discharge is to be aimed at, and the bone must be treated in the same manner as the skull when denuded. First make an incision through the teguments only; for when the periosteum is corroded, the matter generally soon makes a way betwixt the muscles, in which case it is a guide to the operator in piercing to the bone, which, when laid bare, the remaining procedure will be as in deep *abscesses*, and when the skull is deprived of its pericranium.

36. Abscessus ple'uræ. *An abscess of the Pleura.* When this is suspected, an opening must be made into it as early as possible, lest it burst into the cavity of the breast, and form an empyema. As it seldom happens, however, that the pleura is affected, without some previous inflammation of the lungs, and as the lungs more readily suppurate than the denser membrane, we scarcely, in any instance, find this abscess unmixed. When it does occur, and shows its real seat, by a slight external tumour, it may be opened with a small trocar, or more safely by a caustic, fixing the caustic rather below the part where the tumour is most full. In this way, if the strength be supported, we have more than once preserved the patient's life, though the lungs were affected. When the case is more clear, as where it happens from an accident, and the pleura is alone affected, a blister (rendered perpetual) or a seton, will only be necessary; and these will effectually prevent its opening into the cavity of the breast. See many satisfactory remarks on this subject in Sharpe's Critical Enquiry, and in Le Dran's Observations and Operations.

37. Abscessus pude'ndæ. *An abscess of the Pudenda.* See Alæ.

38. Abscessus pulmo'num. *An abscess of the Lungs.* See above Abscessus Pleuræ, et Vomica.

39. Abscessus re'nis. *An abscess in the Kidney.* When an inflammation in the kidney suppurates, it is known by the following signs; viz. *a remission of the pain, which is succeeded by a pulsation, a frequently returning horror, a weight and stupor in the part, with a heat and tension; the urine is purulent and fetid sometimes*, and, at others, *a whitish pus is discharged with it*, in which is nothing offensive. If this suppuration continues some time, the whole kidney being consumed, it forms a kind of bag of no use; and in this case, a *tabes renalis* is frequently present; but if a small quantity of the inflammatory matter remains coagulated in the minute folliculæ of the urine, it forms a basis to which the sabulous matter, which continually is passing by it, will adhere, and gradually form a stone, and which, also, by the same means will be augmented. When the *abscess* is burst, the urine becomes purulent: and though in these cases the discharge ceases, the kidney shrinks into a withered state, and all complaints are ended at some certain period; yet, to hasten this relief, diluting and gently diuretic liquors may be used, gentle laxatives and balsamics also, and probably the bark may much conduce to expediting a cure. An *abscess* of the kidney is, however, more frequently of a chronic nature, without previous *observable* inflammation, as the part is not acutely sensible, and the seat of pain in deep parts not to be referred with accuracy to one spot. Stone in the kidneys, from a nucleus of pus, is in these cases very uncommon, and indeed rare in every other.

40. Abscessus sinus maxilla'ris. *An abscess in the Maxillary Sinus, called the Antrum Highmorianum.* Drake mentions this as a species of ozæna. It is known by a pain which is deep seated in the nose, eyes, and cheek, and a tumour on the outer and upper part of the latter; a discharge of offensive matter from the nostril of the affected side, especially on inclining the head to the side that is sound; sometimes the breath is rendered very disagreeable by the caries produced in the teeth by this disorder. Mr. John Hunter observes, in his Natural History of the Human Teeth, part ii. that, "The pain in this disease is at first taken for the tooth-ache; however, in these cases, the nose is more affected than is observed in a tooth-ache. The eye is also affected; and it is very common for people with such a disease to have a severe pain in the forehead, where the frontal sinuses are placed; but still these symptoms are not sufficient to distinguish the disease. Time must disclose the true cause of the pain, for it will commonly continue longer than that which arises from a diseased tooth, and will become more and more severe; after which, a redness will be observed on the fore part of the cheek, somewhat higher than the roots of the teeth, and a hardness in the same place, which will be considerably circumscribed; this hardness may be felt rather highly situated on the inside of the lip." The method of cure by drawing one of the dentes molares from the affected side was first proposed and practised by Drake, and his improvement hath been continued with the happiest success. Draw the last tooth but one; and, if rotten, draw the next on each side of it, then through their sockets make a perforation into the antrum with a large awl; the matter being discharged, the cure may be finished by injecting a mixture of aq. calcis, tinct. myrrh, and mel rosæ, twice a day into the cavity, and retaining it with a tent. See Gooch's Cases and Remarks, in which an extraordinary instance is related, with the subsequent ingenious and successful management. Mr. John Hunter proposes to effect the cure as follows: 1st, if the disease is known before the destruction of the fore part of the bone, make an opening through the partition between the antrum and the nose; or, 2dly, by drawing a tooth, as above: the latter method he prefers. Bell's Surgery, iv. 209. Kirkland's Med. Surgery, ii. 150.

41. Abscessus spirituo'sus. See Aneurisma.

42. Abscessus sple'nis. *An abscess of the Spleen.* This viscus is rarely the seat of *abscess;* but when it is, and the suppuration is completed, for the most part it is easily perceived by the pressure of a finger; when this tumour is ready to break, the nausea and anxiety are very great. Sometimes, indeed, an *abscess* is formed on this part, and escapes all observation, on account of its exciting no uneasy symptoms. Lommius says, in his Medical Observations, that "an *abscess* in the spleen is attended with nearly the same signs as the same complaint in the liver:" and Aretæus observes, that a dropsical kind of swelling attends the patient, his skin is of a blackish and greenish colour, he is restless, breathes with difficulty, his belly is tumid with vapours, and there is a sort of cough, by which little is discharged." When this kind of *abscess* bursts, there is no pure digested pus, but an ash-coloured, or a brown or livid matter; and if it is deep, a blackish sort of humour, with some of the juice of the tabid spleen, is evacuated. If the fæces are watery, and become more so, the disorder ends well; but if the ulcer continues long, a loss of appetite comes on with a general bad habit of body, livid coloured and foul ulcers break out, particularly on the legs, and, in short, a stop is put to affliction only by death's approach. Endeavours to prevent suppuration should not be neglected as soon as the complaint is perceived; if those fail, cataplasms of the briony root are preferred, as the most effectual digestive. See Oribas. De Morb. Curat. lib. iii. cap. 43. Paulus Ægineta, lib. iv. cap. 18. Asiatic Researches, vol. vii. for the Indian method of cure.

43. Abscessus tempora'lis mu'sculi. *An abscess of the temporal Muscle.* The violent pain occasioned by an inflammation and suppuration in this part is from the confinement of the matter under the tendinous sheath which covers it. If not evacuated, it passes under the zygomatic process on the outside of the dentes molares, and from a tumour there it may be discharged. Dr. Hunter observes that when the pain hath been violent, and the fever thus excited considerable, he hath with advantage made an incision along the muscles; and he advises, when an inflammation is considerable, that we open the part without delay, for we never can perceive any fluctuation there, as the fascia is so tight. See Kirkland's Medical Surgery, ii. 133.

44. Abscessus te'stium. *Abscess of the Testicles.* See Hernia humoralis.

45. Abscessus tonsilla'rum. *An abscess of the Tonsils. Abscesses* in this part endanger suffocation. If bleeding, purging, or blistering behind the ears do not succeed, and a suppuration should take place, incisions may be made with a lancet into the body of the tumour. Thus, by discharging some of the blood and humours before they are formed into pus, the dangerous degree of swelling is prevented. It is never prudent to leave the matter till it is formed into perfect pus; but, at the latest, the puncture should be made as soon as the appearance of digested matter can be perceived. It happens sometimes, that when the patient is on the point of suffocation, a sudden spontaneous discharge gives instant relief; as soon as the tonsils have emptied themselves, they contract, and by the assistance of a gargle, made with the decoct. cort. Peruviani et mel rosæ, a cure is completed in a few days.

46. Abscessus u'teri. *An abscess in the Womb.* When the inflammation begins to suppurate, bladders of warm water should be applied over the part; and sitting frequently over the steams of warm water should be advised. Oribasius observes, that these *abscesses* sometimes discharge themselves into the cavity of the uterus, at others into the intestinum rectum, or into the bladder. Forestus says, that if the discharge is into the cavity of the womb, and is whitish, the patient may recover; but if the *abscess* continues long, the discharge becomes greenish or dark-coloured, and offensive with lancinating pains, the greatest danger is to be apprehended.

47. Abscessus ve'sicæ urina'riæ. *An abscess in the Urinary Bladder.* An inflammation in the bladder is sometimes followed by an *abscess.* When this happens, it is known by an exacerbation of the symptoms, and a sense of weight in the parts about the perinæum and pubes. Emollient fluids, mixed with

warm milk, may be injected into the bladder very frequently, to hasten the suppuration, and to solicit the discharge into its cavity. Besides injections, warm emollient clysters, with powdered opium in substance, should be given and often repeated; with gentle laxatives either of castor oil or soap interposed. Warm poultices may be applied to the perinæum or pubes, according to the seat of the pain. When the pus is formed, the bladder may be frequently washed according to the plan recommended by Jesse Foot. If the pus is not soon evacuated, it acquires an acrimony, and corrodes the adjacent parts, produces fistulas, and other inconveniences. If the injections fail, there is no resource but that of an operation; and, though rarely required, two examples of it are recorded in Boneti Sepulch. lib. iii.

An ulcer of the bladder or of the kidneys is, however, an uncommon complaint. We sometimes find an apparently purulent deposition in the urine, which consists of a light mucus only, from a disease to be afterwards noticed, Catarrhus Vesicæ. Previous painful affections of the bladder, with fever, and an offensive smell, chiefly point out the existence of the abscess. Without these, the disease is probably only a catarrh. In a long and extensive practice, we have seen only two cases of inflammation of the bladder from an internal cause, neither of which had the slightest tendency to suppuration.

Authors to be consulted on *abscesses* are Hippocrates, Aretæus, Celsus, Paulus Ægineta, Oribasius, Aetius, Actuarius, Hildanus, &c.; and among those of later date, Boerhaave, Wiseman, Turner, Heister, Sharpe, Dease, and Bell.

ABSCIS'SIO, an ABSCISSION, or cutting away one part from another, (from *ab*, and *scindo*, *to cut*); called also APOCOPE.

This word is used in many senses, but mostly to express the cutting away an unsound part, and that a soft one; for the cutting away of bones is called amputation; though, when small fragments only are to be separated, the word *abscissio* is sometimes used. This word also expresses the sudden termination of a disease in death, before it arrives at its decline. Celsus, to express a loss of voice, frequently uses the term *abscissa vox*.

ABSCO'NSIO, (from *abscondo*, *to hide*). A sinus, or cavity of a bone, which receives and conceals the head of another bone.

ABSINTHI'TES, (from *absinthium*, *wormwood*). A wine impregnated with wormwood. This has been considered as a wholesome drink, preventing indigestion, obviating the effects of drunkenness, and a preventive of venery. Others have accused it of affecting the head. It is, however, little more than a pleasing form of the wormwood. q. v.

ABSINTHI'UM. WORMWOOD.

Ἀψίνθιον, *unpleasant*, (from α neg. and ψίνθιον, *pleasant*). But authors vary much in the account of the etymology of this word. However, the English name is originally an Anglo-Saxon one. "It is one amongst the most famous of the bitter plants, (says Dr. Cullen,) and has been used with much commendation for every purpose of bitters; the leaves of the *absinthium* vulgare are the best."

Botanists enumerate no less than thirty-two different species.

The sorts in use are as follow:

1. ABSINTHIUM VULGA'RE, Absynthium Caspar Bauhine. ARTEMISIA ABSINTHIUM, Lin. Sp. Pl. 1188. Natural order, compositæ discoideæ. Menstruum, water and rectified spirit. Mat. Med. 386.

COMMON WORMWOOD. Leaves—dose ℈i to ʒi.

2. ABSINTHIUM ROMA'NUM, *absinthium* minus. It is the ARTEMISIA PONTICA, Lin. Sp. Pl. 1187. A. Ponticum tenuifolium incanum, C. B.

ROMAN WORMWOOD. A native of Hungary and Thrace.

3. ABSINTHIUM MA'RITIMUM, Artemisia Maritima, Lin. 1186; A. Scriphium Belgicum, C. B.

SEA WORMWOOD.

This is also called Roman wormwood, but very improperly. It grows in our salt marshes, and on the sea coasts, is a strong bitter, and was formerly much used in medicated ales and wines, as a stomachic and corroborant.

All the species have nearly the same properties. The *absinthium maritim.* is less unpleasant than the *absinthium vulg.*; even its essential oil is more agreeable than the oil distilled from the other. This species is not so antiseptic as the common sort, but it is a better stomachic; and in this it differs but little from the Roman. The *absinthium Romanum* is less disagreeable than either the common or the sea wormwood, and is the most eligible of the three as a stomachic and corroborant; it agrees with the abrotanum fœmin. and with the flores chamæmel. better than with the *absinthium* com. being less stimulating; the *absinthium maritimum* is often substituted for it.

The common wormwood hath a strong smell, and is intensely bitter to the taste. These qualities are most remarkable in the leaves, which lose part of their ill smell by drying. The flowers are nearly as bitter as the leaves, but less nauseous; the roots are warm and aromatic, without the bitterness of the other parts of the plant.

The whole plant powerfully resists putrefaction, and is a principal ingredient in antiseptic fomentations. It is a warm stomachic; its extract, made with water, is a very agreeable and simple bitter, and is the best mode of giving this medicine. Taken in vinegar, it is said to remove the oppression occasioned by eating mushrooms, and to be an antidote against the poison of hemlock.

The herb gives out all its virtues by maceration, either to water, or to spirit; but the watery infusion without heat is the most grateful. Bergius considers this plant as an antiputrescent, antacid, anthelmintic, resolvent, tonic, and stomachic. It is, however, only a grateful stomachic, slightly tonic, and in an inconsiderable degree diuretic. Its chief use is in dyspepsia, gouty debility of the stomach; and, like all other bitters, it has been of service in calculous complaints. It is an ingredient in the duke of Portland's powder for the gout, and suspected, from thence, to have a narcotic power.

The preparations of wormwood are deservedly rejected from the British and Irish pharmacopœias, and indeed they require no peculiar management. The

essential oil is recommended by Hoffman as an antispasmodic and anodyne, and by Boerhaave in tertians; but modern Dispensatories reject the preparation, and modern practice supplies more effectual remedies. The name of the salt of wormwood remains, and some have thought that saline draughts, made with it, sat more easily on the stomach; but the salt itself is no where to be found.

ABSI'NTHIUM SANTON. INDIC. See SANTONICUM.

ABSORBENTS. ABSORBENT MEDICINES, (from *absorbeo, to suck up*). This was formerly an important class of medicines, at present it is reduced below its proper level; and it will be useful to appreciate the real value and object of absorbents.

In a general sense these medicines are such as will absorb acrimony; in a more limited one they are styled *Antacids*, *Antalkalines*, and sometimes *Antacrids*. The simplest view that we can take of their operation, is in the application of dry flour to the skin, in cases of erysipelas: flour, in this case, truly absorbs the acrid matter flowing under the cuticle, and occasionally passing through it, thus extending the inflammation. Its action is consequently mechanical; and dry flour absorbing the blood in slight hæmorrhages, and forming an artificial thrombus, a support to a wounded artery, is equally a mechanical effect. We can proceed further: when the mucilage of gum arabic, an unleavened biscuit, or a similar substance, prevents heartburn, each acts by absorbing the acrid matter which before came in contact with the upper orifice of the stomach. In a way, not very different, demulcents sheath the inflamed or abraded surfaces of the alimentary canal, bladder, or epiglottis. See DEMULCENTS.

Their action has, however, been extended further; and acids, alkalines, or other acrids, have been combated by absorbents acting as chemical bodies. The former are neutralized by alkalis, calcareous and magnesian earths; the latter by acids of every kind: the acrids, if their nature is known, by their appropriate antagonists. Ancient physicians have fancifully adopted different earths to different acids. We now employ but two kinds, magnesia and calcareous earths: the former, with an acid, is slightly laxative; the latter, when neutralized, probably an astringent. Chalk or lime water are the two forms, in which this last earth is employed; for crabs' claws, crabs' eyes, egg and oyster shells, coral, and burnt hartshorn, have no other power than chalk, and are less active as absorbents. Of late, bitters have been employed with the same view; and they seem to succeed, though they probably prevent the formation of acid by strengthening the tone of the stomach, rather than correct it when formed. Yet we cannot deny some antacid power to bitters.

Alkalies act more powerfully as absorbents of acids, and they are now employed either in the common form of carbonates; in their pure state; or joined with oil in the form of soap. The pure alkali is now generally preferred.

Alkalis in the stomach are opposed by acids, and the mineral acids, as they are also tonic, are preferred. There are few instances where this state of the stomach occurs. In the advanced periods of putrid fevers, when the bile regurgitates; or, when absorbed, in jaundice, it again mixes with every secreted fluid; and in scurvy we usually find acids necessary. In the first case, mineral acids are preferable; in the last two, the vegetable. Of the mineral acids we see no ground for preference; the oxygenated muriatic acid has not been employed freely; and oxygen, in the stomach, is certainly not salutary.

Of other acrids we have no evidence; when poisonous effluvia, particularly in cases where the infection of putrid fever has been received, and a bad taste has been perceived in the mouth, the evacuation of the stomach is the only certain remedy. Viscid phlegm sometimes loads the stomach, and medicines have been employed to "incide" and dissolve it. We know, however, no medicine that has any such power; and from its weight it cannot be very successfully carried downward, since the orifice of the pylorus is above the greater curvature of the stomach. The only remedy is to evacuate it occasionally by emetics; and, by strengthening the stomach, to prevent, at least to retard, its accumulation.

A more difficult part of the subject remains. Acids have been supposed to contaminate the blood and produce numerous diseases; for which alkalis and absorbents have been employed. Acids, however, except in children, do not extend to the alimentary canal; and we take this early opportunity of declaring, that there is not the slightest evidence of acid or any injurious substance in the vital fluid. In no instance, not even in the venereal disease, will the blood convey infection; and though what is discovered in the excreted fluids must exist in the blood, yet it is there involved, concealed, and soon separated. In short, we cannot correct acrimony in the blood; for the same power that involves it, equally involves the medicines intended to oppose it; each may again appear in the secretions.

In many diseases we perceive an acid thrown off as an offensive and injurious substance. Berthollet found it in the perspiration of gouty persons. It is more obvious in gouty chalk stones, and in the calculus vesicæ. This acid probably arises from the stomach; for, by the use of absorbents and bitters, the diseases are mitigated. They correct the forms of the disease in the first passages; and we think that they offer an instance of their power after having passed through the circulatory system, when they are again evolved in the glands. See ANTACIDS, ANTALKALINES, and LITHONTRIPTICS.

ABSORBE'NTIA VA'SA, ABSORBENT VESSELS. These are vessels which take up any fluid from the surface or any cavity of the body, and carry it into the blood. They are denominated, according to the liquids they convey, LACTEALS and LYMPHATICS; the former conveying the chyle, a milky liquid, from the intestines; the latter lymph, or a thin pellucid liquor, from the places from whence they take their origin; or any fluids that are extravasated, and convey them into the circulating blood: venal ramifications form no part of the absorbent system. See LACTEA VASA, and LYMPHÆ DUCTUS. The following kinds of absorption take place in our bodies, *viz.* the nutritious particles are absorbed from the intestines by the lacteals, which are the same *absorbents* as are in every other part; secondly, by bibulous orifices over the external parts of our bodies; thirdly, by the same kind on the internal

surfaces of all cavities, as is evident from an ascites being carried off by this absorption.

After rubbing the hand well, it hath in a quarter of an hour imbibed an ounce and a half of warm water; at the same rate, then, the whole body would have received six or seven pounds. As Dr. Hunter hath observed, this matter is demonstrated beyond a doubt by the following experiment made on a living dog: an opening was made into the cavity of his belly, and three quarts of warm water were injected and secured; in about six hours after he was examined, and not above four ounces of the water were remaining there. De Haen, who drowned dogs in coloured fluids, could find no fluid in the lungs, though the colour which it had conveyed was left.

The power of the external vessels to absorb fluids has, however, been denied by several modern authors, and positive experiments adduced where the result was very different, no diminution of the water having been found. It was supposed by the elder Monro (we ought now to say the *first* Monro,) that the power of absorption lessened with our strength. Though this may be, the fact is more certain that it increases with the wants of the system. Dr. Simson, of St. Andrew's, adduces a strong instance of a rapid decrease of the water in which the legs were bathed in a phrenitic case: and sailors, who in distress put on shirts wetted with salt water, find their thirst greatly lessened. In many cases, however, no absorption from the skin does take place. There is another power in the absorbent vessels which seems not to have been sufficiently attended to; *viz.* a selection of the substances they absorb. In general, they do not absorb gases, nor effluvia of any kind. Fluids of a narcotic nature, and almost all poisonous fluids, except the venereal poison, may be applied to a sound skin with little danger: yet we have good authority (that of Dr. Alexander) for supposing that bark and nitre may be occasionally absorbed; and we think that we have seen in a putrid sore throat, where the power of swallowing was lost, a bath made of a strong decoction of bark highly salutary. The effects of nourishing clysters are well known.

Further satisfaction on this subject may be received from what is said on the power of the external absorption of the human body by Dr. Wilkinson, in the Medical Museum, vol. ii. p. 117, &c. And with respect to absorption in the internal parts, see Dr. Hunter's Medical Commentaries; with the Observations by Dr. Garner, in the Med. Mus. vol. ii. p. 229, &c.

ABSO'RPTIO, ABSORPTION. See the different kinds under ABSORBENTIA VASA.

Though we are convinced by the most undoubted evidence that fluids are absorbed, we have little knowledge of the power by which this is effected. The absorption of capillary tubes is the only analogous fact, which very imperfectly assists us in the explanation. The power, however, by whatever means it is exercised, is very general: it takes place in every part of the body, and is not influenced by the weight of the atmosphere or any other evident cause: it takes place under the earth, for plants absorb their nutriment in the same way. The fœtus in utero is nourished by absorption, nor is it clear that the blood from the arteries is not conveyed to the veins by a similar process.

If the power of attraction of the sides of a vessel of a minute diameter is greater than the attraction between its particles, the latter will arrange themselves round its internal surface, leaving a space in the middle which the subjacent fluids will fill. In other words, the fluid will rise in the vessel. Yet the extent of this power is limited: if in the absorbent it extends beyond the first valve, the problem is solved; for every pressure will urge the fluid onward since the valve impedes its return. In this view we dare not deny that the red veins sometimes absorb, since it is probable that they do not form continuous vessels with the arteries; that their extremities are open in cavities; that these are minute, and abundantly provided with valves. This idea is, however, on the whole, improbable; since, as the absorbent vessels are so generally diffused in the whole body, and probably through the whole of animated nature, it would appear that no other organ is designed to supply their place.

If the opinion of capillary attraction, as just now explained, be well founded, it must follow that liquids only can be absorbed: yet we find solid bones taken up and conveyed into the circulating mass. It is indeed probable that these are dissolved; but it will be obvious, that, if reduced to such a minuteness as to be suspended in a fluid; in other words, if their surfaces be increased in a ratio more than equivalent to their densities, the effects will not greatly differ. We know that in this way flint passes through the minute vessels of some plants, particularly some of the arundinaceæ, and is deposited on the epidermis, or in the cavities.

ABSTERGE'NTIA, (from *abstergeo, to wipe off,*) ABSTERGENTS, or CLEANSING MEDICINES. Medicines, which not only by their fluidity wash off adhering matters, but such also as are supposed to do it by their power of resolving, and loosening their cohesion: hence they were considered, particularly in the Boerhaavian school, of a saponaceous nature, capable of dissolving concretions formed of earth and oil, &c., which water, simply as an abluent, cannot effect. Dr. Cullen thinks the term too general, because this power of resolving viscid substances, when used with respect to the internal parts, has generally rested upon a false supposition. They are also called DETERGENTIA. See DETERGENS.

ABSTERSI'VUS, ABSTERSIVE, cleansing, wiping away; of the same import with DETERSORIUS.

ABSTINE'NTIA, (from *abstineo, to abstain*). In a limited sense, this regulation implies moderation and temperance; and numerous are the instances in which the happiest effects have resulted from them. The abstinence enjoined by the tenets of different sects have been probably, in part, political institutions for the preservation of health. In monasteries, where active exercise is precluded, it is necessary, and in other situations often prudent. During sleep, we remain many hours without food; and animals that remain torpid for several months require no nourishment. Sedentary persons should therefore be particularly cautious in the quantity and nature of the aliment they take in. Their food should be of a limited quantity, and of a laxative nature; but not too much confined to the vegetable kingdom, as they are subject to flatulencies. Man, however, was made for variety; and the principle which

corrects the deviations from health, styled the vis medicatrix naturæ, loses its power from want of exertion; as the arm, constantly supported in a sling, would become paralytic. Even abstinence should not therefore be constantly practised; and though it should not alternate with excess, greater freedom may be occasionally allowed. The stomach, however, at times, requires rest, and it should be often many hours empty. Weak stomachs by this means recover strength, and are enabled to assimilate or discharge their crudities. Thus those who feel the immediate bad effects of excess seldom ultimately suffer: he who boasts of "never being sick or sorry" after it, finds at an early period that his constitution required some intervals of repose. The practice recommended of eating little and often is highly injurious, except in particular diseases; for food must be retained in the stomach to be digested, and, unless it is in some measure filled, the contents soon pass off. Many instances of long-continued abstinence are recorded, but generally in persons whose state resembled that of torpid animals: there is one instance of a man who employed abstinence to cure a painful disease, and he succeeded; but he felt little desire of food, and, as he had passed through the most difficult part of the attempt, obstinately refused all nourishment.

ABSTRACTI'TIUS, vel ABSTRACTI'VUS, (from *abs*, and *traho*, *to draw away*,) ABSTRACTITIOUS. Thus the *native spirits* of aromatic vegetables were called, to distinguish them from *spirits produced by fermentation*, and are from preference drawn from those plants which abound with much volatile salt, as abstractitious spirit of scurvy-grass is better than that prepared by fermentation.

A'BSUS. The EGYPTIAN LOTUS. See Raii Hist.

ABU'TILON, (from the Arabic word BUTILON, *yellow*). An Arabic name for the YELLOW MALLOW. See ALTHÆA THEOPHRASTI, &c.

ABYS'SUS, ABYS, (α priv. and βυσσος, vel βυθος, *gurges profundus, a deep whirlpool or gulf*). It was a mystic term of the followers of PARACELSUS.

ACA'CIA, (from ακαζω, *to sharpen*). The EGYPTIAN THORN, or BINDING BEAN-TREE.

Several species are enumerated by botanists; but the two sorts used in medicine are,

1. *Acacia* Vera; called, by Caspar Bauhine, *acacia* foliis scorpioidis leguminosæ; and, by others, *acacia veravel, spina Egyptiaca*. It is the *mimosa Nilotica*. Sp. Pl. L. 1506.

The TRUE ACACIA, or EGYPTIAN THORN, produces the true *gum arabic*. See GUMMI ARABICUM. It is remarkable that the leaves and flowers of the black thorn are purgative, though the juice from the other part is astringent.

The *acacia* used in medicine, and brought from Egypt, is a mild, subastringent, gummy substance. We receive it in roundish pieces, wrapped up in bladders; and it is of a blackish brown colour outwardly, but of a tan colour inwardly; of a hardish consistence, but not quite dry. Lemery says, that "it is made by expression out of the fruit of the Egyptian thorn, either ripe or unripe: from the ripe fruit there is a black juice, from the unripe a red or yellow one, and of a sweet scent; and that this last is what is intended by Dioscorides." It hath no smell: applied to the tongue it soon softens; is of a moderately rough but an agreeable taste, which is followed by a sweetishness: it totally dissolves in water; so that any fraudulent addition may be discovered: rectified spirit dissolves but a small proportion, though vegetable astringents generally give out their virtue to spirit of wine as well as to water.

The Egyptian ACACIA is now seldom used as a medicine, but is superseded by the TERRA JAPONICA, the production of a similar plant belonging to the same genus, whose appellation, KATE or KATAA, is not very different from that of the substance we are now considering. It was used in all cases of laxity and excessive discharges; indeed in every disease where astringents are indicated.

2. ACA'CIA GERMA'NICA, called also *Prunus Sylvestris*, Lin. Sp. Pl. 681. It is the PRUNUS SPINOSA; or PRUNUS SYLVESTRIS SPINOSA, foliis lanceolatis pedunculis solitariis of LINNÆUS. GERMAN ACACIA, or the GERMAN BLACK-THORN, or SLOE-TREE.

The German *acacia* is the inspissated juice of the German wild sloes; it is of the same nature as the true sort; but in England the inspissated juice of unripe sloes of our own growth is the general substitute: it is harder, heavier, darker coloured, being almost black, and sharper tasted than the true sort. Dose ʒss.

ACA'CIA AL'TERA TRI'FOLIA, see CYTISUS SPINOSUS; for that called *gloriosa*, see BONDUCH INDORUM; *acacia gummi*, see GUMMI ARABICUM.

ACA'CIA INDICA. See TAMARINDUS.

ACA'CIA MALABARICA GLOBOSA. See INTSIA.

ACA'CIA ORBIS AMERICANI. See POINCIANA.

ACA'CIA ZEYLONICA. See CAMPECHENSE LIGNUM.

ACA'JA, also called *prunus Brasiliensis*. It is a large tree growing in Brasil. It produces clusters of yellowish white flowers, which are followed by yellow plums, with a large stone in them. The leaves are acid and astringent, and are an agreeable sauce with meat; the wood is light as cork, and of a red colour; the buds and tops are used as pickles. Raii Hist.

ACAJA'IBA, or ACAIA'IBA. *Arbor pomifera et prunifera Indica*. It is also called *cajum, cassu, catee, cajou, acajou*, and *kapa mata*. Sp. Pl. 548.

The CAJOU or CASSU-TREE.

There is but one species yet known, and this is the ACAJOU, or CASHEW-NUT, so common in America, and in the West Indian islands. It produces its fruit in August and September; except in Brasil, where it is a native, and there it flowers in these months, and bears its fruit in December, which, when roasted, is as agreeable as an almond. If you bite the whole fruit when raw, it excoriates the mouth; therefore it must be first cut open, dipped in water, and sprinkled with salt.

The acrid oil in the shell destroys tetters, ringworms, chiques, &c. The painters use it to make their black colouring durable.

The tree, when wounded, yields a gum, which resembles the gum arabic. Raii Hist.

ACA'JOU. See ACAJAIBA.

ACALE'PHE, a NETTLE, (from α, negative, χαλη, *agreeable*, and αφη, a *touch*), because the touch, as it hurts, is not agreeable. See URTICA.

There is also a fish and sea-fowl thus named.

ACA'NOR, a chemical furnace.

ACA'NTHA, (from ακη, *a point*,) any sort of

thorn; any thing prickly, or with sharp points; also the shin or spine of the tibia; and sometimes the spina dorsi.

ACANTHA'BOLUS, (from *ακανθα, a thorn*, and *βαλλω, to cast*, or *cast out*). It is an instrument, described by Paulus Ægineta, for taking out thorns when stuck into the flesh. It resembles the instrument styled Volsella, for extracting bones from the Æsophagus, and any foreign matter from wounds. Celsus, viii. 30.

ACANTHA'CEOUS, (from *ακανθα, a thorn,*) ACANTHACEOUS, a botanic term applied to the plants of the thistle kind, which are prickly; also to any other prickly or pointed substance.

ACANTHA'LEUCE, (from *ακανθα, a thorn*, and *λευκος, white*). WHITE-THORN.

ACA'NTHALRUCA. See ECHINOPUS.

ACA'NTHE. The name of the artichoke in ancient authors.

ACA'NTHI'CE, *ακανθικη*, supposed to be the product of the carline thistle.

ACA'NTHI'NA MAS'TICHE. See CARDUUS PINEA.

ACA'NTHINUM (gum). See GUM ARABIC.

ACANTHINUM LIGNUM, Brasil wood.

ACA'NTHION, the HEDGE-HOG. See ECHINUS.

ACA'NTHUS, (from *ακανθα, a thorn*). A. Mollis, Lin. Sp. Pl. 891. Branca-ursina of the shops.

BEAR'S BREECH, OR BRANK URSINE. Nat. Order *Personatæ*. It is a native of the southern parts of Europe, cultivated in our gardens, flowers in June and July, and is perennial.

The roots are very mucilaginous, and the leaves are so in a lesser degree. This mucilage is demulcent, and a good substitute for the marsh-mallow. See PLICA POLONICA.

The herb-women too often sell the leaves of helleboraster, or bear's-foot, and of sphondylium, or cow's-parsnep, for the bear's breech.

ACAPA'TLI. See PIPER LONGUM. De Lact. Ind. Occid. 231.

ACA'PNON. See ORIGANUM ANGLICUM. (From *α*, neg. and *καπνος, smoke*). Applied also to honey taken from the hive without smoke.

ACA'RUS, (from *ακαρης, small*). A small insect which is said to breed in wax; also an insect in the skin like a louse. Vide PHTHIRIASIS.

A'CARON, (from *ακαρης, small,*) SMALL MYRTLE. See MYRTUS BRABANTICA.

ACA'RTUM. See PLUMBUM, N° 4.

ACA'TALIS, (from *α* neg. and *χατιω, to want,*) from the abundance of its seed: the juniper is so named. See JUNIPERUS.

ACATA'POSIS, (from *α*, non, and *καταπινω, deglutio*). See DEGLUTITIO.

ACATA'STATÆ, (from *α*, neg. and *καθιστημι, to determine*). Fevers anomalous in their appearance, and irregular in their paroxyms.

ACATH'ARSIA, (from *α*, non, and *καθαιρω, to purge*). The impurity in a diseased body not yet purged off.

ACAU'LIS, } of *α*, negative, and *καυλος, caulis,*
ACAU'LOS, } *a stalk* or *stem*, without stem or stalk. A plant is said to be *acaulis* which has no stem, but whose flower rests on the ground, as in the carline thistle.

ACCELERATO'RES URI'NÆ, ACCELERATORS OF THE URINE, (from *accelero, to hasten*). Called also *urinæ stimulatores*. They hasten the ejection of the urine and semen.

The *acceleratores urinæ* arise fleshy from the sphincter ani, and superior part of the urethra, and tendinous from the ischium. They are inserted into the corpus cavernosum, from near their beginning to a little below their union. Douglas.

Dr. Hunter observes, that the *acceleratores urinæ* are fixed to and surround the bulbous part of the urethra, meeting in a middle line or tendon at its external posterior part. They are blended, at the end of the bulbous part of the urethra, with the other muscles of the part; when these muscles are put into action, they contract upon the urethra, thereby making it narrower, and expelling the last drops of urine. The semen also meets with a fresh impulse from these muscles contracting upon it, when it is in the bulbous part of the urethra; and this seems the chief reason of its being larger in one part than another, that the semen and urine may meet with a reservoir in their passage, where they found a fresh contracting force or power to forward their expulsion.

ACCE'SSIO, (from *accedo, to approach,*) ACCESSION. The beginning of the paroxysm of an intermittent fever, &c.

ACCESSO'RIUS, (from *accedo, to approach towards,*) ACCESSORY. So the eighth pair of nerves is named. Willis hath given the same appellation to some branches from the eighth pair of nerves. They arise by several filaments from both sides of the *medulla spinalis of the neck*. Having advanced to the first vertebra, each is fixed to the back side of the *ganglion of the nervus suboccipitalis*, or tenth pair; then again run upwards into the *cranium* by the great occipital hole, communicate with the ninth and tenth, return out of the *cranium*, and in their passage join the eighth pair; afterwards turning backward, and perforating the *musculus sterno-mastoideus*, terminate in the *trapezius*, having first sent some branches to the rhomboides.

ACCESSO'RIUS, *(músculus)*. Vide FLEXOR DIGITORUM ACCESSORIUS, and LONGUS PEDIS.

ACCESSO'RIUS-SACRO-LUMBA'RIS, vel LUMBA'LIS. See SACRO LUMBARIS.

AC'CIPITER, (from *accipio, to take,*) THE HAWK. In chirurgical language, it is the name of a bandage which was put over the nose; and it was so called because it resembled the claw of the hawk.

ACCIPITRINA, (from *accipiter, the hawk,*) HERB HAWKWEED. Because hawks were said to scratch it, and apply the juice to their eyes to prevent blindness. The flix weed has also the same appellation. See HIERACIUM and SOPHIA.

ACCLI'VIS, (from *ad*, and *clivis, an ascent*). See OBLIQUUS ASCENDENS ABDOMINIS.

ACCOUCHEMENT, (Fr. *lying in, delivery,*) and hence the practitioners have been styled ACCOUCHEURS.

AC'CRETIO, (from *ad*, and *cresco, to grow to,*) ACCRETION, GROWTH, and NUTRITION. See NUTRICATIO; also a growing together, as the fingers or toes to one another.

ACE'PHALOS, (from *α*, negative, and *κιφαλη, a head,*) applied to monsters born without heads, in-

stances of which occur in Schenkius Paræus, Wolfius, Mauriceau, &c. These are collected by Wepfer, and modern collections contain similar instances.

A'CER, the MAPLE-TREE, (from *acer,*) because of the sharpness of its juice.

The great maple-tree, falsely called SYCAMORE, is the pseudo platanus. Lin. Sp. Plant. 1495. It is also called *platanus tragi.*

The maple is a large tree, common in England, but a native of Austria and Switzerland.

It is not much in use as a medicine, though its juice, if drunk whilst fresh, is said to be a good antiscorbutic.

All its parts contain a saccharine fluid; and if the root, trunk, or branches, are wounded in the spring, a large quantity of liquor is discharged, which, when inspissated, yields a brown sort of sugar, and a syrup like the molasses. Large quantities of this sugar are obtained from the trees in New England and Canada, and is much used in France, where it is commonly known by the name of *saccharum Canadense*, and *saccharum acernum*, MAPLE-SUGAR. It has been supposed that all Europe might be supplied from the maples of America, but the sugar is coarse and ill-tasted.

A'CERATOS, (from α, *non*, and χεραω, *to mix*). Hippocrates applies this term to the unmixed, uncorrupted humours of the body.

A'CER VIRGINIANUM, odorátum. LIQUID AMBER. See LIQUID AMBER.

ACE'RBITAS, (from *acer, sharp,*) ACERBITY, SOURNESS.

ACE'RBUS, SOUR, HARSH; or a sourness with astringency; also bitter.

ACE'RIDES, Ακηριδες, (from α, negative, and κηρος, *wax*). Plasters made without wax.

ACERO'SUS, (from αχυρον, *chaff*). It is used to signify that sort of brown bread which is made without first separating the bran; and in botany it is applied to a leaf which is surrounded at the base by branny scales.

A'CESCENT, substances which readily run into the acid fermentation; sometimes applied to fluids in which this fermentation has commenced.

ACES'TIDES, (from ακη, *a point*). The names of the chimneys of the furnaces where brass was made. They were narrow at the top to receive the fumes of the melting metal, and to collect them, that the cadmia might be produced more abundantly. Also the roof of the furnaces in which copper is fused: they are closed so as to detain the corpuscles which fly off.

ACE'STIS. See BORAX.

ACE'STORIS, (ακεστορις, from ακεομαι, *to cure*). It strictly signifies a FEMALE PHYSICIAN, and is used for MIDWIFE. Hence curable diseases are called ACESTÆ.

ACE'STRIDES. MIDWIVES.

ACETA'BULUM, (κοτυλη, κοτυληδων, οξυδαφος,) is a large cavity in a bone, to receive the convex head of another, for the advantage of a circular motion. The large cavity in the os coxendix is thus named, which receives the head of the os femoris. This cavity is called the cup, from its likeness to an ancient vessel in which vinegar was brought to the table, and thence named acetabula, from *acetum*, *vinegar*, and *tabula*, *a table*. This derivation seems very probable, as οξυδαφον, which is the same measure as the ancients called *acetabulum*, seems to be derived from οξυς, *vinegar*. The *acetabulum*, which receives the head of the thigh-bone, called also *costyle*, is formed by the juncture of the os ilium, ischium, and os pubis; the edge of this cavity is called supercilium, and is very prominent on the upper part; the cavity is deeper on the upper and back part than on the lower and fore part. In the natural state, this cavity is increased by an additional elastic circle, which is united to its edge; it yields easily both ways to any pressure, but recovers itself when the force is removed.

Acetabulum also signifies a sort of glandular substance found in the placenta of some aninrals. See COTYLEDONES.

The ancient measure thus named was about the one-eighth of a pint.

ACETABULUM, see CRASSULA.

ACETA'BULUM MAR. MIN. See ANDROCASE.

ACETA'R, (from *acetum*, *vinegar,*) a sallad of crude vegetables, to be eaten with vinegar, oil, and salt.

ACETARIA, PICKLES. The unripe melons, young cucumbers, the seeds of the nasturtium, are preserved with vinegar and rendered warmer with garlic and shallot, under this name. The East-India mango is a plum highly flavoured with garlic; and, in imitation of this flavour, cabbage shred in slips, broccoli heads, onions, &c. with garlic, and Cayenne pepper, are sold under the title of Pickalella. See CONDIMENTS.

ACETA'RIUM SCORBU'TICUM. A kind of pickle, in which Dr. Bates advises scorbutic patients to dip their victuals before they eat it. It is thus made: ℞. Fol. cochlear. marin. ℥ iij. sacchar alb. ℥ vj. sal cochlear. ℥ i. bene contund. simul. et adde succ. aurant. ℥ vj.

ACETO'SA. See ACETOSELLA.

ACETO'SELLA, so called from the acidity of its leaves. The plants of this acid nature employed in medicine belong to the genus oxalis L. and are the O. Acetosella Sp. Pl. 620, O. Cornuculata 623; O. Cernua Wildenow, vol. ii. p. 717. This genus of plants, by the labours of Jacquin and Thunberg, is considerably augmented; and the last edition of Linnæus, by Wildenow, contains 83 species, the greater number of which are subacid, containing, in modern chemical language, super-oxalate of potash, viz. the alkali more than saturated with the oxalic acid. Some of these species are more acid than others: the common wood sorrel is the least so. Some species of the rumex have had the same appellation, (Rumex Acetosa L. Sp. Pl. 481,) as the leaf stalks are sour; and the same acidity occurs in the leaf stalks of the rheum compactum, a plant nearly allied to the docks. The juice of sorrel is sometimes used as an agreeable refrigerating drink in fevers, and sometimes the leaves are boiled in milk, to form a pleasant whey. Externally, they are thought to promote suppuration, particularly in indolent scrofulous humours. The seeds are slightly astringent; and indeed we seldom find astringency in any part of a plant, but we discover acidity in some other. The expressed juice is now never used, and the conserve is rejected from the dispensatories: it is pleasing as a conserve, but nearly inert as a medicine. The salt of lemons, as it is called, is only the salt of wood sorrel, and sometimes supposed to be cream of tartar, with

a little sulphuric acid. It is chiefly used for taking out the stains of ink from linen; and, were the muriatic acid added, the salt would be scarcely inferior in this power.

A great part of the acid of sorrel may be obtained in the form of a concrete salt, which is more acid than that of tartar, more easily soluble in water, and less, if at all, purgative; the wood sorrel yields near one-hundredth part of the weight of the fresh leaves.

Different methods have been proposed to separate the mucilage of the expressed juices, which is the great impediment to their crystallization. The method of Stahl, and the elder chemists, consisted in repeated affusions of alcohol. The process of Scheele is now generally adopted: it consists in combining the acid with calcareous earth, which forms a neutral nearly insoluble in water: this neutral may then be repeatedly washed, and the vegetable acid recovered by the addition of the sulphuric. This was the process recommended for the salt of lemons, and is the method by which Mr. Coxwell's concrete salt is prepared. But he wisely, we have been told, directs the chalk to be combined with the acid in the country; and it is imported in the form of the earthy salt; so that the fruit is not liable to injury by packing, and the inconveniencies of a sea voyage.

ACETUM, Vinegar. This is the second state in which the saccharine juices of vegetables appear in consequence of a spontaneous fermentation, in a heat of about 80° of Fahrenheit. In the first it becomes a wine; but a saccharine substance seems to be the principle, from which spirit is mostly formed, and mucilage that of vinegar. In the general subjects of fermentation they are united, and the acetous follows the vinous state. Should gluten predominate in the mixture, ammonia is soon discoverable, and the liquor turns putrid. In the acetous fermentation, much air is absorbed, which is apparently oxygen. See Fermentation.

Acetous acid may be formed in other ways, independent of fermentation. It is separated from many vegetable substances by distillation. Water and carbonic acid gas are at the same time raised, and charcoal deposited. The action of nitric acid on many vegetable substances, particularly gum and farina, also produces it with the same residuum of charcoal, and exhalation of carbonic acid gas and water. This acid also appears in some changes where putrefaction is apparently going on; as in the animal economy, where the urea is separated from the urine. Acetated lead produced from this acid, and the metal, forms a curious subject of speculation. By means of the lead it appears to regain its original state of a saccharine matter; for this substance may be fermented, again produce a vinous spirit, and ultimately again vinegar. See Neumann's Chemistry.

Vegetable liquors, in proportion to the quantity of their saccharine parts, ferment into a weaker or stronger kind of wine; a second fermentation forms vinegar.

When malt liquor becomes acid, it is called *alligar*, Allegar. It is not so proper either for medical use, or preserving pickles, as the wine vinegar; for it abounds too much with mucilage, which is productive of many disadvantages; yet this is the only vinegar that we procure in England.

If vinegar be distilled with a heat not exceeding that of boiling water, it yields first a phlegmatic liquor (which is a spirit slightly vinous); then a slightly acid one, which is succeeded by stronger acids, till the matter remaining becomes thick as honey; if now it is urged with a greater heat, an empyreumatic oil ascends, and a penetrating acid spirit, tainted with the ill smell and yellow colour of the oil; and at last there remains a black coal, which, when burnt into white ashes, yields a considerable proportion of fixed alkaline salt.

By distillation, vinegar is separated from its mucilage, tartar, &c. Its specific gravity is then reduced from 1.0135 or 1.0251 (for it generally varies) to 1.0005. By boiling a few minutes, it keeps a long time with little change.

The stronger and more spiritous the wine, the stronger is the vinegar into which it is converted. Geoffroy says, that vinegars made of the German and French wines saturate from one-fortieth to one-twelfth of their weight of fixed alkaline salt.

Vinegar is mixed with the mineral acids by some fraudulent dealers, and the vitriolic, as the cheapest, is most commonly employed. The slightest portion may be detected, by adding a solution of muriated barytes, or a larger, by a saturated solution of chalk. In either case, a white sediment is deposited. Lead is sometimes accidentally present, and may be discovered by the liquor probatorius. See Liquor Probatorius.

The fermentation which changes wine into vinegar gives the latter several properties extremely different from those of the former, which are well known. Vinegar is ultimately decomposed by nitric acid, or by fire, when combined with fixed alkali to repress its volatility. It is then found to consist of carbone, hydrogen, and oxygen, but the proportions are not known. It is concentrated by freezing; but the purest acetous acid freezes at about 22° of Fahrenheit, and by distilling it when combined with powdered charcoal. For its affinities, see Elective attractions.

Vinegar dissolves *animal earths*, if not very much mixed with gelatinous matter; the *earth of alum, and calcareous earths; it oxidates several metallic substances*, as *zinc, iron, copper, nickel, tin, and lead*. It combines with earths, alkalis, and metallic oxides; it dissolves the *vegetable inspissated juices*, and extracts the *virtues of many plants*; to many of which it seems to impart additional power, particularly to the onion tribe. In *inflammatory and putrid diseases*, in many instances, its efficacy is considerable: in *ardent fevers* it is an useful *antiphlogistic* and *sudorific*: in *putrid disorders* it is a preservative and restorer. *Fainting, lethargic*, and *hysteric paroxysms* are much relieved by it, if applied to the nose and mouth; even in many instances more than by volatile alkaline spirits, or fetid gums. In the *miliary fever* it is a powerful assistant. The vegetable acid has a peculiar power in *restoring sweetness to putrid bile*; and that obtained from the fresh vegetable fruits is more useful than the mineral acids. Besides, when a putrid colluvies is lodged in the first passage, this acid gently tends to solicit its discharge by stool; an advantage not to be expected from the mineral tribe.

Externally applied, vinegar is a powerful resolvent and relaxant. When applied to any sensible membrane, it acts as an astringent; and, more or less diluted with water, is an excellent gargle for an inflamed throat,

and for an injection to moderate the fluor albus. See ACIDA.

It has been lately recommended in burns, whether there is a loss of substance or not. The burnt part is to be bathed in vinegar, till the pain ceases; then a common poultice with finely powdered chalk strewed on it is to be applied. This poultice at first must be changed every four hours, and afterwards two or three times a day. When there is no loss of substance, the vesicles are filled with a coagulated fluid, under which the skin soon heals. As a cooling application in bruises, its use is well known; and it is frequently applied in its cold state to the nose in cases of hæmorrhage. In mænorrhagia, particularly the profluvia after parturition, applied cold to the loins and abdomen, it is very serviceable. Chilblains are also often relieved, corns and galls softened by it.

An imprudent use of vinegar is not without considerable inconveniences; large and frequent doses produce leanness and an atrophy; when taken to excess, to reduce a corpulent habit, tubercles in the lungs and a consumption have been the consequence: young children, old people, those whose circulation is languid, vital heat defective, and digestion weak, should perhaps be sparing in its use.

The dose, according to the different circumstances of the case requiring it, and the constitution of the patient, may be from ʒ ss. to ʒ iij.

See the Dictionary of Chemistry, translated from the French of M. Macquer, edit. 2, article VINEGAR. Cullen's Mat. Med. Chaptal's Chemistry, vol. iii. 268. Thompson's Chemistry, 2d edit. Parkinson's Chemical Pocket-book.

ACE'TUM DISTILLA'TUM, seu Sp. Aceti. DISTILLED VINEGAR. ACETOUS ACID.

Distil wine vinegar with a gentle heat as long as the drops fall free from an empyreuma.

The first pint that is drawn off is a weak vinous spirit, and should be taken away, another receiver being placed for the acid. Malt vinegar, however strong, is improper for distilling, because it so readily receives an empyreumatic taste from the mucilage which it contains; a circumstance to which the best wine vinegar is subject, if more than about two-thirds is drawn over. If given, in the quantity of two or three ounces in a day for some time after bleeding, and purging where necessary, it has been recommended in maniacal cases. When vinegar is concentrated, it creates an appetite; hence *Acetum Esurinum*.—LYTHARGYRI'TIS. See PLUMBUM, N° 2.—PROPHYLA'CTICUM (see PROPHYLACE) is thus made. ℞ flor. lavend. et rorism. fol. rutæ, absinth. salviæ, menth, āā m. i. aceti vini cong. i. infund. in B. A. per 8 dies. ℞ hujus tinct. ℔ i. camph. ʒ iij. m.—Acetum proph. also called the VINEGAR OF THE FOUR THIEVES; for, during the plague of Marseilles, four persons, by the use of it, attended many of the sick unhurt; under the colour of their service, they robbed the sick and the dead: one of them being apprehended, saved himself from the gallows by discovering this remedy.

In the foreign pharmacopeias there are many preparations in which vinegar is the menstruum; and luxury has introduced many as sauces, or to add a flavour or poignancy to sallads. With these last we have no business, and need only remark, that when the object is to give an additional warmth or stimulus, they are not misapplied. Vinegar of horse-radish and elder (Plenck Pharmac. chirurg.) are chiefly useful as cosmetics. Vinegar of rue (idem) is supposed to be highly antiseptic; but the most useful acetum is the camphorated. A drachm of camphor is dissolved in ten ounces of good vinegar (id.); and a preparation not very dissimilar is recommended in mania by Mr. Pargeter. Numerous preparations under the title of aceta prophylactica, occur in the foreign dispensatories, which consist only of different aromatics infused in vinegar, differing from the fancies of the prescriber, but scarcely varying in the intention or effects.

Vinegar, we have said, may be concentrated by cold, and by distillation from powdered charcoal. What is called the ACETIC ACID is vinegar, not only more concentrated, but somewhat different in its properties. It certainly possesses a larger proportion of oxygen, as will be evident from its preparation, which consists in distilling vinegar from its combination with metallic oxyds, chiefly from copper; and that this method not only enables it to rise without the usual proportion of water, but imparts oxygen, is evident from the same effect being produced by adding sulphuric acid to the union of vinegar with soda, when a part of the mineral acid is decomposed. The acetic acid is peculiarly volatile and pungent, the most carefully ground glass stoppers being unable to confine its fumes. Glass and gold can alone retain it without being injured. Its specific gravity is 1.0626. The salts produced by this acid are called acetats, while those made with the common acid are styled acetites. Though these salts differ somewhat in their properties, we have no evidence of their differing in their medical virtues. See Fourcroy Connoissances, v. viii. Annales de Chymie, xxvii. 299.

ACHA'HI. See AQUA ALUMINOSA under ALUMEN.

ACHANACA, an Indian plant much used by the natives as a remedy for venereal complaints: its genus is unknown.

ACHE, a pain: in old authors the name of the *apium palustre*: the *smallage*.

ACHIA, ACHIAR, ACHAR, the buds of the bamboo tree pickled with spices and other ingredients, imported from India to Holland in earthen vessels: they partake of the virtues and inconveniences of PICKLES. See CONDIMENTS and ACETARIA.

ACHI'COLUM. The *fornix*, or *sudatorium*, SUDATORY, of the ancient baths, which was a hot room to sweat in, called also *architholus*.

ACHILLE'A. The *achilleas* take their name from ACHILLES, because with this he is said to have cured Telephus. Linnæus uses the word *achillea* as the generic term for yarrow, milfoil, or sneezewort. For an account of the different species see AGERATUM. The name also of the red gum, now called dragon's blood.

ACHIL'LIS TENDO, see TENDO ACHILLIS.

ACHIMENUS. A genus of plants formed by Vahl among the didynamiæ angiospermæ, in the family of the personatæ. It consists of a single species only, figured in Rheed's Malabar, ix. tab. 87, growing in Cochin China, called by Louveiro *dicera*. It resembles wood sorrel in taste, and is eaten in sallads as well as dressed.

ACHIO'TE. The red grains of achiotl made into lozenges.

ACHIOTL: also the *bixa oviedi*, *daburi*. A sort of *orleana*, growing in New Spain and Brasil, from the *bixa orellana* Lin. Sp. Pl. 730. The tincture from the fruit used in chocolate is thus made: take the grains when ripe, infuse them in hot water; the sediment is made into cakes, and is used as a paint for the face. The *roucou*, which the Indians call achiotl or *urucu*, the Dutch *orleane*, and we *roucou*, is a meal or flour of a seed from the Leeward islands and the isle of St. Domingo: these seeds are of a vermillion colour. The roucou is made in these islands, as we make starch. Choose the roucou of the deepest violet colour, and very dry. Its chief use is among the dyers. See ORLEANA.

A'CHLYS. A DIMNESS of sight, (from ἀχλύς, *darkness* or *cloudiness*). It also signifies a small scar or mark over the pupil, of a light blue colour. It is usually synonymous with *caligo corneæ*, or blindness from opacity of the cornea. See Cullen's Nosology. It is the *Leucoma nephelium* of SAUVAGES, and is described as a speck of the cornea, somewhat pellucid, which occasions objects to appear as if seen through smoke, or a cloud. By inspection obliquely it is discovered to be different from the opacity of the aqueous humour, accompanying some diseases of the eye. This disease consists in an obstruction of the lymphatic arteries of the cornea, and is often the consequence of more active inflammation. Any powder, mild and soluble, thrown into the eye; a drop or two of emetic wine, or of tincture of opium, will remove it; but in children it vanishes spontaneously.

A very complicated ointment is recommended by Mr. Bell for this complaint, and for diseases of the eyelids, copied from Pellier. We shall not transcribe it, since, from frequent experience, we have found equal parts of unguentum mercuriale and saturninum as effectual. In fact, it is only a combination of mercury, zinc, and lead, though operose and inelegant; the balsam. Peruv. adding nothing to its efficacy. The ointment of M. de Gravers has no lead, but the zinc supplies its place, and the efficacy is increased by the addition of one-fifth of the compound tincture of benzoin. See ALBUGO OCULORUM, and also Wallis's Nosologia Methodica Oculorum.

A'CHNE, ἀχνη. CHAFF OF the FROTH OF THE SEA. Hippocrates expresses by it a whitish mucilage observed in the eyes of patients who have fevers: also a white mucus in the fauces thrown up from the lungs. Besides these it signifies LINT. See CARBASUS.

ACHOAVAN. A kind of chamomile mentioned by Prosper Alpinus: its species is not known. V. CHAMOMILE. Avicenna seems to have meant by it the marum.

A'CHOLOS, (from α, neg. and χολη, *bile*,) applied to animals supposed to be without bile.

A'CHOR, ἀχωρ, qu. ἀχνωρ, (from ἀχνη, *bran*; so called from the branny scales thrown off). *Lactumen: abas, acores, cerion; favus.* The *crusta lactea* of authors, and in England the SCALD HEAD. Trallian says, that it is a sore on the outside of the head, full of little perforations, which discharge a humour like ichor. He adds, that the *cerion* resembles an achor; but that the mouths of the perforations are larger, resembling the cells of a honey-comb, whence the name; the matter is also nearly of the consistence of thin honey. When these diseases spread, the serum which oozes out dries, and forms a scab. It is, however, in general, only an obstruction in the circulation of the bulbs of the hair, and sometimes of the sebaceous glands.

Dr. Willan, in his description of different kinds of pustules, defines the achor, a pustule of intermediate size between the phlyzacium and psydacium, which contains a straw-coloured fluid, having the appearance, and nearly the consistence, of strained honey. It appears most frequently about the head, and is succeeded by a dull white or yellowish scab. Pustules of this kind, when so large as nearly to equal the size of phlyzacia, are termed ceria, or favi, being succeeded by a yellow, semi-transparent, and sometimes cellular scab, like a honey-comb.

The *achor* differs from the *favus* and *tinea* only in the degree of virulence. It is called *favus* when the perforations are large; and *tinea* when they are like those which are made by moths in cloth: but generally by tinea is understood a dry scab on the hairy scalp of children, with thick scales and an offensive smell; when this disorder affects the face, it is called *crusta lactea*, or MILK-SCAB. Mr. Bell, in his Treatise on Ulcers, says, that the *tinea capitis* and *crusta lactea* may both be reduced to the same species of herpes, viz. the *herpes pustulosus*, (which see,) they being naturally the same, differing only in situation; the tinea is on the hair scalp, and the crusta lactea on the face. Dr. Cullen improperly places this disease under ULCUS; as a synonyme; where also he places the CRUSTA LACTEA; but the whole class locales is very carelessly arranged. When it happens to children, if in other respects they are healthy, the best treatment, besides keeping the belly moderately lax, is cleanliness and a moderate diet; an issue may be made and continued till the disorder is cleared and the strength of the constitution established; the hair must be kept short, and the head washed with soap-suds. Some instances of this sort are very difficult of cure, and attended with violent itching, a pale countenance, &c.; but still the same method generally succeeds in all the species and degrees of virulence. Small doses of calomel may be given as an alterative rather than as a laxative, and the vinum antimon. in such doses, at proper intervals, as the stomach will easily retain. Though in general it is a local disease, yet the constitution is sometimes in fault, and internal remedies should not be neglected. When hastily and imprudently repelled, also, disagreeable consequences have ensued.

Externally, washing with soap, particularly the black soft soap, and occasionally using the ung. e pice, will succeed; but, in the more inveterate cases, the unguentum ad scabiem of Banyer's Pharmacopœia Pauperum, (quod vide,) lowered with an equal part of axyngia, is necessary. Should this fail, the only remedy is to pull out each hair, by tweezers, or to put on a pitch cap, which when taken off draws them out at once—a cruel practice, but sometimes indispensable. A wash, consisting of a solution of corrosive sublimate, in the proportion of ten grains to a pint of water, has sometimes succeeded. The unguentum picis cum sulphure of the Pharmacopœia of Guy's Hospital is often

advantageous; but the head must be constantly close shaved, and an oil-skin cap worn, which, alone, will sometimes cure the complaint. This ointment is composed of half a pound of tar, half an ounce of wax, and two ounces of flour of sulphur. More lately, shaving the head, and keeping up a steady pressure by means of slips of sticking plaster, have appeared more effectual than the oil-skin cap.

Among the ancients, Aetius, Ægineta, Trallian, Oribasius, Galen, &c. treat professedly on these disorders: amongst the later authors, Heister and Turner may be consulted, with the still later writers, as Bell, in his Surgery, and his Treatise on Ulcers, p. 376; Moss on the Management of Children, &c.; White's Surgery, p. 69.

A'CHY, (ἄχυ,) a species of cassia growing in Arabia, called also διφίτης.

ACIA, a method of healing wounds among the ancients, which is now not easily understood. It is most probably derived from acu, and may be only the twisted suture.

ACI'CULARIS, (from *acicula, a pin* or *needle,*) ACICULAR, shaped like a small needle. The trivial name for a species of scirpus.

ACIDA. ACIDS, (from *acesco, to sharpen*). Acids form a species of salts, exciting upon the organ of taste the sensation called *sour;* which may be regarded as synonymous with acid. Every substance is called acid which *gives the impression above specified to the taste, will change certain blue vegetable colours into red,* as the juice of turnsole, syrup of violets, &c. and *will, usually, effervesce with alkalies;* we say usually, because this property is not general; for the carbonic acid, and almost all weak acids, cannot be distinguished by this property; and the purest alkali, or what is called caustic or deaërated, combines with acids without effervescence. By a variety of experiments in modern chemistry, acids are found to consist of different substances: to the name of one they give the term *oxygen;* and to the other *radical;* the former considered to be the *acidifying* principle, the latter the *acidifiable* base. They further prove, that the oxygenous principle, in all the variety of acids, is universally the same; and that acids themselves only vary on account of the different radicals with which that principle is combined. Chemists have also altered the terms, in order to express the degrees of power acids possess; the weaker they express by the termination *ous,* the stronger by *ic,* added to the base or radical; as sulphurous, sulphuric; carbonous, carbonic, &c.; except the muriatic and nitrous acid; for the lower order of the former, they say *muriatic;* for the higher, *oxygenated muriatic;* taking the appellation from the acid, and not from the base.

ACIDS are *animal, vegetable,* and *mineral.* The vegetable are the native, as the *juice of lemons,* &c.; or the product of fermentation, as *vinegar* and *tartar.* The mineral are those of *sulphur* or *vitriol, nitre,* and *common salt.* The animal acid is obtained from ants, and some other insects, in considerable quantities; it is also contained in human fat, and in the suet of animals that ruminate; and an acetous fermentation is sometimes excited in some of the animal secretory organs, forming a kind of animal vinegar; in this way the urea of the urine is produced. See ADEPS.

A vague, volatile, and liquid acid is in all parts of the earth: uniting with various substances, it forms different fossils. Except in the essential salts of vegetables or in tartar, acids are rarely found in a solid form.

There is great analogy betwixt acid and cold. The spirit of nitre increases the cold of ice. Acid and cold alike preserve from putrefaction, by increasing the cohesion of the component parts of the respective bodies. Strong acids, and excessive cold, it is true, when applied to the flesh of living animals, mortify them; but this mortification differs greatly in its nature from that produced by fire, and by alkaline salts. South winds favour, but north winds check, the progress of putrid disorders.

Acids differ in their specific gravity when compared with water.

The acid of vitriol, as	18 to 10
Nitre	14 to 10, some say 15 to 10
Sea salt	12 to 10
Vegetables	10 plus to 10.

This difference shews that some acids are more tenacious of water than others. If the weaker acids are used, you must pour on more of them to the same quantity of alkaline salt to saturate it; yet the salt will have only attracted the same weight of acid from each.

Acids differ in their colour: for the *vitriolic* is quite pale; the *nitrous* a dark yellow, frequently fuming, and sometimes of an orange red; the *marine* a pale golden colour. If bottles containing these three acids are stopped with cork, the cork is soon tinged, by the vitriolic acid, with a *black colour;* by the nitrous, with a *yellow;* and by the marine, with a *whitish one.* The vitriolic acid emits *no visible vapours in the heat of the atmosphere,* but *imbibes moisture from it;* the nitrous and muriatic *emit copious corrosive fumes;* the nitrous, *yellowish red;* and the muriatic, *white fumes.*

For the virtues of the vegetable acid, see ACETUM.

The mineral acids, when intimately joined with vinous spirits, produce effect so similar to those of the vegetable class, that their properties, as medicines, are almost the same. In other respects, the effects of all the kinds of acids are similar.

Acids gently irritate and contract our fibres when taken in a dilute state, and thus corroborate; they resist a putrid tendency, and powerfully oppose putrescence when actually existing: by the irritation they promote various secretions; they excite an appetite, and aid digestion; their efficacy in fevers of every kind is not exceeded by any thing in use, nor equalled for their general safety, where causes so widely opposite produce such similar complaints: in some instances of coughs and asthmas, in consequence of irritation, their efficacy is singular: if the vegetable acid is made use of, the breathing is never disordered by it, though in some instances the mineral acids may offend. In dysenteries, and in diarrhœas, produced by unripe fruits, the fossil acids allay the fermentation in the bowels; and when a putrid colluvies in the primæ viæ is the cause, they will be a proper remedy. By their sedative quality, hæmorrhages are restrained; and as bitters are neutralised by vegetable acids, so the excess and acrimony of the bile are allayed by their use.

Acids, astringents, and bitters, have a great affinity

with each other. By a mixture with each other they lose their properties. Vegetable acids lessen the astrictive power of galls on leather, &c. The mineral acids have a contrary effect. Bitters, both animal and vegetable, are neutralised by vegetable acids, less perfectly by those from the mineral kingdom. See Lavoisier and Chaptal's Elements of Chemistry. Dictionary of Chem. Neumann's Chem. Works. Percival's Med. Essays.

Vegetable acids correct the deleterious effect of most, if not all, narcotic plants; but injure the phlegmatic habit, where the circulation is languid, the bile defective, or the digestion naturally weak.

ACIDITAS, (from *acesco*, *to sharpen*,) ACIDITY, also *acor*. Diseases from this cause are frequent.

The seat of acidity in our bodies, as a disease, is principally the stomach and the small intestines. An acid acrimony is never sensibly prevalent in the blood; though it sometimes appears in the urine.

An acid acrimony may arise either from too great laxity and debility of the organs of digestion, or from an excess of acescent food. When the digestion is imperfect, an acidity is the consequence, though no such process as fermentation has preceded. The food of children is for the most part of the vegetable kind, and readily turns sour in the stomach, if the body be any way disordered; hence most of their disorders are accompanied with the evident signs of acidity, as green stools, gripes, &c. Many assert a prevailing acid to be the cause of all diseases in children; but acidity in their stomach is more often an effect than a cause of their complaints. It is not acidity, but its excess that injures.

The redundant acid in the primæ viæ is known by the *sourness of the eructations*, the *frequent cardialgia*, in the stomach, *flatulence*, and *spasms in the intestines*; the belly is costive, and the nourishment is unduly supplied, a paleness becomes general in the skin, an itching comes on, pustules appear, and a train of nervous symptoms soon succeeds. Indeed, in all diseases peculiar to children, there are, for the most part, symptoms of an excess of irritation: the pulse sometimes beats one hundred, or one hundred and twenty in a minute, the stomach is disordered, the vessels of the skin are contracted, and epileptic or convulsive symptoms appear.

Infants are frequently swept off by this disorder. Among adults, the weakly and sedentary are the only subjects of it, except among the poor, whose scanty supplies reduce them to this unhappy state.

The cure, when adults are the subjects, consists of a diet fitted to oppose this faulty habit; animal food and vegetables of the aromatic kind: these, with moderate exercise at proper intervals, will often succeed with warm tonics. Absorbent medicines may palliate symptoms in the stomach and intestines, but the limatura ferri. will most conduce to an effectual and lasting cure. Children should be exercised more, and fed less than is usual. Antimonial emetics, repeated at intervals of two or three days, until the more disagreeable symptoms abate, are highly useful. Small doses of p. rhei, with magnes. alb. so as to keep the belly soluble, is better than more active purging; and small doses should be given frequently. Indeed, in some cases, small doses of fixed or volatile alkali, particularly aqua ammoniæ, have been highly beneficial, and warm stimulant plasters, applied to the umbilical region, have added to these advantages. Acidity is not peculiar to children, nor does it always depend on the nature of the food. It is a mark of a disordered digestion from many different causes. Curdled milk, ejected, is supposed to be a decisive proof of an acid stomach. This, however, is by no means the case: for the stomach of an infant will curdle milk, when it will not, to the nicest test, discover the slightest particle of acid. A gouty habit, and the pregnant state, will always bring it on; and, in many constitutions, food of every kind will soon become acid, for reasons that we cannot understand. All that can be known is, that the principles of the vegetable acid, for of this nature is the morbid acid of the stomach, are found in food of every kind, and that, when their union is destroyed in the first periods of digestion, a new compound takes place. Perhaps this always occurs, and the acid is again enveloped or forms a part of another compound, by a subsequent operation. Calcareous and magnesian earths, therefore, only palliate the complaint: the cure depends on strengthening the stomach. As palliatives, in the chronic cases of acidity, lime-water is one of the best. In the pregnant state, aq. ammoniæ puræ is preferable.

See Van Swieten's Commentaries on Boerhaave's Aphorisms. Medicamentorum Formulæ, Dris. Hugh Smith. London Practice of Physic, edit. 6. Armstrong on Diseases fatal to Infants. Moss on the Management of Children, &c.

ACI'DULÆ, (from *acidus*, *sour*). MINERAL WATERS that contain a brisk spirit, when unaccompanied with heat, are thus named: but if they are hot also, they are called *thermæ*. In Paracelsus, *Fontale acetosum* is of the same import.

As to the antiquity of their use, see Galen, Cœlius Aurelianus, Pliny, &c. who speak also of their virtues.

Hoffman and many authors highly extol them, whilst others observe that a pure water, on account of its simplicity, such as that from Malvern and Toplitz springs, is to be preferred both for drinking and for bathing; and that these may be well supplied by distilled rain, or any other water that is soft and pure. Objectors allege, that the medicinal qualities in these waters only quicken their operation as water, but contribute nothing further, and that solutions of the same materials are of equal efficacy: to which the best reply has been, that the mineral contents are often volatile, and more subtile than art can produce; and that, when the powers of nature are expiring, experience proves their efficacy by their success as a last resource.

From the qualities of their contents their use is easily determined. See AQUÆ MEDICINALES.

Bleeding, or purging, or both, are frequently prescribed before the use of mineral waters; but, except a plethora attends, they are unnecessary. As these waters are designed to act, so rest or exercise must be advised: rest and a cool situation favour their diuretic tendency; exercise and a warm air determine them to the skin; with temperance and moderation in the regimen, these are the principal directions on which success depends.

Their brisk sparkling property is owing to the quantity of uncombined carbonic acid gas which they possess;

and indeed to this, perhaps, is owing their chief use as medicine. To increase this gas when defective, or to communicate it where it is totally wanting, see Dr. Priestley's directions for impregnating water with fixt air.

ACIDULOUS, Subacid.

ACIDUM PINGUE, a fancied acid which Meyer substituted to explain the causticity of lime, which Black attributed to the loss of its fixed air or carbonic acid.

A'CIDUM FORMICÆ. *Formic acid.* See Formica.

ACIDUM ARSE'NICUM. Arsenic acid. This is produced by distilling six parts of nitrous acid, from one of the calx of arsenic.

Acidum æthe'reum.
Acidum alumino'sum.
Acidum catho'licon.
Acidum primige'nium.
Acidum sulphu'reum.
} Acidum vitriolicum, vel sulphuris.

Acidum muria'ticum. Olim Spíritus Sális Glaubéri. See Mari'num sal.

Acidum nitrosum. See Nitrum, N° 5.

Acidum vitrio'licum. Olim Oleum Vitrióli; called also *Stagma*. See Sulphur and Vitri'olum viride, and also A'cida.

Acidum vitrio'li vino'sum, i. e. Æ'ther vitriólicus. See Æ'ther.

ACIES, (from ακη, *a point*). Steel. See Chalybs.

ACINAFO'RMIS, (from ακινακης, *a scymitar*, and *forma*, *shape*,) applied to leaves, one of whose edges is sharp and convex, and the other straight and thick, like a Persian scymitar.

ACINE'SIA, (from α non, and κινεω, *to move*). A privation of motion.

A'CINI, (from ακη, *a point*). The distinct component parts of the fruit of the mulberry, blackberry, and raspberry.

ACINIFO'RMIS. } The coat of the eye, called
ACINO'SA TU'NICA. } uvea, or posterior lamina of the iris; because the ancients, who dissected brutes, observed that in them it was usually the colour of an unripe grape. See Uvea.

ACINOS, (from ακη, *a point*;) so called because its branches are prickly. See Basilicum.

ACINUS. Properly a grape, but is applied to other fruits or berries that grow in clusters, as elder berries, privet, ivy, &c. These are distinguished from baccæ, or berries that grow single, as those of the laurel. But *acinus* is also used for the stone of the grape; hence U'væ exacina'tæ, grapes that have their stones taken out.

The glands which grow together in clusters are called by some *ácini glandulósi*.

A'CINUS. See Staphyloma.

ACIPENSER, Lin. The sturgeon. The species introduced into the Materia Alimentaria and Medica are the *A. sturio*, *huso*, and *ruthenus*, Lin. The roes are salted and dried, and the flesh pickled. These, which may rather be styled condiments than aliments, will be considered in their proper places. Isinglass is prepared from the roes of each species, but that from the A. huso is preferred. See Aliments, Condiments, and Isinglass.

ACMA'STICA, (from ακμαζω, *to flourish*). See Synochus.

ACMASTICOS, (ακμαζω, *vigeo*,) a species of fever described by Actuarius, as follows:

"Fevers from putrefaction are continual or intermittent: of the former some are called *isotoni*, or *acmastici*, which, during the whole course, are at the same pitch; others are called *epacmastici*, or *anabases*; these proceed and increase to their time of solution; a third sort called *paracmastici*, which diminish by degrees till they cease." See Fever.

A'CME, (from ακμη, *a point*). The height of a disease. That state of a thing in which it is at its utmost perfection. It is also a term in gymnastics, expressing the highest pitch of exercise.

ACME'LLA, a plant growing in Ceylon, the *verbesina acmella* Lin. 1271; but a similar plant, the sigesbeckia orientalis, has been employed. It is commended in nephritic disorders by Linnæus, but is rarely used.

A'CMO. See Corallium rubrum.

ACNE, (from ακνη, *chaff*). A small purple or hard tubercle on the face is thus called, covered with a branny scale.

ACNE'STIS (from α negative, and κνασις, *to scratch*). That part of the spine which reaches from betwixt the shoulder blades to the loins. This name seems only applicable to quadrupeds, because they cannot reach it to scratch.

There is a herb to which this name is given, but the real plant has not been determined.

ACO'E, (ακουω, *audio*). See Auditus.

ACOITUS, honey, (from α non, and κοιτη, *sediment*). See Mel. Pliny speaks of it by this name, because it has no sediment.

A'CON, an instrument used in the ancient exercises; like the discus, or quoit.

ACO'NDYLUS, (from α priv. and κονδυλος, *a joint*). Applied to a flower whose stalk is not divided by joints.

ACONE, (ακονη, *a hone*,) mortar, or rather a hard stone, on which to levigate; more generally, a whetstone.

ACO'NION, (from ακονη, *a hone*,) an ancient Greek name of a medicine prepared by levigation; probably a collyrium, or some form of powders for the eyes.

ACONITIFOLIA, (from *aconitum*, *wolf's-bane*, and *folium*, *a leaf*). See Anapodophyllon.

ACONI'TON, (from α neg. and κονια, *lime* or *plaster*). Not plastered. This word is applied to vessels not lined within.

ACONI'TUM; also called *Camarum*, *Canicida*, *Cynococtanum*. Various derivations are given by etymologists; as, 1st, ακονη, a *whetstone* or *rock*, because it grows on bare rocks. 2dly, α negative, and κονις, *dust*, because it grows without earth. 3dly, ακων, ακη, *dart*, because they poison darts therewith. 4thly, ακονιοζμαι, *to accelerate*, for it hastens death.

Wolf's-bane.

The Monk's-hood, or common Wolf's-bane, of which Dr. Storck speaks so much in favour, is the Aconitum napellus Lin. Sp. Pl. 751, Wilden, G. 1062, Sp. 9. N. Ord. multisiliquæ. It is cultivated in our gardens as an ornament; but is spontaneously produced in Germany, and some other northern parts of Europe. Some authors have supposed that Storck employed the A. camarum: in fact, however, he used the A. neomontanum, and mistook it for the A. na-

pellus. The different species have been mistaken for each other, but all seem to possess the same properties.

The expressed juice of the fresh herb was made into an extract by a gentle evaporation, then for internal use the following powder was directed:

℞ extract. aconit. gr. ij.

Sacchar. alb.—ʒ ij m. f. pulv. subtil.

In several instances, this was given from gr. vj. to ʒ ss. three times a day, with the happiest success. Its chief sensible effect was its exciting a copious perspiration.

The cases in which Dr. Storck succeeded by the use of the above powder were, an *inveterate gonorrhœa*, *obstinate pains* after intermittent fevers, *tophi* and *nodes*, *scirrhous tumours*, *indurations of the parotid glands*, *spina ventosa*, *itch*, *amaurosis*, *gouty* and *rheumatic pains*, *convulsive disorders*, and an *anchylosis*. Some have given it in tincture, made by adding one part of the dried leaf to six of spirits of wine; the dose, 40 drops. But it has often been given from one grain, gradually increased to ten, for a dose: indeed Stoll and some others carried it much further.

A person who had eaten a small quantity of monk's-hood was presently attacked with a sensation of tingling heat in the tongue and jaws, and the teeth seemed as if they were loose, and the face as if it was swelled. This tingling sensation gradually spread all over the whole body, particularly to the extremities; the knees and ankles lost their strength, and frequent twitching of the tendons came on; soon after a sensible check to the circulation of the blood through the limbs was felt; at length a giddiness supervened; then a mist seemed to collect itself before the eyes; in the ears was a humming noise, the senses failed; the eyes and teeth were fixed, the nose contracted, breathing short, and cold sweats were perceived on the hands, feet, and fore head. All these symptoms followed in less than two hours from the time of eating the sallad, in which the monk's-hood unfortunately was mixed. His friends forced down into his stomach a quantity of oil and water, and afterwards carduus tea, by which he vomited; these were repeated so as to encourage a thorough discharge from the stomach, and, in the intervals, a few spoonfuls of a stimulating cordial were given: and thus he soon recovered.

Some writers say, that the napellus is not poisonous in Sweden, Poland, &c.; but it should be noted, that the napellus, which is not poisonous, is the *aconitum lycoctonum* Lin. Sp. Pl. 750. See Wilmer's Observations on the Poisonous Vegetables of Great Britain. Storck, de Aconito, and the Article Venenum.

A'COPA. Acopon, (α non, and κοπος, *labour*). At first this word signified the quality of the *medicines* to relieve pain, stiffness, and other ill effects of excessive weariness; but, afterwards, it implied soft, easy medicines, prepared with little difficulty. It is also the name of the *trifolium paludosum*.

A'COR, (from *aceo*, *to be sharp*). Sourness, acrimony, particularly an acid acrimony in the stomach. See Aciditas.

ACO'RDINA. Indian tutty.

A'CORES. See Achor.

A'CORI, (rad). The greater galangal root, (from α neg. and κορη, *the pupil of the eyes*,) because this root was thought injurious to the eyes. See Galanga.

ACO'RIA, (from α neg. and κορεω, *to satiate*). Insatiability. Sometimes it signifies a good appetite, or digestion.

ACORI'TES VINUM, a wine made of the acorus and liquorice roots, each eight ounces; of wine, six gallons; infused cold for six months.

ACORN, the seed of the oak used as an astringent. See Oak.

A'CORUS, CALAMUS VE'RUS. See Calamus aromaticus.

A'corus adulterinus. See Iris palustris.

A'corus Asiaticus. See Calamus aromaticus Asiat.

A'COS, (ακεομαι, *sano*). A remedy.

ACO'SMIA. Irregularity, or disturbed state of things, particularly of the critical days of fevers, as κοσμος meant their regular order; called also *madises*, *madrotes*. Bald people are called acosmoi, because they had lost their greatest ornament. Blanchard says it is an ill state of health, joined with a loss of colour in the face.

ACOTYLE'DON. Applied to seeds when they are without cotyledons.

ACO'USTICA, medicines against deafness (from ακουω, *to hear*). But no internal medicines of this kind are known.

ACRA'I. See Satyriasis, and Furor uterinus.

ACRAI'PALA, a Greek word for medicines against a surfeit or drunkenness, from α non, and κραιπαλη, *crapula*.

ACRA'SIA, Intemperance, (from α negative, and κιρανυμι, *to mix*). This word, implying wine unmixed with water, signified excess in eating, drinking, venery, &c. By Hippocrates, and some others, it signifies imbecility. By physicians, it means the predominancy of one quality above another, either with regard to artificial mixtures, or the humours of the body.

ACRA'TIA, (from α negative, and κρατος, *strength*). See Imbecillitas.

ACRATI'SMA, a breakfast. The derivation of this word is the same as that of acrasia, because the wine used on this occasion was not mixed with water. A breakfast among the old Greeks consisted of a morsel of bread steeped in wine.

ACRATOME'LI, (from ακρατον, *unmixed wine*, and μελι, *honey*). See Mulsum.

A'CRE, (ακρος, *extreme*). See Nasus.

A'CREA, also ACROTE'RIA, (from ακρος, *extreme*,) the extremities, i. e. the legs, arms, nose, and ears. Coldness in the extremities, not easily removed, is a bad presage in fevers.

A'CRIDÆ, (from *acer*, *sharp*). Acrid medicines. Acrids are substances of a penetrating pungency: applied to the skin, they *inflame it*; chewed, they *promote a discharge of the saliva*; and snuffed up the nose, they *provoke sneezing*.

The first class, as mustard, horse-radish, scurvy-grass, &c. give out their properties by distillation. The 2d, viz. the greater celandine, pyrethrum, &c. by infusion. The 3d, *neither by infusion nor distillation*, as happens with the arum, dracunculus.

The general effects of acrid medicines are to stimulate the solids. In leucophlegmatic habits, they are

powerful expectorants, deobstruents, diuretics, and emmenagogues; and, if the patient is kept warm, they are good diaphoretics.

In constitutions disposed to inflammation, or where there is already a degree of irritation, where the juices are too thin and acrid, or the viscera not sound, these medicines aggravate the disorder.

The trouble which acrid medicines give to the stomach, is that on which their virtue frequently depends.

ACRIFO'LIUM, (from *acris*, *sharp*, and *folium*, *a leaf*). Any prickly-leaved plant.

ACRIMO'NIA, ACRIMONY, (from *acer*, *sharp*). This term is applicable to any substances that produce particular sensations from the actions of that stimulus which they possess, and which we express by the different terms, sharpness, eagerness, tartness, acid, alkali, &c.; but it is more strictly applicable to some states of the humours in the human body, as acrimony of the bile, and other fluids, which are, by the laws of the animal economy, constantly thrown out of the machine; for, except when in a morbid state, the fluids are free from all acrimony. Acrimony is often accused as a cause of various diseases, without a distinct idea of its nature, or indeed a sufficient evidence of its existence. Modern pathologists are more moderate; yet we hear of gouty and scrofulous humours, of cancerous and other acrimonies which affect the skin. Nothing is more evident, than that the two former are diseases of the solids, and that the depositions are the effects, not the cause, of the disease. In the two latter, acrimony may be suspected. A cancer often naturally heals, and soon affects other parts: repelled from the glands, it falls on the joints, the head, and other organs. The cutaneous diseases of children shew marks of acrimony, since, when they take place, they improve the general health; and issues, in such cases, often inflame violently. When bile is absorbed in jaundice, there is an itching on the skin; and in those who have injured their stomachs by spirituous liquors, eruptions are often extensive and inveterate.

A'CRIS, (ακρις). The top of a mountain; also the sharp extremities of fractured bones. It is also a LOCUST, i. e. the insect so called, and which the Africans, and some others, commonly eat.

ACRIS'SIA, ACRI'TUS, (α non, and κρινω, *judico*). It is when a distemper is in so uncertain and fluctuating a condition, that it is difficult to pass a right judgment on it. Blanchard.

ACRIVIOLA, (*acer*, *sharp*, and *viola*, *a violet*). See NASTURTIUM INDICUM.

ACROBYSTIA, (from ακρος, *extreme*, and βυω, *to cover*). See ACROPOSTHIA.

ACROCHORDON, (from ακρος, *extreme*, and χορδη, *a string*). A name given to a sort of warts, from their hanging by a string or neck. Wiseman calls them pensile warts. See VERRUCÆ. Celsus observes, that if they are cut out, they leave no root, so do not grow again.

ACROLE'NION, (ακρον, *the extremity*, and ωλενη, *the cubit*). See OLECRANON.

ACRO'MION, } (from ακρος, *extreme*, and ωμος, *the*
ACRO'MIUM, } *shoulder*). See SCAPULA, 2.

ACROMPHA'LION, (from ακρος, *extreme*, or *the tip*, and ομφαλος, *navel*). The tip of the navel, or the middle of the navel.

A'CRON, in general, means the top or summit; hence, in a medical sense, it is the best of its kind. In botany, it is the top or flower of thistles.

ACRO'PATHOS, (from ακρος, *extreme*, and παθος, *a disease*). It literally signifies a disease at the height; or, a disease which affects any superior part of the body. Hippocrates applies it to the internal orifice of the uterus, when affected; to occult cancers, and to cancers on the surface of the body, to distinguish them from internal ones.

A'CROPIS, (from ακρος, *extreme*, and οψ, *the voice*,) when the voice cannot be exerted. An inarticulation of the voice, from an imperfection in the end of the tongue. It is once used adjectively in the spurious works of Hippocrates, but no where determined in its signification and orthography.

ACRO'PSILON, (from ακρον, *the extremity*, and ψιλος, *naked*). The extremity of the glans when naked.

ACRO'SAPES, (from ακρος, *extreme*, and σηπω, *to putrify*). Galen means by this term, easy of digestion. This mode of speaking originates from a dogma of physicians, that digestion was performed by a certain degree of putrescency; for often names originate from a false principle, and are retained by authors who do not acquiesce in that principle.

ACRO'SPELOS, (from ακρος, *extreme*, and πελος, *black*). A name of the WILD OAT-GRASS, or BROMUS STERILIS. See ÆGYLOPS.

ACROTE'RIA. See ACREA.

ACROTERIA'SMUS. The amputation of an extremity. (From ακρωτηρια, *extremities*, and this from ακρον, *summus*).

ACROTHY'MIA, } (from ακρος, *extreme*, and
ACROTHY'MION, } θυμος, *thyme*, from being the colour of thyme). See NÆVUS. A sort of wart described by Celsus as hard, rough, with a narrow basis, and broad top; the top is of the colour of thyme, it easily splits, and bleeds. This tumour is called *thymus*.

ACT. MED. An abbreviation of Thomæ Bartholini Acta Medica et Philosophica Hafniensia.

ACT. PHILOS. and TRANSACT. PHILOS. The Philosophical Transactions.

ACT. REG. SC. The Histories and Memoirs of the Royal Academy of Sciences at Paris.

ACT. S. R. Acta Societatis Regiæ, or Philosophical Transactions, London, 4to.

ACTÆA. Herb CHRISTOPHER. A poisonous plant, which has been formerly used externally as a repellent, and internally by the ancients in female diseases. It is not now employed. The A. spicata, Lin. is the species that has been preferred, which belongs to the multisiliquæ and ranunculaciæ of Jussieu.

A'CTE, (ακτη, from αγω, *to break*,) ELDER, so called from its being easy to break. See SAMBUCUS.

A'CTINE, (from ακτις, *a ray*; from its radiated ramifications). See BUNIAS.

A'CTIO, (from αγω, *to act*,) vel FUNCTIO; also FACULTAS.

The actions or functions of the body are divided into the *vital*, *natural*, and *animal*.

The VITAL FUNCTIONS, or ACTIONS, are those which are absolutely necessary to life, as the actions of the heart, lungs, and arteries. On the action and reaction of the solids and fluids upon each other, depend the

vital functions. The pulse and respiration are the external signs of life. Vital diseases are all those which hinder the influx of the venal blood into the cavities of the heart, and the expulsion of the arterial blood from them.

The NATURAL FUNCTIONS are those which are instrumental in repairing the several losses which the body sustains; for life is destructive of itself: its very offices occasion a perpetual waste. The manducation, the deglutition, and digestion of food, the separation and distribution of the chyle, and excrementitious parts, &c. comprise natural functions, as by these our aliment is converted into our nature. They are necessary to the continuance of our bodies.

The ANIMAL FUNCTIONS are those which we perform at will, as muscular motion, and all the voluntary actions of the body; they are those which constitute the sense of touch, taste, smell, sight, hearing, perception, reasoning, imagination, memory, judgment, and other affections of the mind. Without these a man may live, but not so comfortably as with them.

The SEXUAL ACTIONS are those of the organs of generation of either sex.

PRIVATE ACTIONS are such as regard particular parts.

PUBLIC ACTIONS are those which are performed for the sake of the whole body; such is the action of the stomach in digesting the aliment, &c. These are called functions.

But each part hath an action peculiar to itself. Thus the offices performed by the muscles, vessels, glands, and viscera, are called their *respective action*. See Professor Whytt's Treatise on Vital Motions.

ACTON, a town near London, where is a well that affords a purging water; from a gallon of which Dr. Rutty got 340 grains, or five drams, two scruples, of sediment by evaporation: of this, five drams and twenty-one grains were vitriolated magnesia, or vitriolated lime, called formerly nitrum calcarium, which took forty-eight times its own weight of water to dissolve it; and nineteen grains of aluminous earth. This is esteemed one of the strongest purging waters near London. It is drunk from one to three pints in a morning. Monro's Medical and Pharmaceutical Chemistry. See AQUÆ CATHARTICÆ AMARÆ.

ACTUA'LIS, ACTUAL, (from *αγω, to act*). This word is applied to any thing which acts by an immediate power inherent in itself: it is the reverse of POTENTIAL; thus, a red-hot iron or fire is called an *actual* cautery, in contradistinction to cauteries, or caustics, that have the power of producing the same effect upon the animal solids as actual fire: these last are called *virtual* or *potential* cauteries. Boiling water is actually hot; brandy, producing heat in the body, is potentially hot, though of itself cold.

This is the medicinal sense of the word; in logic and metaphysics it is used otherwise.

ACTUA'TIO, ACTUATION, (from *αγω, to act*). That change wrought on a medicine, or any thing taken into the body, by the vital heat, which is necessary to make it act, and have its effect.

ACUI'TIO, (from *acuo, to quicken*). This is applied often to medicines which are added to others weaker than themselves, in order to increase their medicinal action; as vegetable acid may be sharpened by the addition of mineral acid, or mild purgatives may be quickened by the addition of small doses of those which are more powerful.

ACU'LEI, (dim of *acus, a point,*) the prickles and thorns on vegetables.

A'CULON, or ACULOS, the fruit or acorn of the *ilex*, or scarlet oak, (from *α* non, and *κυκλοω*, to roll round): this is called aculon therefore, because its fruit is not involved in a cup or sheath, like the others.

ACUPUNCTU'RA, (from *acus, a needle*, and *pungo, to prick,*) ACUPUNCTURE. Bleeding performed by making many small punctures with a silver needle on the part affected. This method is practised in Siam, Japan, and other oriental nations, on all parts of the body; and employed in head aches, lethargies, convulsions, colics, &c. See Phil. Trans. No. 148. In some parts of America this practice is also in use, according to the accounts given in Dampier's Voyages, though as an ornament rather than a remedy.

A'CUS, (from *acuo, to sharpen,*) a NEEDLE. This instrument is necessary in confining the lips of wounds, taking up and tying blood-vessels, &c. They are of various forms, according to the use for which they are designed: it is of considerable importance that they should be sharp and made of good metal that is well tempered. See Bell's Surgery, vol. i.

A'CUS PASTORIS. See SCANDIX.

A'CUS MOSCHA'TA. See GERANIUM MOSCHATUM.

ACU'STICUS, (from *ακουω, to hear*, belonging to hearing). It is applied to the auditory nerve, and to medicines or instruments used to assist, preserve, or recover hearing.

ACUTENA'CULUM, (from *acus, needle*, and *teneo, to hold*). Heister calls the *portaiguille* by this name; it is a handle for a needle, to make it penetrate easily when stitching a wound. Bell's Surgery, i. 16.

ACU'TUS, (from *acuo, to sharpen*). In botany, it is applied to a leaf ending in an acute angle, but not so taperingly as the acuminated leaf.

ACU'TUS MO'RBUS. An *acute disease* proceeds quickly to its termination, and always is attended with danger. Though there are diseases without danger, of a short duration, so are distinct from the *acute*, as an ephemeris, &c. In general, this term is applied to fevers; for apoplexy is never styled an acute disease, though its duration is short. *Acute diseases* are the opposite to chronic, which are slow in their progress, and not immediately dangerous. Wallis's Sydenham, 1.

ACY'ISIS, (from *α* non, and *κυω, to conceive*). In Vogel's Nosology it is a defect of conception, or barrenness in women. ACUTUS has a similar meaning.

ACY'RUS, (from *α* non, and *κυρος, authority*). A term for the herb German Leopard's bane, so named from the little note it used to be thought of in medicine; though lately highly recommended as tonic antiseptic, and considered in Germany, as a valuable remedy in putrid fevers. See ARNICA MONTANA.

ADAMI'TA, (from *adamas, a diamond,*) is properly the stone in the bladder; *adamitum*, the lithiasis, or disease called the stone. See CALCULUS.

A'DAMUS. The philosopher's stone. The alchemists say that it is an animal, and that it has carried

its invisible Eye in its body from the moment they were first united by the Creator. It is also called *Aquila*, *Philosophorum Lapis*, *Basaliscus*, *Benedictus*, *Boritis*, *Gryphus*; by way of eminence, *Antidotus*. This stone, the greatest object of alchemy, is a long sought for preparation; which, *when found*, is to transmute or exalt impurer metals, as tin, lead, and copper, into gold and silver. Authors who have written on this stone call *sulphur* the *maritus*, or husband; and mercury, the *uxor*, or wife.

ADAMI POMUM, the convex part of the thyroid cartilage of the larynx.

ADANSO'NIA, from *Adanson*, the name of the person who first described the Æthiopian sour gourd. See Baobab.

ADARCE, (from α neg. and δέρκω, *to see*). A saltish concretion, found about the reeds and grass in marshy grounds in Galatia, which prevents the herbs upon which it forms from being seen; it is also called *calomohanus*, or *calomochnus*. It is lax and porous, like bastard sponge. It is used to clear the skin in leprosies, tetters, freckles, &c. Dr. Plott gives an account of this production in his Natural History of Oxfordshire.

ADARTICULA'TIO, (from *ad*, and *articulus*, *a joint*). See Diarthrosis.

ADCHER, the name given by Avicenna and Serapion to the *schænanchus*, or camel's hay, q. v.

ADCORPORA'TIO, (from *ad*, and *corporo*, *to incorporate*). Adcorporation, or uniting in one body.

ADDEPHAGIA, or ADEPHAGIA, (from ἄδην, *abundantly*, and φαγεῖν, *to eat*). Insatiability, a voracious appetite. It is the Bulimia Helluonum. See Boulimus.

ADDITAME'NTUM, (from *addo*, *to add*,) the same as *epiphysis*. A small bone joined to a larger, by means of a cartilage; any additional substance; also a suture. The large epiphysis of the ulna is called additamentum necatum.

ADDITAME'NTUM CO'LI. See Appendicula vermiformis.

ADDU'CENS, (from *adduco*, *to draw forward*). Vide Adductor oculi.

ADDU'CENS HUMERI. See Pectoralis major.

ADDU'CTOR, a leader to, (from *adducere*, *to move* or *bring towards*). A name of several muscles.

1. Addu'ctor ad mi'nimum di'gitum. It rises from the unciform process of the carpus towards the annular ligament, and is inserted into the whole length of the inside of the metacarpal bone of the little finger.

2. Addu'ctor au'ris. It is a common muscle, being a part which Spigelius calls *quadratus buccas detrahens*; from its insertion is a fleshy fibrous elongation implanted into the root of the ear.

3. Addu'ctor di'giti mi'nimi pedis, called also *transversális pédis placentíni*. It rises from the fourth metatarsal bone, and going over the knobs of the toes, runs to the external sesamoid bone. Douglas says, it brings the third and fourth lesser toes nearer the other two, and the great one.

4. Addu'ctor fe'moris pri'mus, vel lo'ngus. It rises from the os pubis, next the pectinæus, above the gracilis; which turning into a compact fleshy belly, it begins to be inserted tendinous about the middle of the linea aspera, being continued down upon the same five or six inches, sending out a tendon which joins in with that of the fourth head.

5. Addu'ctor fe'moris secu'ndus, vel bre'vis. It arises from the os pubis, immediately under the gracilis, by a broad tendinous, but chiefly fleshy, beginning, and is inserted into the linea aspera, from a little below the lesser trochanter, to the first insertion of the last described muscle.

6. Addu'ctor fe'moris te'rtius, vel ma'gnus. It arises lower down than the former, from the outer edge of the os pubis and ischium, and, running obliquely towards the trochanter minor, is inserted near the glutæus maximus. This and the next muscle are described as one muscle, by Albinus and Winslow, under the names of Addu'ctor magnus fe'moris, and *le troisième muscle du triceps*. It is also called *triplex musculus*.

7. Addu'ctor fe'moris quartus. It arises from the protuberance of the ischium, and the adjoining interior part of that bone, by a tendinous or fleshy origin. It is inserted by a round and a long tendon into the upper and rough part of the inner and lower appendix of the os femoris, being affixed to that bone a little above the condyle, as also to some part of the linea aspera. The above four muscles of the thigh are described by Dr. Hunter, &c. as one, and under the name of Tri'ceps, which see. Their use is to adduce, or move, the thigh inwards, according to their different directions, and bring them to each other.

8. Addu'ctor oculi, also called *adducens* and *rectus internus*. It rises tendinous and fleshy from the edge of the hole in the sphenoid bone that transmits the optic nerve, and is inserted by a thin tendon into the tunica sclerotica, where it respects the great canthus. It brings the eye towards the nose. Some call it *bibitorius*, as it directs the eye towards the glass in drinking.

9. Addu'ctor po'llicis manus ad in'dicem. Riolan calls it *antithenar*. It rises from the fore part of the metacarpal bone of the fore finger, joins with the anterior portion of the flexor secundi internodii pollicis, and is inserted with it into the sesamoid bone. See Abdu'ctor Indicis, N° 4.

10. Addu'ctor po'llicis pedis. It rises by a long thin disgregated tendon from the os calcis, under the tendinous part of the massa carnea, from the os cuboides, the os cuneiforme medium, and from the upper part of the os metatarsi of the second toe; it is soon dilated into a pretty large belly, and is inserted in the external os sesamoides of the great toe. Douglas says it brings the great toe near its next.

ADE'CTOS, (from α neg. and δάκνω, *to bite*). An epithet given to medicines that relieve from the biting sense of pain, by removing the uneasiness caused by stimulants; whence Celsus calls them *lenia*.

ADELPHIA, ADELPHIXIS. Analogy and relation, applied by Hippocrates to diseases.

ADEMONIA, } (of α neg. and δαίμων, *a genius*,
ADÆMONIA, } or *divinity*, or *fortune*). Hippocrates uses this word for the uneasiness, restlessness, or anxiety, felt in acute diseases, and some hysteric fits.

A'DEN, A GLAND. See GLANDULA. Sometimes it signifies the same as *bubo*. Blanchard.

ADENDE'NTES, (from *aden, a gland*, and *edo, to eat*). Ulcers which eat and destroy the glands. See PHAGÆDENA.

ADE'NES CANADE'NSES. See BATTATAS CANADENSIS.

ADENIA. A genus of Hexandria monogynia. One of its species, viz. the A. venenata, an Arabian tree, is poisonous; and the capparis spinosa is supposed to be an antidote to it. Forskhal.

ADENOI'DES, (from ἀδὴν, *a gland*, and εἶδος, *a form*). GLANDIFORM, or like a gland. This word also is used for the *prostatæ*, q. v.

ADENO'SUS ABSCE'SSUS. A hard tubercle, resembling a gland, difficult to be resolved.

A'DEPS, FAT, called also *pinguedo, axungia, butyrum, arvina, arabus*, &c. Fat is a condensed oily juice, contained in that part of the cellular membrane called *membrana adiposa*. When superfluous, and found in the upper eye-lids of children, it was called *axirnach*. In the young fœtus is scarcely any fat; the omentum seems only to contain a jelly; but in the more advanced stage, fat begins to appear. When the child is born, and during a few years after, it hath much fat immediately beneath the skin; in men the fat is most abundantly spread on the glutei muscles: it is separated from the blood by a glandular secretion.

There is also a fatty substance, butter, obtained from the milk of animals, by agitating its oleaginous part, separated by standing, in an instrument called a churn: called also *alumbair*.

From the most accurate analysis of Crell, it appears that fat is a kind of oil, or butter rendered concrete by an acid. This, the sebacic acid, exists ready formed in suet, two pounds affording somewhat more than seven ounces. By adding alkalis to animal fat, a soap is formed; which is decomposed by alum. We thus obtain the sebate of potash, which is decomposed by the sulphuric acid. When chemically examined, it is found to resemble very nearly the acetous acid. Six parts of fat contain nearly five of carbon, and one of hydrogen, with some of the acid, not decomposed; nor does it yield so much oxygen and nitrogen as the fleshy parts. The accumulation of fat is a process not completely understood; nor are its uses known. It contains, as we have seen, the acetous acid; and, on the whole, seems a morbid secretion when in a large quantity, since it predisposes to many diseases, and is itself a disease. We should suspect that it was designed to inviscate a proportion of the acetous acid when in excess; since it is favoured by indolence and inactivity, when we find acids morbidly accumulated in different secreted fluids, as in the urinary and arthritic calculi. It has been supposed to be the accumulation of a stock of nutriment, to supply accidental and temporary deficiencies, or to cover morbid acrimony in the fluids. It must be allowed, that, from want of food, the fat wastes and is absorbed; but we are yet to learn, that fat persons can bear famine better and longer than lean ones. At the same time, it is observed that the fat is not so much wasted in those who are worn down by the gradual decay of a hectic; who, from a scirrhous œsophagus, or a cancer of the throat, die from inanition, as in dropsies, where the appetite continues with little diminution. It has also not been ascertained that it imparts any heat to the body, or the viscera, which the omentum covers.

Berthollet discovered, in animal substances, what he considered as a peculiar acid, and he called it the ZOONIC ACID. It had the smell of broiled flesh, was liquid in a temperate heat, more volatile than boiling water; formed soluble salts with barytes, strontian, lime, and alkalis; precipitated the nitrat of lead and the acetite of mercury; deposited charcoal, and was, in time, decomposed. Subsequent inquiry has, however, shewn that this is not a new acid, but the acetous acid, containing some animal matter in solution. It is of more importance, since it shews the acetous acid in a new compound in the animal machine.

Fat differs from suet principally in the great quantity of water it contains, which, being slowly evaporated, is converted into a sebaceous substance. Steatoms, which sometimes are found in the membrana adiposa, are of a very different nature.

The human fat does not become fluid when Fahrenheit's thermometer rises to the ninetieth degree; but when it begins to putrify, it easily, and with a small degree of warmth, runs into oil.

In cetaceous fishes the fat is thin as oil; in animals that live on herbage only the fat is harder, and yet harder in those that chew the cud.

The Arabians used a great variety of fats in medicine; but to relax the parts to which they are applied, and to stop perspiration, are their chief virtues. In the present practice, three kinds are employed, and these only on account of their different consistence; they are the fat of *vipers*, *hog's lard*, and *mutton suet*. The fat of geese is now wholly rejected. Their use is chiefly external. As to viper's fat, it is well supplied by the oil of olives; for it does not appear that animal fats, and insipid, flavourless vegetable oils, of similar consistence, differ in their effects when used externally: in other instances, there seems to be a greater similarity between animal and vegetable fats, or insipid oils, than between any other similar animal and vegetable substances, such as gums and animal jellies: animal fats, in their resolution by fire, yield neither the peculiar stench, nor much, if any, of the volatile alkaline salt, which substances completely animalised afford. Mutton suet is sometimes taken internally as a mild nutrient; occasionally, as a demulcent in diarrhœas, when the mucus of the intestines is abraded; but it seems to possess no very considerable power in either respect.

Animal fats are not soluble in rectified sp. vin. nor in water. When scented with essential oils, the latter may be totally extracted by digestion in rectified spirit, and, in a less degree, by water. Fats may thus also be freed from their ill smell; and those that are become rancid may be made sweet.

Animal fats preserve steel from rust better than vegetable ones; mutton suet prevents brass from growing ill coloured, longer than any other fat; and if a little camphor and white lead are added, these ends are still better answered.

The fat of vipers being separated from their intestines, may be melted before a gentle fire, and run through a thin linen cloth.

See Haller's Physiology, on the cellular membrane.

ADE'PTA PHILOSO'PHIA. ADEPT PHILOSOPHY.

It is that philosophy, whose end is the transmutation of metals, and an universal remedy. The professors of this philosophy are called ADEPTI, adepts. Paracelsus calls that medicina *adepta*, which treats of the diseases that are contracted by celestial operations, or communicated from heaven.

ADHATO'DA. The MALABAR NUT. Referred by Lin. to the genus justicia; not employed in modern practice, and seemingly useless.

ADHE'SIO, (from *ad*, and *hæreo*, *to cleave to*,) ADHESION. In medicine, a term used for two parts sticking together, which are naturally separate.

If any of those parts in the thorax or belly that lie in contact inflame, they commonly grow together. The lungs very frequently adhere to the pleura.

On this subject see Dr. Flemyng's treatise on adhesions, or accretions of the lungs; or an abstract from it in the Med. Mus. vol. i. To this head must be referred the modern improved method of healing wounds as is said, "by the first intention:" the lips are brought together, and thus adhere. See VULNUS.

ADIA'NTHUM, ADIA'NTUM, (from *α*, non, and *διαινω*, *to grow wet*,) so named because the leaves are not easily made wet. MAIDEN-HAIR. Also called *polytrichon* and *polytrychum*, (from *πολυς*, *much*, and *θριξ*, *hair*,) expressive of a capillary herb.

Two species are only employed, *viz. A. capillus Veneris*, Lin. Sp. Pl. 1558, and *A. pedatum*, 1557. From the latter, the French prepare their sirop de capillaire, which they flavour with orange-flower water: a proportion of honey, it is said, is usually added. It acts chiefly as a demulcent, sheathing the inflamed and irritable epiglottis.

ADIAPHOROUS, a spirit distilled from tartar; said, by Mr. Boyle, to be neither acid, vinous, nor urinous.

ADIAPNEU'STIA, (from *α*, neg. and *διαπνεω*, *to perspire*). IMPEDED PERSPIRATION; which was considered by the ancients as the primary cause of fevers, from what they termed *vaporosa et fuliginosa effluvia*, not being permitted to pass through the cutaneous pores.

ADIAPTO'TOS, (from *α*, neg. and *διαπιπτω*, *to stumble* or *slide*). The word signifies firm; but in medicine it is the name of a remedy against the colic, of stone-parsley, henbane-seed, white pepper, &c. formed into an electuary.

ADIARRHŒ'A, (from *α*, neg. and *διαῤῥεω*, *perfluo*, *to flow out* or *through*). It signifies a total suppression of the necessary evacuations from the bowels.

ADIBAT. See ARGENT. VIVUM.

A'DICE, (*αδικεω*, *to hurt*). See URTICA.

A'DIPIS SUI'LLÆ PRÆPARA'TIO, olim AXU'NGIÆ PORCI'NÆ CURATIO. See ADEPS.

ADIPOCIRE. The modern appellation of SPERMACETI, q. v.

ADIPO'SÆ ARTE'RIÆ, et VENÆ. They are branches from the phrenitic arteries, which are spread on the fat that covers the kidneys, from which the blood is returned by the veins. See CAPSULARES ARTERIÆ.

ADIPO'SA MEMBRA'NA. See CELLULOSA MEMBRANA.

ADI'PSIA, (from *α*, neg. and *διψα*, *thirst*). WANT OF THIRST. Dr. Cullen ranks this as a genus of disease, in the *locales dysorexiæ*. But he thinks it is generally, if not always, symptomatic.

ADI'PSON, *Αδιψον*, (from *α*, neg. and *διψα*, *thirst*). See OXYMEL and PTISANA.

Medicines were thus named that allayed thirst, if used for that purpose; and may be applied to such as do not provoke thirst.

The Greeks called liquorice-juice by this name. See GLYCYRRHIZA.

ADI'PSOS, (from *α*, priv. and *διψα*, *thirst*). The EGYPTIAN PALM-TREE is thus named by the Greeks. Its fruit, before it is ripe, is called *myrobalans*. Theophrastus calls this tree *βαλανος*, i. e. *mast*, from its fruit; but it is called *adipson*, because its fruit, before it is ripe, quenches thirst.

ADJUTO'RIUM, (from *adjuvo*, *to assist*). See HUMERUS, or upper part of the arm, clearly described by Albucasis. "Adjutorium is that bone which lies between the cubit and head of the scapula." It is also an external medicine used to assist internal ones.

ADLE, applied to an egg, means one not fecundated, or one putrid from long keeping: the former contains generally an unformed mola.

ADNA'TA, AGNA'TA, TUNICA, (from *adnascor*, *to grow to*). The outer coat of the eye; called also *circumcalualis*, *circumossalis*, *albuginea*, *epipephycos*. It is that which makes the WHITE OF THE EYE, called also *exclopion*, and is thus formed: five of the muscles which move the eye take their origin from the bottom of the orbit, and the sixth arises from the edge of it; they are all inserted by a tendinous expansion into the anterior part of the tunica sclerotica; and this expansion gives the whiteness peculiar to the fore part of the eye. It lies between the sclerotica and conjunctiva. It is extremely sensible, and abounds with blood-vessels, which are very visible in inflammations. It covers so much of the eye as is called the white; and, being reflected all round, it lines the two eye-lids, and thus hinders any thing from falling into the orbit. Where it covers the eye-lids, it is vascular and papillous. In passing over the orbit, it does not end at the cornea, but becomes transparent there, and is of different textures in different parts where it is spread. The sclerotica appears under it.

When a foreign body gets between the eye and the eye-lid, it is hooked in the villi: the best way to extricate it is, *to invert the eye-lid, and to introduce a probe armed with lint and dipped in oil.*

The inverted eye-lid proceeds from this coat. Though it is exactly commensurate to the orbit in health, yet, in morbid habits, when it is inflamed, it is thickened and puffed out. If it does not yield to general remedies, as bleeding, purging, &c. it must be punctured; and if this also fails, the redundant part must be cut off.

ADNA'TA, also signifies such parts of animal or vegetable bodies as are inseparable, as the hair, wool, fruits, horns; or else accidental, as fungus, misletoe, and excrescences.

ADONIS. *A. verna*, Lin. Sp. Pl. 771, and *A. Apennina*, L. 772. Plants whose roots are employed, according to Pallas, as emmenagogues. The practice of this country does not acknowledge their virtues, or record them.

ADOPTER. A chemical vessel with two necks in-

terposed between a retort and receiver. They differ from aludels in being long and open at each end; and in their position, which is usually oblique.

A'DOR, a sort of corn, (from α, neg. and δορυ, *a spear,*) so named from its being without the beard or spear; also called *spelta* and *zea*, SPELT CORN. Dioscorides mentions two kinds, the monococcous and dicoccous, that is, such as has only one grain or two in a husk.

A'DOS, (from αδος, *satiety*). Water in which red-hot iron is extinguished; because it is thereby quenched or satiated.

ADRAGA'NTH. See GUMMI TRAGACANTHA.

ADRARHI'ZA, (from αδρος, *thick*, and ριζα, *a root.*) See ARISTOLOCHIA.

ADROBO'LON, (from αδρος, *large*, and βωλος, a *globe*, *hole*, or *mass*). The Indian *bdellium*, which is coarser than the Arabian, being impure, black, and in large lumps.

ADRO'TERON, (from αδρος, *plentiful*). A prolific grain. See ALICA.

ADSCE'NDENS, (from *adscendo*, *to ascend*). Applied to a stalk, growing first in an horizontal direction, and then curving upwards. In anatomy, it refers to the direction of the vessels, as the ascending aorta.

ADSTRI'CTIO, (from *ad*, and *stringo*, *to bind together,*) ADSTRICTION. It either expresses the styptic quality of medicines, or the retention of the natural evacuations, by the rigidity of the respective apertures. It most commonly refers to the state of the bowels. See CONSTIPATIO.

ADSTRINGE'NTIA, (from *adstringo*, *to bind up,*) ASTRINGENTS. See ASTRINGENTIA.

ADU'NATOS, (from α, priv. and δυναμαι, *to be able*). See ADYNAMIA.

ADU'STA. ADUST, burnt, scorched, or parched, (from *aduro*, *to burn*, &c.). This term is applied to the fluids of the body when acrid, and particularly when the acrimony is supposed to have arisen from great heat. Those constitutions are bilious only, and the term is chiefly employed, when the bile from stagnation has become brown or black.

ADUSTION. See CAUTERY and MOXA. It is sometimes applied to violent inflammations of the brain, and cooling applications are used externally.

A'DY, vel PALMA A'DY, (from αδυ, or ηδυ, *sweet*). A palm-tree in the island of St. Thomas, which affords plenty of juice, that ferments into wine. The entire fruit is called by the Portuguese *caryoces* and *cariosse;* by the natives *abanga*. The fruit externally is like a lemon, and contains a stone, the kernel of which, if heated in hot water, gives out an oil of a saffron colour; it concretes in the cold, and is used as butter: of these kernels the inhabitants give three or four as a restorative, two or three times a day.

ADYNA'MIA, (from α, neg. and δυναμις, *strength*, *force,*) languor, weakness, impotence from sickness or disease: *adunatos*, *leipopsychia*. Also drowsiness, or sleepiness, lassitude, defect of vital powers. In Dr. Cullen's Nosology, this word distinguishes an order in his class *neuroses:* he defines it to be diseases consisting in a weakness or loss of motion, in either the vital or natural functions. These diseases are by others called *defectivi*.

ADY'NAMON, (from the same). A FACTITIOUS WINE. It is made of two parts of must and one of water, which are boiled together till as much is consumed as there was added of water.

ÆDOI'A, or AIDOIA, (from αιδως, *modesty*). See PUDENDA.

ÆDOSO'PHIA, (from αιδως, *pudenda*, and ψοφεω, *strepitum edo*). In Sauvages, and Sagar, it is defined to be a flatus passing from the uterus, or from the urinary bladder, through the vagina or the urethra; hence it is formed into two species, ÆDOSOPHIA URE'THRÆ et UTERI'NA. This flatus is sometimes very fetid, which circumstance cannot always be accounted for. It sometimes happens when women are in labour, and hath been taken for a sign that the child is dead, but this cannot be depended on; an intolerable stench sometimes attends, when the child is living. See Sauvages' Nosologia Methodica, vol. ii. p. 417.

ÆGAGRO'PILA, (from αιγαγρος, *the mountain-goat*, and πιλος, *pila* vel *globulus*,) THE ROCK-GOAT. See CAPRA ALPINA.

ÆGEI'RINON, (αιγειρος, a *poplar*). An ointment so called, because the fruit of the poplar, or its catkins, are an ingredient in it; not now employed.

ÆGEI'ROS. See POPULUS.

Æ'GIAS, (from αιξ, *a goat*). A white speck on the pupil of the eye, which occasions a dimness of sight; so named, because it was supposed that goats were subject to it.

ÆGI'DES, αιγιδης, (from αιξ, *a goat*). Small white cicatrices of the eyes, or small white concretions on the pupil; called also *aglia*. They do not differ from the white specks called ALBUGO.

ÆGIDION, (from αιξ, *a goat*). The name of a collyrium, or ointment, for inflammations and defluxions of the eyes; so named because goats are supposed to be subject to defects in the eyes; called also *ægophrosophon*.

Æ'GILOPS. See ÆGYLOPS.

Æ'GLEUS. The appellation, in Galen, of the white chamæleon thistle, which was esculent; to distinguish it from the Erebennus, the black poisonous kind.

ÆGOPODIUM. GOAT-WEED. *A. podagraria*, Lin. It is sedative, and formerly applied to mitigate pains of gout, and to relieve piles, but not now employed. In its earlier state it is tender and esculent.

ÆGO'CERAS, (from αιξ, *a goat*, and κερας, *a horn,*) so called from its pods resembling the horns of a goat. See FÆNUM GRÆCUM.

ÆCO'LETHRON, from (αιξ, *a goat*, and ολεθρος, *destruction,*) a plant so named from its being thought poisonous to goats. Tournefort says it is the *chamærododendron*. See Mem. de l'Acad. Roy. des Sciences, 1704. *Azalea pontica*, Lin. Sp. Pl. 1669.

ÆGO'NYCHON, GROMWELL. So called from αιξ, *a goat*, and ονυξ *a hoof*, because of the hardness of the seed, resembling the hoof of a goat. See LITHOSPERMUM.

ÆGOPROSO'PHON, (from αιξ, *a goat*, and προσωπον, *a face*). See ÆGIDION.

Æ'GYLOPS or ÆGILOPS. A disease in the inward corner of the eye, (so called from αιξ, *a goat*, and ωψ, *an eye*, or *goat's-eye,*) because goats are supposed to be subject to this disease.

Paulus Ægineta calls it *anchylops* before it bursts, and *ægylops* after; but these are only different states of the fistula lachrymalis. Dr. Wallis thinks that the distinction should be preserved.—See his Nosologia Methodica Oculorum. Article, *Epiphora a Rhyade.*

Sometimes it is with, and at others without, inflammation. If it is attended with erosion, it terminates, though seldom, in a cancer. In opening this abscess, we should be careful not to cut the edge of the eye-lid, for an incurable wateriness will be occasioned.

When it is strumous, it proceeds from congestion, and the tubercle is round without discolouring the skin. If it is caused by inflammation, pain and redness appear over the eye. Sometimes it begins with a weeping, and is not suspected until a redness appears in the eye; and then, by a gentle pressure on the part, a matter is discharged, a part of which resembles the white of an egg. If this matter makes its way into the nose, it acquires a fetid smell.

As to the cure, if the case is recent, we should begin with a cautious use of bleeding and purging; or if these are contra-indicated, the alteratives most esteemed in scrofulous disorders should be used. The tumour may be resolved by anodyne and discutient applications; but if there is a tendency to a suppuration it should be hastened, and the discharge of the pus procured, with all convenient speed, lest the bone underneath should be affected: the abscess must be cleansed and healed, with the tinct. of myrrh and aloes mixed with mel rosæ. If the matter had passed also under the cilium, a powerful desiccative, such as strong lime-water, assisted by a compress, should be used.

If the periosteum under the tumour be laid bare, an exfoliation must be hastened by a caustic, and a passage opened into the nose, after which dry lint alone is sufficient. Too constricting medicines may produce a rhyas, see Rhyas: too digestive applications may give rise to an encanthis. See Fistula lachrymalis. See also Galen, Aetius, Celsus, Paulus Ægineta, Actuarius, Sennertus, Wiseman, Heister, Pott, Bell, Kirkland, Ware.

Æ'GYLOPS, or Æ'GILOPS. *Bromus Arvensis*, Lin. Sp. Pl. 113. The great wild oat grass or drank. It grows in hedges and the sides of fields in May. By culture it becomes a species of corn. In the northern parts of America it is improved to great advantage; and in the low wet boggy grounds in Great Britain it would be profitable, as it thrives best in water. It grows like oats, but in quality resembles rice. A decoction of the roots is said to kill worms.

ÆGY'PTIA ANTIDO'TUS, the Egyptian antidote. The name of several compositions.

——— moscha'ta. See Abelmoschus.

——— u'lcera, also called Syrian ulcers. Aretæus describes an ulcer of the tonsils and fauces by these names; they are attended with a burning pain; the matter discharged from them infects the whole frame, and the patient is rendered miserable by its offensive smell.

ÆGYPTIA'CA. See Papyrus.

ÆGYPTIA'CUM BALSAMUM. Bals. Gilead. See Balsamum.

——— ung., called also *mel Ægyptiacum.* It was attributed to Mesue, but its place is supplied by the oxymel æruginis in the last London pharmacopœia: it is a detergent, and slightly caustic. Another kind, described by Hildanus, consists of mithridate, camphor, and treacle. Another kind, composed of lily roots and aromatics, was used as a cosmetic, and styled cicinum. They resemble each other only in their colour, from which they are styled Ægyptiaca.

ÆGY'PTIUM OLEUM. See Cataputia; also the name of a topic used by the ancients in uterine disorders.

——— album. See Crinomyron.

——— croce'um ung. Both these are described by Aetius.

——— pha'rmacum ad au'res. The name of one of Aetius's compositions.

ÆGY'PTIUS PE'SSUS. A pessary described by Paulus Ægineta: it is made of honey, turpentine, saffron, oil, verdigris, &c.

ÆICHRY'SON, (from αει, *always*, and χρυσος, *gold*; because the herb is always of a shining yellow). See Sedum.

ÆIGLU'CES, (from αει, *always*, and γλυκυς, *sweet*). A sweet sort of wine is thus named. When the fermentation has begun, the vessel is placed under water, and there kept all the winter, that it may be cool, and not be completely turned into wine.

ÆITHA'LIS, (from αει, *always*, and θαλλω, *to be green*). See Sedum.

ÆIZOON, (from αει, *always*, and ζωη, *life*). See Sedum.

A'EL. See Alla.

ÆLU'ROPO, syr. de, (from αιλουρος, *a cat*, and πους, *pes*,) so called from the resemblance of its leaves and flowers to a cat's foot. See Gnaphalium Montanum.

ÆMBI'LLÆ, (from αιμα, *blood*; because the seeds are of a deep red colour). See Lacca.

ÆNE'A. An epithet given to the instrument called a catheter, from *brass*, the matter of which it was formerly made.

Æ'ON, αιων, *the whole age of a man.* But Hippocrates uses it to signify the remains of a man's life. See also Medulla spinalis.

ÆO'NION, (from αιωνιος, *eternal*; because the sedum majus is an evergreen). See Sedum.

ÆO'RA, (from αιωρεω, *to lift up*,) to suspend on high. Gestatio, a species of exercise used by the ancients, and of which Aetius gives the following account:

Gestation, while it exercises the body and limbs, still they seem to be at rest. Of the motion there are several kinds.

1st, Swinging in a hammock, which, at the decline of a fever, is beneficial.

2dly, Being carried in a litter, in which the patient either sits or lies alone. It is useful when the gout, stone, and such other disorders attend, that do not admit of violent motions.

3dly, Riding in a chariot, which is of service in most chronical disorders, especially before the stronger exercise can be admitted.

4thly, Sailing in a boat or a ship. This produces various effects, according to the different agitation of the waters, and in many tedious chronical disorders proves efficacious beyond what is observed from the

most skilful administration of drugs. These are instances of passive exercise, and are useful, particularly when active exercise would be improper or impracticable. Asclepiades was the first who brought passive exercise into practice, which was used after severe illness, in order to conquer debility, and invigorate the system by gentle means.

The use of exercise in preserving or restoring health is too well known to require either arguments to enforce it, or regulations to conduct it. The exercises here enumerated, we have said, are passive only; and it is not easy to explain in what manner these can be useful. It may be remarked that all are attended with renovation of the air, which surrounds the body; all require some little exertion to preserve or restore the equilibrium. Dr. Cullen, taking the idea from the motion of a vessel containing a fluid, and observing that the momentum imparted to the latter continued when the motion of the former was suddenly stopped, supposed that the motion of the fluids in the blood vessels continued in the same way, stimulated the vessels, and thus promoted the circulation. The idea was ingenious; but, as the blood vessels are constantly full, we suspect that the analogy cannot be transferred; and the whole advantages of exercise must probably be attributed to the renovation of the surrounding air, and the exertion necessary to preserve the equilibrium. The kinds of exercise here mentioned, are progressive in these respects; and of course adapted to different states of debility. Swinging is a more active exercise; riding and walking progressively more so, and consequently adapted to the less delicate and infirm.

Other circumstances must, however, influence the choice of our modes of exercise. Sailing has been thought best adapted to hectic cases. The effluvia of the pitch, in the ship, may have some effect, but these could be obtained on shore; and, when this has been tried, no particular benefit has resulted. The sea air is certainly not peculiarly salutary in such cases; though, if the idea of Dr. Rush be admitted, that the mixture of sea and land air is rather injurious than useful, it will account for the disadvantages sometimes experienced from a residence near a harbour. The benefits, therefore, probably result from the exercise, which is constant; the general tendency of the circulation to the surface thus excited, assisted, perhaps, by the nausea. The tendency to the surface is evinced by the constipation of the bowels, and the rare occurrence of catarrhal affections on shipboard.

Riding on horseback has been equally commended in hectic cases by Sydenham, though not confirmed by more recent experience. This remedy is certainly better adapted to the more languid circulation, in the chylopoietic viscera; to obstructions of the liver; bad digestion; and want of appetite. The succussions which the viscera experience by the motion in the horse, must undoubtedly assist the circulation, when languid from indulgence and plethora, or when obstructed from indolence, or the immoderate use of wine and spirits.

Swinging, another remedy for phthisis, should have been mentioned after sailing. It has certainly been of service: the constant renewal of fresh cool air, for air constantly renewed in this climate must produce cold, checks a too high temperature, and lowers the pulse, while the exercise determines the circulation to the surface.

For preserving health, however, *walking* is the best exercise: in all the other species, the extremities are not sufficiently warmed, while, by walking, the determination of the blood to the surface is general, every muscle has its share of exertion, and the viscera experience sufficient agitation to preserve their circulation undiminished in force, though perhaps not sufficient to restore it, if the organs are previously diseased.

A'ER, Ἀήρ, AIR, (from the Hebrew term AOR, *light*,) called also *gas ventosum*. From a variety of experiments, atmospheric air is proved to consist of a mixture of about seventy-two parts of azotic gas, to twenty-eight of oxygen, or vital air. Lavoisier says, of about twenty-seven parts of vital air, and seventy-three azotic. But the proportion of these two gases is subject to variation in the mixture which forms the atmosphere; depending upon local causes. From the decomposition of the atmospheric air, these two gases are obtained; and sometimes in their simple state, sometimes in a proportion different from what they hold when forming atmospheric air, are used for medicinal purposes. The oxygen, or vital air, may be considered as a stimulant, and invigorator of the system; whilst the azotic gas is a sedative, and hurtful to the constitution, by destroying its irritability. Before the present æra of chemistry, it was the only gaseous substance known; and, indeed, almost all that has been formerly written on the air relates only to its physical properties. The chief of which are: First, That it is a fluid of extreme rarefaction, obedient to the smallest motion: the slightest agitation deranges its equilibrium, which is continually endeavouring to restore itself. Though very fluid, it passes through those orifices with difficulty, through which grosser fluids can pass with ease. Secondly, It is invisible; it refracts, but does not reflect the rays of light: it is inodorous, through the vehicle of odoriferous particles: it is insipid; and its physical qualities, chiefly, affect us variously. Thirdly, The weight of the *air* is not perceived but in large quantities; nor is the comparative weight easily, if at all, to be ascertained, as no two portions are ever of the same weight at different heights in the atmosphere. However, from long and repeated observations, the greatest gravity of the air in Europe is found to be equal, in equilibrio, with thirty inches and half of quicksilver in the barometer, and the least raises it only to twenty-seven and half. The weight of the common *air* about the surface of the earth, at the time of the middle weight of the atmosphere, and in every temperate season, is to that of water as one to 850. Fourthly, The elasticity of the air is one of the properties upon which natural philosophers have made the greatest number of experiments, and it has ever been applied with considerable advantage in the arts. Fifthly, *Air* is necessary to animal existence. This is evident from the experiments made with the air-pump; though not without some exceptions, for toads, vipers, eels, insects of all kinds, and fish, live for a time in the exhausted receiver. They cannot indeed live without oxygen, but they expend it slowly, and separate it more perfectly from the injurious part of the atmosphere. Sixthly, The particles of *air* are said to be too small for any microscope to discover,

and yet they are supposed to be larger than those of fire, water, oil, and many other fluids, since fire pervades glass; oil, water, &c. will pass through many compact substances, whilst air is resisted by strong paper. This argument is, however, fallacious. Seventhly, *Air* is a vehicle of sound, of the objects of taste, of effluvia to the nose, as is evident from observations made on the tops of high mountains, where our senses become duller than when we are nearer the plains. Eighthly, It is a part in the composition of all bodies. Ninthly, It cannot be rendered of itself solid by any known means. Tenthly, By contact and cohesion in the parts of bodies it becomes solid and unelastic; but when separated by heat, fermentation, &c. its elasticity returns. Heat rarifies, and cold condenses it.

The physical qualities of the air have occasioned numerous disquisitions. But extensive inquiries, the comparison of the tables of mortality, experience long continued, have allowed us to draw few conclusions which will bear the test of careful examination. In spring, we find inflammatory complaints; in autumn, bilious diseases: in every season, fevers, in the commencement inflammatory, in the conclusion more or less putrid. To be more particular. Continued cold produces that tension of the fibres, that strong and steady action, which we style inflammatory diathesis: high situations, with a pure bracing atmosphere, produce similar effects. These are partly owing to an excess of oxygen, as we shall presently notice; but, in a great measure, to moderate, continued cold. A previous moist, temperate winter, which predisposes to scrofulous complaints, will, at this period, produce the most fatal consequences in hectic cases. The fever will increase, the ulceration proceed with rapidity, and the heat of the ensuing summer close the scene. Those, however, who are moderately healthy and not peculiarly robust, will find a winter, of no extreme cold, healthy; and the opening spring, expanding the fibres, will give a genial glow and new life to every organ. Summer, of course, may produce its own diseases; but, if we peruse the history of epidemics, we shall, with difficulty, trace any particular bad effects of the heat, till the evenings begin to cool, the fruit to be plenty, and the bile to become a conspicuous cause of disease, from its accumulation and excessive discharges. Winter again recurs, and Dr. Heberden has endeavoured to shew, from the bills of mortality, that it is a fatal season. It may be so in general: old people resist cold with difficulty, and the catarrhus suffocativus, asthma, and similar complaints, are often fatal at this period. In our experience, however, it is not the cold, but the early warmth of spring succeeding cold, which is most injurious: the constitution, braced by cold, cannot bear the subsequent relaxation. A long damp summer has had similar effects.

Philosophers have taught us how much pressure we bear from the atmosphere; and of course, from the diminution of that pressure, we shall feel the want of tension or tone which results from the removal of any support. Thus, when the air is lighter we find a languor come on; when heavier, our spirits are more brisk and lively. The whole is not however owing to the absolute weight of the air, but, in part, to its elasticity; or rather our feelings of health and activity are in the compound ratio of both. Thus, at the height of from 1200 to 2000 feet above the level of the sea, the pressure is greatly diminished; but we feel increased activity, as we are in general above the region of clouds, and the air is more elastic; and the languor felt in very high situations is not uniform or constant; so that it cannot depend on a constant cause. During rain, the mercury in the barometer is not depressed half an inch, yet we feel more languor than on the top of mountains, where it has probably fallen from five to ten inches.

In other respects the physical properties of the air seem to have little influence: the warmest and longest summers are often healthy: the coldest winters, with the exception of accidental inflammatory complaints, are the same: the warmest weather, with the dampest fogs, have been followed by no peculiar epidemic. It is what Hippocrates long since called the τὸ θεῖον, something divine or inexplicable, that produces fevers and similar diseases; but, before we notice the "divinity that stirs within us," we must add a few remarks on situation, as connected with the physical properties of the air.

A dry elevated spot, on a gravelly soil, is said to be most wholesome, especially if sheltered from the east wind. Elevation is however relative; light clouds float in the atmosphere, about 1600 feet above the level of the sea; and the healthiest spot is said to be some way above this elevation. This appears, however, to be fanciful; and it has not been proved that atmospheric moisture alone is injurious. In dry gravelly elevated spots, experience has fixed the most salutary residence for consumptive cases; yet, in these, oxygen seems to abound, which is peculiarly injurious in such complaints; and air of a lower quality, as it has been styled, is seemingly as good; in the opinion of some, preferable. In asthmatic cases elevated spots are manifestly injurious. In fact, theorists may declaim, but facts give the lie to the most plausible declamations. A change is often necessary; and from the effects of that change, the conduct proper for each individual must be ascertained.

It is observed by some authors, that vaults, corn-magazines, apple-garrets, &c. should open to the north; for that point is invariably proper: but the south and west are constantly improper. The most healthy exposure, if a house is to be built, is said to be found by cutting one of the trees that grow there transversely with a saw, observing the rings: the side of the tree on which the distances between each ring are widest is the most healthy exposure, and the windows of the house, all other circumstances being the same, should ever face that way.

We have mentioned the effects of the east wind in general, and we shall now notice them more particularly, though it cannot be yet determined whether they belong to the chemical or physical properties of the air. The atmosphere, while the east winds prevail, is lurid; and, even when clear, the sun has not its brilliant hue. The strength is not equal to the usual exertions; the respiration is not free; the spirits not lively. Asthmatics and hypochondriacs feel it severely; yet it is often dry, and, when it rains during a south-east wind, its fall is frequently periodical, extending only to twelve or twenty-four hours; while the clouds constantly display a promise of fair weather: there is

seemingly a perpetual contest between the causes of rain and their antagonists, whatever they may be.

As we have now instruments by which the quality of the air may be measured, it might be presumed, that these would inform us of the cause of this singular state of the atmosphere. The east wind is not peculiar to any situation, so that it is not injurious from passing over a baleful desert, or a successive series of marshes; nor does the eudiometer show any particular ingredient which may impair health or induce disease. We have not mentioned this instrument in our disquisitions respecting air, as it chiefly informs us of its chemical qualities. As we now approach this subject, we may remark that, in all its forms, the assistance it affords is inconsiderable to the medical chemist. In crowded cities, and the most apparently healthy situations, remote from "the busy hum of men," its results are nearly the same. Chemists must decide whether this similarity in the appearances is owing to the imperfection of the instrument, or whether the injurious qualities of the air are not cognizable by it. We have now mentioned this instrument to excuse our future silence respecting it. Its forms, however, we shall afterwards describe, as future enquirers may be more successful. See EUDIOMETER.

We have said that air consists of oxygen and azote in a gaseous state. To this, when we speak more critically, we must add carbonic acid gas. It has been disputed, whether the principal ingredients are chemically combined, or only mixed mechanically. Neither is true. We cannot indeed mix oxygenous and azotic gas, so as to form a gaseous fluid like our atmosphere; yet they are not chemically united, so as to form a tertium quid; nor even in the more general sense of the word, so as to produce a substance partaking of their united properties; as, when we mix spirit with water, or dissolve sugar in any fluid, it seems that the particles are united in their nascent state, and adhere together rather than form a compound. It appears at first sight singular, that the oxygen which supports life should be in so small a proportion; but the singularity will soon vanish when we reflect, that oxygen alone would be as fatal in the lungs as arsenic in the stomach. It is, literally, like fire which warms; but in excess, will burn. This we chiefly mention to explain the inconveniencies arising in hectic and in asthmatic cases, from air too pure; in the latter it stimulates the weak lungs too violently; in the former it adds to the tone and the irritability of the vascular system, already too great. The mountaineer and farmer, who breathe air highly oxygenated, are strong, robust, and active, but scarcely ever fat. Oxygen makes no part of this animal fluid; and hydrogen and carbone, of which it chiefly consists, do not abound in these regions. Hydrogen, indeed, has been discovered by Saussure on the highest mountains; but its levity carries it beyond human habitations; it is an extraneous body, found *in* air, but not a component part of it. As its elasticity is inconsiderable, it certainly contributes to the languor experienced in highly elevated situations.

The aërial pathology has not yet been successfully cultivated. Man can live and enjoy health from the heat of twenty-eight to one hundred and eight degrees of Fahrenheit. He can exist in a constant fog, where the hygrometer proceeds *beyond* the extreme of humidity; and, in air which supports the mercury only at twenty-two or twenty-three inches, he is robust and active. The sudden changes are indeed injurious; but the injuries are often transitory and inconsiderable; or, if severe, producing only temporary and acute diseases. But that our observations respecting the effects of the different airs may be more distinct, it is necessary to enlarge a little on the chemical properties of the different gases.

Besides the common, or atmospherical *air*, there are various other sorts, distinguished by their respective characteristics: 1st. AIR, FIXED OR FIXABLE. By Van Helmont, it was called *gas sylvestre*, from being produced in vast quantities from the burning of charcoal; from its apparent acid properties, *aërial acid*, *cretaceous acid*, and *carbonic acid*; and *fixed air*, as readily losing its elasticity, and fixing itself in many bodies. It is an invisible and permanently elastic fluid, superior in gravity to the common atmospheric air, and most other aërial fluids. It consists of twenty-eight parts of carbone, and seventy-two of oxygen, with some caloric, forming about one sixty-sixth of the common atmosphere, though, from its gravity, generally falling to the bottom. *It is unfit for respiration; easily dissolved in water; exceedingly destructive to animal life*, and *produced in great quantities naturally from combustible bodies and many chemical processes.* It is found at the bottom of pits; it rises from fermenting liquors; it is one and a half heavier than pure common *air*; water imbibes more than its own bulk of it; flame is extinguished, and animals are destroyed, by its influence: when the fixable *air* is separated from chalk and other calcareous substances, they become caustic, or, as they are now styled, pure: it is antiseptic, powerfully preventing and recovering from putrefaction, whence lime-kilns, which discharge great quantities of this *air*, would be useful in the neighbourhood of populous towns; in clysters it hath been very advantageously administered against putrid disorders, and, mixed with the drink, has been thought to conduce to the relief of patients labouring under putrid fevers. In the form of yeast it has also been administered with good effect in these disorders: but though it may be introduced into the stomach and intestines with advantage, if breathed into the lungs, it is mortal. To fixable *air* the chief property of some mineral waters is attributed: the Pyrmont and Seltzer water owe their brisk acidulous taste and sparkling appearance to it; and it dissolves iron in a small proportion, when it is mixed with water. Fixable *air* hath been found useful in cancerous, consumptive, scorbutic, and other disorders, where an antiseptic medicine might be expected to afford relief. It has not only been considered as antiputrescent, but also lithontriptic. When the stomach is disordered, carbonic acid air often gives a temporary and an useful stimulus. It is administered united with water by swallowing kali, or soda, in an effervescing state, or the one immediately after the other, that the effervescence may take place in the stomach.

AIR, VITAL; called also *dephlogisticated*, *empyreal air*, and *oxygenous gas*. From a variety of experiments, modern philosophers have proved, that in respiration a portion of *air* is lost; that the first effect produced, is the blood assuming a vermillion colour, by combining with pure air. The second is to establish a

real focus of heat in the lungs, maintained and kept up by the *air* of respiration. See HEAT, VITAL; and RESPIRATION.

AIR, INFLAMMABLE. It is the lightest of all the aëriform fluids: in general about twelve times lighter than atmospheric *air*. All animal and vegetable substances, which can be burned in the open *air*, charcoal excepted, will afford *inflammable air*, if heated in close vessels: though this is usually mixed with *air* of other kinds, with water, and with oleaginous matters. Charcoal, and several metals, afford *inflammable air* by heat, if water be present. Some metallic substances, during their solution in acids, afford, or extricate *inflammable air*, which is of the purest kind. The common process for obtaining it is by dissolving iron filings or shavings in diluted vitriolic acid. It occupies the upper parts of subterraneous caverns; and has been commonly found in mines and coal-pits, where it is called FIRE DAMP, because it is liable to take fire, and explode like gunpowder. When not combined with oxygen it extinguishes fire; kills animals as readily as fixable *air;* takes fire by the contact of the electric spark, provided vital *air* be present, or any combustible body already in a state of ignition, and burning with a brilliant flame. If about two parts, by measure, of *inflammable air*, and one of vital *air*, are mixed together, and set on fire in a vessel strongly closed, which may be done by the electric spark, the *air*, if pure, will almost totally disappear, and the product be water, and an acid. It holds about half its weight of water in solution, which imparts to it a disagreeable odour; is absorbed by vegetables, and becomes a component part of their oils and resins.

The SULPHUREOUS, the MURIATIC, and some other ACIDS assume the form of AIR: but as they are neither found in the atmosphere, nor applied to medical purposes, they form no part of the present subject.

NITROUS AIR, or NITROGENOUS GAS, or AZOTIC GAS, forms an object of considerable importance in chemistry and medicine. It is fatal, when alone, to animal life; though, in combination, highly advantageous to it. This gas, we have seen, forms a large proportion of atmospheric air; and the gaseous nitrous oxide produces effects in respiration highly animating and stimulant. It is also the distinguishing ingredient of animal substances; the principle of animalisation.

NITROGEN GAS, or the mephitic air of former authors, is very extensively diffused. Its specific gravity is inconsiderable, for it is lighter than atmospheric air, in the proportion of 985 to 1000. Nitrogen, with caloric, forms this gas; and, with different proportions of oxygen, the nitrous acid in its various forms. With the full proportion of oxygen, it forms the *nitric* acid, the aqua fortis of the shops: with a less proportion it becomes *nitrous* acid; with still less nitrous gas; and with a very small quantity the nitrous oxide. Nitrogenous gas is neither acid nor soluble in water; and the nitrous gas is employed as a test of the purity of air in the *eudiometer*, q. v. If the air contains oxygen, it thus changes the gas into nitrous acid; and a larger proportion of the acid is formed when the oxygen is more abundant; while with impure air no change is produced. In medicine it has scarcely been employed: it is said to be antiseptic, and to kill worms, but experience has neglected to register its effects, or has disregarded it.

The nitrous oxide is heavier than air, and soluble in double its quantity of water. The taste it imparts is sweet, and the odour agreeable, though slight. Combustible bodies, at a high temperature, decompose this oxide; and it unites with alkalis, though not with acids. In fact, if an acid, it is the lowest in the scale, and to dispute whether it be so, is to contend with air. Its effects on respiration are singular. It is said to animate the person who breathes it to a degree little inferior to phrensy: the sensations produced are highly pleasurable, and no languor follows. Though much must be allowed to the enthusiasm of a discoverer, and to the experience of effects wholly new and unexpected, yet very pleasing sensations have been undoubtedly felt on its being inhaled. To what these are owing has not been ascertained. A slight reflection will shew, that though life is really sustained by oxygen, yet this air is not proper for breathing for any continued period. The pleasure excited by fresh air does not arise from the oxygen, for it is not increased, or at least to an inconsiderable extent, in proportion to the quantity contained in the air breathed. Why azote, that is alone fatal to life, should be the necessary ingredient, is not clear. The great principle of distinction of animal substances, chemically considered, is indeed azote: this principle, so copious in these, is found in a small proportion, and only in particular parts, of the vegetable kingdom; and it is the great problem in the function of animalisation, to discover the sources of the azote. May it not then be the air, and may not the animal system feel a peculiar pleasure in the supply of this principle, which must neutralise, or assimilate, the vegetable food? It is not an improbable supposition, but it has escaped us, if it has been noticed by any former physiologist.

Air, in so many various ways injured, viz. by breathing, by burning bodies, &c. is restored by many means; a few of which only have been discovered. Plants absorb carbonic acid gas, and restore, in their turn, a pure air; and thus, combining with azote, may, imperceptibly to our senses, renovate the atmosphere. We may thus account for the different result of the experiments of philosophers, some of whom have discovered that plants exhale pure air, while others deny it. Inflammable air seeks the upper regions of the atmosphere, and is destroyed in the meteoric explosions, when too copious; while the portion arrested in its progress contributes, as we have said, to the production of the oils and resins of vegetables.

Thus nature very completely restores the various changes in the constitution of our atmosphere, which the different processes constantly going on may, in her regular course, have occasioned. Yet the air is accused as the cause of numerous diseases; and it really is so. Sudden cold checking the perspiration will apparently produce almost every form of the pyrexiæ. Partial cold will produce rheumatisms; damp air, catarrhs; and in old people those defluxions which are called humoral asthmas, and catarrhi suffocativi. The *continued* heat of summer occasions bilious disorders; and the cold of winter a return of the more active inflammations. The air is, however, chiefly a vehicle of injurious effluvia; some of which only can be ascertained. Marsh miasmata, as they are styled by pathologists, are the cause of numerous intermittent and remittent fevers, as well as those apparently of a more

continued form. It has been ascertained, that a clayey soil, when moistened, will attract the oxygen of the air, and leave its azotic part not sufficiently guarded to support the vis vitæ; and it is found that districts become unhealthy chiefly when the earth begins to appear, in consequence of a diminution of the water. It is singular, that Linnæus, with a view to prove the cause of intermittents to be an argillaceous earth, has traced very minutely the prevalence of intermittents in clayey countries; a circumstance which may be explained from the views just assigned. To this diminution of the oxygen must be added a larger and unusual proportion of inflammable air from the parts of marshes still covered by water. To these conjoined causes many epidemics are owing: and when the changes in the physical properties of the air appear to produce fevers, they act only as exciting causes of these miasmata, in a manner to be afterwards explained. See INFECTION and EPIDEMICS.

It is not found that an unusual proportion of fixed air is injurious: it falls to the lowest strata of the atmosphere; and, whatever be the quantity, it is apparently absorbed. The very extensive diffusion of catarrhs and other epidemics, of small pox, measles, &c. is from causes combined with the air, and no part of the atmosphere. The contagion of putrid fevers, viz. the contagion conveyed by the patient, or by the medium of the attendant's clothes, are substances combined with the air which the nicest instruments have not yet been able to detect, though much may be expected from the persevering ardour of modern experimental philosophers.

Hoffman, in his Med. Rat. Syst. artic. De Aëre, and Boerhaave on Air, have collected all that is valuable from their predecessors and contemporaries.

Hale's Statical Experiments. Chaptal's and Thomson's Chemistry. Huxham on Air and Epidemic Diseases. Shaw's Abridgment of Boyle's Works, in the article Air. Parkinson's Medical Pocket Book. Dobson on Fixed Air. Chaptal's Elements of Chemistry; also Lavoisier, Fourcroy, and Nicholson.

Æ'RA, (from *αἴρω*, *tollo*, *to take away*). So called, because it is necessary to remove it. See LOLIUM.

AERATED WATER. See AQUÆ MINERALES and AQUÆ MINERALES ARTIFICIALES.

ÆRE'OLUM, a weight of about twenty grains.

AERIFICA'TIO, (from *aër*, *air*, and *fio*, *to become*). It is the producing of air from other bodies, or rather converting them into air.

Æ'RIS FLOS, (from *æs*, *copper*,) FLOWERS OF COPPER; *anthos*, *phrasium viride*, &c. Copper reduced to small grains, by pouring cold water on it when in a state of fusion. The cold water is poured on the copper as it runs out of the furnace into the receiver.

——— SQUAMÆ, FLAKES OF COPPER, fly off in hammering the metal when heated. The best are of a deep yellow colour, and rust if sprinkled with vinegar. These, from the Cyprian copper works, are called *helitis*.

——— vel VE'NERIS TINCTURA. R Ærug. æris ʒ j. aquæ ammon. et sp. vin. R. āā ʒ ss. m. et stent simul, donec aqua colorem saphirinum acquisiverit. This tincture is an admirable preparation to make an injection for a gonorrhœa, if care be taken duly to dilute it, and skill enough is possessed to know when the infection is only in the urethra: to an ounce of pure water, add one drop of the above tincture. Astringent injections are, however, especially in the early stages of the complaint, dangerous.

Dr. W. Saunders observes, in his Lectures on the Mat. Med. that all solutions of metals are sedative, or ease pain, provided that the solution is not too strong.

VENERIS VOLATILIS TINCTURA: R. Limaturæ cupri, ʒ j. aquæ ammon. ʒ xij. m. This solution hath been given internally to the quantity of four or five drops at a dose, as a diuretic. Boerhaave directs to be given three drops, in a morning fasting, with a glass of mead, and this dose to be daily doubled until the dose is twenty-four drops, to be continued for some days: thus he succeeded sometimes in curing dropsies, though in other instances it failed. When effectual, it produced very copious discharges of urine. This tincture is a good substitute for the cuprum ammoniacum of the Edinburgh Dispensatory.

Metallic astringents are more active than alum, more powerful, more easily and more quickly dissolved in the stomach; are more diffusive and extensive in their influence on the habit, and to be preferred when speedy effects are to be obtained. Of all the metals, copper is the most astringent, and most soluble in the stomach; but the dose is difficultly ascertained, because of the uncertainty of acid in the stomach, so that it is rarely used. Dr. Saunders observes, that an over dose of the ærugo æris is active, stimulant, and astringent, and so quickly proves emetic as to be thrown up before it hurts; that an under dose excites a nausea. This is of course most advantageous; but the tinc. Veneris vol. if given so as to purge and vomit, by its sudden action produces very good effects.

Dr. G. Fordyce advises us to avoid cupreous preparations, when the intention is to strengthen; but when it is designed to lessen irritability, he observes, they are extremely useful, particularly in hysteric cases attended with plethora, and in epileptic spasms. In several instances of intermittents, and of mortifications, the preparations of copper, such as were in a saline state, as the cuprum ammoniacale, the cuprum vitriolatum, and the tinct. Veneris vol. were equally efficacious with the bark; in this last case, the cuprum vitriolatum to gr. ss. for a dose has been very successful.

The copper, combined with the volatile alkali, either in the tinctures above described or in the cuprum ammoniacale, is undoubtedly an excellent remedy in epilepsies, and seems to act by lessening irritability. This is perhaps the principle by which also iron, zinc, and arsenic, produce their effect; but of these, iron seems to approach more nearly to what we with greater strictness call an *astringent*, q. v. Combined with zinc, the zincum ustum, or vitriol of zinc, the copper is often more effectual. Of intermittents, the copper and zinc are best adapted to the partial cases of the disease, as the hemicrania, &c.; the arsenic to the more general forms.

Dr. Brown, in his Natural History of Jamaica, prefers preparations of copper in those dropsies which proceed from a general languor of the solid system, in which case they prove very useful as diuretics and strengtheners. He prefers the tinc. Veneris vol. to all

other preparations of this metal. In hot climates, where the body is much relaxed, the vitriol of copper is, he thinks, the best detergent of foul ulcers.

See Neumann's Chem. Works. Dict. of Chem. edit. ii.

ÆRI'TIS, (from *αηρ*, *the air*,) so named from being of a sky-blue colour. See ANAGALLIS.

AEROLO'GIA, (from *αηρ*, and *λογος*, *sermo*). That part of medicine which treats of air, explains its properties and use in the animal economy, and its efficacy in preserving and restoring health.

AEROME'LI, (from *αηρ*, *air*, and *μελι*, *honey*), HONEY DEW. See MEL and MANNA.

AEROPHO'BI, (from *αηρ*, *air*, and *φοβεω*, *to be afraid*). According to Cœlius Aurelianus, some phrenitic patients are afraid of a lucid and others of an obscure air, and these he calls *aërophobi*. So that,

AEROPHO'BIA, (from *αηρ*, and *φοβια*, *timor*, *fear*,) is a symptom of the phrenitis. It is a fear of light, a kind of insanity, in which the patient dreads the air or light.

AERO'SIS, (from *αηρ*, *air*). An imaginary resolution of the blood into vapour, supposed necessary to the support of the vital spirits, and to be brought about by the ventilation of the air during inspiration, in the manner that the flame of fuel is kindled by blowing it.

ÆRO'SUS LAPIS, (from *æs*, *copper*). So Pliny calls the cadmia, because of its sky colour, resembling the salts of copper, which is supposed to be Galen's *cadmia lapidosa*. See CADMIA.

ÆRUGINO'SUS, (from *ærugo*, *verdigrise*). Æruginous, of the colour of verdigrise, or green. This word is often applied to what is discharged by vomiting of this colour, and to the bile.

ÆRU'GO, (from *æs*, *copper*). The rust of any metal, but particularly of copper, called VERDIGRISE: it is also named *azagor*, *almizadir*. See Æs.

The natural ærugo is a greenish marcasite, like the drops of iron; it is found in copper mines, but contains only a small proportion of the metal. HUNGARIAN MOUNTAIN OR SEA VERDIGRISE is found in the mountains of Moravia, in the form of sand.

—— RA'SILIS. Hang a copper plate over the strongest vinegar, so as not to touch it, and after ten days scrape off the rust, which is thus called.

—— SCOLE'CIA. Of the two sorts, viz. the fossil and the factitious, the fossil is the best; but either is of no further use than the blue vitriol.

ÆRU'GO Æ'RIS; called also *viride æris*, *cupri rubigo*, *calcithos*, *Hispanicum viride*, VERDIGRISE. It is copper, corroded by a fermented vegetable acid into a bluish green substance. The copper is made into very thin plates, which are suspended over the vapours arising from wine, during its acetous fermentation: or the husks and stalks of grapes are dried, and, when bruised, are dipped in wine and made into balls. When they have acquired the acetous acid they are broken with the hand, and stratified with these copper plates, and left until the verdigrise is produced. The best, as well as the greatest quantity, is made at Montpellier, where there is one sort in powder and another in lumps. The whole process, as now practised in Montpellier, may be seen in the Cyclopedia under VERDIGREASE. The sort which we receive from France is generally mixed with the stalks of grapes, which may be separated by pulverisation, as they are more difficultly powdered than the verdigrise itself. It is purified by dissolving in six or seven times its weight of distilled vinegar, decanting and evaporating the solution. If good, it is dry, of a beautiful deep green, with a few white spots; and when rubbed on the hand with a little saliva or water it forms a smooth paste, free from grittiness. It is adulterated by mixing pumice stone, marble, vitriol, &c. The first two are discovered by rubbing the suspected verdigrise betwixt the thumb and the finger, previously wetted, by which the pumice stone and marble become white: the latter is discovered by burning a little on a tile, by which the vitriol is turned into a red substance. In spirit of wine, and in water, this concrete is partially soluble: in vinegar it is wholly so. If a saturated solution of it in vinegar is set to exhale in a warm place, the greatest part of the verdigrise may be recovered in a crystalline form; and if these crystals are distilled in a retort, the acetous acid ascends from them in a highly concentrated state, forming the acetic acid, and the crystals are then called distilled or calcined verdigrise, or the VITRIOL OF VENUS: if set in a damp place to dissolve, it is called the LIQUOR OF VENUS. Verdigrise is used by dyers, skinners, hatters, painters, &c. as well as in medicine: in miniature painting the distilled sort is the best. Its use, as an external medicine, is to deterge foul ulcers, as in the ung. basil. viride and the mel æruginis. If it is made into a paste with saliva, or any thing not oily or unctuous, it will dissolve hard calli. In phagedenic ulcers, and the most unpromising sores, with ichor, fungus, &c. copper is useful. Foul chancres, that yield not to mercury inwardly, have been removed by a solution of the cuprum vitriolatum. Internally taken, a vomiting is instantly provoked by a grain or two of verdigrise, or vitriol of copper, so for its speedy effect it may be used to discharge any poisonous matter received into the stomach. Large portions, as four drams or more, have been swallowed without any other inconvenience than the present vomiting; yet, in smaller quantities, besides the vomiting, it excites a pain in the stomach and griping in the bowels, tenesmus, ulcerations, bloody stools, difficult breathing, and contractions of the limbs, which often terminate in death. Hence great care should be taken of copper or brass vessels, in which acids or fats are boiled, lest the verdigrise should be productive of disease. Though acids, &c. while boiling, do not corrode the metal, this is soon effected when the boiling heat is abated. In case of verdigrise being swallowed, oil and warm water, or large quantities of milk and water, both by the mouth and by the anus, in order to wash away the whole of this offensive matter, must be given; a discharge by vomiting with all possible speed must be excited; and, after due evacuations, an anodyne may be given: if there is great pain, cordials, with a milk diet, will be useful. Pills made of ærugo, we are informed by Gmelin, have been given as a remedy in cancers.

Verdigrise cannot be reduced to powder but by levigation.

ÆS, (from the Hebrew term AES, *fire*, *αιστις*, from *αιθω*, *to burn*,) called also *cuprum*, *χαλκος*, *Venus*, COPPER. It is found in many countries, but chiefly in Sweden, Hungary, and Germany.

The chemical character for copper is ♀.

Its gravity is to silver as eight to ten; to gold, as eight to nineteen; and to water, as eight to one: more strictly, it is from 7.780 to 8.584. A wire $\frac{1}{16}$ of an inch will support about 300 weight.

It is considerably, but not entirely, fixed in the fire; changing first to a blue, then to a yellow, and then to a violet colour.

It is malleable, and ductile into a fine wire.

It is elastic and sonorous.

It melts not before ignition, or a strong white heat, but calcines by a weaker red heat into a red powder; and when in contact with the coals gives a greenish blue colour to the flame.

By heat, if the air has free access, it forms an imperfect blackish red oxide; with greater heat, a brown glass. When cooled slowly, it is said to crystallise in quadrilateral pyramids.

The sulphuret of copper is a very fusible mass: the phosphoret a grey and brilliant substance. It unites with the sulphuric acid when concentrated only with the assistance of heat, forming oblong rhomboidal crystals, which contain 0.32 of the metal, and 0.33 of acid.

Lime and magnesia precipitate the copper of a bluish white. Ammonia has a similar effect; but if in the slightest excess the precipitate is re-dissolved, forming the cuprum ammoniacum, the re-dissolved copper forms the aqua cœlestis of the pharmaceutists.

Copper is dissolved in diluted nitric acid, and forms crystals in long parallelograms or rhomboids. The muriatic acid only dissolves it when boiling and concentrated. The crystals are acid, of a green colour, and the precipitate is not very readily dissolved by ammonia. The green colour indicates, according to Guyton, a greater degree of oxygenation than the blue. The blue colour, we are told by Gren, when dissolved in ammoniac, does not take place unless air be admitted. Some authors have informed us, that fixed alkalis and neutral salts act on copper best also when exposed to the air and in the cold. Rancid fats and oils equally dissolve it.

Dissolved by fixed alkalis, it is green; by the volatile, it is blue. Dr. Lewis observes, that if the $\frac{1}{1000}$ part of a grain of copper be dissolved in a pint of water, a blue colour will be produced by adding a volatile alkali to it.

So great is its divisibility, that one grain dissolved in aqua ammoniæ will tincture 385,200 times its weight of water.

A small quantity of arsenic gives to copper a great degree of hardness and whiteness: thus pins may be made white and brittle by it. The hydrargyrus muriatus also whitens it; but pins are usually whitened with a solution of tin. If a piece of bright iron be immersed in the acid solution of copper, the acid quits the copper to attack the iron; and the copper, in its separation from the menstruum, adheres to the iron, which soon appears covered with a metallic cuprous coat. On these principles very minute quantities of copper dissolved in liquors may be readily discovered. The affinities of copper to other metals form no part of our subject at this time: we shall only add, that copper and tin make a good bell-metal, useful in microscopes and reflecting telescopes; copper and zinc, princes metal; copper with bronze and zinc, the white tonbac; with zinc, by fusion, the similor or Manheim gold; or by cementation with lapis calaminaris, brass.

For an account of the different ores of copper, see Mineralogie de Hauy, vol. iii. 520, &c.

If copper is swallowed in its pure state, it is inoffensive. Some practitioners observe that copper, when dissolved, is strongly styptic; so far from causing exulceration of the intestines, that it heals them: it vomits by its nauseous stimulus, which will continue for several days.

ÆSECA'VUM, (the etymology of this word is uncertain,) BRASS, made by the union of copper, and calamine stone, which is owing merely to the zinc contained in the calamine: this is called *aurichalcum*, *azoth*. The alchemists found it out by attempting to turn copper into gold. Brass is not so readily dissolved as copper. The vapours of the zinc, which join with the copper in making brass, increase the weight of the copper sometimes to near one-half more than its original weight.

The following preparations are made from this metal:

ÆS CORONA'RIUM. See Æs.

ÆS U'STUM, BURNT COPPER. Thin plates of copper are laid stratum super stratum in a crucible, with sulphur and sea-salt; then they are placed over a hot charcoal fire, and there continued till all the sulphur is consumed, or until the plates can be reduced to a powder. If good, it is of an iron-grey on the outside, of a reddish grey within; and if two pieces are rubbed together, a vermilion red is produced: it must also be brittle and glittering when broken. It was formerly used for destroying fungous flesh, and drying up fistulous ulcers. With some aromatics, it has been given internally in epilepsies, and is recommended in diseases of the eyes.

If the burnt copper is made red-hot, and quenched in the ol. lini nine times, then powdered, it takes the name of SAFFRON OF COPPER.

ÆSCHYNO'MENE (from *αισχυνομαι, I am ashamed*) SPINOSA; so called because it shrinks, as if ashamed, at the touch. See CAACO.

Æ'SCULUS HIPPOCA'STANUM. See HIPPOCASTANUM.

ÆSTA'TES, (from *æstus, summer,*) FRECKLES in the face. See EPHELIDES.

ÆSTA'PHARA, (from *æstus, heat*, and *φερω, to bear*). See INCINERATIO.

ÆSTUA'RIUM, (from *æstuo, to be hot,*) a vapour bath; sometimes STOVES or machines for conveying heat to rooms. See CALDARIUM.

ÆSTUA'TIO, (from *æstus, heat*). The boiling up, or rather the fermenting, of liquors when mixed.

Æ'STUS VOLA'TICUS, (from *æstus, heat*, and *volo, to fly*). Synonymous with *phlogosis*, according to Vogel. A sudden but transitory heat in the face.

ÆTAS, (from a Chaldean term, ETTA, *time*,—*τος, age,*) ONE LIFE; an HUNDRED YEARS; also a CERTAIN STAGE OF LIGE. An age in history, or as relating to the life of man, is not, however, so extensive. It has usually been considered as the space of thirty years only; and Nestor, who is said to have lived three ages, has been only accounted ninety years old. The ancients reckoned six stages of life; viz. PUERITIA, childhood, which is the fifth year of our age; ADOLESCENTIA, youth, reckoned to the eighteenth, and

properly so called to the twenty-fifth year; JUVENTUS, reckoned from the twenty-fifth to the thirty-fifth; VIRILIS ÆTAS, manhood, from the thirty-fifth to the fiftieth; SENECTUS, old age, from fifty to sixty; DECREPITA ÆTAS, decrepid age, which ends in death. Blanchard.

In a more strictly medical view, the ages are, however, differently divided; and the constitution changes according to a septenary period. At the age of seven, it seems to have attained its first stage. The form begins to appear; the character of the mind to be distinguishable. At fourteen, the period of puberty commences; and at twenty-one, such is the established state of mind and body, that the law rescues the man from pupillage. Little change occurs at twenty-eight; but at thirty-five the acmè of strength and intelligence is, by general consent, obtained. The two next periods include the stages of firm and robust health; and few begin to decline even at forty-nine. At fifty-six age begins to steal on, and the sixty-third year is supposed to be a period of peculiar danger. The threescore years and ten are consummated at the next period, and all beyond is declining health and vigour.

Every age hath its diseases; and Hippocrates observes, that those of youth, continuing after puberty, are difficult to cure. In infancy and old age, many object to the use of medicine; but, as in both these stages there is great infirmity, so there is a great scope both for the practice and the improvement of the medical art; neglect bespeaks an equal ignorance and inhumanity: some disorders may be radically cured, and all may be palliated. Infancy may be aided in its advances, and the infirmities of age may be retarded.

ÆTHER, in philosophy, is a subtile fluid, supposed by sir Issac Newton to fill all space, and to be the cause of gravitation and numerous other phenomena, inexplicable on other grounds. Sir Isaac, however, only suggested it as a probable cause of these phenomena, or in other words observed, that, if there were such a fluid with given properties, it *may* be the cause of the appearances mentioned. Such, however, was the character of this eminent philosopher, that his suppositions have been ranked with the demonstrations of other authors.

We shall only observe at present, that those who examine most minutely the operations of nature will be the least ready to reject this idea. A medium very different from the grosser ones which are subject to our senses appears necessary to explain the phenomena of sound, light, gravitation, electricity, Galvanism, &c. Let it have the properties assigned to it, or any other, some very subtile medium probably exists. That this æther is the nervous fluid, as some authors have contended, can neither be admitted nor denied. The whole, at present, is gratuitous. No facts have even proved its existence: it is the tortoise which, in our present views, must be put under the elephant; but we seem fast approaching to some further knowledge of these invisible fluids, and in the progress of this work may make some further steps in the enquiry.

See NERVES, and NERVOUS FLUID.

ÆTHER, vel E'THER, in chemistry, (from αἴθω, *ardeo*, *splendeo*, *bright* and *splendid*,) is called *liquor æthereus vitriolicus*, *nitrosus*, *muriaticus*, according to the acid from which it is formed, combined with alcohol. The idea of Macquer, who considered *æther* as a spirit of wine, dephlegmated, or deprived of water, has little foundation; for the distillation of spirit of wine from the driest alkali does not resemble *æther*.

Various are the processes by which ÆTHER is made. The following seems to be the best. Put a certain quantity of alcohol into a receiver, and very gradually add an equal quantity of concentrated sulphuric acid, shaking them together, and waiting till the first addition is incorporated before any more is put in; for, if they are poured together too rapidly, the succeeding heat and ebullition will dissipate a part of the mixture, break the vessel, and endanger the operator. After having mixed the whole in this gradual mode, the retort must be placed on a warm sand-bath, a receiver adapted, and the mixture heated to ebullition, keeping the retort cool with ice or the coldest water. Alcohol first passes over; soon after which, streams of fluid appear in the neck of the retort and within the receiver, which denote the rising of the æther. Its smell is agreeable: vapours of sulphureous acid succeed the æther; and the receiver must be taken away the moment they appear. If the distillation be continued, sulphureous æther is obtained; and the oil, which is called æthereal oil, or oil of wine, and that which remains in the retort, is a mixture of undecomposed acid, sulphur, and a matter resembling bitumen.

The chemical nature of æther is still little known. Fourcroy and Vauquelin think that in the process the alcohol is decomposed, and its ingredients form a new compound; but æther contains a larger proportion of hydrogen and oxygen, and a less proportion of carbone. Yet in various experiments with æther charcoal is deposited more copiously than from spirit of wine. Dabit, on the contrary, contends, that æther is only an oxygenated sulphurous acid. He has, however, failed in his proofs. Other chemists have, with greater reason, thought that the acid is decomposed, and that its oxygen unites with the hydrogen and carbone of the alcohol. Were this the place for chemical discussions, we could shew, that, though the latter opinion is nearer the truth than the former ones, yet that it is far from correct. When the æther is mixed with sulphureous vapours, it must be rectified by a gentle heat; some alkali being first added, to combine with the acid; or, what succeeds better, some black oxide of manganese.

This fluid, besides its appellation of *æther*, is by some named *acidum vitrioli vinosum*; by others, *spiritus æthereus*; and in the Pharmacopœia Edinburgens. it is entitled spt. vini æthereus; and as it may be obtained by means of the different acids, so from the acid employed an appropriate epithet has been added. It should be noted, that *æthers* produced by the different mineral acids possess different properties. The college of Physicians of London, in order to form the LIQUOR ANO'DYNUS MINERA'LIS HOFFMA'NNI, order spiritus ætheris vitriolicus ℔ ij. et oleum vini ʒ iij. by weight. Chaptal says the composition is spirit of wine and æther, of each two ounces, and twelve drops of the æthereal oil. This is nearly also the composition of TICKEL'S ETHER. See LIQUOR ANODYNUS HOFFMANNI.

Various modes of preparing this fluid may be seen in the different writers, particularly London and Edinburgh Pharmacopœias.

Some of the properties of this liquid are as follow:

It is the most *light*, *volatile*, and *inflammable*, of all known liquids; with oxygenated fluids, it explodes. Its specific gravity is 0.758.

It swims on the highest rectified spirit of wine, as oil does upon water. In consequence of its volatility, it produces a high degree of cold in evaporating: boils at 98°; and in vacuo, at 20°; and freezes at 46°. It is one of the most powerful solvents known in chemistry. It will not mix with acids, alkalis, nor vinous spirits; but mixes with ten times its weight of water, by agitation; and is an effectual solvent of oils, balsams, resins, gum resins, wax, &c.

Equal parts of alcohol or æther with sulphuric acid, distilled or passed through ignited tubes of clay, produce what is called a carbonated, oily, hydrogenous gas. This, mixed with oxygenated muriatic gas, forms oil. It is from this property styled by the Dutch chemists, who discovered it, *olefant gas*. If the tube is of glass, carbone is deposited, and no such gas appears. If two parts of sea-salt, one of manganese, three of alcohol, and one of sulphuric acid, be distilled, a dulcified oxymuriatic acid first comes over, and then an oil called *oil of salt*.

It extracts gold, wherever it is, from any one or all of the baser metals; and thus gold is better and sooner purified than by any other means.

Æther is first described in the Dispensatory of Valerius Cordus, published in 1540: the public attention to it was, however, first excited by a publication in the Philosophical Transactions, A. D. 1730, by a German, who calls himself Frobenius. The late Dr. Ward was the first who is known to have used it in England; with *æther* he instantly relieved the headach, and other pains in the external parts; but for the first publication on its internal use, we are indebted to Mr. Turner, surgeon, in Liverpool, by whom it was prepared for a very extensive sale. He mixed two drams of *æther* with six or eight ounces of water, and gave from one to four large spoonfuls at a time, repeating the dose as required. Its general effects internally are anodyne and antispasmodic. Others give five or six drops for a dose, first dropping it on sugar; but five times the dose is not too great. In obstinate headachs, vertigos, convulsions, hysteria, rheumatism, flatulent and other disorders of the stomach and bowels, asthmas, hiccough, &c. by its application externally, or administration internally, or both, the most desirable effects have followed. When it is applied externally, procure a bit of linen rag, of such a dimension as to be conveniently covered with the palm of the hand: moisten the rag with the *æther*, and press it close to the part affected; in two or three minutes the rag will be found dry, and may be taken away: the application must be frequently repeated. Fred. Hoffman, indeed, employed it, in the form of his mineral liquor, as a sedative and antispasmodic.

The æther prepared by Mr. Tickel, of Bath, is recommended chiefly in hydrothorax, but none of the æthers are remarkably diuretic; and, from what we have seen, this medicine apparently acts only as an anodyne and an antispasmodic. In complaints where a remedy of this nature is required, Hoffman is extravagant in the praises of his mineral liquor; and, in later times, Mr. Clutton's febrifuge spirit is little more than an æther acidulated, and disguised by some of the warmer vegetables.

Æther is either administered on sugar or mixed with water, by means of an almond or mucilage. It is however given with least loss in the former way, or dropped into any fluid in a vial, which must be immediately corked and inverted.

As to the tests of the goodness of *æther*, Mr. Turner informs us, "that the most perfect sort is obtained by the assistance of the vitriolic acid; that it is colourless, and strikes the nose very strongly with the sulphureous smell; a drop let fall on the hand instantly vanishes, without leaving any moisture behind; five or six drops dropped together upon a table will disappear in a few seconds, and leaves only the appearance of a large oily ring behind." The best *æther* requires the greatest quantity of water to be mixed with it; if, therefore, to six tea spoonfuls of water, in a small phial, you add one of the *æther* to be examined, cork it up, and shake them well together; and if, upon standing a little while, some of the *æther* appears at the top, in the form of oil, sufficient to cover the surface of the mixture, it is good, provided also that it answers the other methods of trial; but if none appears, or not enough to cover the face of the mixture, it was either adulterated or not well rectified: if to this mixture of *æther* and water you add a little salt of tartar, and any fermentation ensues, the *æther* was not well rectified. To obtain a powerful medicine, it is necessary that it be free from all adherence of the sulphureous acid, for in proportion to the acid, its virtues are greatly impaired.

See Malouin's Chimie Medicinale, tom. ii. p. 451. Dictionary of Chemistry, edit. ii. Dr. Frobenius's accounts of *Æther*, inserted in the Philosophical Transactions for 1733 and 1741. Pharm. Col. Edinb. The Lond. Med. Obs. and Inq. vol. ii. p. 176—186. An Account of the extraordinary Medicinal Fluid called *Æther*, by M. Turner, surgeon, in Liverpool. Abridgment of the Philosophical Transactions, vol. viii. p. 744. Cyclopedia, edit. A. D. 1788. Beaume's Dissertation on *Æther*. This last is the most complete work on this subject. Cullen's Mat. Medica. Chaptal, Lavoisier, Fourcroy, Thomson, Annales de Chimie, vols. 21, 23, 24, and 29, 34, 43. Journal de Physique, 45 and 46. Parkinson's Chemical Pocket Book.

ÆTHE'REA HE'RBA. See ERYNGIUM.

ÆTHE'REAL OIL, an animal or vegetable oil, highly rectified.

Æ'THIOPIS, (from αἰθω, *to burn*, and ωψ, *the face*; so called because it is abundant in Æthiopia, and very hot climates,) ETHIOPIAN CLARY. *Salvia Æthiopis*. Linn. Its leaves are like those of mullein, hairy and thick; the stalk is quadrangular, like that of balm; the seeds are two in a cell. A decoction of its roots is commended in pleurisies and rheumatisms; but is an inert insignificant remedy. Raii Hist.

ÆTHIO'PICÆ. This epithet is applied to many medicines from their black colour, like the skin of an Æthiopian.

——————— PILUL. R. Merc. pur. cum mucilag. è gum. Arab. extinct. ʒ vi. sulph. ant. precip. res. guaiac. et mellis ää ʒ ss. f. mas. et divid. in pilul. No. ccxl. quarum detur i. ad iv. mane nocteque. These are in every respect equal to Dr. Plummer's in

point of usefulness, but not so apt to run off by a stool; see PLUMMERI PILULÆ.

ÆTHIOPS ANTIMONIA'LIS, ANTIMONIAL ÆTHIOPS. Dr. Cockburn, in his Treatise on the Gonorrhœa, directs us to melt equal parts of antimony and sea salt in a crucible, and separate the scoriæ, then to rub equal parts of the regulus made in this manner and mercury together, till they are incorporated. He extols it in cutaneous diseases, glandular obstructions, and many other chronical diseases: a few grains are given at first, and the quantity is increased as the patient can bear it. Malouin, in his Chemistry, gives various processes for uniting antimony with mercury, some of which are more speedy, and others more perfect in forming this combination; but all the preparations where the crude antimony is employed are inert, in consequence of the sulphur it contains. The Pillulæ Æthiopicæ, taken from a former edition of the Edinburgh Dispensatory, are now omitted in the Pharmacopœia of both colleges.

——— MARTIA'LIS, MARTIAL ÆTHIOPS. Put filings of steel into an unglazed earthen vessel, with water enough to rise four inches above the filings; the whole is to be stirred every day, and more water supplied as that in the vessel exhales, so that the filings remain always covered; continue this process till they are reduced to a powder of an inky blackness. This medicine seems never to have attained the notice of physicians, though it may probaby be an useful one. The iron is evidently oxygenated by the decomposition of the water, and it may be recollected, that in Griffith's medicine it experiences a similar change.

——— MINERA'LIS. Now called Hydrargyrus cum Sulphure, Lond. Ph. 1788. Æthiops, so called from its colour. ETHIOPS MINERAL is prepared by uniting equal parts of sulphur and mercury, with or without heat.

As sulphur so eminently abates the power of all the more active metals, this medicine is thought by many to be no further useful than as it is of efficacy in the stomach and bowels; others assert, that it enters the circulation, and is productive of very salutary effects. It is indeed possible; that a portion of the mercury may be separated from the sulphur, during the passage of the *æthiops* through the body. The dose is from gr. v. to ʒ ss. It is equally useful with the cinnab. antimonii for fumigating venereal ulcers: and, like the cinnabar, it is hard to say that it is useful in any other way. In the present form with a double proportion of mercury it may be more active.

——— VEGETA'BILIS. VEGETABLE ÆTHIOPS. By burning the sea-wrack in the open air, it is reduced into a black powder, and is then called *vegetable æthiops*. The soap-boilers call this kelp. The best is from Scotland. From ℈i. to ℈ ij. is given twice a day to remove scrofulous swellings.

——— JOVIALIS, is mentioned by Gmelin as useful in destroying tæniæ. It consists of equal parts of tin, mercury, and sulphur; but is probably a medicine of little value, as tin acts mechanically.

——— ANTIPTHYSICUS, ANTIRHEUMATICUS, DIURETICUS, and PURGANS, are denominated from their colour, and consist of mercury, with the Peruvian balsam; with gum guaiacum; with juniper gum; and with manna or jalap. These combinations are wholly unknown in this country, and perhaps scarcely deserve to be known.

——— A'LBUS. See MERCURIUS ALKALIZATUS.

——— MERCURII PER SE, is a simple oxyde of mercury, prepared by trituration, with or without mucilage. It has been given in venereal affections, in inflammations of the liver, and intermittents; and seems to have been at one time a favourite with the German physicians.

ÆTHO'LICES, (from *αιθω, to inflame* or *burn*). Superficial pustules in the skin raised by heat.

ÆTHU'SA ME'UM. See MEUM.

ÆTIOLO'GIA, ÆTIOLOGY, (from *αιτια, a cause, λογος, a discourse on*). A treatise on the causes of diseases, and their symptoms.

Æ'TOIPHLE'BES, EAGLE VEINS, (from *αιτος, an eagle, φλιψ, vena*). According to Ruffus Ephesius, the veins that pass through the temples to the head were thus called.

ÆTO'LION, (from *αιτος, an eagle*, so called because the grain is the colour of eagle's feathers). See CNIDIA GRANA.

ÆTO'NYCHUM, (from *αιτος, an eagle*, and *ονυξ, a claw* or *nail*). The claw of an eagle. See LITHOSPERMUM.

AFFE'CTIO, AN AFFECTION, (from *afficio, to affect*). This is expressed in Greek by *παθος*, hence *pathema, passio*, and is synonymous with disease.

AFFE'CTIO HYPOCHO'NDRIÆ. See HYPOCHONDRIACUS MORBUS.

A'FFIDRA, (from *αφιδρυω, to perspire*). A name for ceruss, because it was thought to possess the power of promoting perspiration. See CERUSSA, N° 1, under PLUMBUM.

AFFI'NITAS, AFFINITY, (from *affinis, connected*). *Attractio*, CHEMICAL AFFINITY, also called ELECTIVE ATTRACTION, may be defined the superior attraction evinced by all bodies for some particular substance; an attraction so great, that the component parts of a body are separated to enable the ingredients to form a new union.

Attraction is of different kinds in nature, though probably they all depend ultimately on the same principles: they are, 1. The attraction of gravitation. 2. The magnetic attraction. 3. The attraction of electricity. 4. The attraction of cohesion or of aggregation. 5. Chemical attraction, which is that tendency which bodies have, however different, to unite together, and to remain in union: e. gr. an acid unites with a metal, an earth, or an alkaline salt, and with either of these the acid forms one body; which body does not consist of a combination of the properties of the acid and the metal, &c.; but these losing their original properties on their union, a new body, different from either, is formed. 6. Elective attraction, or affinity, as already explained.

Chemical attraction does not usually take place but when the respective bodies, or one of them, are in a fluid state. Before chemical attraction can take place betwixt two or more bodies, it is necessary to destroy their attraction of aggregation or cohesion; this is effected by dissolving them. The component parts of bodies cannot come into the necessary contact with each

other until the integrant parts of the bodies, which are to act and be acted on, are separated by a solution of them. Dry bodies, however finely powdered, sometimes unite chemically; and sometimes elective attractions take place when both the bodies are in a dry powder. Attraction of aggregation requires only the application of surfaces; but chemical attraction usually requires fluidity.

The power in bodies on which their various transpositions and combinations depend, and which is called their *affinity*, is a term like the Newtonian attraction, designed to express not the cause but the effect. When an acid spontaneously quits a metal to unite with an alkali, it is said that it hath a greater *affinity* to the alkali than to the metal; this is only to say, in other words, that it will unite with the alkali in preference to the metal.

The doctrine of the *affinities* of bodies is of very extensive use in chemical pharmacy; for as several processes are founded on it, so if an error happens, and the medicine proves unfit for its intended use, it may be rendered applicable to other purposes, by such transpositions of their component parts as are pointed out by the knowledge of their *affinities*. Combinations and separations that are chemical depend on elective attraction.

Tables of elective attraction include every chemical fact of importance; as the whole science consists only of the union of bodies, and the separation of the component parts of such as are not simple. The whole doctrine would however be misplaced in a work of this kind; yet, as the subject is so closely connected with chemical pharmacy, we must add the outlines. Chemical affinity or attraction was first spoken of by Barchusen, from whom Boerhaave adopted this or similar language. Geoffroy however first collected all the known facts of this kind in the form of a table, in the year 1718. The term elective attraction—perhaps not strictly proper, as implying a *choice*, yet not ill applied, as chemical attractions are not indiscriminate—was, we believe, first introduced by Dr. Cullen, who made some important advances in giving chemistry a scientific form. He was followed by Dr. Black, and *afterwards* by Bergman. Yet Geoffroy's table was published, with improvements by Grosse, in 1730; Gellert, in 1750; Andiger, in 1756; Marchen, in 1762; De Fouchy, in 1773; Machy, Erxleben, Viegel, and Bergman, in 1775. Rouelle's, Limbourg's, and Sage's tables appeared between 1760 and 1775; but the dates we cannot now ascertain. Bergman's tables are usually preferred, though that annexed to the translation of Gren's chemistry we think superior. We shall however give that of Bergman, omitting the affinities of platina, and with some of the modern improvements; as that of Gren is so minutely exact, as to confuse, in some degree, the less experienced chemist; and unnecessarily so for our present purpose. Those who would engage in this subject at greater length will find excellent assistance in the new French Encyclopedia, or in the Annales de Chimie, vols. 36, 37, 38 and 39, where M. Berthollet has given some excellent papers on the laws of affinity. M. Morveau has also published Principes Theoriques and Pratiques des Affinités ou Attractions Chimiques.

The papers have been translated in some of the earlier volumes of the Philosophical Magazine, and the later work on this subject has been lately translated in two volumes 8vo. We may just add, that the symbolical characters of chemical substances, used in the earlier tables, are now generally disused, as they are so numerous as to be with difficulty learnt or recollected.

It is no part of our present object to follow minutely the disquisitions of Morveau. It is sufficient for our purpose to point out, by the tables, the comparative force of attraction of a given substance for the various other chemical bodies. It has however been a desideratum to ascertain the precise numerical degree of attraction of these different bodies; and Mr. Kirwan has laboured with great success in this field. We need only refer to his labours in the Philosophical Transactions for 1780 and 1781, as well as the fourth and subsequent volumes of the Irish Transactions. M. M. Wenzel, Achard, Morveau, and Berthollet, preceded him with unequal success.

To understand the following table, it is only necessary to remark, that the substance at the top in capital letters has the greatest affinity with that immediately under it, and a less, in succession, with those which follow. Of consequence, the substance most remote from the uppermost will be separated from an union with it by one nearer it in the series. Where the spaces are different it shews an unusual difference in the powers.

1. CALORIC. *In Water.*	Sulphuric A.
	Manganese Ox. white
Oxygen	Hydrogen
Æther	
Alcohol	
Ammonia	Volatile Oils
Water	Alcohol
Vol. Oils	Water
Glass	
Q. Silver	*In Fire.*
Bases of all Gases	Carbon
	Zinc
	Iron
2. OXYGEN. *In Water.*	Hydrogen
	Metal-Manganese
Basis of Muriatic and various other Acids.	Cobalt
	Nickel
Carbon	Lead
Phosphorus	Tin
Sulphur	Phosphorus
Light ?	Copper
Zinc	Bismuth
Copper	Antimony
Lead	Q. Silver at 600°
Iron	Arsenic
Silver	Sugar
Platina	Sulphur
Q. Silver	Caloric
Gold	Gold
	Silver
Nitrous Gas	Platina
Muriatic Acid	Q. Silver at above 1000°
Nitrous A.	Manganese Oxidated white

3. Sulphur. *In Water.*

Oxygen
Molybd. Oxide and Acid
Oxide of Lead
Tin
Silver
Q. Silver
Arsenic
Antimony
Iron
Fixed Alkalis
Barytes
Strontia
Lime
Magnesia
Phosphorus
Fat Oil
Volatile Alkali
Æther
Hydrogen Gas ?

In Fire.

Fixed Alkali
Oxygen
Iron
Copper
Tin
Lead
Silver
Cobalt ?
Nickel ?
Bismuth
Antimony
Q. Silver
Arsenic
Uranite ?
Molybdena
Sylvanite, or Tellurium

4. Saline Sulphurets. *In Water.*

Oxygen
Oxide of Gold
Silver
Q. Silver
Arsenic
Antimony
Bismuth
Copper
Tin
Lead
Oxide of Nickel
Cobalt
Manganese
Iron
Other Oxides
Carbon

Water
Alcohol
Æther?

In Fire.

Manganese
Iron

Copper
Tin
Lead

Silver
Gold ?
Antimony
Cobalt
Nickel
Bismuth
Q. Silver ?
Arsenic ?
Carbon

5. Silica. *In Water.*

Fluor Alkali
Fixed Alkali
Barytes ?
Strontia ?

6. Alumine. *In Water.*

Sulphuric
Nitric
Muriatic
Fluoric
Arsenic
Oxalic
Suberic
Tartarous
Phosphoric
Acetous and other Acids
Alkalis
Barytes ?
Strontia ?

In Fire.

Phosphoric
Boracic
Arsenic
Sulphuric
Nitric
Muriatic
Fluoric
Sebacic
Succinic
Formic
Lactic
Benzoic
Acetous Acids
Fixed Alkali
Sulphur
Oxide of Lead

7. Barytes. *In Water.*

Sulphuric
Oxalic
Succinic
Fluoric
Phosphoric
Lacteo-saccharine
Molybdic
Nitric
Muriatic
Suberic
Sebacic
Citric
Tartarous
Arsenic Acids
Formic
Lactic
Benzoic
Acetous
Boracic
Sulphureous
Nitrous
Carbonic
Prussic Acids
Fixed Alkali ?
Lime ?
Water
Fat Oil
Sulphur

In Fire.

Phosphoric
Boracic
Arsenic
Sulphuric
Succinic
Fluoric
Nitric
Muriatic
Sebacic
Formic
Lactic
Benzoic
Acetous Acids
Fixed Alkali
Sulphur
Oxide of Lead

8. Strontia. *In Water.*

Sulphuric
Oxalic
Tartarous
Fluor
Nitric
Muriatic
Succinic
Phosphoric
Acetous
Arsenic
Boracic
Carbonic
Other Acids ?
Fixed Alkalis
Water
Fat Oil
Sulphur

In Fire.

Not ascertained

9. Lime. *In Water.*

Oxalic
Sulphuric
Tartaric
Succinic
Phosphoric
Lacteo-saccharine
Nitric
Muriatic
Suberic
Sebacic
Fluoric
Arsenic
Formic
Lactic
Citric
Benzoic
Acetous
Boracic
Sulphureous
Nitrous
Carbonic
Prussic Acid
Barytes ?
Water
Fat Oil
Sulphur
Phosphorus

In Fire.

Phosphoric
Boracic
Arsenic
Sulphuric
Succinic
Fluoric
Nitric
Muriatic
Suberic
Sebacic
Formic
Lactic
Benzoic
Acetous Acids
Fixed Alkali
Sulphur
Oxide of Lead

---

10. Magnesia. *In Water.*

Oxalic

Phosphoric
Sulphuric
Fluoric
Sebacic
Arsenic
Lacteo-saccharine
Succinic
Nitrous
Muriatic
Suberic
Tartaric
Citric?
Formic
Lactic
Benzoic
Acetous
Boracic
Sulphureous
Carbonic
Prussic Acids

Sulphur

In Fire.

Phosphoric
Boracic
Arsenic
Sulphuric
Succinic
Fluoric
Nitric
Muriatic
Sebacic
Formic
Lactic
Benzoic
Acetous Acids

Fixed Alkali
Sulphur
Oxide of Lead

---

11. 12. 13. Vegetable, Fossil, and Volatile alkalis. *In Water.*

Sulphuric
Nitric
Sebacic
Muriatic
Suberic
Fluoric
Phosphoric
Oxalic
Tartaric
Arsenic
Succinic
Citric
Formic
Lactic
Benzoic
Acetous and Lacteo-saccharine Acids
Boracic
Sulphureous
Nitrous Acids
Carbonic A.
Prussic A.
Water
Fat Oil
Sulphur
Metallic Oxides

In Fire.

Phosphoric
Boracic
Arsenic
Sulphuric
Succinic
Fluoric
Nitric
Muriatic
Sebacic
Formic
Lactic
Benzoic
Acetous Acids

Barytes
Lime
Magnesia
Alumine
Silica
Sulphur

---

14. Water.

Potash
Soda
Ammonia
Alcohol
Carbonate of Ammonia
Æther

Sulphuric A.
Sulphate of Potash
Sulphate of Alumine
Sulphate of Iron
Oxy-muriate of Q. Silver
Other compounds, not decomposed by Sulphuric Acid
Silica

---

15. Sulphuric Acid. *In Water.*

Barytes
Strontia
Potash
Soda
Lime
Magnesia
Ammonia
Alumine
Jargonia?
Metallic Oxides

Water
Alcohol

In Fire.

Potash
Soda
Barytes
Strontia
Lime
Magnesia
Jargonia
Metallic Oxides
Ammonia
Alumine

---

16. Sulphureous Acid. *In Water.*

Barytes
Strontia
Lime
Potash
Soda
Magnesia
Ammonia
Alumine
Jargonia
Metallic Oxides
Water
Alcohol

---

17. 18. 19. 20. 21. Nitrous, Nitric, Muriatic, Oxy-muriatic, Nitro-muriatic Acids. *In Water.*

Potash
Soda
Barytes
Strontia
Lime
Magnesia
Ammonia
Alumine

Metallic Oxides

Water
Alcohol

In Fire.

Barytes
Strontia
Potash
Soda
Magnesia
Metallic Oxides
Ammonia
Alumine

---

22. Fluoric Acid. *In Water.*

Lime
Barytes
Strontia

Magnesia
Potash
Soda
Ammonia
Alumine
Metallic Oxides

Silica
Water
Alcohol

In Fire.

Lime
Barytes
Strontia
Magnesia
Potash
Soda
Metallic Oxides
Ammonia
Alumine

---

23. Boracic Acid.
In Water.

Lime
Barytes
Strontia
Magnesia
Potash
Soda
Ammonia
Alumine

Metallic Oxides

Water
Alcohol

In Fire.

Lime
Barytes
Strontia
Magnesia
Potash
Soda
Metallic Oxides
Ammonia
Alumine

---

24. 25. Oxalic and Tartaceous Acids.
In Water.

Lime
Barytes
Strontia
Magnesia
Potash
Soda
Ammonia
Alumine
Metallic Oxides
Water
Alcohol

---

26. Citric Acid.
In Water.

Lime
Barytes
Strontia
Magnesia
Potash
Soda
Ammonia
Alumine
Metallic Oxides

Water
Alcohol

---

27. Benzoic Acid.
In Water.

White Oxide of Arsenic
Potash
Soda
Ammonia
Barytes
Lime
Magnesia
Alumine. *Tromsdorff.*

In Fire.

Lime
Barytes
Strontia
Magnesia
Potash
Soda
Metallic Oxides
Ammonia
Alumine

---

28. Succinic Acid.

Barytes
Lime
Magnesia
Potash
Soda
Ammonia
Alumine
Metallic Oxides

Water
Alcohol

In Fire.

Barytes
Strontia
Lime
Magnesia
Potash
Soda
Metallic Oxides
Ammonia
Alumine

---

29. Lacteo-saccharine Acid.
In Water.

Lime
Barytes
Magnesia
Potash
Soda
Ammonia

Alumine
Metallic Oxides

Water
Alcohol

In Fire.

Lime
Barytes
Strontia
Magnesia
Potash
Soda
Metallic Oxides
Ammonia
Alumine

---

30. 31. 32. Acetous, Lactic, and formic Acids. *In Water.*

Barytes
Potash
Soda
Strontia
Ammonia
Lime
Magnesia
Alumine
Metallic Oxides

Water
Alcohol

In Fire.

Barytes
Strontia
Potash
Soda
Lime
Magnesia
Metallic Oxides
Ammonia
Alumine

---

33. 34. Sebacic and Phosphoric Acids.
In Water.

Lime
Barytes
Strontia
Magnesia
Potash
Soda
Ammonia
Alumine
Metallic Oxides

Water
Alcohol

In Fire.

Lime
Barytes
Strontia
Magnesia
Potash
Soda
Metallic Oxides
Ammonia
Alumine

---

35. Prussic Acid.
In Water.

Alkalis

Barytes
Strontia
Lime *Henry.*

Fixed Alkalis
Absorb. Earths
Metallic Oxides

36. Carbonic Acid.
In Water.

Barytes
Strontia
Lime
Fixed Alkalis
Magnesia
Ammonia
Alumine
Metallic Oxydes

Water
Alcohol

37. Arsenic Acid.
In Water.

Lime
Barytes
Strontia
Magnesia
Potash
Soda
Ammonia
Alumine
Metallic Oxides
Water
Alcohol

In Fire.

Lime
Barytes
Strontia
Magnesia
Potash
Soda
Metallic Oxides

Ammonia
Alumine

38. Chromic Acid.
In Water.

Fixed Alkali
Oxide of Lead
Oxide of Copper

39. Molybdenic Acid.

Sulphur

40. Tungstenic Acid.

Lime
Barytes
Magnesia
Alkalis
Alumine *Elluyarts.*

41. Oxide of Arsenic.
In Water.

Muriatic Acid
Oxalic
Sulphuric
Nitric
Sebacic
Tartaric
Phosphoric
Fluoric
Lacteo-saccharine
Succinic
Citric
Formic
Arsenic
Lactic
Acetous
Prussic Acids
Ammonia
Fat Oil

Water

Arsenic.—*In Fire.*

Nickel
Cobalt
Copper
Iron
Silver
Tin
Lead
Gold
Platina
Zinc
Antimony
Sulphuret of Alkali
Sulphur

42. Oxide of Titanite.
In Water.

Sulphuric
Nitrous and Muriatic Acids
Prussic Alkali
Oxy-muriatic
Nitro-muriatic

43. Oxide of Uranite.

Sulphuric
Nitro-muriatic
Muriatic
Nitric
Phosphoric
Acetous
Gallic
Prussic
Carbonic Acids
Sulphur

Water

44. Oxide of Sylvanite, or Tellurium.
In Water.

Nitrous
Nitro-muriatic
Sulphuric Acid
Sulphur
Alkalis
Q. Silver

Water

Sylvanite.—*In Fire.*

Q. Silver
Sulphur

45. Oxide of Manganese.
In Water.

Oxalic
Tartaric
Citric
Fluoric
Phosphoric Acids
Nitrous
Sulphuric
Muriatic
Sebacic
Arsenic
Acetous
Other Acids

Manganese.—*In Fire.*

Copper
Iron
Gold
Silver
Tin
Sulphuret of Alkali

46. Oxide of Nickel.
In Water.

Oxalic Acid
Muriatic
Sulphuric
Tartareous
Nitric
Sebacic
Phosphoric
Fluoric
Lacteo-saccharine
Succinic
Citric
Formic
Acetous
Arsenic

Lactic Acids
Arsenic
Boracic
Prussic
Carbonic
Volatile Alkali

Nickel.—*In Fire.*

Iron
Cobalt
Arsenic
Copper
Gold
Tin
Antimony
Platina
Bismuth
Lead
Silver
Zinc
Sulphuret of Alkali
Sulphur

47. Oxide of Cobalt.
In Water.

Oxalic Acid
Muriatic A.
Sulphuric A.
Tartareous
Nitric
Sebacic
Phosphoric

Fluoric
Lacteo-saccharine
Succinic
Citric
Formic

Lactic
Acetous
Arsenic
Boracic
Prussic
Carbonic
Volatile Alkali

COBALT.—*In Fire.*

Iron
Nickel
Arsenic
Copper
Gold
Platina
Tin
Antimony
Zinc
Sulphuret of Alkali
Sulphur

---

48. OXIDE OF BISMUTH.

Oxalic A.
Arsenic
Tartaric
Phosphoric
Sulphuric
Sebacic
Muriatic
Nitric
Fluoric
Lacteo-saccharine
Succinic
Citric
Formic
Acetous
Prussic
Carbonic
Volatile Alkali

BISMUTH.—*In Fire.*

Lead
Silver
Gold
Quick Silver
Antimony
Tin
Copper
Platina
Nickel
Iron
Zinc
Alkaline Sulphuret
Sulphur

49. OXIDE OF ANTIMONY.
In Water.

Sebacic
Muriatic
Oxalic
Sulphuric
Pyromucous
Nitric
Tartaric
Lacteo-saccharine
Phosphoric
Citric
Succinic
Fluoric
Arsenic
Formic
Lactic
Acetous
Boracic
Prussic
Carbonic Acids

Sulphur

ANTIMONY.
In Fire.

Iron
Copper
Tin
Lead
Nickel
Silver
Bismuth
Zinc
Gold
Platina
Quick Silver
Arsenic
Cobalt
Alkaline Sulphuret
Sulphur

---

50. OXIDE OF ZINC.
In Water.

Oxalic
Sulphuric
Pyromucous
Muriatic
Saccharine Lactic
Nitric
Sebacic
Tartareous
Phosphoric
Citric
Succinic
Fluoric
Arsenic
Formic
Lactic
Acetous
Boracic
Prussic
Carbonic Acids
Volatile Alkali

ZINC.—*In Fire.*

Copper
Antimony
Tin
Q. Silver
Silver
Gold
Cobalt
Arsenic
Platina
Bismuth
Lead
Nickel
Iron

---

51. OXIDE OF IRON.
In Water.

Oxalic
Tartarous
Gallic
Camphoric
Sulphuric
Lacteo-saccharine
Muriatic
Pyromucous
Nitric
Sebacic
Phosphoric
Arsenic
Fluoric
Succinic
Citric
Formic
Lactic
Acetous
Boracic
Prussic
Carbonic Acids

IRON.—*In Fire.*

Nickel
Cobalt
Arsenic
Manganese
Copper
Gold
Silver
Tin
Antimony
Platina
Bismuth
Lead
Q. Silver
Alkaline Sulphuret

Sulphur

---

52. OXIDE OF TIN.
In Water.

Pyromucous
Sebacic
Tartarous
Muriatic
Sulphuric
Oxalic
Arsenic
Phosphoric
Nitric
Succinic
Fluoric
Saccharo-lactic
Citric
Formic
Lactic
Acetous
Boracic
Prussic Acids

Fixed Alkali
Volatile Alkali

TIN.—*In Fire.*

Zinc
Q. Silver
Antimony
Copper
Gold
Silver
Lead
Iron
Manganese
Nickel
Arsenic
Platina
Bismuth
Cobalt
Alkaline Sulphurets
Sulphur

---

53. OXIDE OF LEAD.
In Water.

Pyromucous
Sulphuric
Sebacic

Lacteo-saccharine
Oxalic
Arsenic
Tartarous
Phosphoric
Muriatic
Molybdic
Suberic
Zoonic
Nitric
Pyromucous
Fluoric
Citric
Formic
Acetous
Lactic
Boracic
Prussic
Carbonic Acids
Fixed Alkali
Fat Oil

LEAD.—*In Fire.*

Gold
Silver
Copper
Q. Silver
Bismuth
Tin
Antimony
Platina
Arsenic
Zinc
Nickel
Iron
Alkaline Sulphuret

Sulphur

---

54. OXIDE OF COPPER. *In Water.*

Pyromucous
Oxalic
Tartaric
Muriatic
Sulphuric
Saccharo-lactic
Nitric
Sebacic
Arsenic
Phosphoric
Succinic
Fluoric
Citric
Formic
Acetous
Lactic
Boracic
Prussic
Carbonic Acids
Fixed Alkali
Volatile Alkali
Double Salts
Fat Oil

COPPER.—*In Fire.*

Gold
Silver
Arsenic
Iron
Manganese
Zinc
Antimony
Platina
Tin
Lead
Nickel
Bismuth
Cobalt
Q. Silver
Alkaline Sulphuret

Sulphur

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55. OXIDE OF Q. SILVER. *In Water.*

Sebacic
Muriatic
Oxalic
Succinic
Phosphoric
Arsenic
Sulphuric
Lacteo-saccharine
Tartar
Citric
Nitric
Fluor
Acetous
Boracic
Prussic
Carbonic Acids

Q. SILVER.—*In Fire.*

Gold
Silver
Platina
Lead
Tin
Zinc
Bismuth
Copper
Antimony
Arsenic
Iron
Sulphuret of Alkali
Sulphur

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56. OXIDE OF SILVER. *In Water.*

Muriatic
Sebacic
Oxalic
Sulphuric
Lacteo-saccharine
Phosphoric
Nitric
Arsenic
Fluoric
Tartaric
Citric
Formic
Acetous
Lactic
Succinic
Prussic
Carbonic Acids
Volatile Alkali

SILVER.—*In Fire.*

Lead
Copper
Q. Silver
Bismuth
Tin
Gold
Antimony
Iron
Manganese
Zinc
Arsenic
Nickel
Platina

Sulphuret of Alkali

---

57. OXIDE OF GOLD. *In Water.*

Æther
Muriatic
Nitro-muriatic
Nitric
Sulphuric
Arsenic
Fluoric
Tartaric
Phosphoric
Sebacic
Prussic Acids

Fixed Alkalis

Volatile Alkalis

GOLD.—*In Fire.*

Q. Silver
Copper
Silver
Lead
Bismuth
Tin
Antimony
Iron
Platina
Zinc
Nickel
Arsenic
Cobalt
Manganese

Sulphuret of Alkali

---

58. ALCOHOL.

Water
Æther
Volatile Oils
Volatile Alkali
Fixed Alkali
Sulphuret of Alkali
Sulphur

Muriates
Phosphoric Alkali

---

59. ÆTHER.

Alcohol
Volatile Oils
Water
Sulphur

Phosphorus

Caoutchouc

---

60. VOLATILE OIL.

Æther
Alcohol

Fixed Oil	Lime
Fixed Alkali	Magnesia
	Ammonia
Sulphur	Alumina
Phosphorus	Jargonia
	Oxides of Metals

61. FIXED OILS.

Lime	Lime
Barytes	Barytes
Potash	Potash
Soda	Soda
Magnesia	Magnesia
Ammonia	Ammonia
Oxide of Mercury	Metallic Oxides
Other Oxides	Alumina
Alumine	
Sulphur	
Phosphorus	

62. PYROMUCOUS ACID.

Potash	Vegetable Acids
Soda	Sulphuric
Barytes	Muriatic
	Nitric Acids

63. PYROLIGNEOUS ACID.

Lime	
Barytes	
Potash	
Soda	
Magnesia	
Ammonia	
Metallic Oxides	
Alumina	

64. JARGONIA.

The affinities of oxygen, as ascertained by later observations, appear to be nearly in this order:—

OXYGEN—Charcoal, titanium, manganese, zinc, iron, tin, uranium, molybdenum, tungstein, cobalt, antimony, hydrogen, phosphorus, sulphur, nickel, arsenic, nitrogen, chrome, bismuth, lead, copper, tellurium, platina, mercury, silver, nitrous gas, gold, muriatic acid.

TABLES OF DOUBLE ELECTIVE AFFINITIES, OR ATTRACTIONS.

I. WHAT occurs in Mixtures by Fusion.

1.	Tin, mixed with Silver,	Join with	Iron, mixed with Lead.
2.	Copper, with Gold,	Join with	Sulphur, with Lead.
3.	M. S. Gold,	Join with	Sulphur, with Regulus of antimony.

II. WHAT occurs in Mixtures of Watery Substances.

1.	Acids, mixed with Calcareous earths, or Metallic substances,	Join with	Volatile alkali, mixed with Fixed air.
2.	Vitriolic or marine acid, with Alkalis or earths,	Join with	Mercury, silver, or Lead, with Nitrous, or acetous acid.
3.	Lead, Nitrous, marine, or Acetous acid,	Join with	Vitriolic acids, Alkalis, earths, or M. S.
4.	Silver, Vitriolic, nitrous, or Acetous acid,	Join with	Marine acids, Alkaline salts, earths, or M. S.
5.	Volatile alkali, Acids,	Join with	Fixed air, and Fixed alkali.
6.	Nitrous, marine, and Acetous acids, Calcareous earths,	Join with	Volatile alkali, magnesia, earth of alum, Vitriolic acid.

From this may be experienced the nature of Double Elective Attraction when it takes place. Suppose the *volatile alkali* combined with any of the acids, and the *fixed air* with *fixed alkali*; these substances thus separately combined (No. 5.) will decompound each other; for the *volatile alkali* will unite with the *fixed air*, and the acid with the *fixed alkali*.

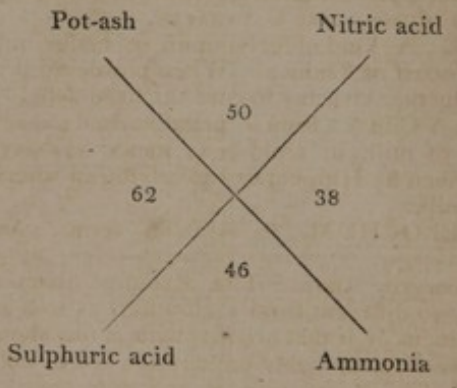
III. WHAT occurs in Distillation, or Sublimations, and requires Heat.

1.	Volatile alkali, mixed with Acids.	Join with	Fixed air, mixed with Calcareous earths.
2.	Volatile alkali, with Vitriolic acid,	Join with	Nitrous, marine, or acetous acid, with Fixed alkali.
3.	Volatile alkali, Nitrous, marine, or Vitriolic acids,	Join with	Acetous acid, Fixed alkali, or Absorbent earths.
4.	Regulus of antimony, Sulphur,	Join with	Marine acid, Quicksilver.

See Dictionary of Chemistry, translated from the French; Black's Lectures; Chaptal, Fourcroy, and Thomson's Chemistry; Morveau's Papers in the Annales de Chimie; Kirwan; Phil. and Irish Trans.; besides those above quoted, may be consulted on this subject.

AFFINITY, COMPOUND, implies the union of different bodies in one homogeneous mass. Thus, alum, vitriolated tartar, a small proportion of alcohol and water, form a transparent fluid.

——— COMPOUND, ELECTIVE, we thus distinguish what is called double elective attraction, since, in many cases, there are more than four substances. If, for instance, nitric acid be added to the sulphat of ammonia, no decomposition takes place; but let nitrat of potash be added, and two new bodies are formed; that is, the potash attracts the sulphuric acid, while the nitric acid solicits the ammonia. This was familiarly explained by Dr. Black in the following manner:



Suppose the two lines, two rulers, moving freely on the centre, if the affinity between the potash and sulphuric acid be equal to 62, that between nitric acid and ammonia equal to 38, the sum of these affinities will be superior to the affinities supposed to keep the sulphuric acid and ammonia—the potash and nitric acid together, in the proportion of their sums, viz. 100 to 96. Bergman and Elliott have given different diagrams, which we need not copy. Berthollet has shewn that these representations are not chemically exact; but this would lead us into the intricacies of another science.

——— INTERMEDIATE, means the union of bodies by an intermede. The usual instance of water uniting with oil by the medium of mucilage, is incorrect; for this is not an union, but an intimate mixture of particles unaltered. Azote will not unite with fixed

alkalis, but when combined with other bodies in the form of nitric acid, the union is ready and permanent.

AFFINITY, QUIESCENT and DWELLENT. These terms are employed by Mr. Kirwan; the former to express the force exerted to preserve the old combination; the latter that which tends to destroy it. In the former example, the quiescent affinity between the ingredients of the sulphat of ammonia and the nitrat of potash, respectively, was equal only to 96; that of the other two bodies, respectively, equal to 100.

——— RECIPROCAL, forms a singular phenomenon in chemisiry. A body consisting of two principles may be separated by another, which, with one of the principles of the first, forms a new compound; but the separated principle, after some time, will effect a separation of the new union.

A'FFION, (ASSUN,) an Arabian name of opium; also of an electuary, in which opium is a part of the composition. See OPIUM.

AFFLA'TUS, or ADFLA'TUS, (from *ad*, and *flo*, *to blow*). When a vapour or air strikes any other body with a certain degree of violence, or, as the country-people call it, a BLAST, it affects the body suddenly with a disease; it is a species of erysipelas.

AFFLI'CTIO, (from *affligo*, *to afflict*). See PASSIONS.

AFFO'DILUS. See ASPHODELUS LUTEUS.

AFFRODI'NA, or AFFRODI'TE, (from αφρος, *foam*,) so named because Venus is said to have sprung from the foam of the sea. See VENUS.

AFFU'SIO, (from *ad* and *fundo*, *to pour on*). Pouring a liquor upon something; it means occasionally the same as *suffusio*. See CATARACTA.

AFTO. A kind of erysimum, or hedge mustard, from the coast of Guinea. When powdered it is used as snuff by the Africans to cure the head-ach.

AGALA'CTIA, (from α, negative, and γαλα, *milk*,) a defect of milk in child-bed; hence αγαλακτος, an epithet given by Hippocrates to a lying-in woman that hath no milk.

AGA'LLOCHUM, an Arabian term. AGALLUGEN—αγαλλοχον, *lignum Indicum*—*aloe aromatica*. The AROMATIC ALOE. The accounts given of this wood are so different from each other, as well as from the specimens of it that are met with in our shops, that the real wood is probably unknown. Other woods, as the *asfalatham*, *aquilæ lignum*, and *calambour*, which are said to be of the same nature, are substituted for it. Whatever this article is in reality, it is also expressed by different writers by the following names, viz. *aloe lign*, *xyloaloe*, *sinkoo*, *calambac*, *alud*, *haud*, *agalugi*, *heud*, &c. The Arabians call it *ceber*, or *sebar*, and sometimes *alcebar*. The Portuguese, *Pao-agula*.

There are two species of plants which afford a wood which is thus entitled. The *A. verum*, which is the *excæcaria agallocha* Lin. Sp. Pl. 1451, and the *aloexylum verum* of Loueiro. This also has been styled *A. verum*. See Transactions of the Lisbon Academy, vol. i.

It is brought from China, and the interior parts of the East Indies, in small pieces. It is described as being compact, ponderous, of a yellow or rusty brown colour, with black or purplish veins, sometimes purple, with ash-coloured veins, and not unfrequently as being of a blackish colour. Such as is brought into Europe has a bitterish, resinous taste, and a light aromatic smell. Set on fire, it seems to melt like wax, emitting, while it burns, an agreeable fragrance; the degree of this fragrance gives the proof of its goodness. That part which is betwixt the heart, and that part which is next the bark, are called *calumbac*.

One ounce of this wood yields to spirits of wine three drams of a resinous extract; and to water two drams. If distilled with water, it yields an highly cordial oil, in the proportion of half an ounce from one hundred and sixty ounces. Miller. Dale.

Later authors, who professedly speak of the *aloexylum*, a word expressing the wood of aloes, describe it as a milky wood, very poisonous; adding, that the pith is intensely bitter. It is said to be highly acrid and inebriating, fatal to worms, and useful in palsy; or, in a smaller dose, in cholera. The common dose is a scruple. A resin and an essential oil are prepared from it. Sonnerat has lately sent to Lamarck a branch of the true wood, accompanied with a drawing of the flower, which shews that it is not of the genus above mentioned, though figured by Rumphius under the appellation of *A. secundarium*. Yet a plant of Amboyna may yield a similar resin with one of Cochinchina. Loueiro is, however, confident that the *agallochum* sold in India comes from the *aloexylum verum*. Another kind of wood under this name comes from Mexico, and is distinguished by its agreeable smell. The species is not known.

AGA'LLUGI, AGAL'LUGEN. See AGA'LLOCHUM.

AGARICOI'DES, (from αγαρικον, and ειδος, form,) a sort of fungus, like agaric.

AGA'RICUS AURI'CULÆ FO'RMA. See AURICULÆ JUDÆ.

AGA'RICUS, AGARIC, supposed from Agaria, a town in Asia. Many species of fungi have this term, all of which are acrid and poisonous.

——— MUSCARI'US, Lin. Sp. Pl. 1645. The REDDISH MUSHROOMS, also called BUG AGARIC. This is one of the poisonous vegetables that are indigenous in Great Britain. The pillar stalk is white, thick, and hollow; thicker towards the top; egg-shaped at its base; surrounded at its middle with a pendulous membrane, and furnished with a cap which is sometimes six inches or more in diameter; almost flat; either white, red, or crimson colour; and sometimes beset with angular, downy, white, or red warts. The gills are white, flat, and inversely spear-shaped; the greater number extend from the rim of the cap to the stalk, the rest only half way. When this mushroom is decaying, the gills become brownish. It is found in pastures and woods.

If the juice of this *mushroom* is rubbed where bugs retreat in the day, it will destroy them. If infused in milk, it is destructive to flies the instant they sip it. Haller relates, that six persons of Lithuania perished at one time by eating this kind of mushroom; and that others have been driven mad by it. Two or three may be taken without danger; but more will occasion delirium. See Withering's Botanical Arrangements. Wilmer's Observations on Poisonous Vegetables. Lightfoot's Flora Scotia, vol. ii. p. 1010.

Yet, like all the agarics, it has the character of being cathartic and sudorific. In fact, nature exerts herself to

throw off the poisonous matter, and thus occasions these discharges. It has, however, been given internally in cases of epilepsy and palsy from a repulsion of eruptions. The dose is from ten to thirty grains in vinegar, the usual antidote to poisonous vegetables. If any one should be found so rash to employ it, we may add that the part only just above the ground is to be selected. This is cleaned, dried, powdered, and kept in a well-closed vial. It entered as an ingredient in the well known formula of the theriaca, when it was considered as a cordial.

AGARICUS PIPERA'TUS, Lin. 1741. PEPPER MUSHROOM; also called PEPPER AGARIC. The stalk is about two inches high. The hat is convex when young: as it expands, it becomes nearly flat; its colour is a dirty white, with a mixture of grey; it contains a milky juice. The disk is constantly bent inwards: when the fungus is decaying, the hat becomes in its centre, and is sometimes seen funnel-shaped. The lamellæ are close, numerous, and of a pale flesh colour.

It is very common in woods, near the roots of trees. When freely taken, fatal consequences are said by several writers to have resulted. When this vegetable has lost its acrid juice by drying, its caustic quality still remains. In distillation it gives out ammonia.

In case of injury from any of the mushroom tribe, see AMANTIA. See also Wilmer's Observations on Poisonous Vegetables.

——— QUE'RCUS, AGARIC of the OAK, called *fungus igniarius*. *Boletus igniarius*, Lin. 1645. FEMALE AGARIC, and, from its readiness to catch fire, TOUCHWOOD.

It grows in the form of a horse's hoof; externally it is of a dusky ash-colour, and internally of a dusky red; it is soft and tough. The best is said to grow on the larger branches of oak trees; but that which is found on other trees is often as good.

It consists of four parts, which present themselves successively. 1st. The outward rind, which may be thrown away. 2d. The part immediately under this rind, which is the best of all, and is used to restrain hæmorrhages from wounds, and after amputations; it should be beat well with a hammer until it is soft and pliable, then slices of it of a proper size are to be applied upon the open blood vessel, whose discharge it restrains, not from its restringency, but its texture and adhesive quality: on the first application it adheres pretty strongly, but about the end of two days it begins to separate and soon falls off. 3d. A part which adheres to the second, and which is an inferior sort, may be used in less important cases. The 4th, or last part, may be powdered, and then used for the same purposes as the second and third sorts. The best time for taking the fungous substance from the trees is autumn, when the weather is fine, and after great heats.

As a styptic, this fungus does not appear to possess any advantages greater than what may be expected from dry lint, as its success hath not been manifested but when the circulation was so languid that lint would not have failed to have answered as well. This *agaric* grows on different trees, chiefly on the ash.

See Warner's Cases in Surgery, p. 133, &c. Neale's Observations on the Use of *Agaric*.

——— MINERALIS, called *lac lunæ*, *lac montium*, and *medulla lapidum*. It is collected in the clefts of the secondary mountains, and, when dry and powdered, is styled *fossil farina*. It has been employed in some instances as a desiccative; but is little known to the practitioners of this country. It is often mixed with clay, and is sometimes a pure clay. The *santa fiora*, however, of Sienna, of which bricks that swim in water are formed, contains a much larger proportion of flint and magnesia than of clay.

AGA'SYLIS, (from *αγαομαι*, *to be wonderful*). Dioscorides says, that this is the tree from whence the ammoniacum is produced, so named from its surprising good properties. See AMMONIACUM.

AGATHO'NIS ANTIDO'TUS HEPA'TICA. Agathon's antidote for the liver.

℞. Gentian. ʒ vi. R. Enul. C. Fol. Abs. et Fol. Nard. Ind. ää ʒ i. m.

AGENE'SIA, (*α*, non, and *γενεσις*, *generatio*). See ANAPHRODISIA, and DYSPERMATISMUS.

A'GER NATU'RÆ. See UTERUS.

AGE'RATUM, (*α*, non, and *γηρας*, *senectus*,) because its flowers preserve their beauty a long time. It is also named *balsamita minor*; *costus hortorum minor*; SWEET MAUDLIN, OF MAUDLIN TANSEY. It is the ACHILLEA AGERATUM of Linnæus. Sp. Pl. 1264.

The other species of achillea are the *A. litrata* Lin. 1267, the true genepi of the shops; the *A. millefolium* Lin. 1267; *A. moschata* (*odorata*, Lin. 1268); *A. ptarmica*, Lin. 1266. These agree in a pleasing smell, and a bitterish taste, resembling the costmary and tansey. Their virtues, though inconsiderable, are best extracted by water. To this, however, the ptarmica is an exception; for the smell of the flowers is nauseous; the taste of the root acrid and pungent. The former species are used in stomach complaints; the last as an errhine and a sialagogue, to relieve the tooth-ach, and as a remedy for palsy.

AGE'RATUS LA'PIS, (*ageratus*, *common*). A stone used by coblers to polish women's shoes. It is ridiculously said to discuss, and to be gently astringent. If it possesses any such virtues, it probably contains iron, a supposition countenanced by its being used in dyeing.

A'GE VI'TA. The name of an antidote, rather supposed to be called *jugis vita*, long, or continual life. It is a medicated wine, made with galangal root, long and white pepper, sage, ginger, cinnamon, saffron, and cloves, boiled in wine.

AGGLOMERA'TIO, (from *ad* and *glomero*, *to roll together*). The rolling or mixing together two or more substances into one mass.

AGGLUTINA'TIO, (from *ad* and *glutino*, *to solder together*,) AGGLUTINATION. Reunion, sticking together: so healers are agglutinants.

——— PILORUM. Reducing the hair of the eye-lids that grow inward, to their natural order, by any glutinous matter on a probe.

AGGLUTI'NANTS. A class of medicines which united wounds, or were supposed to have this effect. They consisted of substances which contained gluten, and were thought capable of supplying that portion of the blood whose effects on wounds were sufficiently obvious. They are now known to be useless. If any such internal medicine exists, it is gum arabic, in a very large dose taken daily for a considerable time.

The other agglutinants are merely nutritious, except the olibanum, which acts in humoral asthmas on a different principle.

AGGREG'ATÆ GLANDULÆ, (from *aggrego, to assemble together*). Small glands, supposed to be lodged in the cellular coat of the intestines next to the villous; but as they do not appear in an uninjected gut, many anatomists suspect them only to be little bits of separated wax.

AGGREGA'TUM, (from the same,) an AGGREGATE. A body resulting from the union of many others which are smaller, of which the whole sum is the aggregate.

AGGREGA'TUS, (from the same). In botany it is an epithet applied to those parts of plants, which are so united that they cannot be separated without injury to the economy of the whole.

AGHEUS'TIA, } (*α*, non, and *γευομαι, gusto*). DE-
AGEUS'TIA, } FECT, or LOSS of TASTE, called also *Apogeusia*, *Apogeusis*. Dr. Cullen ranks this as a genus of disease, in the class *locales*, and order *dysæsthesiæ*. The causes are fever, or palsy, whence he forms two species: the first he calls ORGANIC, arising from some affection in the membrane of the tongue, by which relishing things, or those which have some taste, are prevented from coming in contact with the nerves; the second ATONIC, arising from a weakness of the nerves, without any affection of the tongue. Sauvages thinks the cause of this disease to be either in the brain, in the tongue itself, or in the passage of the lingual nerves. He forms two species: first, FEBRILIS, where a suppression of taste accompanies fevers, from the rough tongue; delirium, or coma: second, PARALYTICA, when it accompanies a paralysis of the tongue or some comatous disorder.—Nosologia Methodica, vol. i. 751.

AGIAHA'LID. See LYCIUM.

A'GIS. See FEMUR.

AGITA'TION. Exercise is sometimes useful, by agitating the whole system; and violent agitation is recommended by Bartholine in fits of tooth-ach and deafness. Agitation of mind from any cause has certainly relieved nervous complaints, and prevented the access of fevers or of spasmodic attacks.

AGLACTA'TIO, (*α*, non, and *γαλα, lac*). DEFECT OF MILK.

A'GLIA, (from *αγλος, shining*). See ÆGIDES.

A'GLITHES, (from *αγλυομαι, to be offensive*). The division or segments of a head of garlick, which we call its cloves.

AGLUTI'TIO, (from *α*, priv. and *γλυζω, to swallow*). A difficulty of, or impedintent to, swallowing. See DEGLUTITIO.

A'GME, (from *αγω, to break*). See FRACTURA.

A'GNACAT. A tree which grows about the isthmus of Darien; it resembles a pear-tree, both as to its general appearance and its fruit, the pulp of which is said to be highly aphrodisiac. Raii Hist.

AGNA'TA. See ADNATA.

A'GNIL. See INDICUM.

AGNI'NA MEMBRA'NA, (from *αγνος, a lamb*, and *membrana, a membrane,*) vel PELLI'CULA. Aetius calls one of the membranes which involves the fœtus by this name, which he derives from its tenderness. This name is adopted by Drelincourt and Bartholine. See AMNION.

AGNOI'A, (from *α*, neg. and *γινωσκω, to know*). It is when a patient in a fever forgets his acquaintance. When it is joined with rigor, it is a dangerous symptom.

A'GNUS CA'STUS, (from *agnus, a lamb*, and the Hebrew term KADASH, *chaste*). It is called *agnus*, from the down on its surface, which resembles that upon a lamb's skin; and *castus*, because the chaste matrons at the feast of Ceres strewed them upon their beds and lay upon them. The CHASTE TREE, *vitex agnus castus* Lin. Sp. Pl. 890. The qualities of this seed do not support its name or use. The smell is fœtid, the taste warm. It is not now used in medicine.

A'GNUS SCY'THICUS. The SCYTHIAN LAMB, called also in the Scythian language, *barametz*, i. e. lamb, or *barometz*, or *baronetz*. This sort of plant is said to be found in Tartary, Russia, &c. and is described as growing in the resemblance of a lamb. In fact, however, it is the root of a fern, covered with a whitish down, which the Tartars trim so as to represent a lamb, and sell it for a vegetating parasite animal. It would be endless to recount the ridiculous stories told of this animal plant; nor is it a part of our subject. The fern is the *polypodium barometz* of Loueiro; the *dictisoma culcita* of Heritier. *Sertum* Anglic. Pl. 43.

AGOM'PHIASIS, (from *α*, neg. and *γομφος, compact,*) or GOM'PHIASIS. A distemper of the teeth; it is when they are loose in their sockets and pained.

A'GONE, (from *α*, priv. and *γονος, offspring*). HENBANE; so named because it is supposed to occasion barrenness. See HYOSCIAMUS NIGER.

AGO'NIA, (from *α*, neg. and *γονος, an offspring*). See STERILITAS.

AGO'NIA, (from *αγων, a combat* or *struggle*). AGONY, as when there is a struggle between life and death. To avoid this painful struggle, which has agitated the minds of the wisest and best of men, different plans have been suggested. But death is the last scene which we must all act; and, to the mind possessing an awful sense of the power and goodness of the Almighty, there is but a shade of difference between our voluntarily shortening our lives for a few hours or minutes, and the abridging half an age. Also fear and sadness of mind, with agitation.

AGONI'STICUM, (from *αγωνιαω, to strive*). Galen, in speaking of Marasmus, uses this word to signify water extremely cold, which he directs to be given in large quantities in erysipelatous fevers, that it may overpower the excessive heat of the blood.

A'GONOS, (from *α*, neg. and *γονος, an offspring*, or *γονη, barren*).

Hippocrates calls those women so who have not children, though they might have, if the impediment was removed. In botany it means not bearing seed or fruit.

AGO'STUS, from *αγω, to bring* or *lead*). That part of the arm from the elbow to the fingers. See also PALMA.

AGRE'DULA. A species of FROG.

AGRE'STA, VERJUICE, (from *αγριος, wild*). The juice of unripe grapes, or the sour grape itself, called omphax, or the juice of the sour apple. See MALUS HORTENSIS.

AGRES'TEN. ACID STONE TARTAR.

AGRES'TIS, WILD, (from *αγριος, wild*). It is applied to vegetables that grow without cultivation (see MALUS SYLVESTRIS); to wild, as distinguished from tame, animals; and to express an ungovernable malignity in a disease.

A'GRIA, HOLLY, (from the same). Also a malignant pustule, of which there are two sorts; one is small, and casts a roughness or redness over the skin, slightly corroding it, smooth about its centre, spreads slowly, and is of a round figure; this sort is cured by rubbing it with the saliva before breakfast: the second sort ulcerates, with a violent redness and corrosion, so as to make their hair fall off; it is of an unequal form, and becomes leprous; its cure is the application of pellitory of the wall in the manner of a poultice.

AGRIA'MPELOS, (from *αγριος, wild*, and *αμπελος, a vine*). The WILD VINE. Bryonia alba. See also BRYONIA NIGRA.

A'GRIC. The abbreviation by which is meant Georgius Agricola de Re Metallica, Natura Fossilium, &c. Basilian, 1657, folio.

AGRICULTU'RA, (from *ager, a field*, and *cultura, tillage*). Agriculture is the art of cultivating the ground; tillage, husbandry, as distinct from pasturage. But it is not connected with medicine, except in the instance of benefit supposed to be received from vapours which arise while ground is fresh or newly turned up, particularly the light gravelly soils.

On this subject much satisfaction may be derived from the Georgical Essays by A. Hunter, M. D., second edition, in five volumes. Fordyce's Elements of Agriculture and Vegetation.

AGRIELÆ'A, (from *αγριος, wild*, and *ελαια, an olive*). See OLEASTER.

AGRIFO'LIUM, (from *ακις, a prickle*, and *φυλλον, a leaf*). See AQUIFOLIUM.

AGRIMO'NIA, (from *αγρος, a field*, and *μονος, alone*). So named from being the chief of all wild herbs. COMMON AGRIMONY, called also *eupatorium Græcorum*, vel *verum*, and *hociamsanum*. *A. eupatoria* Lin. Sp. Pl. 643.

The leaves have a slight bitterish aromatic taste, the flowers are small, stronger, and more agreeable; they give out their virtues to water and to spirit of wine.

It is best used while fresh; and the tops, before the flowers are formed, possess the greatest virtue. A conserve is the best form of preparation; though the dry powder has been recommended: an infusion in water or whey is good, though now disused.

It is mildly corroborant, and recommended in humoral asthmas. It may be of some service in a relaxed state of the bronchial glands. It is used by Canadians in burning fevers, and recommended by Hill in jaundice; and by others in visceral obstructions. Alston advises it in cutaneous eruptions; and it has been considered as useful in hæmorrhages. On the whole, it is only a weak, inefficacious, astringent.

The dose is 3 i. or more. The common hemp, and Dutch agrimony, are called EUPATORIUM; hemp agrimony, BIDENS.

AGRIMONOI'DES, from *αγριμονη*, and *ειδος, like*,) pimpinella fol. agrim. nonnullis. It grows on the mountains of Italy; it is of the same nature as agrimony. *A. Agrimonoides* Lin. 643.

AGRIOCA'RDAMUM, (from *αγριος, wild*, and *καρδαμον, nasturtium*). See LEPIDIUM *folio graminco*.

AGRIOCA'STANUM, (from *αγριος, wild*, and *καστανον, the chesnut*). See BULBOCASTANUM.

AGRIOCI'NARA, (from *αγριος, wild*, and *κιναρα, artichoke*). See CINARA SYLVESTRIS.

AGRIOCOCCIME'LA, (from *αγριος, wild, κοκκος, a berry*, and *μηλεα, an apple-tree*). See PRUNUS SYLVESTRIS.

AGRIOME'LA, (from *αγριος, wild*, and *μηλεα, apple-tree*). See MALUS SYLVESTRIS.

A'GRION, *αγριος, wild*.
AGRIOPHY'LLON, (*αγριος*, and *φυλλον, leaf*). } See PEUCEDANUM.

AGRIORI'GANUM, (*αγριος*, and *οριγανον, marjoram*). See ORIGANUM ANGLICUM.

AGRIOSELI'NUM, (*αγριος*, and *σελινον, parsley*). See HIPPOSELINUM.

AGRIPA'LMA GALLIS, (*αγριος*, and *παλμα, palm-tree*). See CARDIACA.

AGRI'PPÆ. Children born with the feet foremost are so called from Agrippa, who was named *ab ægro partu*, from his difficult birth. These births, though reckoned preternatural, are often more safe and easy than the natural. See PRÆSENTATIO. It is the name also of an ointment described by Nicolaus.

AGRIUM. An impure fossil alkali: the purer sort was called halmyrhaga.

AGROM. A disease of the tongue not uncommon in India; in which it becomes extremely rough and chapped. They relieve it by drinking a chalybeate fluid, or the juice of a large species of mint; or chewing the black-seeded basilica.

AGRO'STIS. See BRYONIA ALBA.

AGRU'MINA, *quasi agriomina*, (from *αγριος, wild*,) ONIONS, LEEKS. See CEPA, and PORRUM.

AGRY'PNIA, (from *α*, neg. and *υπνος, sleep*). See PERVIGILIUM.

AGRY'PNOCOMA, (*αγρυπνος, without sleep*, and *κωμα, lethargus*). See COMA VIGIL.

AGUA'RA QUI'YA. See SOLANUM HORTENSE.

AGUE. See INTERMITTENT.

AGUE DROPS. This is a medicine sold for the cure of agues, which is evidently a solution of arsenic in water. The solution is saturated, and the dose is equal to about the twentieth part of a grain. It is a powerful and useful medicine, and, in proper hands, not injurious.

AGUE CAKE. A tumour in the region of the spleen which often follows agues, and was once said to be owing to the use of the bark. It is, however, now very rare; and much more so since the bark has been generally employed.

A'GUL, an Arabic word—(AGUL, *a circle*). The Syrian thorn was so called, because of its pliancy, from whence they made bands of it. For its other properties, see ALHAGI.

AGUTIGUEPOO'BI BRASIL, (an Indian term). See SAGITTARIA ALEXIPHARMACA.

AGY'RTÆ, (from *αγυρις, a crowd of people*, or from *αγειρω, to gather together*). QUACKS, MOUNTEBANKS, or people who go from place to place to sell medicines, were called *circulatores, circumforanei*, and *pharmacopolæ*; the last of which, though proper to any

seller of medicine, yet was strictly applied to mountebanks.

AHALOTH. The Hebrew name of lign. aloes.

AHAME'LLA, and AHMELLA. See ACMELLA.

A'HIUS. SALT STONE.

AHO'VAI THEVETICLU'SH, or AIICAI, HAOUVAY. The name of a fruit in Brasil, the size of a chesnut, white, and shaped like the water caltrops; it is poisonous. The tree is as large as a pear-tree, the bark white and full of juice, the leaves are always green, the flower consists of one leaf, formed like a funnel, divided at the edge; a pistil arises from the cup, which is the fruit. Incisions in the bark emit a milky liquor that smells like garlic. It is the *cerbera ahouai* of Lin. Sp. Pl. 303. The smell is very offensive, and the nut a violent poison. The shells are, however, employed by the Brasilians as ornaments. Father Labat calls it the rattle-snake nut; as, when applied in the form of a cataplasm, it is said to cure the bites of that serpent. It is, however, suspected that the good father has mistaken the tree; since his description does not agree with the plants raised in the botanic garden at Paris.

AHU'SAL. The SULPHER OF ARSENIC.

AI'ES. See BATTATAS.

AI'GRE DI CE'DRE. See CITREUM.

AI'LMAD. See ANTIMONIUM.

AI'PI,
AIPI'MA CO'XERA.
AIPIPO'CA } (Indian words). See CASSADA.

AIR. See AER.

AI'RA, (*αἴρω, to take away;*) so named, because it ought to be removed. See LOLIUM.

AISTHETE'RIUM, (from *αἰσθάνομαι, to perceive*). See SENSORIUM COMMUNE.

AJUGA. The *bugula* of Jussieu. The plant used in medicine is the *A. reptans* Lin. Sp. Pl., the common bugle; consolida media of medical authors. It is a slight astringent, and has been styled a vulnerary. To this genus, Dr. Smith has annexed the tucrium chamæpitys, the ground pine. See CHAMÆPITYS.

AIX LA CHAPELLE, is a large imperial city, situated in the duchy of Juliers, on the confines of Flanders, seven leagues from Spa; it contains many springs of hot sulphureous waters, which supply a number of baths. On the vaults above the springs and aqueducts of these waters is found every year, when they are opened, a quantity of fine white-coloured flowers of sulphur, which has been sublimed from the waters. The heat of the waters of the hottest spring, Dr. Lucas says, raises the quicksilver in Fahrenheit's thermometer to 136; Mons. Monet to 146; and the heat of the fountain, where they commonly drink, to 112, according to Dr. Lucas. Sir T. Bergman obtained from a Swedish kanne 27 grains of lime saturated with aërial acid, 29 grains of sea salt, and 70 grains of mineral alkali. These waters are powerfully diaphoretic, and diuretic; and, if taken in quantity, prove purgative. Of the three hot European waters of note; viz. that of Aix la Chapelle, Bourbon, and Bath, the first abounds more eminently with sulphur, and is the hottest, the most nauseous, and purgative. The Bath waters possess the least of these qualities. In all cases it is the best to begin with small quantities, and low degrees of heat, and gradually increase them, agreeable to the effects and constitution of the patient. In cases of dyspepsia, and foulness of the primæ viæ, they are said to be efficacious: in rheumatism, scurvy, scrofula, cutaneous diseases; in hysteria, and hypochrondriasis; melancholy, stone, and gravel; in paralytic complaints, and in many other cases, they should be considered as invigorators of the system, deobstruent, and evacuant. They are improper in all hectic cases, putrid disorders, where the blood is in a dissolved state, or the constitution much broken down. The times of drinking these waters are from the beginning of May to the middle of June; or from the middle of August to the latter end of September. See AQUÆ MINERALES. See Monro's Medical and Pharmaceutical Chemistry, vol. ii. Dr. Williams on the Waters of Aix la Chapelle, &c.

AIZO'ON, (*ἀεί, always*, and *ζάω, vivo, to live*). See ALOIDES. It is also a name for *sedum*.

AJA'VA, (Indian). So the Portuguese call a seed which is brought from Malabar, and is celebrated in the East Indies as a remedy in the colic. When the gout affects the stomach, these seeds are very effectual in dispelling the wind, and procuring speedy relief from this painful disorder; they sometimes relieve by procuring stools. The descriptions of travellers are not so minute as to enable us to refer it to its place in the Systema Naturæ. Dr. Percival takes notice of these seeds in his Essays Med. and Exp. vol. ii.

AJUBATI'PITA BRASILIE'NSIUM. A shrub bearing fruit like an almond; but it is black, and contains much oil.

A'JUGA, (*ἀ* priv. and *ζυγόν, a yoke*). See CHAMÆPITYS.

A'JUGA. REPTANS. See BUGULA.

AKMEL'LA. See ACMEL'LA.

AL. The Arabian article which signifies *the;* it is applied to a word by way of eminence, as the Greek *ὁ* is. The Easterns express the superlative by adding God thereto, as, the mountains of God, for very high, or the highest, mountains; AL may therefore relate to the word Alla, God; and alchemy may be the chemistry of God, or the perfection of chemical science. See ALCHEMIA.

A'LA, AN ARM-PIT, also A WING, (Hebrew term AHLA, *a leaf*). It is often employed in the descriptive language of every science, for any thin expanded projections. In BOTANY, it is the two side-petals in a papilionaceous corolla: also membranes affixed to the seeds. It used to be applied to the angle formed by a branch with the stem, or by a leaf with the branch; but this is now named *axilla* or *axil*, from its similarity to the arm-pit. In ANATOMY.

A'LA AU'RIS, or *Pinna Auris*, is the upper part of the external ear.

A'LÆ NA'SI, or *Pinnæ Nasi*, the cartilages which are joined to the extremities of the bones of the nose, and which form its lower moveable part. The name also of the helenium or elecampane.

ALABA'NDICUS,
ALABA'NDINUS, } LAPIS, so called from ALABANDA, the place from whence it is taken. A blackish stone intermixed with sallow spots. It is pellucid, and looks as if it was divided by fissures into segments. Actius says, that the powder of this stone makes grey hairs black. Probably black-lead.

ALA'BARI. See PLUMBUM.

ALABA'STRON; an ointment. Myrepsus gives the formula, and says that it is the same as that with which Mary anointed the feet of Jesus Christ. ALABASTRUM also means a solid kind of white gypsum, of which utensils were formerly made; probably from Alabastrum, a town in Egypt, where it was plentifully produced.

A'LACAB. See AMMONIACUS SAL.

A'LÆ INTE'RNÆ, } CLITORIDES. See NYM-
—— MINO'RES, } PHÆ.

—— MAG'NÆ OS'SIS SPHENOI'DIS. The two temporal apophyses of the os sphenoides.

—— PA'RVÆ OS'SIS SPHENOIDIS. The two thin, sharp, transverse apophyses of the os sphenoides, which form the superior orbitary fissures.

A'LAFI } ALCALI.
A'LAFOR, and A'LAFORT, }

ALAI'A PHTHI'SIS, (from *αλαιο, blind*). A wasting from a flux of humours from the head.

ALAMA'MDINA, supposed to be the alabandicus lapis.

ALA'MBIC. See ARGENTUM VIVUM.

A'LAMAD. ANTIMONY. See ANTIMONIUM.

ALA'NA TE'RRA, (from *αλαινος, oily*, and *terra, earth*,) ENGLISH OKER; called also ALHA'NNA. It is esteemed drying and astringent; its principal use is to mix with salts in distillation, in order to keep them from melting. It is probably the *Samian stone*, and the *Terra Tripolitana*.

ALA'NDAHAL, (an Arabic term—AHLAN, *bitter*). See COLOCYNTHIS.

ALANFU'TA, (an Arabic word, from the same derivation). A vein betwixt the chin and upper lip, formerly opened to cure a fœtid breath.

A'LA POU'LI. See BILIMBI.

ALAQUE'CA, *(Indian)*. A stone found in little polished fragments in the East Indies, used externally to stop bleeding.

ALA'RE EXTE'RNUM, (from *alaris, winged*, and *externum, outward*). See PTERYGOIDES EXTERNUS.

ALA'RIS VE'NA, (from *ala, the arm-pit*). The inner of the three veins in the bend of the arm, because it comes immediately from the arm-pit: this is attended with an artery, and the median with a nerve; but the outer one, as P. Ægineta long since observed, is safe for bleeding.

ALARIS, in botany. The term means growing out of the angles formed by the branches of the stem.

ALA'SET. AMMONIACUS SAL.

A'LATAN. LITHARGYRUM.

ALA'TAR. BURNT BRASS. See ÆS USTUM.

ALATERNOI'DES, (*alaternus, ειδος, likeness*,) AFRICA'NA. } See CASSINE.
ALATE'RNUS. }

ALA'TI, (from *alatus, winged*). Those who have prominent scapulæ are so called, and are subject to consumptions; since, from the pressure of the muscles in consequence of this disadvantageous attachment, the sides of the sternum are compressed.

—— PRO'CESSUS, or ALA'RES. The wing-like processes of the os sphenoides.

ALAU'RAT. See NITRUM.

A'LBA SI'MPLEX. See OCIMASTRUM.

ALBADA'RA (from ALBADAR, an Arabian word). See SESAMOIDEA.

ALBAGIA'ZI. See SACRUM OS.

ALBAME'NTUM, (from *albus, white*). See ALBUMEN OVI.

ALBA'NUM. SALT OF URINE.

ALBA'RA, (from ALBAHRAH, a Chaldæan word). A species of the white leprosy, see ALPHUS. It also signifies the white poplar. *Albarus nigra* is the *lepra Græcorum*. Avicenna calls the *lepra icthyosis* by this name.

ALBA'TIO, ALBIFICA'TIO, (from *albeo, whitening*,) called blanching of metal.

ALBE'DO, (from ALBIS,) WHITENESS. In urine is observed four sorts of whiteness, viz. the crystalline, the snowy, the limy, and the limpid.

A'LBERAS. White pustules upon the face. See ALBORA. It is also a name given to staves-acre, because its juice is said to remove these pustules. See STAPHISAGRIA.

ALBE'STON. QUICK-LIME. See CALX.

A'LBETAD. See GALBANUM.

A'LBI. SUBLIMATE. See MERC. CORROSIVIS ALB.

ALBICA'NTIA, CORPORA, (from *albeo*). Willis's glands. See CEREBRUM.

A'LBIMEC. ORPIMENT. See AURIPIGMENTUM.

ALBI'NUM, (from the whiteness of its blossom). See GNAPHALIUM.

A'LBIN INS. The abbreviation for Albin Eleazer, a natural history of insects. London, 1720, 4to.

A'BIR. Pitch from the bark of the yew-tree.

A'LBOR URINÆ. See URINA.

A'LBOR O'VI. WHITE OF AN EGG. See ALBUMEN OVI.

A'LBORA. A sort of itch, or rather leprosy. Paracelsus says, it is a complication of the morphew, serpigo, and leprosy. When cicatrices appear in the face like the serpigo, and then turn to small blisters of the nature of morphew, it is the *albora*. It terminates without ulceration, but by fetid evacuations in the mouth and nostrils: it is also seated in the root of the tongue. Internal medicines, as well as corrosive ones, are forbidden.

ALBO'RCA. MERCURY. See ARGENTUM VIVUM.

A'LBOT. See CRUCIBULUM.

A'LBOTAT. CERUSS. See PLUMBUM.

A'LBOTIM, or ALBO'TAI. See TEREBINTHINA.

A'LBOTIS. See TERMINTHUS.

ALBUGI'NEA, vel TENDINO'SA TUNICA. The inner proper coat of the testicle, named from its white and transparent colour. It is a strong, thick, white membrane, smooth on the outward surface, rough and uneven on the inner: into the upper part of this membrane are inserted the blood vessels, nerves, and lymphatics, which send branches into, and receive them from the testicle.

This coat being distended, is the cause of that pain which attends an inflammation of the testes.

Albuginea is also the name of the *adnata*, q. v.

ALBUGINO'SUS HU'MOR. See OCULUS.

ALBU'GO CORA'LLII. A name of the magistery of coral, which it hath obtained from its whiteness.

ALBU'GO OCULORUM. WHITE SPECK ON THE EYES. The Greeks generally named it *leucoma:* the Latins and ancient authors, *nubes, pterygium, pannus oculi, onyx, paralampsis, argema*, and *ægides;* Dr. Wallis

the albuginous, or *pearly corneal speck*. The French name it *tache blanche*, if it shines; the Latins, *margarita*; the Greeks, παραλαμπσις; the French, *perle*; Dr. Cullen, *caligo corneæ*. See Achlys.

All cicatrices appear white in the black part of the eye, and astringents thicken them.

It is sometimes called nubecula, when superficial; and *albugo*, when deep: when the speck appears of a shining white, and without pain, it is called by some a cicatrix; when of an opake whiteness, an *albugo*: seated superficially, it hath been termed a speck; and more deeply, a dragon; when it projects a little, it is called a pearl.

The disease consists in a chronic inflammation of the eye, from erosion, measles, small-pox, wounds, burns, &c.

When deep, the cure is difficult; when the consequence of a wound or ulcer, it is rarely cured; when the natural shape of the eye is altered, the prognostic is unfavourable. The *albugo* which follows an inflammation generally disappears spontaneously.

The aqua cupri ammon. alone sometimes succeeds in the cure; and in general saturnine and mildly astringent or stimulant applications are useful. When the film is very tough, and the eye not inflamed, common glass finely levigated may be blown upon it through a quill, and repeated once in a day or two. Dr. Kirkland thinks, that, in general, nature, assisted by strengthening the eye with cold water, will affect the cure. A single drop of laudanum, dropped into the eye night and morning, will often cure it. Boerhaave prescribed the repeated use of calomel and cathartics to dissolve the lymph, and free the cornea from leucoma. See Unguis. See Kirkland's Inquiry, vol. i. p. 492. Bell's Surgery, iii. 356. Wallis's Nosology of the Eyes, p. 134. White's Surgery, 228.

A'LBUM BALSAMUM, (from albam, a Chaldæan term). See Capivi balsamum. A balsam also so called is thus made: R. Aquæ lythargyri acetati ad consist. mellis evaporat. et ol. rosar. ää p. æq. m.

A'LBUM CANIS, } The white dung of dogs;
——— græ'cum, } also called *spodium Græcorum*, *nihil album*—*gryseum*, *cynocoprus*. It is slightly stimulant and discutient, and was formerly applied to the outside of the throat in quinsies, being first mixed with honey.

A'LBUM HISPANIÆ, et HISPANICUM. Spanish-white. It is also called *bianca Alexandrina*. It is made from tin and bismuth, in the same manner that ceruss is made from lead, and is a cosmetic.

ALBUM JUS. White broth. Boil whiting, haddock, cod, or any similar fish, in water, with a little oil; a small quantity of aniseed and leeks. When the fish is parboiled, add a little salt.

A'LBUM NIGRUM. Mouse-dung.

A'LBUM OLUS. Lamb's lettuce, or corn sallad. See Lactuca agnina.

ALBU'MEN O'VI, white of egg; called also *albumor* and *albor ovi*, *ovi albus liquor*, *ovi candidum*, *albamentum*, *clareta*, &c.

The white of an egg is a pellucid viscous liquor, thinner towards each end, and thicker in the middle. That part which is more dense and close than the rest is called *gallatura*.

The industry of later physiologists has discovered three different kinds of albumen in each egg, of different densities. The external is the most liquid; the second is less so, and the third still less fluid. It is to this third portion that the shape of the albumen is confined; the others surround the yolk: this consists of two segments of spheres of unequal diameters, applied to the sides of the yolk, and connected with it by a somewhat denser albuminous process, *near* each extremity; though not, as has been represented, at the poles. These albuminous processes are styled *chalazæ*. Each of the portions of this internal albumen is penetrated by a convoluted cord: that, on one side, is membranous; the other, vascular. The former is contiguous to the pellicle of the yolk; the latter, analogous to the umbilical cord in the mammalia, forms the communication between the albumen and the yolk.

The albumen of the egg, in its early period, is less homogeneous than at a later; since, in boiling, it concretes into a curdly fluid. Some water escapes from it, and is collected in a pellicule, on the top; and it is probable, though by no means certain, that some oxygenous gas is absorbed. It is said to be destined for the nourishment of the chicken; but, in the process of incubation, it is not materially diminished in quantity, and we know that the yolk is the real nutritious substance, and is taken into the body of the chicken at the end of the period of incubation. A milder nourishment may probably be required in the early stages: nor is it very improbable that the three kinds of albumen may be designed as nourishment for the chicken at its different ages, and the waste repaired by the absorption of humidity. If this is prevented, the progress of the embryo is checked, and the egg continues in its first state.

The albumen is peculiarly mild, resembling the serum of the blood, which is a watery fluid, with an admixture of the gluten; a portion of which appears to be chemically combined, and the larger part mechanically mixed. It is soluble in hot or cold water, coagulated by heat of 165° of Fahrenheit; by acids, and by alcohol. When diluted by ten times its weight of water, heat does not coagulate it; but acids and alcohol continue to produce this effect until it is more largely diluted. In the coagulation, the bulk is not increased; and the coagulum neither absorbs nor emits air. The cause of the coagulation is probably the addition of caloric; but to ascertain this idea, which is originally Scheele's, the capacity of the albumen in each state for heat should be ascertained.

Albumen naturally contains a proportion of soda and a little sulphur. In water of 80°, it soon becomes putrid, and exudes through the broader end of the shell. Alkalis and alkaline earths dissolve it; disengaging some ammonia, in consequence of its decomposition. A solution of tanin precipitates albumen in the form of a yellow precipitate, of the consistence of pitch; and, however minute the proportion of albumen combined with water may be, it is discoverable by means of tanin. When dissolved by alkalis, and precipitated by acids, its qualities are altered. When coagulated, water no longer dissolves it, but mineral acids have this power, and tanin only will precipitate it: alkalis have no effect. In its analysis, it resembles the gluten of the

blood, but contains a less proportion of azote than the fibrin: the other ingredients are carbone and hydrogen. See BLOOD and TANIN.

The yolk of the egg differs in appearance, rather than its nature, from the albumen. It has a portion of the gluten, and contains a resinous, or rather an oily fluid. By heat, the oil is entangled in the coagulable substance; but a portion may be expressed, and is employed as an antiphlogistic remedy against sun-burns. The colouring material is not known. Fourcroy supposes it to be iron; but it is more probably sulphur, as a putrid egg exhales a strong hepatic gas. The shell of the egg consists chiefly of carbonat, and phosphat of lime, with gelatinous matter. The membrane that lines it, though apparently dense, suffers some fluids to escape, and some gases probably to be absorbed, since acrid and deleterious vapours destroy the chick. This membrane is a part of the albumen, and, of course, a part of the embryo, since its vessels may be injected from those of the chick.

Eggs are chiefly employed as nourishing substances. In the arts, the albumen forms, with quick lime, a strong cement for china; and, diluted with water, it has been used to lessen the rigidity of the tendons; in pharmacy the yolk is employed as an intermede, to mix or suspend oils, balsams, and resins in water. The oil of the yolk we have already mentioned.

As a nutritious substance the yolk is the most distinguished. It is not certain that the albumen abounds in nourishment. It is very bland when fresh, and highly deleterious when in the slightest degree putrid. Even in its best state it disagrees with many stomachs; producing eructation, sickness, and sometimes erysipelatous eruptions. The yolk is very nourishing; but, when firmly coagulated by boiling, it is slow of digestion. It was some years since in high reputation as an aliment for weak stomachs. A fashionable physician ordered it, in one instance, and every one took it. The consequence might be easily supposed; but the practice continued while the physician *was* fashionable. In jaundice and liver complaints, a fresh unboiled egg has been recommended every morning, and it is said with success: we know not for what reason, except that it is yellow. In general, it is useful in weak stomachs, as it contains much nutriment within a small compass; and, though the hard egg is slow of digestion, we have not found it increase hectic exacerbations. We shall see that *slow* and *difficult* of digestion are not synonymous. Nature seems anxious to retain the food in the stomach; and the best digestives are those which *retard* the process. Too rapid a digestion is, in many views, productive of inconvenience. See DIGESTION.

The eggs of different birds do not differ essentially: those of geese and ducks are said to be the most gross and alkalescent: those of pea-hens and gallinas the least so. The latter have certainly less flavour.

ALBU'MOR. See ALBUMEN OVI.

ALBU'RNUM, (from *albus, white*). The softer and paler part of wood next the bark: artificers call it the sap, to distinguish it from the heart, which is deeper coloured, and harder. See SANTALUM ALBUM.

A'LBUS LI'QUOR. See ALBUMEN OVI.

A'LBUS ROMA'NUS PU'LVIS. See MAGNESIA ALBA.

ALBUS, besides its well known signification to express white, is also the name of a fish. See CAPITO LACCUSTRIS.

A'LCAHEST, or A'LKAHEST. The UNIVERSAL MENSTRUUM, or DISSOLVENT. A name first used by Paracelsus, and derived from the German words AL and GEST, i. e. *all spirit*. Van Helmont borrowed the word, and applied it to his invention, which he called the universal dissolvent.

ALCAHEST is also a name of the liquor of flints, and of all fixed salts volatilised.

A'LCALI, or A'LKALI, (of *al* and *kali*, i. e. the essence or the *whole* of kali, the plant from which it was originally prepared, though now derived from plants of every kind). Alkaline salt is called *alafi*, *alafor*, *alafort*, and *calcadis*. As alkalis effervesce with acids, all volatile or fixed salts, and all terrestrious matters which ferment with acids, are called *alkalis*.

Alkalis are mineral, vegetable, and animal, which three were particularly distinguished by the term, adding to it the peculiar epithet; but the College of Physicians of London have now distinguished them by three different appellations; calling them NATRON, KALI, and AMMONIA; but they are either earthy or saline.

The former terms are now indeed found to be peculiarly improper; since the kali is discovered in some minerals, even in some granites, and the ammonia is obtained not only from plants, but seeds. The soda or natron occurs both in vegetables and animals. Besides these, there are several earths, which, in their more general properties, resemble alkalis; particularly lime, magnesia, barytes, and strontian.

Earthy *alkalis* are those substances which of themselves scarcely dissolve in pure water; but if added to acids, form a neutral. Of this sort are *chalk*, *limestone*, *crabs'-eyes*, *oyster-shells*, *egg-shells*, &c. Thus, if pure water is acidulated with oil of vitriol, it effervesces, if you scrape chalk into it; and during the effervescence, the water hath a brisk taste; when enough of chalk is added, the acidity is lost.

Their taste is in general acrid and urinous; they change the blue colours of vegetables to a green, destroy the taste and other properties of acids, and dissolve with peculiar facility in water. As the volatile alkali is known to be a compound of azote and hydrogen, it is probable that the fixed kinds are formed of similar ingredients. Thus hydrogen, with lime, may form pot-ash; with magnesia, soda. Some experiments supposed to prove these combinations, have been found fallacious; yet the principle is highly probable.

The saline *alkalis* are fixed and volatile. The latter of which differs from the former only in volatility and its consequence; the volatile alkali rises sooner than the rectified spirit of wine.

Tachenius is said to have first made the fixed vegetable *alkali*: he established the general use, but it was known long before his time. A fixed *alkali* is the basis of sea salt.

——— VEGETABILE. This was formerly prepared from wormwood, and named SAL ABSINTHII; but the College of Physicians have supplied its place with the KALI PREPARATUM, which is made in the usual method of dissolving, filtering and crystallising the salts of vegetable. The same salt may be prepared

from tartar, burnt till it becomes of an ash colour: and, indeed, of all the substances from which a fixed alkaline salt is obtained, tartar yields the largest quantity, and with the least trouble. The college has ordered the solution of potash to be set apart a whole night for the neutral salts, which are part of the composition, to crystallise, but that is not sufficient; for, in order to have the alkali in its purest state freed from those salts, which is their intent, the solution will require to be exposed to crystallisation three times, at least: otherwise it will retain too great a share of vitriolated tartar. *Observations on the Pharmacopœia Collegii Regalis, &c. London*, 1788.

The quantity of pure potash usually employed in commerce, is estimated by Vauquelin according to the following table:

	Potash.	Sul. of Pot.	Muri. of P.	A. Insol.	Car. Ac. & W.
Russian potashes	772	65	5	56	264
American ditto	857	154	20	2	119
Pearl ashes	754	80	4	6	308
Potashes of Treves	720	165	44	24	119
Dantzic ashes	603	152	14	79	304
Potashes of Vosges	444	148	510	34	304

A'LCALI MINERA'LE. This MINERAL FIXED ALKALINE SALT may be procured from sea salt, and from the waters of many springs, either by distillation of the acid, or the superior affinity of the vegetable fixed alkali. This alkali differs from that of vegetables, by being milder, and less acrid to the taste; melting more easily in the fire; requiring more water to dissolve it; in its concreting into crystalline masses on evaporation after solution in water; not becoming liquid by exposure to the air; and in being a less powerful solvent of the stone in the bladder. As a less deliquescent salt, it is best adapted to form pills. The crystals are prismatic, resembling those of the natron vitriolatum. With this mineral alkali the Spanish soap is made. This salt, joined with the *vitriolic acid*, forms the NATRON VITRIOLATUM; with the *nitrous*, NITRUM CUBICUM; with the *muriatic*, SEA' SALT; and with *vegetable acid*, the NATRON TARTARISATUM. The Egyptian soda was usually reckoned the strongest; but it is usually mixed with sea salt, with sand and a kind of steatite; then the Spanish (barilla). After this came the trona from Tripoli, and then that prepared from different species of kelp. We have now, however, an ample supply from another source. In preparing the oxygenated muriatic for the purposes of bleaching, the muriate of soda is decomposed by the sulphuric acid. The sulphate of soda is afterwards decomposed in different ways; for which see Accum's Chemistry.

——— VE'GETABILE. The VEGETABLE ALKALI, or POTASH, and the MINERAL ALKALI, or SODA, possess the general properties of alkalis; and most inflammable substances are acted upon by them. They melt in a moderate heat; and in a stronger they are volatilised: in the dry way they dissolve earths and the calces of metals.

Fixed alkaline salt is obtainable from sea salt and nitre, and from all vegetables, except perhaps some of the volatile acrid kind, which impress the nose sharply with their scent, such as mustard seed, garlic, &c.; these contain parts that are volatile, and become volatile salt. The fixed salt of some plants vary greatly from one another, in strength, &c. if taken in the state wherein they are first extracted from the ashes: they sometimes contain some neutral salt of the vitriolic or of the muriatic kind, which are discovered by shaking them in a vial, with equal part of spirit of wine, the fluid with neutral salt becomes milky. Sometimes a bitter crystalline hard salt, that is neither acid nor alkaline, but a mixture of earthy and alkaline neutrals, is found among the fixed alkaline salt; readily separated by means of cold water, in which it will not dissolve. This hard salt is never met with in making the salt of tartar, but in potash it is often found. The salts of the leaves, and other herbaceous parts of plants, are more difficultly brought to a state of purity than those of the more woody and compact portions, a portion of the oil being so tenaciously retained: some endeavour to retain this oil in the salt, by burning the vegetables in a smothering heat until they are reduced to ashes. They do this to render the salt more mild, or to combine the virtues of the oil; but the mineral *alkali* is sufficiently free from acrimony to sit easy on the most irritable stomach, when administered in the usual modes; and the empyreumatic oil, retained, will occasionally, it is supposed, excite nausea. To this, however, there are objections. Some practitioners have thought that saline draughts made from the alkali, which still retained a portion of the oil of wormwood, sat more easily on the stomach: we are confident that the taste was more pleasing. In other instances, the advantages are less equivocal: we allude to the ashes of broom and tobacco, which certainly possess a stronger diuretic power from the oil adhering to the salts.

In estimating the strength of alkali it has been usual to add the muriatic acid, and for each dram saturated, so many one-sixteenths of pure alkali were allowed. Alkalis, when pure, from whatever plants obtained, are entirely the same. What was, however, formerly styled pure alkali, is not so in the modern acceptation of the term. Mild alkalis are carbonated; that is, neutralised by carbonic acid. When exposed to heat, or combined with quick lime, which has a greater affinity for the carbonic acid than alkali, they become what has been styled caustic: in reality they are pure; and, when a mild alkali is united with a stronger acid, the separation of the carbonic acid, in the form of gas, occasions the effervescence. As a medicine, if largely diluted with water, and taken in bed or a warm room, vegetable fixed alkali promotes perspiration; but its tendency is more directly to become diuretic, and this is promoted by the patient resting in a cool situation. In this way it appears sometimes slightly laxative; and is useful to the studious, in whose stomachs acids usually abound. It destroys acidity in the primæ viæ, converting them into a mild aperient salt, and thus removes a cause of many chronical diseases. It loosens the texture of calcareous concretions by strongly attracting their air; and when pure, this power is increased. In those flatulent disorders which arise from a defective bile, it affords great relief.

The dose may be from gr. ij. to ℈ j. twice a day, but always plentifully diluted; the dose of ℈ j. should be mixed with at least ℥ x. of water. Considerable doses may be long continued, as is evident in those who take the aqua kali puri to remove calculous complaints; but the tone of the stomach, and the powers of digestion, are sometimes destroyed by large doses and long use. It was supposed that alkalis thinned the blood; and numerous are the diseases attributed by the humoral pathologists to alkaline acrimony. It has indeed been

suspected in scurvy, but seems to take place only in a small degree; and the alkali is the volatile in the form of an ammoniacal neutral. Fixed alkalis have been generally found diuretic; and perhaps in a greater degree when not neutralised in the stomach, or when defended from its acid by bitters. On the contrary, they are laxative only when they meet with such an acid as the stomach affords. The absence of an acid also seems necessary to their operation, as lithontriptics.

The fixed alkalis have lately been recommended in cutaneous complaints, and have been employed with some success. It is probable, however, that they chiefly act by correcting an acidity in the stomach, which occasions them; or by the discharge of urine which they excite. It is singular that acids have a similar power; nor does the distinction of the species adapted to each appear in any medical author. In general, the acids seem best adapted to the cases where the eruptions occur in worn-out constitutions, and are of the tettery kind: the alkalis in the drier, scurfy eruptions. Yet even this distinction will not hold in every instance; nor indeed in our hands have the alkalis been eminently successful.

The fixed alkali has been sometimes thought useful in adding to the power of different menstrua, or in correcting the drastic acrimony of some resinous purgatives. With bitters, it has been supposed to be a febrifuge; and with camomile flowers, it has been in high esteem as a remedy for intermittents. It seems to produce some chemical change on bitters, as it reddens the infusions of bark and of rhubarb: and in many cases of dyspepsia appears an useful addition to astringents or tonics.

Externally, it is used in the form of a lotion in rachitic cases, as a stimulus in indolent ulcers, and in some cutaneous eruptions. The solution soon abates the pain arising from the stings of bees and wasps, and has been applied in burns. With sulphur, under the title of hepar sulphuris, it is also often useful. See KALI SULPHURATUM.

The fixed alkalis have obtained a variety of appellations, partly from fancy, but more frequently from the ignorance of chemists; who, having obtained these salts from different sources, supposed that they had discovered a new substance.

The fixed vegetable alkali has been styled *Cineres Russici* and *clavellati*, *pot blanch*, and *pearl-ashes*, *alkahest glauberi marcoft*, *cendres gravellées*, *sal tartari*, *sal absynthii nitrum fixum*, *cassob* and *lapis infernalis*. It has been more lately styled by Dr. Black, *lixiva*; by the French chemists, *potassa*; by the London College, *kali*; by others, *oleum tartari* and *lixiva tartari*.

The fixed mineral alkali has been styled by Dr. Black, trona, from a district of Tripoli where it abounds; soda, by the French chemists and the Edinburgh college, &c. Anatron, also called *nataron*, *anachron*, *soude blanche*, *nitrum antiquorum*, *litron*, *aphronitum*, *baurach*, *sal alkalinus salis marini*, *barilla*, *soda*, *salitron*, *bariglia*; *anatron*, *anatrum*.

ALCALI VOLATILE. AMMONIA, called also *Asanon*. VOLATILE ALKALINE salt is either in a dry or liquid form; when dry, it is called salt; when liquid, water; the salt is obtained by sublimation, the water by distillation.

The volatile alkaline salt hath been chiefly obtained from the horns of deer, by distilling them in large iron pots, with a fire gradually increased to a strong red heat; but a similar salt, liquor, and oil, may be extracted from all animal substances except fat, from blood dried by a gentle heat, from urine first evaporated to the consistence of honey, and subjected to putrefaction. Urine, distilled with the addition of quick lime, yields an extremely pungent spirit. Ivory, and the bones of animals, are used for this purpose; bones are, indeed, preferable to hartshorn; as the salt and spirit of bones require less rectification, are less disgustful to the stomach, and the spirit retains its limpid appearance longer than that from horns: when bones are used, their fat must be extracted first by long boiling. Woodsoot affords a salt liquor and oil, not differing from those of hartshorn, except as it is less easy to rectify. From crude sal ammoniac, mixed with any fixed alkaline substance, the volatile alkaline salt of the sal ammoniac is obtained, and with very little trouble rendered perfectly pure; the spirit of sal ammoniac is free from the inconveniences which attend those spirits obtained from horns, ivory, bones, &c.

LI'QUOR, olim SPIRITUS, SAL, et O'LEUM CORNU CERVI.

The *liquor*, *salt*, and *oil of hartshorn*.

These preparations are brought to us by the practical chemists in a state sufficiently pure for common purposes, and the process will be found in the commonest chemical author.

As the fixed alkalis, from whatever plants they are prepared, do not essentially differ when pure, so the volatile is the same from every source. The crude sal ammoniac, as it is styled the muriated ammonia, is prepared in large quantities in Egypt from camel's dung, and other animal excrementitious fluids. This affords the ammonia usually employed, and it is preferred, in general, as a medicine. That from the hartshorn has always a little of the animal oil; which, though better adapted as a smelling salt in some hysteric affections, is less agreeable to the stomach.

The volatile alkaline salt is very penetrating and pungent to the smell and taste, and is the only concrete salt that in its pure state emits sensible effluvia; it dissolves oils, resins, fats, &c. more slowly than the fixed alkalis, on account perhaps of its not being susceptible of any considerable heat by which its solvent power might be promoted. In the bodies of animals it operates more powerfully than the fixed alkaline salt, and is more disposed to pass off by the pores of the skin, and acts more remarkably on the nervous system. It is peculiarly useful in lethargies, apoplexies, hysteric and hypochondriac disorders, languors, head-ach, flatulencies, and other symptoms attending these complaints; in languors and faintings this salt often gives immediate relief; in low fevers it is an useful remedy; it relieves rheumatic pains, particularly joined with blisters, and purges.

The fanciful idea of its promoting putrefaction has prevented its being employed in putrid fevers; but when a quick, active stimulus is required, no medicine is preferable; and the very small quantity given can have no bad effect on the whole mass, even were its septic power less equivocal. When united with the vegetable acid in the aqua ammoniæ acetatæ, it is eminently useful, if given in a sufficient dose, which is at least half an ounce, or six drams.

Externally it is used as a stimulant, in the form of

the volatile liniment, united with oil, or in that of a soap, styled in common language opodeldoc.

The dose of volatile alkaline salts may be from gr. ij. to ℈ ss. given in a draught or in a bolus; in the latter form, to prevent the pungency of the salt from affecting the throat, it may be proper to mix it with a solution of gum tragacanth, or some other mucilaginous substance. See AMMONIA.

SP. SAL. AMMON. DULC.—now called SPIRITUS AMMONIÆ.

DULCIFIED, OR SWEET SPIRIT OF SAL AMMONIAC.—SPIRIT OF AMMONIA.

Take of a fixed alkaline salt ℥ vi. of crude sal ammoniac ℥ iv. of proof spirit ℔ iij. and mix; with a gentle heat draw off ℔ i. ss.; the dose is from fifteen drops to a dram or more.

The volatile *alkalis*, not caustic, do not unite with vinous spirits by simple mixture; yet a solution of them in sp. vin. R. is obtainable by distillation. This preparation is deservedly in great esteem both as a menstruum and a medicine; it is a solution of alkaline salt in spirit of wine, for though proof spirit is used, its water does not rise; it only serves to facilitate the action of the pure spirit upon the ammoniac salt; it might, perhaps, for some purposes, such as making the sp. ammon. comp. &c. be more adviseable to make a dulcified spirit with the pure liquor of ammonia, for it may be mixed at once with rectified spirit of wine in any proportion, without the hazard of separating the volatile *alkali*; and readily form an extemporaneous dulcified spirit of sal ammoniac:

Take the spirit of sal ammoniac prepared with quick-lime, rectified spirit of wine, of each a pound.

SPI'RITUS VOLA'TILIS CAU'STICUS, vel

SPIRIT. SAL. AMMON. CUM CALCE. VIV. PPT. Now AQUA AMMO'NIÆ PURÆ.

This spirit, prepared with quick-lime, is thought to be too pungent and acrid for internal use; but in the dilute state of administering this medicine, it is as safe as that prepared with an alkaline salt. It is an excellent menstruum for some vegetable substances; and when saturated with such ingredients, is so sheathed as to be as safe as the other. If this spirit is not pure, a slight proportion of it will make lime-water turbid.

The aqua ammoniæ puræ appears in many cases preferable to that prepared with an alkaline salt. It is better suited for the sp. ammon. compositus, and sp. ammoniæ fœtid. as being perfectly miscible with the sp. vini rect. in any proportion, without any separation of its volatile alkaline part, and as being a more powerful menstruum for some oils, difficult of solution. The EAU DE LUCE, for example, is made with the aqua ammoniæ puræ, et ol. succin. rect.; but the oil must be rectified until it hath lost its smell, and is become limpid, and then the process will be the following:

R. Ol. succin. rect. ut supra gtt. xxxvi. alcohol. vini ℥ ss. bene misceantur, et adde paulatim aquæ ammoniæ puræ, ℥ vi. This appears milky; but if required limpid, it may be made so by distillation; or if it is only designed for smelling, it may be tinged of a fine blue colour, with a drop or two of a solution of copper. See Malouin's Chimie Medicinale.

The College of London give the following prescription for making the EAU DE LUCE, under the title of SPIRITUS AMMONIÆ SUCCINATUS; *Succinated spirit of ammonia.* Take one ounce of alcohol; water of pure ammonia four ounces; rectified oil of amber one scruple; soap ten grains: digest the soap and oil of amber in alcohol, until they are dissolved; then add the water of pure ammonia, and mix them well by shaking:—it is chiefly used externally. There is a great nicety in this preparation, known only to those who prepare it, and which chemists have not attained; but this accuracy does not affect its medical virtues. The chief imperfection is, that the ingredients separate, but they will unite again by agitation.

Divers mixtures of volatile and vinous spirits, flavoured with aromatic and other oils, or tinctured with different ingredients, according to the intention of the prescribers, have been, and yet may be, used with great advantage. Of this kind are the following:

SPS. AMMO'NIÆ COMPO'SITUS, instead of the sps. volatilis aromaticus.

R. Ol. nucis moschatæ et ol. limon. essent. āā ℥ ii. sp. ammon. ℔ij. m. Distil these with a gentle heat. This is from the Pharmacop. Collegii Lond. 1788.

By this method a volatile oily spirit may be prepared occasionally, and at pleasure adapted to particular purposes, by choosing an essential oil proper for the intention; thus *in hysteric cases, where the uterine excretions are deficient*, a sp. ammon. comp. may be made with the oils of rue, savin, penny-royal, asafœtida, &c. For *weakness of the stomach*, the oil of mint may be taken;—*for a cephalic*, the oils of marjoram, lavender, and rosemary; *against fainting* and *coldness*, the oil of cinnamon;—*to remove flatulencies*, the oil of aniseeds and sweet fennel. The spirits thus made by simple mixture, or by dropping essential oils into sp. ammon. with which they easily mix, are nowise inferior in medical efficacy to those prepared by distillation, though the tinge which they receive from the oil may render them to the sight less pleasing.

The small quantity, however, of any medicine which can be thus conveyed into the system, can have no very powerful effect; while, as a warm stimulant, it greatly assists the power of other medicines. The ammoniated alcohol conveys very rapidly the effects of aromatics, as in the spiritus ammoniæ C. of the London Dispensatory; the alcohol ammoniatum aromaticum of the Edinburgh; or the spiritus alkali volatilis of the Dublin. The compound tincture of castor, the volatile tincture of guaiacum, and the ammoniated tincture of valerian, are, in their respective uses, excellent medicines. The ammoniated tincture of bark is less useful; as from bark we do not want an immediate effect, and the quantity of this medicine introduced is inconsiderable. The objection does not apply to the volatile tincture of guaiacum, as the menstruum, in this instance, directs and increases the power of the medicine.

SOME VEGETABLES are considered of an alkalescent nature, as they do not become acid by putrefaction; and from them no vinous spirit can be procured by fermentation; to this class belong most of the acrid aromatics; some of which are the alliaria, allium, arum, asparagus, brassica, capsicum, cardiaca, centaurium min. cochlearia, cepa, nasturtium aquat. et hort. porrum, raphanus com. et rusticanus; ruta, sinapis, &c.

The signs of ALKALINE ACRIMONY in the blood, viz. thirst and desire of sour drinks, loss of appetite, and aversion to alkalescent food, nidorous eructations, putrid

ulcers on the lips, tongue, and other parts in the mouth, bitterness in the mouth, sickness in the stomach, and a frequent diarrhœa, a sense of heat, lassitude, and general uneasiness, a dissolution of the texture of the blood, the urine high-coloured and red, in fact only show that it exists in the stomach.

ALKALINE GAS. This is only volatile alkali in the form of air, and has never yet been applied to medical uses.

ALKALINE EARTHS. Many of the earths are absorbents; but some approach so nearly to an alkaline nature, that they have obtained this appellation more pointedly. These are magnesia, lime, barytes, and strontia: all but the last are used in medicine; the barytes, in composition only, with the muriatic acid.

ALKALI in botany. See SALICORNIA.

ALKALI'NA, INFUSIO.

R. Kali ʒ ss. croc. Anglic. ʒ ss. rad. liquorit. rec. ʒ ij. aq. font. bullientis ℔ iij. infund. per horas vi. vel vii. et cola. Vel,

R. Fol. absinth. vulg. sicc. ʒ ss. kali pp. ℈ ij. infund. in aq. font. bullient. ʒ xij. colaturæ; adde aq. juniperi ʒ ij.

These are useful methods of administering the fixed alkaline salt; small doses may be given warm every three or four hours, interposing occasionally a purgative, when such medicines are required. If intermitting fevers return, this method, for a few days, is an excellent preparation for the bark.

ALKALISA'TIO, ALCALISATION. The impregnating any thing with alkaline salt.

ALKALI'NUS SAL, SA'LIS MA'RINÆ. See ANATRON.

ALCA'NCALI. See ANGELOCALOS.

ALCA'NNA, (Indian word). See ICHTHYOCOLLA, ANCHUSA, and LIGUSTRUM INDICUM.

ALCA'RNI, (an Arabic term). A name of a confect made by Messue.

A'LCARA. See CUCURBITA.

A'LCE, (from *αλκη, strength*). The ELK. It is a large animal of the deer kind, met with in Muscovy, Germany, and very cold countries. The hoof of the hind foot on the left side hath been celebrated against epilepsies, from a ridiculous opinion that the *elk* is himself subject to disorders of this kind, and prevents or removes them by scratching his ear with his hoof.

ALCE'A, (from *αλκη, strength,*) so called, on account of its force in expelling poisons.

ALCE'A VULGARIS MAJOR. See DORONICUM GERMANICUM.

ALCE'A; VERVAIN MALLOW. See MALVA VERBENACEA.

ALCE'A INDICA.
ALCE'A ÆGYPTIACA, VILLOSA. } See ABELMOSCHUS.

A'LCEBAR. See AGALLOCHUM.

A'LCEBRIS VIVUM; i. e. SULPHUR VIVUM.

ALCE'DO. A bird called the KING'S FISHER. It is also called *ispida, halcyon, alcyon, fluviatilis, piscator regis*. It is said to make its nest in the sea, and then it is a sign of fair weather, whence the word halcyon days —calm and peaceable times.

A'LCHABRIC. See ALKIBRIC.

A'LCHACHIL. See ROSMARINUS.

A'LCHARITH. See ARGENTUM VIVUM.

A'LCHEMIA, A'LCHIMIA, or A'LCHYMIA, A'LKIMA, ALCHEMY. That branch of chemistry which relates to the transmutation of metals into gold; the forming a panacea, or universal remedy; an alkahest, or universal menstruum; an universal ferment; and many other absurdities. The pursuits of the alchemists obtained more attention, as they offered two of the most powerful attractions—riches and immortality. With the former we have no concern; but it is necessary to remark, that the fifteenth century was the era when these fancies began to influence medicine. To the alchemists we are indebted for our mercurial and antimonial preparations; and their pretensions—in some measure their success—produced a considerable revolution in medicine, by undermining the authority of Galen, till that time supreme. Basil Valentine seems to have been the earliest of these authors; and his Currus Triumphalis Antimonii, though abounding in enthusiastic reveries, displays reflection and knowledge. Paracelsus was an ignorant boasting enthusiast; but Van Helmont, though of the same sect, appears to have been a man of good judgment and acute observation. In pursuit of their fancies, they discovered many chemical changes produced by the mixture of bodies; and, among other sciences, medicine received considerable improvement from their misdirected labours.

A'LCHERON, LA'PIS, (so called from the Arabic term ALCHERAN, *a horn*; because it was found of a horny consistence). The stone in the gall-bladder of a bull, or ox, called *bezoar bovinus*.

A'LCHIBRIC. A'LCHIBERT. See ALKIBRIC.

ALCHIMI'LLA, (so called, because it was celebrated by the alchemists); called also *branca*, and *pes-leonis; stellaria;* LADY'S MANTLE, and LION'S FOOT. Rulandus calls it *diapencia*.

The leaves are gently astringent, the root is of the same quality; but this plant is not in any repute as a medicine.

ALCHIMI'LLA SUPINA GRAMIN FOL. See KNAWEL.

A'LCHI'TRON, OIL OF JUNIPER; see JUNIPERUS. Also the name of a dentifrice of Messue.

ALCHO'LLEA, (Indian term). A sort of animal food made of beef or other flesh, pickled and dried, then boiled and potted for keeping. It is used by the western Moors. See Philos. Trans.

A'LCHUTE. See MORUM.

A'LCHYMY. A composition of copper, with a small quantity of arsenic, resembling silver.

ALCIBIA'DION, so called because Alcibius first used it against the bite of a serpent. See ANCHUSA.

A'LCIMAD. See ANTIMONIUM.

A'LCOB. See AMMONIAC. SAL.

ALCO'CALUM. See CINARA.

A'LCOFOL. See ANTIMONIUM.

A'LCOHOL, or A'LCHAHOL; A'L-KA-HOL. It is an Arabian word, signifying an impalpable powder, which the Eastern women used to tinge the hair and the edges of their eye-lids. As this powder, *viz.* an ore of lead, was impalpable, the same name was given to other subtile powders, and to spirit of wine exalted to its highest purity and perfection. See VINUM ADUSTUM.

A'LCOHOL MA'RTIS. It is the filings of iron rusted by adding urine to them. When the whole is per-

fectly rusted, pure spring water is repeatedly added, until all that is urinous is washed away, and the remaining powder is the *alcohol martis*. Musgrave employed it with the theriaca in misplaced gout, to bring it to the joints.

A'LCOL, (ALCAL, Arab.). See ACETUM.

A'LCOLA, (ALCALA, *filth*, Heb.). APHTHA, which see. Paracelsus gives this appellation to the tartar or excrement of urine, whether it appears as sand, or mucilage.

ALCOHOLIZATION. The rectification of alcohol; and, according to Starkey, the union of alcohol with fixed alkalis, which forms a neutral, and the alkali is volatilised.

ALCOLI'TA. See URINA.

ALCOLI'SMUS, (from *alcohol*). Reducing any thing to powder by corrosion.

ALCO'NE. See ÆSECAVUM.

A'LCOR. See ÆS USTUM.

AL'CTE. It is the name of a plant mentioned by Hippocrates; Foesius thinks it is the Elder. See ACTE.

ALCU'BRITH. See SULPHUR.

A'LCYON FLUVIA'TILIS. See ALCEDO.

ALCYO'NIUM. BASTARD SPONGE. It is the froth of the sea hardened by the sun, of different shapes and colours. It is so named, from the bird ALCYON, which builds on the sea, and whose nest it is said to resemble. It is difficult to say what the Greeks called by this name. Dioscorides names five sorts; viz.

1. ALCYO'NIUM DU'RUM. HARD BASTARD SPONGE.

2. FARRA'GO; called also *farrago australis*, *alcyonium*, *vessicaria marina nigra*.

3. ALCYO'NIUM VERMICULA'TUM, or VERMICULA'TE. VERMICULATE BASTARD SPONGE.

4. ALCYO'NIUM SUPPOSUM. Lemery calls this *alcyonium* molle. THREADY BASTARD SPONGE.

5. ALCYO'NIUM TUBERO'SUM. Lemery calls this *alcyonium* foraminosum. TUBEROSE BASTARD SPONGE.

There are many other species; they are calcined with a little salt as dentrifices, and are used to remove spots on the skin.

ALDABA'RAM. See ALBADARA.

ALDIN, ET ALDIN. HORT. FARN, i. e. Exact. Descriptio rariorum quarandum Plantarum Horti Farnesiani Tobiæ *Aldini*. Rome, 1625, fol.

ALDROV. MUS. MET. i. e. Ulyssis *Aldrovandi* Musæum Metallicum Bononiæ, 1648, fol.

ALDROV. DE QUAD. BISUL. i. e. *Aldrovandus* De Quadrupedibus bisulcis.

ALDROV. DE QUAD. DIG. i. e. *Aldrovandus* De Quadrupedibus digitatis.

ALDROV. DENDR. i. e. *Aldrovandi* Dendrologia, Bonon. 1668.

ALDROV. EXANG. i. e. *Aldrovandus* De Animalibus exanguibus, Bonon. 1642.

ALE, (*oel*, Dan.; *aile*, Fr.; from *alo*, *to nourish*). The ancient Saxons called it *ael*. The Germans first invented and brought it into use.

Ale is distinguished from BEER, by being fresh or new, while beer is kept until the remaining saccharine matter is more completely changed to a vinous spirit by a slow fermentation.

Beer, called by the Latins, CEREVISIA, from Ceres, because corn is its principal ingredient; also LIQUOR CERERIS; VINUM HORDEACEUM, *barley-wine*; VINUM REGIONUM SEPTENTRIONALIUM; sometimes *bira*.

Ale produces colics, and is occasionally, when not well fermented, acescent; but does not produce calcareous diseases, as has been asserted. Those who drink *ale* are stronger than those who drink wine; and those who do not drink strong liquors are said not to be able to labour so well as those who do; but this does not appear to be invariably true. Ale-drinkers are fat, occasionally gouty, but, on the whole, healthy. Cordials may fit the person for extraordinary exertions, but should not be commonly used. Ale, however, must not be considered as one of these. When well fermented it is an wholesome beverage, and seems only to disagree with those subject to asthma, or any disorder of the respiratory or occasionally the digestive organs. See DRINKS, BEER, PORTER.

If malt liquor, of any degree of strength, is become flat and acid, as it is used, it should be drawn out of the cask into a jug, in which as many drams of powdered chalk should be put as pints of liquor; thus an effervescence will be raised, a sprightly, though not very agreeable, taste will be restored to the liquor, and its acidity will be destroyed.

Ale being in some countries cheaper than wine, hath occasioned it to be medicated for the same purposes; and there are two ways of impregnating malt liquors with medicinal substances; *first*, by macerating the ingredients in the *ale* after it is duly fermented; *secondly*, by adding them to the liquor while it is fermenting, that by the power of fermentation the medicinal virtues may more fully be extracted; of nutmeg, for instance, one dram powdered will flavour a large vat of fermenting *ale*, but when the fermentation ceases, it flavours but a very small quantity. Branches of the spruce fir, fermented with beer, render it wholesome, antiscorbutic, and useful in cutaneous diseases. It is the pleasantest form of turpentine; and many who have begun it as a medicine, have continued it as a luxury.

The following is an agreeable bitter, and far preferable to any of the purls.

CEREVI'SIA AMA'RA. BITTER STOMACHIC ALE.

℞. Rad. gent. cort. limon. rec. āā ʒiv. piper. long. ʒi. cerevis. Cong. i. infund. sine calore.

CEREVI'SIA ANTISCORBU'TICA. ANTISCORBUTIC ALE.

℞. Fol. cochl. hort. rec. m. viij. ras. guaiac. ʒj. sem. coriand. ʒij. fol. senn. ʒss. infund. in cerevis. recent. durant. fermentat. Of these medicated *ales* ℔ ss. may be taken night and morning.

Various other impregnations of ale have been used as diet drinks or medicines. We find in the old dispensatories, ale against the gout; for the eyes; for the head, &c. Vulgar practice still retains an infusion in ale of some virtue; viz. of the *broom ashes*, which contain an alkali, with the diuretic oil of the broom. Syrup of ale consists of the ale inspissated before it is attenuated by fermentation, and is little more than a mucilaginous infusion of malt, employed as a demulcent, in the diseases for which this class of medicines is used. *Gill ale* is an infusion of ground ivy, and supposed to heal internal wounds, and to relieve diseases of the breast. Dr. Butler's purging ale is indeed purgative, from containing senna; but has numerous other ingredients, which tend to no one purpose unless it be slight-

ly expectorant. *Ale berry* is a sudorific, and consists of ale boiled with bread and mace.

ALE'CARITH. See ARGENTUM VIVUM.

ALEFA'NTES; i. e. FLOS SALIS. FLOWER of SALT.

ALE'IMMA, (from *αλειφω, to anoint*). A greasy ointment, or a liniment, without wax, to give it a consistence.

ALE'ION. Hippocrates uses this word as an epithet for water.

ALE'IPHA, (*αλειφω, to anoint*). Any medicated oil, impregnated chiefly with the juices of vegetables.

ALE'LAION, (from *ἁλς, salt*, and *ελαιον, oleum*). It is oil beat up with salt to apply to tumours. Galen frequently used it.

ALE'MBACI. BURNT LEAD.

ALE'MBIC. See ARGENTUM VIVUM.

ALE'MBICUS. Avicenna considers this as an Arabic term; but others suppose it half Arabic and half Greek, from the Arabic particle *al*, and *αμβιξ*, which is again derived from *αμβαινω*, for *αναβαινω, to ascend*. Seneca calls it in the Latin language *miliarium*. Alembic and Moor's-head. It is also named *capella, capitulum;* it is a copper cap of a still tinned in the inside, made like a head, in which the pipe passing through a tub of cold water, is fixed to receive the vapour from the heated cucurbit or body, to convey it to the receiver. Before retorts were used so commonly, the matter distilled was put into a vessel called a body, with a head placed on it to receive the vapour, whence it was conveyed by a canal, called the rostrum, or beak, to the receiver; this head is properly the *alembic*, and is called *alembicus rostratus*, i. e. the *beaked alembic*, to distinguish it from *alembicus cæcus*, or *blind alembic*, which is without a canal, as it is to receive dry substances that are sublimed, into it. The body of the *alembic* was placed over a fire in hot pump-water, hot salt-water, or hot sand. *Alembics* are preferable to stills, by requiring less fuel, and not so readily imparting empyreuma. In quickness, and the attention necessary to regulate the heat, they are less convenient.

ALE'MBROTH. A Chaldee word, importing the Key of Art; some explain it by sal mercurii, or sal philosophorum et artis: others say it is named *elembrot et sal fusionis*, or *sal fixionis*. *Alembroth desiccatum* is said to be the sal tartari; hence this word seems to signify alkaline salt, which opens the bodies of metals by destroying their sulphurs, and promoting their separation from the ores. From analogy, it is supposed to have the same effect in conquering obstructions and attenuating viscid fluids in the human body. A peculiar earth, probably containing a fixed alkali, found in the island of Cyprus, has also this appellation; and a solution of the corrosive sublimate, to which the muriat of ammonia has been added, that greatly assists the solubility of the mercurial salt, is called *sal alembroth*.

ALE'MZADAR. }
ALE'MZADAD. } See AMMON. SAL.

ALEOPHANGI'NÆ PILU'LÆ; these are the pil. aromaticæ of Messue. Joined with the hellebore they have been called pil. aleophang. capitales et stomachicæ.

A'LEOS, (from *αλεα, heat*). Taken as an adjective it signifies *heaped, crowded, condensed, continued;* as a substantive, *heat* or *warmth*.

ALEPE'NSIS. See MANNA.

A'LES, (from *ἁλς, salt*). The name of a compound salt.

A'LESCH. See ALUMEN PLUMOSUM, N° 2.

ALEU'RON, MEAL, (from *αλεω, to grind*). Strictly it is the meal of wheat, though commonly applied to other sorts. See ALPHITA.

ALEXA'NDRIA. See LAURUS ALEXANDRINA.

ALEXA'NDRI ANTIDO'TUS AU'REA. ALEXANDER'S GOLDEN ANTIDOTE. Myrepsus gives us the prescription; it is composed of animal, vegetable, and mineral substances, and contains about seventy ingredients.

ALEXA'NDRI REGIS COLLYRIUM SICCUM. King Alexander's dry medicine for the eyes. It was made of saffron, Celtic nard, and canal coal.

ALEXANDRI'NA. See LAURUS ALEXANDRINA.

ALEXA'NDRIUM EMPL. VI'RIDE. A plaster described by Celsus, made with wax, plumose alum, &c.

ALEXA'NTHUS. See ÆRIS FLOS.

ALEXICA'CA, (from *αλεξω, to drive away*, and *κακον, evil*). See ANTIDOTUS and AMULETA.

ALEXIPHA'RMICA. ALEXIPHARMICS, (from *αλεξω, to repel*, or *drive away*, and *φαρμακον, poison,*) called also *antipharmica*, and *caco alexeteria*. Medicines to preserve the body against the power of poisons, or to correct or expel those taken into the machine; the words ALEXETERIA, THERIACA, and ANTIDOTA, have the same import; hence warm stimulants and diaphoretics may be considered of this class; and perhaps the whole power of the alexipharmics will be chiefly of service by acting in one of these modes. Their celebrity among the ancients arose from the frequent apprehensions of poison; and, in the middle ages, the nature of the apprehended poison only was altered, and the preventive was employed against contagious fevers. The term has been also applied to Amulets. See AMULETA.

ALEXIPYRE'TICUM, ALEXIPYRETOS, or ALEXIPYRETUM, (from *αλεξω, to drive away*, and *πυρετος, a fever*). A remedy for a fever, or *πυρ, fire*.

ALEXITE'RIA, ALEXITERIALS, (from *αλεξω*, and *τηρεω, a preservative from contagion*). Hippocrates used the word *alexiteria* to express help or remedies. Strictly speaking, alexiterials were opposed to poisons inflicted from causes external to the body. See ALEXIPHARMICA.

A'QUA LA'CTIS ALEXITE'RIA. *Alexiterial* milk-water.

AQ. ALEXITE'RIA SPIRITUO'SA; called also *epidemica aqua*, plague-water. Each is now rejected from modern pharmacopœias.

ALFA'CTA. See DISTILLATIO.

ALFA'DIDAM. The scoria of gold, iron, or copper; also burnt copper. See ÆS USTUM.

ALFA'TIDA, burnt copper, or the scales flying off from copper. See ÆS USTUM.

ALFA'TIDE. See AMMONIACUS SAL.

ALFA'SARA, or ALPHESARA. Arabic terms for the vine. The name of a confect described by Messue; from the Arabic particle *al*, and *fesera*, or *phisera*, the root of the vitis alba.

A'LFIDAS. See PLUMBUM.

A'LFOL. See AMMONIACUS SAL.

A'LFUSA. TUTTY. See TUTIA.

ALGA. A weed growing upon the sea shore, and in cold situations; called also *ulva, fucus marinus, bryon*

thalassium, GRASS-WRACK, WRAKE, SEA-WEED OF GRASS, and SEA-MOSS.

There are three kinds distinguished by La Marck: the first, filamentous, gelatinous, and membranous; the second, with more decided appearances of fructification; the third, with those parts more obvious, and opening to scatter the farina or deposit seeds. Some of the species are employed in the manufacture of kelp on the coast of Scotland; but in medicine their powers are, perhaps, principally owing to the sea salt they contain, and little choice is necessary. The bladder oar-weed, *fucus vesiculosus*, has been preferred, but with little reason. On the coast of the Mediterranean sea a species of *alga* is gathered and dried to feed oxen.

The seeds of the *alga* are more perfect than those of the fuci, for its vessels gape when perfect, and the seeds fall out. Stackhouse Nereis Britannica, Major Velley on Marine Plants; Turner on Fuci, Linnæan Transactions, vol. iii.

ALGA MARI'NA LATIFO'LIA VULGATISSIMA, the COMMON SEA-WRACK, see KALI.

A'LGÆ, (from *alga*, *sea-weed*). It is a term botanically applied to a tribe of plants which have their roots, leaves, and caudex, in one, and comprehends sea-weeds, and some other aquatic plants.

A'LGALI. See NITRUM.

A'LGALY, (ELGALA, *hollow*, Arab). AN HOLLOW LEADEN PROBE, OR CATHETER. See CATHETER, and SOUND.

A'LGAMET. COALS.

A'LGARAB. See ÆGYLOPS.

A'LGAROT, ALGARO'THI, ALGEROTH, (PULVIS). So called from VICTORIUS ALGAROTH, a physician of Verona, and its inventor. It is the same with the *mercurius vitæ*; and is only the antimonial part of the butter of antimony, separated from some of its acid by washing it in water. It is tasteless, but violently emetic, in doses of two or three grains; and is prepared with antimony and sublimate, or by mixing water with the butter of antimony, which precipitates a white powder, &c. This is the preparation preferred by many chemists for making the emetic tartar.

ALGA'IA. CIVET. See ZIBETHUM.

ALGE'DO, (*αλγος*, *pain*). SUPPRESSED GONORRHŒA; when it has stopped, or been checked suddenly after it has appeared, and is attended with pain.

When it thus stops, a pain is continued to the bladder by the urethra; to the anus by the acceleratory muscles of the penis; and to the testicles by the vasa deferentia, and vesiculæ seminales. These last do not always swell, but the urine is partially suppressed.

In this case, calomel repeated, so as to purge, often brings back the running, and then all difficulty from this symptom ceases. If the pain is great, and a sanguinary plethora requires it, after bleeding, may be given of calomel prepared ten grains, opium one grain, made into a bolus with conserve of roses. This should be taken at night, and followed in the morning by the infusion of senna with tamarinds.

In these and other disagreeable symptoms, such as ophthalmies, deafness, swelled testicles, &c. from the suppression of the virulent gonorrhœa, where the common methods fail of reproducing the discharge, it has been recommended to introduce a bougie into the urethra, smeared with the virus of an infected patient: Dr. Swediaur says, "The method proposed has been tried many years ago in one of the first military hospitals in Europe, with constant success, and has since been confirmed by Dr. Lange, in his Treatise on Ophthalmia. See his Practical Observations on Venereal Complaints, p. 53.

ALGE'MA, or ALGEMATO'DES, (from *αλγεω*, *to be in pain*). UNEASINESS, PAIN. Hippocrates often uses the word *αλγημα*, to signify the disease whence the pain proceeds. James's Med. Dict. See DOLOR.

ALGERIÆ, or ALGE'RIE. LIME. See CALX.

A'LGIDA, (from *algeo*, *to be cold*). Numbed, withered, chilled.

A'LGOR, (from the same). A sudden chillness affecting the body, or any detached portion of it.

A'LGOSAREL. The Arabian term for the *daucus sylvestris*.

ALHAGI, (Arab.). The plant thorny SYRIAN BROOM; called also *agul et almagi Arabibus genista*, *Spartium spinosum*, *spinosum Syriacum*. *Hedysarum alhagi* Lin. Sp. Pl. 1051.

It is commonly met with in Persia and Mesopotamia, where the inhabitants gather from it a sort of manna, in grains about the size of coriander seeds. The Arabians call this *manna*, *tereniabin*, or *trangebin*. Raii. Hist. The leaves of the alhagi are hot and pungent, the flowers purgative.

There is another species called *alhagi* maurorum.

ALHA'NDALA, (ALHANDAL, Arab.). An Arabian name for the colocynth. See COLOCYNTHIS.

TROCH. ALHANDAL. The troches of *alhandal* is a composition as old as Messue, but is now not used.

ALHA'NNA. See ALANA TERRA.

ALHASEF, (ALASAF, *filth*, Arab). A sort of pustule, called HYDROA.

A'LIA SQUILLA, (from *αλιος*, *belonging to the sea*, and *σκιλλα*, *a shrimp*). The PRAWN.

A'LICA, (from *alo*, *to nourish*). A sort of food admired by the ancients; it is difficult to say whether it is a grain or preparation from some seed: many writers speak of it as a sort of wheat; but upon the whole it seems to be a kind of meal made into frumenty, to be eaten with milk, &c. Salmasius says, that *alica* is one sort of the chondros of the Greeks, which was grain broken into large fragments, or rather only freed from the husks, but not ground in a mill; called also *aphæreme*, *adroteron*, *farinarium*.

A'LICES, (from *αλιζω*, *to sprinkle*). Little red spots in the skin, which precede the eruption of pustules in the small-pox.

ALICO'RNU, (from the Hebrew terms *ali*, *lifted up*, and *karan*, *a horn*). See UNICORNU.

ALIENATIO ME'NTIS, (from *alieno*, *to estrange*). See DELIRIUM.

ALIE'NUM, (from the same). In a medical sense it is any thing foreign and troublesome to the body. Sometimes it means corrupted.

ALIFO'RMIS, PROCESSUS. See PTERYGOIDES PROCESSUS. (From *ala*, *a wing*, and *forma*, *the shape*).

ALIFO'RMIS MUSCULI. See PTERYGOIDÆI.

AL GULUS. See CONFECTIO.

A'LILAT, or *αλιτ]α*, an Arabian name for *Lucina*, or the goddess which the Greeks supposed to preside over child-birth.

A'LIMA, (from *αλιμος*, *belonging to the sea*). A

sort of sand from which lead and other metals are obtained.

ALIME'NTA, ALIMENT; OR FOOD BOTH SOLID AND LIQUID: (from *alo, to nourish*). It is such matter as is convertible by the actions of the body into an alkalescent gluten, of which all our solids and fluids are formed, and by which their waste is repaired. Next to air, food is the most necessary thing for the preservation of our bodies; and as, on its choice, our health greatly depends, it is of importance to understand, in general, the properties of our aliments, so as to judge not only the kind of food proper in different situations to support life, but to restore health when impaired; and, in particular deviations from health, what is the best adapted to restore us.

Our blood and juices naturally incline to a putrid acrimonious quality: fresh chyle, duly received, prevents this destructive tendency, and preserves in them that mild albuminous state that is alone consistent with health.

The subject of aliment, if pursued at length, would require a volume. It must be considered here more shortly; but we shall offer an outline, which may be easily filled up. The structure of the human stomach shews that man was not intended to be granivorous, or exclusively herbivorous; the length of the intestines, on the other hand, proves that he was not wholly designed to be carnivorous. In all situations where the dictates of nature have been complied with, mankind have consequently mixed both foods, and the proportions have been such as fancy or necessity may have suggested; so accomodating is the animal economy, that it adapts itself to every kind of diet, and the axiom is universally true, *sanis omnia sana*.

It will be at once obvious, that the food, taken in, is by no means in the state which nature requires to form our mass of blood. It must undergo some change; a process which, in its successive stages, is called DIGESTION and ASSIMILATION, q. v. These subjects we must not anticipate; but may now remark, that aliment is only admitted into the system in the form of a bland oily fluid, named chyle. This, though resembling milk, yet essentially differs from it, since milk is not absorbed until it has been coagulated and experienced some chemical changes. The great divisions of our aliments are vegetable and animal: these, as usual, are in their confines scarcely distinguishable, and the mushroom of the vegetable kingdom is of a more animalised nature than even the milk of the most carnivorous animal, the dog. Of vegetable substances, the prevailing principle is carbone; of animal, azote. The changes which the first undergo are, therefore, the most considerable, and their assimilation requires the longest time. We have already observed, that *difficult* and *slow* of digestion are not synonymous; and this is particularly exemplified in the digestion of vegetable substances, which excite little commotion in the system, though they are long retained in the primæ viæ; and the criterion we shall employ of *difficult* digestion, will be *the exacerbation of hectic paroxysms*. In hectics, the arterial system is peculiarly irritable, and the slightest exertion of the digestive organs accelerates the circulation.

The nutritious parts of the vegetable kingdom are mucilage, starch, or sugar. In the lowest degree of nutriment are the ESCULENT PLANTS, such as the bete, the spinach, and the lamb's lettuce. The cabbage and water-cresses, scarcely ranking higher in nutritious powers, have some effect from their peculiar acrimony. Among the vegetables of weak nutritious powers must be reckoned the marine algæ, which, perhaps, except in one instance, owe their chief advantages to the stimulus of the salt. The fucus esculentus palmatus and digitatus are used; the second is the dulse of Scotland. The ulva umbilicalis affords the laver, and the u. latissima (Iceland sea-grass) is saccharine. The Iceland liverwort, lichen Islandicus, we shall speak of as a medicine. The *siliquosæ* of Linnæus follow, including the endive, the lettuce, the celery, the artichoke, and asparagus. Many of these are highly acrimonious, but deprived of their peculiar principle by confinement from light, styled etiolation, or bleaching. The early buds of the asparagus are only employed, in which the peculiar acrimony is not unfolded.

We should next arrange the ROOTS: of these the radish and the turnip are the least nutritious, and the *umbilliferæ* of Linnæus follow: they include the carrot, the parsnip, and the skirret (sesarum). The *semiflosculosæ* are more nourishing; the orchis, which produces the salep and the potatoe, with some others, are of this class: those which rank with them, the onion, the leek, the garlic, including its species, the chalot and roccambole, are not, *with us*, employed as aliments, but must rather be considered in the rank of condiments. The leguminous seeds, chiefly of the *papilionaceæ* of Linnæus, are next in order: they unite with the herbaceous matter a large proportion of mucilage; we shall enumerate them in the order of their nutritious powers, viz. kidney-beans, pease, beans, lentils, and cicer seeds (*cicer arietinum*, Lin.) As nutrients, the gums have also held a place. We know not their comparative value; but shall not be greatly in an error if we add here the only substance of this kind, of which there has been any trial, viz. the gum arabic, the production of a species of mimosa. This, from the testimony of Hasselquist, has been found nutritious; and of a similar quality, perhaps, the gum tragacanth and the cherry-tree gum may be found.

In this climate some of the fruits are less nourishing than a few of the roots we have mentioned; but in warmer climates they are more so, and it was at least improper to separate them. The *cucurbitaceæ* of Linnæus, including cucumbers, melons, pumpkins, &c. are in the lowest rank: they are followed by the *senticosæ*, in which class currants, strawberries, raspberries, gooseberries, and grapes, are arranged: the *hesperideæ* (oranges), *pomaceæ* (apples and pears), *drupaceæ* (apricots, peaches, plums, and cherries), follow, with little distinction, but nearly in the order assigned. The dry fruits of warmer climates, raisins, dates, and figs, are more nourishing.

We next arrive at the SEEDS, which are nutritious, from their amylaceous principle, viz. the *cerealia*. Of these we may mention rice, wheat, barley, oats, rye, Indian corn, millet, buck wheat, Guinea corn or sergo (*holchus sorgum*, Lin.), flote fescue grass (manna seeds), and the lotus of Africa, mentioned by Park. The FARINACEOUS roots of warm climates are more nourishing, viz. the sweet potato, the Jerusalem artichoke; the various yams, viz. dioscorea sativa, tryphilla, and bulbifera, the toyos and black cocao (arum colocausia and sagittifolium), the farina of the sweet and of the bitter

cassada (iatropha manitot and ianipha), and the starch of the arrow root (maranta arundinacea). The farina of the sweet cassada is the tapioca. We have placed the cerealia nearly in the order of their nutritious powers, for perfect accuracy is unnecessary; but we must now add, what is of more importance in a dietetic view, the order in which their saccharine principle is most readily evolved, and, of course, that in which they appear most acescent, viz. oats, barley, wheat, millet seed, rye, Indian corn, and buck wheat: the order of the others has not been ascertained.

After the arrow root we must mention the farinaceous fruits, and the farinaceous medulla: we know not that as nourishment they merit any distinction. Of the former kind we find the bread-fruit tree of the South-Sea islands (*artocarpus incisa* Lin.), the bread nut (*brosimum alicastrum* Lin.), the sweet chesnut, the plantain tree and banana fruit (*musa paradisiaca & sapientum* Lin.): of the latter the *sago*, the medulla of the *sagus farinifera* of Gærtner; the cabbage-tree palm (*areca oleracea*), and the meal bark (*cycas coffra* Lin.).

When with the farina a mixture of oil is discovered, the nutritious powers are more conspicuous; but the oil is sometimes so closely involved with the farina, as in the almond, the cashew nut, the filbert and walnut, that the stomach, except in its strongest state, is unable to separate it; while in the chocolate nut (*theobroma cacao*), the cacao nut (*cocos nucifera*), and particularly in the butter cacao nut (*cocos butyracea*), it is so loosely combined as often to produce inconvenience. We must not, however, confound the butter cacao nut with the butter-nut oil described by Mungo Park; though, when expressed, it is the *oleum calappi*, the cow-nut butter. The tree noticed by Park is probably a species of the *bassia* Lin. The fat oils, viz. the oils combined with mucilage, may be still more nutritious, but they are not very digestible, and our experience with them is consequently limited.

The SACCHARINE SUBSTANCES as nutriments are highly estimated, and perhaps their power is increased when joined with farina. We thus, therefore, place in the first rank, as least nutritious, refined sugar; it may be followed by coarser sugar, honey, maple sugar, beet-root sugar, and sugar of malt.

In this variety of vegetable bodies we must fix our eyes on the leading constituent parts. These, in a chemical view, we shall find to be mucilage and sugar, for starch differs only from mucilage, in containing a less proportion of caloric. Mucilage contains oxygen, hydrogen, carbone, and azote; sugar no azote, and a larger proportion of oxygen. We are yet too little acquainted with the influence of the chemical principles on the process of digestion, to be enabled to say how far one or the other of these principles may render a substance eligible as a nutrient from an examination of its analysis. We can perceive that oxygen is a necessary part of our system, as it gives a more brilliant hue to the red blood, and as our most recrementitious fluids are azotic. On the other hand, azote is necessary to animalise the vegetable portion of our food, and then becomes injurious. We can go no further in this path. From experience we find the herbaceous substances cold in the stomach, and affording so little support as to render the constitution unfit for great exertions, without at least some condiment, if not stronger nutriment. The cerealia give a better support, for reasons that we shall soon perceive: the farinaceous roots still more; but these also require assistance for their more perfect digestion: the oils and sugars, as we learn from Dr. Stark's experiments, will support the body for a time in tolerable health. The Irishman lives on potatoes, but he adds the stimulus of whiskey; the Spaniard and the Frenchman on bread, but with the assistance of olives and garlic. The infusion of oat-meal in Scotland, or the oat-cakes, require the warmth and animal impregnations of milk, if not of malt spirit; and the moss of Iceland would be an insalubrious food without the dried fish.

Yet in corn, in potatoes, in parsnips, and numerous other vegetable substances, particularly the grains, a principle, resembling that in animals, is found. It is styled the gluten, and resides in the skin of corn, and is more intimately mixed in the potato. In fact, the root of the latter consists of follicles containing farina, and the coats of these seem to contain gluten. The prevailing principle of gluten is azote, and, in each experiment, its chemical nature is animal. MUSHROOMS, which unite in a chemical and a dietetic view the vegetable and animal kingdoms, abound in gluten, and produce, on distillation, ammonia. We have, however, no experience of these as an article of diet; they are seldom employed but as a condiment. The various kinds used are the common mushroom (*agaricus campestris* Lin.), truffle (*lycoperdon tuber* Lin.), orange agaric (*agaricus deliciosus* Lin.), coral clavaria (*cl. coraloides*), the *agricus mucheron*, and the *phallus mitra* Lin.

We approach still nearer the animal kingdom in the various MILKS. These consist of an animal oil; of a coagulable part, which is gluten; and sugar. Milk, on standing, absorbs oxygen, which promotes the separation of cream, and suffers an halitus to escape, which has not been examined, but which is certainly not an aqueous fluid only. The cream, with the oil, contains some gluten and sugar, and the latter are left in the butter-milk, after the operation of churning. This subject will be detailed more at length under the article MILK: the outline was only necessary to explain the dietetic properties of different milks. In diet, the milk of ruminant animals is chiefly employed, viz. cows', goats', and ewes' milk: this is the order of the nutritious properties, beginning, as usual, with the least nourishing. Cows' milk contains also the least, and ewes' milk the largest, proportion of cheese. Of the non-ruminant animals we employ women's milk, asses', and mares': they nearly resemble each other; but women's milk is the lightest, and perhaps contains most sugar. Later experiments seem to have shewn that it does not coagulate with vegetable acids. The coagulable part of milk, with more or less of the oil pressed into the form of cheese, will be afterwards considered.

The ANIMAL FOOD which digests in the stomach with the least irritation, though not the most quickly, is the white meat of all animals, and the meat of the younger ones. White and young meats abound in jelly, which forms also a considerable proportion of the membranes, tendons, and cartilages. Jelly, though soluble in water, is not affected by alcohol; and, while it resembles albumen, yet differs greatly from it. Jelly contains a larger proportion of earth than albumen, and the further an animal is advanced in life, so much more are its fluids loaded with earth. Jelly also contains an alkaline phlegm of an animal nature which readily putrifies, with a

larger proportion of carbone, the predominant principle of vegetable substances. To these it adds hydrogen and azote; the last of which abounds more in the coagulable lymph of the blood, and still more in the fibrin. See Blood.

Birds have been considered as of more easy digestion than mammalia. This however is not unexceptionably true. Even in the gallinaceous tribe there are some exceptions; but it may be admitted in general, that the young of the feathered race are easily digestible. The parts of the bird most so are those most used; as the wings of the wilder kind, and the legs of the tame ones. Birds also differ in their digestibility, as they are more or less alkalescent, or more or less oily. Alkalescence is a term introduced into diætetics, on a principle neither correct in a chemical nor a physiological view; yet it may be admitted as a naturalised foreigner, without examining its pretensions. Wild animals are styled alkalescent; as woodcocks, snipes, moor-fowl, &c. among birds; hares, red-deer, &c. among the mammalia. These are perhaps justly considered as more easily and quickly digestible than the tamer animals of a similar kind: when they have been some time pursued, they become aliments still more easily assimilated. It is said, we know not with what truth, that bulls baited become wholesome food; and that an act of parliament exists, which directs, that no bull should be killed without being thus previously irritated and tormented.

On the other hand, the oily birds, the anseres for instance, are gross and indigestible, though only when full grown. We dare not say, that in earlier periods they are very easily subdued by the stomach, though, on the whole, they are then a mild, and generally harmless, nutriment.

Quadrupeds differ in their digestibility from various circumstances. In general, the *pecora* afford mild nutriment, though food is taken from the other orders also; but the particular animals we shall afterwards separately enumerate. The size of the animal, independent of its age, appears of consequence, as of the larger animals the fibres are coarse and more indigestible. The mode of life, and the exercise, are of importance in this view. An animal living according to its own nature is a more nourishing, though not always a more delicious food, than one crammed or pampered. A grass lamb is more digestible and nourishing than house lamb; a black turkey, that roosts on trees and feeds on chesnuts and acorns, superior to that fattened in the coop. The ground on which they feed, the food they eat, and the air they breathe, necessarily alter their nutritious, and consequently their digestible, powers. We know the fatal disease, the rot in sheep, which arises from the air, probably from hydrogenous gas, since sheep will catch the infection in a single night; and we can easily conceive, that, in a slighter degree, the same disease, though less obvious, may injure their nutritious powers. Sheep, fed on turnips, are less nutritious than those which have grazed on the finer turf of more elevated districts. The cow, fed on oil-cakes, gives an ill-tasted milk, while its flesh is coarse and indigestible.

A circumstance influencing the digestibility of animal food, not generally noticed, is what the graziers call the proving state. When an animal is improving in condition, the meat is tender and easily digestible: when its condition is growing worse, though equally fat, and in appearance promising, it is tough and not easily assimilated. This peculiarity proceeds further; and, in proportion to the rapidity of the improvement, the meat is preferable in flavour and solubility. Thus an ox, worked to the lowest degree of emaciation, affords, when quickly fattened, the best beef. This, we have said, is independent of the fatness. Fat meat, however, is more nourishing, though in weak stomachs not so easily digestible. Savages are fond only of the fattest meats, and they style lean cattle bread meat: we have heard a similar expression among the rustics in our own remote provinces, so universal is the opinion derived from experience. The marrow of meat, though resembling the fat, is not equally difficult of digestion: by some authors it is arranged, we suspect with reason, among the most digestible substances.

Another circumstance which influences the solubility of meats is castration. The flesh of the ox is more digestible than that of the bull; of the wether than of the ram; of the capon and the pullard rather than the cock or the hen. In reality the meat approaches that of the female, though more firm, and probably of a higher flavour. If to this there is any exception, it is in the capon, whose flesh is more moist and soluble than that of the hen. The preservation makes some difference in this respect. Animal food, kept till putrefaction *approaches*, is more soluble than at an earlier period. We have said "approaches," for, when in the slightest degree arrived, it generally excites nausea, unless the stomach be stimulated, and the further progress of putrefaction prevented by the warmest condiments. Meat preserved by freezing, and gradually thawed, is in the state of that well kept. By salt and smoke it is hardened, and rendered more indigestible; by sugar we think it is preserved in nearly as soluble a state as by cold. The mode of cookery also affects the solubility of animal food. Boiling renders it more digestible than roasting; and this than baking or frying. Various fancies have prevailed on this subject, and different modes have been recommended according to the inclinations of different authors; for physicians usually advise what they themselves like. In general, however, in roasting, baking, and frying, the oily parts are rendered empyreumatic; and a substance of this kind is very indigestible. If, of roasted meat, the inside parts are only taken, the difference is not considerable; but in baking and frying, the gravy is retained, and a change similar to the empyreuma of oily substances takes place. This is known from the preference given to the superior flavour of meat, dressed in these manners.

The amphibia form a link between animal substances and fish. The turtle, the delight of the epicure, is an example of this class; but the species we shall afterwards mention at length. The conger eel, in its flesh, approaches also animal substances.

The rank which fish in general ought to bear in the scale of digestibility, has not yet been settled. Sea-fish bear, we suspect, the same relation to river-fish, that wild animals do to tame ones; and the fish of stagnant ponds are less digestible than those of running water. The meat of the same fish differs according to the period of spawning: fish are in perfection not at the moment of this crisis, but when the melt or pea begins to enlarge. They differ also according to the

time they have been killed, and from the operation of crimping. These subjects must be resumed when we speak of the different kinds of fish, as it would not be easy to give a general rule.

Of the INSECTS but one species (the locust) has been eaten, except those of the sea. Of the locust we have no experience; but the white kind, not unlike crabs, is seemingly a mild nourishing food. In the east they are boiled or roasted, and, like crabs, become then of a red colour. They were eaten, as we are informed by Diodorus, by the Æthiopians: and Dampier tells us, that the custom still continues. Of the sea insects, crabs, lobsters, &c. appear to be mildly nutritious; in many constitutions more so than animal food.

Of the terrestrial VERMES we take but one species, the snail, and this in England rather as a medicine than as food. The marine vermes, the oyster, &c. rank among foods easily digestible, and may be considered, *when not roasted*, as the most digestible of animal nutriment.

We cannot leave these more general doctrines respecting aliment without noticing some fancies respecting the nutritious powers of mineral substances. The pangolin has undoubtedly been dug out of a sand hill, where it seemingly could have no access to vegetable or animal nutriment: yet we know not but that it might have laid in a stock of food, as some animals that have their returning periods of torpor require no nourishment for a long period: nor can we say that it finds no vermes in the sand. Some tribes of Indians have also, it is said, in periods of scarcity, devoured a species of steatite. That the greasy appearance of some steatites may have induced them to consider such mineral substances as nutritious, is not surprising; but that they have proved so is doubtful. Much of the pain of hunger arises from emptiness, and this may be in part avoided by any substance; and it is equally avoided by external pressure on the stomach, a practice not uncommon among savages, when food cannot be procured.

As we have now stated the more general facts respecting aliment, we shall resume the consideration of the different classes, not only to point out the different species employed, but to remark some peculiarities which will influence our conclusions in the choice of different articles of food.

We began with the BIRDS, as many of these afford lighter nutriment than the flesh of quadrupeds. We shall follow in some measure the classes and orders of the historian of nature, though we must invert their order. Birds, in a dietetic view, may be divided into the more or less digestible. The extremes are well marked, *viz.* the gallinæ and the accipitres of Linnæus. Experience has decided that chicken are the most easily assimilated of the feathered race; and though some doubts may perhaps be suggested, from a comparison of some of these with other species, yet, on the whole, as a general position it may be admitted. Of the *gallinæ*, some species of every genus are occasionally eaten, and perhaps every one will afford a moderately mild food. Even the ostrich, when young, is a delicacy. The most common species, which adorn the tables, belong to the genus *phasianus* Lin. the domestic fowls; the *meleagris*, the turkeys; *pavo*, the pea-hen; *otis*, or the buzzards; and the *tetrao*, including the partridges, black cocks, &c. The quail belongs to this genus. These are all graminivorous. The rails, particularly the rallus grex, connects them with the grallæ on one hand; the pigeons and larks with the passeres on the other. The grallæ afford a more sapid food, and we suspect often a more digestible aliment. The rails we have already mentioned; but the edible species of scolopax (the woodcocks and snipes) are more commonly known and esteemed. The genus tringa, including the sand-pipers, and the knots, may be next arranged; and the charadrius, the plover, is scarcely inferior. Some of the other genera are seldom eaten; and the herons and curlews, though not rejected, are not, on account of their fishy flavour, to be recommended when the digestion is weak.

The *columbine* race resembles, rather in appearance than in qualities, the gallinæ. The young pigeon is, however, easily digestible; but the older birds are dry and insoluble. We have had reason to believe, that none of the columbæ, when they exceed half their usual size, are easy of digestion; and, when full grown, they have often created uneasiness in the stomach. The *alaudæ* Lin. are often eaten, and the flesh of the a. arvensis is safe to be of a delicious flavour in the southern climates; though accused, perhaps without reason, of being injurious in calculous complaints. The greater number of the passeres are too small to enable us to determine their relative digestibility, as they cannot wholly form a meal, even for an invalid. We have reason to think them in general easily digestible.

The *anseres* usually afford a gross indigestible food, unless in the earliest periods of their existence. The genus anas offers the greater number of the edible species. All species of the anas have been occasionally eaten; but the wild kinds are often lean, hard, and fishy; the tamer ones, which have been fed on grain, are sapid; and, when young, easily digested. The teal is the most delicate of the wild kind, and the young duck of the tame anseres. Of the auks, some of the younger kinds, when cured by smoke, are eaten by the inhabitants of the northern regions; and the egg of the arctic auk is said to be delicious. The penguins also have been eaten from necessity, and their eggs commended; but we find only among common foods the *pelicanus bassanus*, the solan goose from the Bass island. Some of the shags, also, which belong to this genus, have been occasionally employed as food. Of the gulls, one species is mentioned by Sauer, as delicious, and not unlike the turkey.

Of the *picæ*, some of the macaws have been eaten; but the flesh is hard, dry, and indigestible: those, however, which feed on vegetable substances, must be excepted. The *psittacus pertinax*, for instance, the yellow-faced parroquet, and the *ps. jaguilma* and *cyanolyseos*, two species observed by Molina, in Chili, have been used as food; the last are said to be delicious. The *buceros hydrocorax* of the Molucca Islands, which feeds on nutmegs, has been considered as a delicate high flavoured food. One species of the wattle bird, the *glaciopis cinerea* Lin. is mentioned by Dr. Foster as edible; and many persons are fond of the young of the *corvus frugilegus*, the rook: yet their colour and flavour must be rendered less disgusting, by previously soaking them in milk. It is indeed doubtful whether this species of corvus really feeds on corn; the more

probably devour the larvæ of insects, raised by the plough; but some other species certainly feed on grain, though we find only the chough or Alpine crow, *c. pyrrhocorax* Lin. reckoned among the foods. Among the rollers, the European species, *coracias garrula* Lin. is only eaten; but of the *oriolus* many species have been employed as food. As the greater number feed on grain, we may find the edible species numerous. Among the other picæ, we perceive only the golden woodpecker, the *picus auratus* Lin. and a species of *alcedo*, *a. galbula*, recommended as eatable. The accipitres have never been employed as aliment; but some of the shrikes, which feed on grain, and resemble the picæ in their manners, may perhaps afford wholesome nourishment.

The AMPHIBIA approach, in their digestible nature, the younger animals of the mammalia and aves; yet the more luscious and fatty parts render them sometimes gross, and not easily assimilated. The muscular flesh of the turtle and tortoise is not unlike veal; their tendons, ligaments, and fat, are more indigestible. Different species of the *testudo* are employed as food; among which the green turtle, and the ferocious tortoise of America, are the most delicate; and the *t. caretta* the driest and worst flavoured. The land tortoise is neither a very delicate nor easily digestible food, though it has not been employed in its best state. Of the *lizards*, the crocodile is said to be eaten by the Moors, but we know not the nature of its meat: its eggs are well flavoured and digestible. The eggs of the guana, the *l. iguana*, are said to have no yolk, and not to be coagulated by heat. The meat is digestible, and, in the opinion of some authors, preferable to fowl. The viper has been reckoned an easily assimilated and a nourishing food: its broth has been consequently employed as a restorative after fevers. It is probably an easily digestible substance, or it would not so long have maintained its credit; and it may now be lost rather from varying fashions than any inconvenience resulting from it. The buffalo snake, *boa constrictor*, is enumerated among the edible amphibia; but its peculiar nature is not mentioned. It probably does not greatly differ from the viper. The *frog* is well known to be a light, digestible food, and greatly to resemble delicate veal. The green lizard, *lacerta agilis*, is not greatly different. We may here mention a gelatinous esculent substance, which, though the work of a bird, is probably derived from some of the lower orders of animated nature; we mean the *nest* of the *hirundo esculenta*. It is found in the East India islands, particularly in the caverns near the sea, and is gelatinous, indeed peculiarly rich and luscious; nor have we heard that it creates uneasiness or indigestion.

The sea insects may be next arranged, as they seem to be easily digestible, and occasion less uneasiness than even the lighter kinds of fish. They have been accused of exciting febrile heat and efflorescence on the skin; but these are probably accidental effects from the food they take in. We have found them, in general, light and nourishing. The only sea insects eaten are the species of *cancer:* yet the lobsters, craw fish, prawns, and shrimps, should be separated from the crabs, probably in a scientific, certainly in a dietetic, view. The crab affords a very digestible food; the others are less easy in the stomach. Next to the crab are the shrimp, the white shrimp, and the prawn, the *c. crangon*, *squilla*, and *serratus*. The *lobster* is richer as a food (C. gammarus); and the *craw fish* still more rich.

The *marine vermes* are also albuminous and glutinous. They are easy of digestion only in their raw state; for when heated the albumen is coagulated, and not easily assimilated. The *oyster* and the *cockle* are the most easy. The *muscle*, mytilus edulis, is next in the order: this animal is suspicious, from the accidents which have followed its use. These are not well understood, and may arise from the habit of the person affected; for, in some constitutions, even the white of an egg boiled will occasion sickness and efflorescence: but it is more probable that the muscle occasionally feeds on a deleterious insect, which is the real poison. It is, on this account, probably safer to avoid it. The *queen* is more rich, and the *scallop*, ostrea chama, too luscious for weak stomachs. The *borer*, pholas dactylus, the *limpet*, the *sea apple*, *echinus esculentus*, and two species of *sepia*, the cuttle and stocking fish, are seldom employed as food, and resemble, in their nature, the cockle, though more dry and coriaceous; at some seasons indigestible. Of the *terrestrial vermes*, we eat only the *snail*, as a mild nutriment: several species have been eaten in hectic cases, with little apparent advantage or inconvenience.

In a dietetic view, FISH are of two kinds, which we may denominate from the most common instances—the *whiting* and the *turbot* kind. The flakes of the former are firm and dry; those of the latter more luscious and fat, or more tender and watery. We cannot pursue this distinction through the whole tribe of esculent fish, but shall thus arrange the more common kinds; adding the others, whose qualities are less known, in a more indiscriminate list.

Of the first kind, then, the genus *gadus* affords the most prominent instance. It contains the cod, the ling, the whiting, the haddock, the sea burbot, the pollack, the rawlin pollack or coal fish, the dorsk, g. cellarius, and the bibb, g. luscus. The meat of these species is firm, solid, and easily digestible; nor is there, in the whole list, any striking exception. The flakes are white, firm, and conchoidal. The genus *mullus* affords a species of a similar nature, though not equally firm. Of these, the firmest is the surmullet, m. barbatus, or red mullet; called the woodcock of the sea, both from its superior flavour and from the custom of using the trail as sauce. This fish is easily bruised, and soon spoiled: so that it is little known in this metropolis. The genus *clupea*, containing the herring, sprat, anchovy, and pilchard, are more oily, and less easily digested. The *scombri*, whose most common species is the mackarel, are still stronger, but of a more delicate flavour. The genus *trigla* affords the piper, the gurnard, which is occasionally gray, but generally red, and the sea lantern. These are apparently less gross, but we do not find that they afford an easily digestible nutriment. The *zeus faber*, St. Peter's fish, or the john dorey, (jean doré, from its shade of gold mixed with green,) belongs to the whiting tribe; and its connexion, from the firm, flaky flesh, with the whitings, prevented our dividing them into the flat and rounded fish.

There is a class which, from the firm solidity of the flesh, approach the whiting tribe, though often hard

and indigestible; viz. the CARTILAGINOUS FISH. The genus *acipenser* (sturgeon) affords the common sturgeon, the isinglass and caviare sturgeon, and the tuke. They are, like the piper, firm, but not easily digestible. The various *skates* are not very dissimilar; and of this genus, raia, we find five edible species. We have alluded to the practice of crimping; and, as the skates are usually subjected to this operation, we shall now explain it. While the irritability of the muscles remains, the fish is cut across in a direction perpendicular to the fibres: these portions consequently contract, and the fish is more firm. It is chiefly employed in the skate, because the fibres easily separate longitudinally; and, from their want of firmness, much of the flavour is lost. The same operation is sometimes performed on the whiting and salmon; but this is only useful when these fish are long kept. They are firm when taken out of the water; but the fat separating diminishes the connexion of the longitudinal fibres, and renders the flavour less pleasing. The *lamprey* is one of the cartilaginous fish which belongs to this class. It is high flavoured, but gross and indigestible. Three species are eaten, but the sea lamprey is preferred. The *fishfowl*, lophius piscatorius, derives its name from the resemblance of its flesh to that of chicken; and the *lumpfish*, cyclopterus lumpus, is not very different. The *conger eel*, when divested of its rankness by soaking and salt, approaches animal substances, and particularly hard, ill-fed veal. The *shark*, of which many species are eaten, is still more dry, hard, and disgusting.

The *turbot* tribe are much more alluring; but they are confined to one single genus, the *pleuronectes*. The softest and most digestible is the plaise; then follow the flounders, the dabs, the sole, the holibut, the brill, and the turbot, nearly in the order of their digestibility. The holibut, indeed, is dry and woolly; the brill is often similar; yet, when fresh, they appear sweet to the taste, and seem to be easily assimilated. We find some other edible species, of which we have no experience, viz. two species of *sparus*, the gilt and laxative fish; two of *labrus*, the sea pullet and sea peacock; the *sea pike*, esox bellona; the *trachinius draco* (the weaver), mentioned with high encomia by Duhamel; and the *mugil cephalus*, whose ova make the Italian botargo. The caviare sturgeon furnishes a similar substance from its roe; but it is hard, dry, and indigestible.

We have, in compliance with the arrangement of some respectable authors, separated the river from the sea fish: we think, however, without reason; for several river fish are truly inhabitants of the sea, and are caught in rivers while reaching a secure asylum to deposit their spawn, or while returning to the sea. The young ones are also occasionally caught in their way to their natural habitation, the ocean; and, we suspect, have been sometimes considered as distinct species. River fish have been considered as more easy of digestion than those of the sea. If we advert to the distinction just noticed, we should form a very different opinion. We have hinted that the river fish are only the degenerate offspring of those of the sea; and, were this a place for such discussions, we could render this opinion highly probable. We have seen the herring in some inland lakes of Asia; but in a state that we could scarcely recognise it, except by its determined specific characters. The trout of the sea is greatly superior to that of rivers, and the salmon from the ocean is a fish of much higher flavour than when it has resided some time in fresher water. To this there is only a single objection; the char, from the lakes of Westmoreland, is a fish of considerable flavour, and equals or excels the other species of salmo, to which it belongs.

The chief genera of what are styled river fish are the *salmo* and *cyprinus*, though the last is only strictly such. From the genus salmo we select the salmon, the salmon trout, the trout, the char, the salmarine, the redling, the grayling, the huch, the salvelin, the smelt, the white fish, and the oxyrinchus. We have placed them nearly in the scale of general estimation; but tastes differ, and these we cannot dispute: excepting the salmon, they are of sufficiently easy digestion; but this fish, from its richness, if kept more than a day, disagrees with weak stomachs; and the fat, rising to the surface, occasions sickness and disagreeable eructations. From the genus cyprinus we receive the carp, the tench, the roach, the dace, the gudgeon, with many similar fish of little estimation, which, in general, owe their attractions to the cook, as, without the most poignant sauce, they are dry and insipid. The *perca* (perch) affords several species, not more attractive. The wolf fish, and the ruffe, p. labrax and cernua, are two of these, little valued. The *pike*, the devouring monster of the river or pond, scarcely admits of a better character; and the stickleback, *gasterosseus aculeatus*, and the shad-fish, *silurus glanis*, the giant of the rivers, are chiefly sought after when sea fish are not to be procured.

There are two river fish which deserve a higher rank, the river burbot *(gadus lota)*, and the *eel*. Of the former, the liver, like the trail of the surmullet, is a peculiar delicacy; and the latter is a fish often very rich and highly flavoured; nor have we found it an inconvenient food, even in weak stomachs. The eel, however, is very strictly a fresh water fish; and its ova preserve the principle of life so long, that, in India, the tanks, after having been dry many months, when again filled, are said soon to swarm with eels. Some small fish, as the *sand eels*, the *minnows*, the *groundlings*, and *weather fish* (cobitis barbatula & fossilis), scarcely deserve notice as articles of diet. These resemble the turbot in the structure of their flesh, while the other species approach the firmer flakes of the whiting tribe.

The animals which connect the inhabitants of the sea with those of the land are the CETACEOUS TRIBE, differing from fish in their structure, though adapted for the same element in other respects. We find among the edible cetacea the *balæna mysticetus* and *physeter*; the nord caper, and the fin-fish. The flesh of the whale is in general hard and coriaceous; near the tail it is more succulent. The Russians, in the Fox Islands, who eat it, ascribe to this aliment a deleterious effect, producing an offensive perspiration, and irritating the urethra so as to produce a disease resembling gonorrhœa. The Japanese, on the contrary, prefer it as a strengthening aliment, and chiefly eat it when engaged in any laborious occupations. The Greenlanders eat the skin and the fins of the nord caper, and, in the early periods of the whale fishery, the Basque sailors commonly lived on the meat of these animals. Captain Colnet tells us, that the heart of a young whale was considered by his crew as a peculiarly delicate food.

The muscular fibres must be obviously hard and dense, since, when the whale is not fat, or after the fluid oil has escaped, the flesh sinks in the sea like a heavy stone. The *monodon monoceros*, and two species of *dolphin*, d. phocœna and delphis, have been occasionally eaten, but are hard and indigestible.

Other animals that occasionally inhabit the ocean are sometimes eaten. The *trichæcus manatus* is mentioned as a highly flavoured food, particularly the northern variety. The fat is employed as butter. The flesh of the t. dugong, the *Indian walrus*, resembles, it is said, that of the ox. The lips and snout, boiled to a jelly, are considered as a delicacy by the Tshutski. The meat of the phocæ is also said to be wholesome and pleasant. The *p. ursina* and *vitulina* (sea bear and sea calf) are preferred; though the *sea lion*, p. leonina, is occasionally eaten. The meat of the sea calf is said to be fat and watery, and to soon cloy. The flesh of the sea lion is dry and fishy. The flesh of the ursine seal is blue, but when the animal is young it is well tasted. The *mustela lutris*, the sea otter, is mentioned among the animal foods; but we know not its quality, or the authority on which its alimentary properties are founded. The animal, when young, we are told by Sauer, is as delicate as a sucking pig, and resembles it. It may perhaps be proper, in this place, to notice the animals which live very commonly in water, viz. the *beaver* and the *river* or *fish otter*, the *castor fibra*, and *mustela lutra* Lin. The flesh of these animals, however, furnishes our food so rarely, that our experience of it must be limited. The flesh of the beaver has been thought to resemble beef. It is hard and difficult of digestion, and the smell is offensive. The tail is, however, an exception; as it is tender and more delicate. The native Canadians often eat it, and in Lorraine it is said to have been no uncommon food. When well seasoned, it is supposed to resemble lampreys. The flesh of the otter smells and tastes of fish; it is dry and coriaceous; eaten only by the monks when fish cannot be procured. In this scarcity they sometimes even employ the grossest fishy wild fowl.

We now arrive at the QUADRUPEDS, the class from which the greater portion of our food is taken. In a dietetic view, the *pecora*, with ungulated feet, are the most easy of digestion, and perhaps the most nutritious; and it is a rule, apparently general, that the further the claws are extended, till they become palmated, the less digestible and wholesome is the food which the animal affords. We have said that the flesh of wild animals is more digestible than that of tame ones. The genus *cervus* claims the pre-eminence; and perhaps not a single species exists which is not, in some country, a delicacy, if well fed: many, in the more emaciated state of a wild animal, are highly esteemed. The various species of the *sheep* follow: nor need we stop to enumerate the warm commendation of the tails of the African sheep, or the delicate flavour of the Siberian. In general, the small wild kind are preferable: the larger and fatter varieties are rank and less digestible. The modern improvers, who have covered the muscles with immense loads of fat, have not rendered the flesh of a superior flavour, or more ready solubility. The goat, so nearly allied to the sheep, should be next mentioned, though probably not the next in the view of its digestibility. Our praises must be limited to the animal in its earlier periods, when most of the species afford a delicate nutriment. When older, the flesh is rank, hard, and dry. The *antelopes* are not equally excellent; and indeed many of the species have not been employed as food. The a. rupicapra, gnu and sylvatica, are particularly commended. Some of the other species, particularly the a. sagea, are scarcely eatable: many are rank, and have the offensive smell of musk.

The genus *camelus* affords species so nearly resembling the sheep, that it should certainly be placed at no great distance. We allude to the sheep of Peru and Chili, which wander over the immense chains of the Andes. The lama of Buffon, the c. glama, c. arcucanus, vicugna, and paco, afford a meat of high flavour, and very digestible. The flesh of the c. huanucus, discovered by Molina in Chili, is more hard and insoluble; though, when young, highly esteemed. The camel and dromedary (*c. bactrianus et dromedarius*) have always been highly esteemed in the East, as food. The Arabians consider the latter, usually called the camel, as the greatest delicacy. The rank odour of the musks (*moschus* Lin.) has prevented many of the species from being employed as diet; and we find only the m. moschiferus, the Thibet musk, spoken of with approbation. The meat of the younger animals is of a delicate flavour. Of the *ox* we need scarcely speak; and of its various species, many of which are varieties only, the common ox is almost exclusively eaten. The flesh of the b. moschatus is strongly perfumed; that of the b. gruniens hard and indigestible, unless in its earlier period of life. Of the Cape ox (*b. cafer*), the flesh is coarse, but juicy, and of a wild taste.

The genus *equus* is of a similar nature. Policy forbids the horse to become an article of food; yet, among the Tartar hordes, the horse and the mule also are articles of diet; probably in their younger state. The Mongul and Tungusian Tartars admire the flesh of the equus hemionus, which ranges in a wild state, between the borders of Thibet and China. Even the *ass*, in its younger period, is, we believe, occasionally eaten. The zebra has never been an article of diet.

The *hippopotamus* connects the horse and the hog. Both its species, the one resembling the horse, *h. amphibius*, the other more nearly approaching the sow, are eaten; the first by the Africans, particularly the Ethiopians; the second by the inhabitants of the shores of the vast river of the Amazons, where the animal abounds. Either would scarcely suit an European palate, as the flesh is dry and coriaceous.

The feet of the *hog* are more minutely divided, and, as an aliment, it is gross, often indigestible. It has been considered as peculiarly aphrodisiac, though without sufficient foundation. Linnæus once supposed it particularly injurious in occasioning a relapse of intermittent fevers, for this was the meaning of an obscure phrase in the system of nature, cinconæ criticis obest. The suspicion however seems void of any foundation, and in the later editions it is, we see, omitted. The Chinese variety is the most delicate in flavour, but each is gross, and in weak stomachs occasions inconvenience.

The Guinea pig has, within our own knowledge, formed an article of diet, but was not highly relished. The *s. tajassa*, the Pecary, or Mexican hog, is said to be alimentary, if eaten immediately after the animal is killed. It is a more cleanly animal, and feeds, at least in

part, on grain and fruit; partly indeed on reptiles and serpents. The *Ethiopian hog* has, we believe, been never eaten: the *s. baby russa*, the Indian hog, which nearly equals a stag in size, is said to afford a good food.

The feet are still more divided in the GLIRES; and they afford in few instances either a wholesome or a delicate nutriment. The hare forms the chief exception; which is easily digestible, and when young a delicate and light food. The rabbit merits similar commendations; and authors have styled it a soluble meat. But on this point we have our doubts; and should it ever be so, the animal must be young. The flesh of the Alpine hare, as well as of the Russian rabbit, is less delicate; but that of the small hare of Chili is said to be of a superior flavour. There are some other species, of which we have received no information. The genus *hystrix* must be next mentioned. It resembles the hog; and the crested as well as the Brazilian porcupine are said to afford a salutary nutriment. The *h. dorsata* and *macrocoura* seem never to have been used as food. The species of cavia resemble, in qualities and flavour, the rabbit. The *c. acuschy* and *aguti*, with its varieties, are most commended. The *c. capybara* is of a less delicate kind. The genus *hyrax* is nearly connected with the cavis, but neither of the species have supplied any nation with aliment.

The beaver, of which we have already spoken, connects the caviæ with the mures; and the *mus coypus* greatly resembles it; but we cannot find that it has been ever eaten. The other species of *mus* are so disgusting in their appearance and manners, that they have been eaten only from necessity. We have seen more than one person who has declared, that young mice and rats are little inferior to rabbits; but we doubt their having employed them as food, and perhaps

> Rats and mice, and such small deer,
> Have been Tom's food for seven long year,

may be considered as a poetical hyperbole to enhance the supposed misery of poor Tom's situation. Some of the species have been certainly eaten from necessity, and Pallas has told us that the Yakuti employ a few of these as food.

The *arctomys*, allied to the rats, is undoubtedly edible; and some of the species are peculiarly delicate. In Switzerland, and in the North of Asia by the Yakuti, the *marmotte*, *a. marmota*, is esteemed a tender highly flavoured food. The *bobak* of Poland is little inferior. The *a. citillus* is inferior as an aliment. Of the other species we have no experience, nor can we find any account. Many of the squirrels are eaten, and some of them have been reckoned a delicate food, particularly that which in the arctic regions is styled *belka:* those, which are separated by Linnæus, and united under the genus *myoxus*, have, we believe, been never eaten. The genus *dipus*, which includes the kangaroo, affords, besides the largest quadruped of New Holland, many edible species. They afford, particularly when young, a tender and easily digestible aliment.

Among the *bruta*, we find some species of armadillo used as food; and the flesh of the rhinoceros is said to be eaten by the Moors and Hottentots: it must be however in the earlier periods. We recollect hearing that the trunk of the elephant is delicate nourishment, but we cannot discover our authority.

Among the *feræ*, the lion is pre-eminent. Bruce speaks of it as food; and it is said that Shaw mentioned its having been eaten, but was fearful of publishing what would be thought incredible. It is now ascertained, that the flesh of the lion forms occasionally the food of the Africans. The *cat* is said, by Gesner, to be eaten in Switzerland; and Nobleville, in his continuation of Geoffroy, remarks, that many people think cats as great a delicacy as rabbits. If we may credit Le Sage, they are sometimes substituted for rabbits in Spain. *Dogs* are, we know, eaten in the islands of the Pacific Ocean, but apparently in no other country. The young of the *bear* are said to be tender and delicate; and the *badger*, a species of the same genus, when young and well fed, is said to be excellent, and is eaten at the best tables in Italy and Germany.

One order only remains, the *primates;* and, unfortunately, man has, in some instances, fed on man. The savage devours his enemies from revenge: the half-famished wretch clings to life, by eating a devoted victim of his own kind. In the South Sea Islands man once was employed as food; and in New Zealand probably it is still a banquet in great estimation. We apprehend human flesh resembles, in taste as in look, that of the hog; nor is it said to be unpleasing or indigestible. We need not enlarge on this subject; to fill the picture, it should furnish one object; to avoid disgust, it should be immediately removed.

We add the following list of alimentary substances from Dr. Darwin's Zoonomia, in the order of their nutritious powers, beginning with the most nutritive, and proceeding to those less so:

I. *Cervus elaphus*, the stag.
C. dama, the fallow-deer.
C. capreolus, the roebuck.
Bos taurus, the ox.
Capra ovis, the sheep
Lepus timidus, the hare.
Anas anser, the goose.
A. boschas, the duck.
Scolopax rusticola, the woodcock.
S. gallinago, the snipe.
Tetrao rufescens, red game.
T. tetrix, black game.
Ostrea edulis, oysters.
Cancer gammarus, lobster.
C. pagurus, crab.
C. squilla, prawn.
C. astacus, cray-fish.
Fungi esculenti, mushrooms.
Muræna anguilla, eel.
Cyprinus tinca, tench.
C. barbus, barbel.
Salmo eperlanus, smelt.
Pleuronectes rhombus (maximus), turbot.
P. solea, sole.
Testudo mydos, turtle.
Caro agnina, lamb.
—— *vitulina*, veal.
—— *porcelli*, sucking-pig.
Meleagris gallopavo, turkey.
Tetrao perdrix, partridge.
Phasianus colchichus, pheasant.
—— *gallus*, fowl.
Esox lucius, pike.
Perca fluviatilis, perch.
Salmo fario, trout.
S. thymalus, grayling.

Cyprinus gobio, gudgeon.

II. *Triticum, hordeum, avena, pisum, solanum tuberosum, rapa, daucus carota, brassica oleracea, b. brocoli, asparagus, cynara, scolymus, spinacia, beta, poma, pyra, pruna, mala armeniaca, persica et aurantia, fraga, uvæ, melones, cucumeres, ficus siccatæ, uvæ passæ, saccharum mel, &c.*

III. *Aqua fontana, rivalis, carbonas calcis.*

IV. *Aer atmosphericus, gaz oxenium, azotum, acidum, carbonicum.*

V. *Balnea, enemata nutrientia, transfusio sanguinis.*

VI. *Condimenta.*

On this arrangement we shall make no remarks. It is the offspring of fancy rather than observation; and an obvious distinction is neglected, viz. that between the degree of nutrition and the facility of digestion. Some of the generic names differ from ours, which are those of Gmelin's edition of the Systema Naturæ.

ALIMENTARY CANAL. The whole tract of intestines, including the stomach.

ALIMENTARY DUCT. See THORACIC DUCT.

ALIMOS. Common liquorice.

A'LIMUM. See ARUM.

ALINDE'SIS, or ἀλινδος, (from ἀλιγδεω, *volvo*). A bodily exercise, which seems to be rolling on the ground, or rather in the dust, after being anointed with oil. Hippocrates says, that it hath nearly the same effects as wrestling.

ALI'NTHISAR. See HYPOSTAPHYLE.

ALIO'CAB. See AMMONIACUS SAL.

ALIPÆ'NOS, } (from α, neg and λιπαινειν, *to grow*
ALIPANTOS, } *fat*). Any external dry remedies that have no fat in them.

ALIPA'SMA, (from ἀλειφω, *to anoint*). A powder which, when mixed with oil, is rubbed on the body to prevent sweating.

ALIPE, ἀλιπη. Remedies for wounds in the cheek to prevent inflammation. Galen.

A'LIPILI, (from *alarum pilos*, evellentes.) Servants so called from their pulling off hairs from the arm-pits with tweezers, from persons in the baths.

ALIPOW, a species of turbith found near Mount Ceti, in Languedoc. It is a powerful purgative, used instead of senna, but much more active.

ALI'PTÆ, (from ἀλειφω, *to anoint*). Servants of the baths, whose office was to anoint the persons after bathing.

ALISANDERS. See SMYRNIUM.

ALI'SMA MATHI'OLI. See DORIA.

ALI'SMA, (from ἁλς, *the sea*, the name of many aquatic plants); called *Acûron*. A name of Doria's wound-wort, and of the German leopard's-bane. See DORIA NARBONENSIUM, and ARNICA MONTANA.

ALI'STELES, (from ἁλς, *salt*). See AMMONIACUS SAL.

A'LITH. See ASAFŒTIDA.

ALITURA, (from *alo, to nourish*). See NUTRICATIO.

ALKAFI'AL. ANTIMONY. See ANTIMONIUM.

A'LKAHEST GLAUBERI, i. e. SALES ALKALINI. See ALCALI.

A'LKALE. The FAT of a HEN.

A'LKALI FIXUM, SAL. i. e. KALI. See ALCALI.

A'LKALI VEGETABILE FIXUM CAUSTICUM. See KALI.

ALKA'LIA. See VAS.

A'LKARA, or ALCARA, (ALKARAGH, Arab). See CUCURBITA.

ALKA'SA, (ALKASAH, *a cup*, Arab). } See CRUCI-
ALKAZO'AL. } BULUM.

A'LKAUT. See ARGENTUM VIVUM.

ALKEKE'NGI, (ALKAKANGI, Arab). WINTER-CHERRY; also called *halicacabum, solanum vesicarium, vesicaria vulgaris.*

The species used in medicine is the *physalis alkekengi* Lin. Sp. Pl. 262.

It grows wild in France, Germany, and Italy, and thrives well in our gardens. The fruit ripens in October, and continues to December, when the plant dies to the ground.

These cherries have an acidulous and not unpleasant taste, with a bitterishness; but their covering is very bitter.

They are diuretic, but neither heat nor irritate; five or six cherries, or an ounce of their juice, is a dose; and if given in the strangury from cantharides, a speedy relief is said to be obtained. Hoffman recommends them in hæmoptysis, and some authors have thought them useful in dropsy. ℥ij. of the berries infused in a pint of water, are extolled in the jaundice; but they are rarely called for in the English practice. The plant itself is of a poisonous class, and consequently suspicious; yet, as they seem to combine an anodyne with an astringent quality, they may deserve a trial.

ALKE'RMES, (ALKARMAH, Arab). See CHERMES.

ALKE'RVA. See CATAPUTIA.

A'LKES. BURNT BRASS. See ÆS USTUM.

A'LKETRAN. See CEDRIA.

ALKI'BRIC, A'LCHI'BRIC, A'LCHIBERT, A'GIBIC, A'LKIBIC, A'LCHABRIC, A'LKIBRIE. According to some, the sulphur vivum is meant by these words; but others say they signify an incombustible sulphur.

A'LKIN. See CLAVELLATI CINERES.

A'LKIR. SMOKE of COAL.

A'LKITRAM. See PIX LIQUIDA.

A'LKOSOR. See CAMPHOR.

A'LKI PLU'MBI. It seems to be the cerussa acetata. See PLUMBUM.

ALL-HEAL. See HERACLEUM and STACHYS.

ALL-SPICE. See MYRTUS.

A'LLABOR. LEDA. See PLUMBUM.

ALLANTOIDES, ALLA'NTOIS. The membrane, which forms part of the secundines, (from αλλας, *a sausage, or hog's pudding*, because in some brutes it is long and thick, and ειδος, *likeness*). It is also called *allantoides farciminalis*, the URINARY MEMBRANE; but its existence in the human species is generally denied. If any anatomists have ever demonstrated, not one of them has given a distinct figure of it; all the engravings designed to represent it are too incorrect to afford us a distinct idea. Dr. Hunter, in his lectures, absolutely denies the existence of this membrane, except in brutes.

Dr. Hales in the Phil. Trans. Abr. vol. iv. and Mons. Littre in the Mem. Acad. de Sciences, 1701.

ALLARI'NOCH. See PLUMBUM.

ALLELU'IA, (HALLELUJAH! *praise the Lord*. Heb. *wood-sorrel*, so named from its many virtues). See ACETOSA.

ALLEGER, ALE AIGRE, VINEGAR made of ale. It

is almost the only vinegar now employed in this country.

A'LLENCE. See STANNUM.

A'LLIAR Æ'RIS. A term used in preparing the philosopher's stone, to signify philosophical copper, which is also called water of quicksilver, white copper, and many other names.

ALLIA'RIA, (from *allium garlic;* so named from the likeness of its smell and taste to garlic). SAUCE ALONE, or JACK BY THE HEDGE; also called *pes asininus*, and *hesperis allium*. It is the *erysimum alliaria* Lin. Sp. Pl. 922.

The leaves are somewhat acrid, and of a garlic smell; on drying they lose much of their scent, and also of their taste. Its medical virtues are similar to those of the onion tribe, but the plant is not much in use. Their great acrimony renders them occasionally stimulant, and they are probably, as has been said, diuretic and errhine. Externally they have been supposed useful in putrid ulcers.

A'LLICAR. See ACETUM.

ALLI'COL. See PETROLEUM.

ALLIGATU'RA, (from *ad*, and *ligo, to bind*). Scribonius Largus uses this word for a *ligature* or *bandage*. See FASCIA.

ALLIO'TICUM, (from *αλλιοω, to alter, or vary*). Galen. An alterative medicine, consisting of various antiscorbutics.

ALLIUM, (either from *oleo, to smell*, because it stinks, or from *αλιω, to avoid*, as being unpleasant to most people). COMMON GARLIC. Called also, from its antiputrescent property, *theriaca rusticorum*. It is the *allium sativum* Lin. Sp. Pl. 425. Nat. Ord. *Liliaceæ*.

It grows wild in Italy, Sicily, and other warm countries; but in England it is raised in gardens from seed: it flowers in July.

The roots only are used in medicine; their virtues consist of a very acrid putrescent volatile oil, combined with a large proportion of mucilage, the principal effect of which is to warm and stimulate the solids, to promote a discharge from the bronchial glands and the kidneys; perhaps in a slight degree to resist putrefaction. Applied to the skin they excite inflammation; and sometimes raise blisters: they are used as a stimulating epithem to the soles of the feet, in the low stage of acute fevers, for raising the pulse and relieving the head. Sydenham says, that garlic excels all other applications for occasioning a derivation from the head in fevers of any kind; and he adds, that the efficacy of garlic is more speedy than that of cantharides, without a dissolution of the juices as when the common blistering plaster is applied. This, however, we now know to be hypothetical merely. Garlic beat up with an equal quantity of soft bread is occasionally applied to the feet, but is found of little service, except in children, who cannot swallow any medicine. It certainly is absorbed, as it affects the breath, and consequently may be useful as an expectorant.

Sometimes the garlic cataplasm causes much pain, but this would not happen if it was removed as soon as an inflammation appeared, and immediately after another cataplasm of bread and milk to supply its place.

The cloves of fresh garlic are bruised, and applied to the wrists as a cure of agues; and to the bend of the arm to cure the tooth-ach: held in the hand they are said to relieve hiccough; beat with common oil into a poultice, they resolve sluggish humours; and if laid on the navels of children, they are supposed to destroy worms in the intestines.

If garlic is taken inwardly, its action manifests itself through the whole habit, the breath, urine, and the matter of perspiration are scented with it. It assists digestion, and is certainly heating and inflammatory to the whole system. Its diaphoretic and diuretic powers have been useful in dropsy: it is a remedy for the scurvy; and in pituitous, and even in spasmodic asthmas that require expectoration. It has been said to be efficacious even in subduing the plague, and its stimulant powers have been employed for preventing the recurrence of intermitting fevers. Bergius says, quartans have been cured by it, and he begins by giving one bulb, or clove, morning and evening, adding every day one more till four or five cloves be taken at a dose. If the fever then vanishes, the dose is to be diminished, and it will be sufficient to take one or even two cloves twice a-day, for some weeks. This author also recommends it in deafness, and Dr. Cullen is inclined to believe it may be beneficial, as he has found the juice of onions in such cases very useful. A clove or small bulb of this root wrapt in gause or muslin, and introduced into the meatus auditorius, is the mode of applying it in these cases. Some authors have considered it as a lithontriptic. Where people cannot take the garlic in substance, the best forms are either the syrup or oxymel. See Cullen's Materia Medica. If cows happen to eat the leaves of garlic, their milk will be strongly impregnated with its flavour.

In cold phlegmatic habits it is particularly useful, by its corroborant, expectorant, and diuretic effects. In the asthmas of such constitutions it is more eminently useful, and in these chiefly it has been supposed to possess a lithontriptic power.

Hoffman says, that if the cloves of fresh garlic are boiled in milk, they are one of the best anthelmintics; but garlic should be taken in the form of a pill or a bolus, fresh made. The syrup and oxymel of garlic have been thrown out of the British pharmacopœias. Swallowing the clove of garlic entire, or cut into pieces, after having been dipped in oil, is considered as a very effectual mode of administration.

In hot bilious constitutions garlic is improper; for it produces flatulence, head-ach, thirst, heat, and other inflammatory symptoms: a free use of it soon promotes the piles in habits disposed to this complaint.

In drying it loses nine-fifteenths of its weight, but fresh or dry it equally gives out its virtues to boiling water, vinegar, or brandy, though it has been suspected that its powers are somewhat weakened by drying; and an infusion in the latter is highly useful to relieve or prevent uneasiness in the stomach and bowels from gout.

The oil, or active principle, is small in quantity, yellowish and ropy; but the juice may be inspissated into an extract by a gentle heat.

Rectified spirit of wine, digested on dry garlic roots, extract their virtues more readily, and more perfectly, than either water or vinegar. For those called

ALLIUM ALPI'NUM,
ALLIUM AGINUM,
ALLIUM MONTA'NUM,
} See OPHIOSCORODON.

ALLIUM LATIFO'LIUM MACULA'TUM.

ALLIUM CE'PA. See CEPA.

ALLIUM GALLICUM. See PORTULACA.

ALLIUM LATIFOLIUM LILIFLORUM. See MOLY.

ALLIUM ULTRICUM. See ANTISCORODON.

ALLOBRO'GICUM VINUM. A sort of austere wine, produced in Savoy and Dauphiny.

ALLO'CHOOS, (from *αλλος, another*, and *λεγω, to speak*). One who talks deliriously.

ALLO'GNOON, (from *αλλος, another*, and *νοεω, to know*). To be delirious, or to conceive of things different from what they really are.

ALLOGOTRO'PHIA, } (from *αλογος, disproportionate*, and
ALOGOTRO'PHIA, } *τρεφω, alo, to nourish*). A disproportionate nutrition, when one part of the body is nourished disproportionately to another. Blancard.

ALLO'PHASIS, (from *αλλος, another*, and *φαω, to speak*). A delirium, or to speak of things different from what they are. Hippocrates often expresses light headed, by the word *αλλοφασσοντες*.

ALLOTRIOPHA'GIA, (from *αλλοτριος, alienus*, and *φαγειν, commedere*). See PICA.

A'LMA, (AGLMA, *pure*, Heb.: *αλμα, water*). See AQUA. Also the first motion of a fœtus to free itself from its confinement.

A'LMAGRA. A name for a kind of ochre used as an astringent. See ETHEL.

ALMAKA'NDA. } See LITHARGYRUM.
A'LMAKIST. }

ALMA'NDA CATHARTICA, Lin. Pl. Suppl. Murray's Syst. Vegetabilum, p. 209. A plant growing on the shores of Cayenne and Surinam, used by the inhabitants as a remedy for the colic; supposed to be cathartic.

ALMA'RAGO. See CORALLIUM.

ALMA'RCAB. (ALMARCAB, *mixed*, Arab.). LITHARGE OF SILVER.

ALMARCA'RIDA. See LITHARGYRUM.

ALMA'RGAN. (Arab.). See CORALLIUM.

ALMARKASI'TA. See ARGENTUM VIVUM.

ALMAR'TACK. POWDER OF LITHARGE.

ALMELILE'TU. A word used by Avicenna to express a preternatural heat less than that of a fever, and which may continue after recovery.

ALME'NE. See SAL GEMMÆ.

AMI'SA. Musk. See MOSCHUS.

ALMISA'DAR, or ALMIS'ADIR, or ALMIZ'ADAR, or ALMIZ'ADIR. See AMMONIACUS SAL.

ALMISA'RUB. EARTH. See TERRA.

ALMIZ'ADIR. See ÆRUGO.

ALNABA'TI. In Avicenna and Serapion, means the *siliqua dulcis*, a gentle laxative.

A'LNEC. TIN. See STANNUM.

A'LNERIC. See SULPHUR VIVUM.

A'LNUS. (*Alno*. Ital.). The ALDER TREE. *Betula alnus* Lin. Sp. Pl. 1394.

A'LNUS ROTUNDI, FOLIA GLUTINOSA VIRIDIS, C. B. The COMMON ALDER TREE, called *amendanus*.

The BLACK ALDER is the *Rhamnus frangula* Lin. Sp. Pl. 280; called also *Avnus*.

All the parts of this tree are astringent and bitter, the bark is more astringent; a decoction of it hath cured agues, and is often used to repel inflammatory tumours in the throat.

The BLACK OR BERRY-BEARING, ALDER, is a shrub found in the moist woods. The inner yellow bark of the trunk or root has a bitter and styptic taste: given to ʒij. vomits, purges, and gripes; but joined with aromatics it operates more agreeably; though an infusion, or decoction of it in water, inspissated to an extract, acts yet more mildly. It is said also to be diuretic and anthelmintic; externally, useful in itch and in varices of the anus. The berries of this species of alder are purgative; they are not in use under their own name, but are often substituted for buckthorn berries. The berries of the black alder, however, have a black skin, a blue juice, and two seeds in each; while the buckthorn berries have a green juice, and commonly four seeds. The error is not, however, of much consequence: the plants belong to the same genus, and the berries do not differ greatly.

ALOE, (AHLAH, *growing near the sea*—*αλοη*); called also *Fel Naturæ*; a plant which affords the purging gum of the same name; all the species have thick succulent leaves like those of the house-leek, but much larger, and run two or three feet high. The best is said to grow in India, but all Asia produces excellent plants; and in most warm climes they are found, as in the West Indies, &c.

ALOES GUMMI, GUM ALOES. This is the inspissated gum of the whole plant described above. It is reported that Alexander, landing on the island of Succotora, or Zocotria, at the mouth of the Red Sea, in one of his expeditions, took notice of the *aloe* plant, and from that it was brought into use, and called *Succotorina*.

Of the gum we have three kinds in the shops.

1. A'LOE SUCCOTO'RINA, vel ZOCOTORINA. SUCCOTORINE ALOE.

It is imported from the island Succotora, in the Indian Ocean, wrapped in skins; it is obtained from the *aloe spicata*, according to Thunberg. This species is not in the edition of the species published by Linnæus, but occurs in the Supplement, p. 205, and is the second species of the 659 genus of Wildenow's edition. Its natural order is the *Liliaceæ*. The gum is bright on its surface, and of a reddish colour, with a purple cast; but when powdered it is of a golden hue: it is hard and friable in very cold weather, but in summer it softens very easily betwixt the fingers. It is extremely bitter, and also accompanied with an aromatic flavour, but not so much as to cover its disagreeable taste. Its scent is rather agreeable, being somewhat similar to that of myrrh. It is said to be the juice exuding from an incision of the leaves.

2. ALOE HEPATICA, vel ALOE BARBADENSIS. The COMMON, BARBADOES, OR HEPATIC ALOES, called *kadanaku*, and *catevala*, is from the *aloe perfoliata* Lin. Sp. Pl. 458. The best is brought from Barbadoes in large gourd-shells; an inferior sort in pots, and the worst in casks. It is darker coloured than the Succotorine; drier, and more compact, though sometimes that in casks is soft and clammy; to the taste it is intensely bitter and nauseous, being almost totally without that aroma which is observed in the Succotorine; to the smell it is strong and disagreeable.

3. A'LOE CABALI'NA, vel ALOE GUINEE'NSIS, HORSE ALOES. It is not easy to believe, as is generally reported, that this is only the more impure part of the Barbadoes aloe, or rather the residuum after the hepatic aloes have been expressed, because the difference does not consist in the purity, but in the quality. It is very distinguishable from both the others by its

strong rank smell; in other respects it so agrees with the Barbadoes species, as to be often sold for it. Sometimes its purity and clearness are such, that it cannot be distinguished from the Succotorine aloe; but either its offensive smell, or its want of the aromatic flavour, betrays it. This aloe is not admitted into the materia medica; but employed by veterinary surgeons.

The general nature of these three kinds is nearly the same; their particular difference only consists in the different proportions of gum to their resin, and in the flavours they possess, which render them more or less pleasant for internal use.

Aloes consist of a small portion of resin, and a large one of gummy matter. Twelve ounces of the Barbadoes aloes yield nearly four ounces of resin, and eight of a gummy extract. The same quantity of the Succotorine yields three ounces of resin, and nearly nine of gummy extract.

The aloes may be purified by solution in water, and an evaporation so immediately after, that the resin may not have time to settle. When it settles, it may be separated by spirit of wine.

The resin of aloes hath but very little scent; that from the Succotorine hath very little taste, from the Barbadoes a slight bitter, and from the caballine somewhat more of the aloetic flavour.

The gummy extracts are less disagreeable than the crude aloes; that of the Barbadoes smells rather stronger than that of the Succotorine, but in taste is less ungrateful; that of the Succotorine has very little smell, and is scarcely unpleasant to the taste; that of the caballine aloes hath a rank smell, but its taste is not worse than that of the Succotorine.

In the resinous part consists the healing qualities, hence for *external uses* the Barbadoes is the best; *internally*, however prepared, the resin hath very little cathartic power. In the gummy extract resides the purgative, and all the other qualities. The gum of the Succotorine aloes is more irritating and active than that of Barbadoes: its effects are uncertain; but it does not seem to leave a costive habit. In *small doses*, twice a day, it occasions a considerable irritation about the anus, and sometimes a discharge from the hæmorrhoidal vessels. These small doses cleanse the first passages, warm the habit, and promote the secretions. In phlegmatic, sedentary, and cachectic habits, and oppressions in the stomach from irregularity, it is useful; and, in common with bitters and purgatives, has been considered as an *antkelmintic*, but it is so only in cases of ascarides. In all diseases of the nervous tribe, aloes is useful, and is supposed to assist digestion. In jaundice it has been thought a succedaneum for the bile, and its title of *fel naturæ* has been the cause or effect of this opinion.

Aloes is injurious where inflammation or irritation exists in the bowels or neighbouring parts; in pregnancy, and in habits disposed to piles; from three to five grains are a sufficient dose.

Alkaline salts lessen the purgative quality of aloes; and long boiling quite destroys it.

By means of heat, the crude aloes may be wholly dissolved in water; but the resin is deposited when cold. A mixture of pure water two parts, and proof spirit one part, perfectly dissolves it without heat; though rectified spirit of wine dissolves it most speedily. If water or wine be the menstruum, the aloes becomes tenacious, and dissolves slowly; in this case, white sand should be previously mixed with the powdered aloes.

Cloves cover the offensiveness of aloes the most perfectly, but are too stimulating. The canella alba, or the cassia caryophyllata, is preferable.

The pharmaceutical forms of aloes are various. It was for ages fashionable to combine them with myrrh and saffron; a form still in use in the pills styled Rufus's. These additions were supposed, though with little reason, to correct their acrimony; but the formula answers every purpose desired in a mild eccoprotic, and consequently still retains its credit. There is little reason for supposing the myrrh and saffron useful, except for the more minute division, and soap answers this purpose, at least as well. In the common aloetic pill, called from Dr. Anderson, aloes is corrected only by the cardamom seeds.

With alkaline salts, aloes loses its bitterness, probably its efficacy; and when the gummy extract is prepared by long boiling, exposed to the air, it becomes inert; as from the absorption of oxygen its extractive matter is changed to a resin. The resin of aloes, as has been said, is very weakly, if at all, purgative. For the reasons assigned, the volatile aloetic tincture, viz. aloes dissolved in the volatile alkali, is a very inefficient preparation; and the vitriolic elixir proprietatis, which consists of aloes dissolved in vitriolic æther, is perhaps little superior. Van Helmont's vinum aloeticum alkalinum, appears to be a preparation of greater efficacy. It consists of aloes dissolved in mountain wine, with the addition of kali and crude sal ammoniac. It is not however now employed; and seems to have obtained a great part of its credit from the attachment of the Boerhaavian school to alkaline tinctures, which they considered as saponaceous. In stomach complaints, however, it promises to be of service. In our college we find the pill of Rufus; pil. ex aloe cum myrrha: a similar tincture, styled the compound tincture of aloes; and the aloes dissolved in a weak spirit, the common tinct. aloes. This medicine is also joined with more active purgatives, as the scammony and colocynth, with guaiacum, asafœtida, and iron, to answer the various purposes of a more powerful cathartic, a more effectual stomachic, antihysteric, and emmenagogue. Any other purgative joined with aloes, neither increases its powers nor lessens any inconvenience it may produce. See Cullen's Materia Medica, Murray's Apparatus, and Woodville's Medical Botany.

Aloe rosata; violata; violata tartarea; insuccata; insuccata tartarea. These are old forms, in which the aloes is repeatedly dissolved in the juice of roses and violets, and as often exsiccated by evaporation. When dissolved in the juices of roses, violets, borage, and bugloss, it is styled 'insuccate;' when with the addition of one-third of its weight of cream of tartar, it has the appropriate epithet of 'tartarea.'

For other preparations, whose principal ingredient is *aloes*, as

Aloeticus pulvis. See Hiera picra.

Aloeticus pulvis cum myrrha. See Aromaticæ pilulæ; for which it is a substitute.

Aloes vinum. See Sacra tinctura.

Aloes pilulæ cum myrrha. See Pilulæ rufi.

Extractum colocynthidis cum aloe, aut compo-

SITUM. See CATHARTICUM EXTRACTUM. Of this kind are supposed to be the famed Scot's and Hooper's female pills.

A'LOE PUR'GANS. See ALOE.

A'LOE AROMATICA LIGN. See AGALLOCHUM.

A'LOE BRASILIENSIS. See CARAGUATA.

A'LOE PALUSTRIS. See ALOIDES.

ALOEDARIA, ALOEPHANGINA, and ALOETICS. Compound purging medicines; so called from having aloes as one ingredient. The aloephangina contains aromatics.

ALO'MBA. } See PLUMBUM.
ALO'OC. }

ALO'PECES, (from *αλωπιξ*, *the fox*,) so are the PSOÆ muscles called, because in a fox they are particularly strong. Lat. *Vulpes*. See PSOÆ.

ALOPE'CIA, BALDNESS, the FALLING OFF OF THE HAIR, (from *αλωπιξ*, *a fox*,) because the fox is subject to a distemper that resembles it. *Athrix*, *Depilis*, *Phalacrotis*; when particularly on the sinciput, *Calvities*, and *Calvitium*; which Galen thinks is owing to a defect of moisture. When the bald part is smooth and winding, like the track of a serpent, it is called *ophiasis*: but the general name of all the different appearances of bald places is AREA; and the hair is said to fall off areatim, by shedding; whence in general this disease is called *area*.

Celsus says, that the *alopecia* comes at any age, but the ophiasis only affects infants. In childhood, it often succeeds the tinea, achores, and favi.

The cause is a disease of the roots of the hair. Galen says, that eating mushrooms may occasion these disorders; and that malignant or contagious diseases of various kinds may produce the same effect.

The *alopecia* spreads itself on the beard, as well as on the hairy scalp, and is irregularly formed. The *ophiasis* usually begins at the back part of the head, and creeps about the breadth of two fingers, till it hath extended its two extremities to both the ears, and sometimes to the forehead. It seems to be more malignant than the *alopecia*, since the cuticle is also corroded so far as the roots reach; the skin also changes its colour, and is pale, or darker coloured, and, if pricked, a serous blood issues out.

In the tinea the excoriations and exulcerations are deeper, and often the hair does not grow again.

In infants these disorders commonly go off as age advances; but in adults, the cure, especially of the *ophiasis*, is very difficult. In proportion as a redness appears readily on rubbing the part, the cure may be expected to be easy. If a leprosy is the cause, the case is more difficult of cure. The most favourable is when hairs begin to push out on the edges of the areas.

If any other disease attends, its removal will often cure the *alopecia*. If the disease is formed, the head must be shaved, then washed with lye in which are infused the abrotanum and other warm stimulants: the part must then be rubbed until the skin grows red, and gentle stimulants should be continued. See CELSUS, SENNERTUS.

AL'OSA, (from *αλισκω*, *to take*, because it is a ravenous fish). SHAD. *Clupea alosa* Lin. TRITTA, of ancient authors.

A sea fish, the size of a salmon, with large scales, but thin and easily taken off. This fish is in season in the spring, but if pickled it keeps well all the year.

A'LOSAT. } See ARGENT. VIVUM.
ALO'SOHOC. }

ALOSAN'THI, (from *ἁλς*, *the sea*, and *ανθος*, *a flower*). FLOWERS OF SALT.

ALPHENIC, (ALPHANAC, *tender*, Arab.); an Arabian word for sugar-candy, or barley-sugar. So called from its frangibility. See SACCHARUM.

A'LPHI'TA, the plural of *αλφιτον*, (from *αλφος*, *white*). The meal of barley that has been hulled and parched. Hippocrates uses this word for meal in general. Galen says, that *κριμνα* is coarse; *αλευρα*, fine; and *αλφιδα*, middling sort of meal.

ALPHI'TIDON, (from *αλφιτον*, *meal*). It is when a bone was broken into small fragments like alphita, i. e. bran; also called *caryedon*; and *catagma*, when like a broken nut.

A'LPHI'TON. Greek. A HASTY-PUDDING; in Latin, *polenta*; it is made of barley meal, moistened with water, wine, &c. commonly used by the soldiers.

A'LPHUS, *αλφος*, (from *αφαινω*, *to change*,) M. A. Severinus calls it *Baras*.

This disorder is a species of that sort of white leprosy called *vitiligo*, and which is divided into the *alphus*, *melas*, and *leuce*, called also *albara*; in the *alphus* the skin is white and roughish in spots; sometimes the patches are broad, bearing the same analogy to the leuce as the scabies to the lepra; the first is superficial, chiefly affecting the skin; the second sinks deeper into the flesh: but these disorders only differ in their degrees of inveteracy. See LEPRA.

Oribasius commends lime water as a lotion in all the species; and says, that the *alphus* requires a thin lime water, the scabies a thicker or stronger, and the lepra the strongest. Aetius commends, as equally proper for the white or the black *alphus*, the following liniment:

R. Fol. ficus, sulphuris vivi et alumin rup. āā. æq. p. acet. acerrim. q. s. f. linim. cum qua inung. partes affectæ.

In all kinds of cutaneous complaints, the itch excepted, internal medicines are necessary, and generally mercurial alteratives. Their operation may be assisted by the warm bath, and decoctions of elm bark or mezereon. This subject will, however, be treated at length, under the article of CUTANEOUS COMPLAINTS; *q. v.*

See Celsus. Actuarius Method. Medend. Oribasius de Morb. Cutan. Curat. Aetius's Tetrab. iv. Germ. cap. i. 132. Willan on Diseases of the Skin.

A'LPHINI, Bals. BALM OF GILEAD. See BALSAMUM.

ALPIN. ÆGYPT. The abbreviation for Prosperus *Alpinus* de Plantis Ægypt.

ALP. EXOT. The abbreviation for Prosperus *Alpinus* de Plantis Exoticis.

ALP. PL. ÆG. The same author de Plantis Ægypti.

ALSADAF, the UNGUIS ODORATUS; and the MUREX, of the shell of which it was supposed to be a part.

ALSCHNEFU, a term for WORMWOOD.

ALSIMBEL and SIMBALA, the SPIKENARD of India, from the number of its ears or "spikes."

A'LSINE, (from *αλσος*, *a grove*, because it delights in shade). It is also called *morsus gallinæ*, *centunculus*;

in English, CHICKWEED and MOUSE-EAR; *cerastium vulgatum* Lin. 627; called in English from its leaves resembling the ears of mice.

It is cooling, but scarcely ever employed as a medicine. It is used to promote an appetite in linnets and Canary birds. The name also of a species of saxifraga, or the whitlow grass. See PARONYCHIA.

ALSIRACO'STUM, (ALSIRAKA, *evacuation*. Arab). The name of a compound purging medicine in Messue; called also *siracostum*.

ALSURE'NGIUM. See HERMODACTYLUS.

ALT. The abbreviation for ALTER and ALTDORF.

A'LTAFOR. See CAMPHORA.

ALTERA'NTIA, (from *altero, to change*). ALTERATIVES. Medicines of this kind claimed formerly a considerable share of the physician's attention, when acrimony was the most common reputed cause of diseases. This subject will be considered at length under the title of PATHOLOGY. It is sufficient at present to remark, that many of the supposed acrimonies have no existence, and the class of *alteratives* is consequently limited. We have, however, still the inspissants and attenuants, which, though they do not permanently affect the state of blood, yet change that of the excretory fluids; and so far, in a remote view, may be styled alterants. These are to be considered under their proper heads. Alteratives, in the present more scientific views of pathology and therapeutics, are those medicines supposed to correct the acrimony which appears in eruptions on the skin, formerly called the scorbutic acrimony. These are almost exclusively mercurials, assisted by the medicines just spoken of under the article ALPHUS. They do not act by any chemical affinity on the mass of fluids, but by their power of gradually increasing the secretion from the skin; for we shall show, that cutaneous complaints are seldom owing to any increased acrimony, but sometimes to an obstructed cutaneous discharge; and, at others, to the excessive rapidity of this evacuation. The only instance of a real change in the circulating fluids, is in sea scurvy, and in high putrid fevers. The latter admit not of alteratives; and in the sea scurvy, the only useful medicine of this kind is a vegetable diet.

Alteratives have been given with other views, and seem occasionally to have some effect. We allude to the use of sea water in scrofula, to burnt sponge and mercurials in the same disease. In scrofula, there is evidently a want of irritability; and we may suspect a want also of a due proportion of neutral salts, which give fluidity to gluten, when dissolved in the serosity, forming the serum. This defect may occasion the stagnation of fluids in the conglobate glands, and we should be more confident in this explanation, were the contents of these glands gluten. The saline remedies, above mentioned, are undoubtedly useful, and probably act as attenuants; the mercurials are alterants by increasing the action of the vessels, deficient from the want of irritability. Emmenagogues and tonics are sometimes also considered as alterants, but with little accuracy. In fact, if there is any real medicine of this kind, it is mercury used in venereal complaints; to which we cannot deny some alterative power. It is proper, however, in this early part of our work, to declare our opinion, that it chiefly acts by exciting and supporting the evacuation from the skin.

ALTERCANGENON. ALTERCUM. See HYOSCIAMUS NIGER.

ALTERNUS, ALTERNATE. Used in medicine when two different remedies are employed in turn.

A'LTEY PLU'MBI. Most probably the CERUSSA ACETATA.

ALTHÆ'A, (from *αλθω, to heal,*) called also *bismalva, hibiscus, malvaviscus, bolus Judaica, anadendromalache, anadendron, aristaltheca;* in English, MARSHMALLOW. It is the *althea officinalis* Lin. Sp. Pl. 966, and Wildenow, G. 1289, Sp. 1. Natural Order, *Columnaceæ*.

All the parts of this plant abound with a mucilaginous matter, with little odour or taste. The dry roots, if boiled in water, give out near half their weight of gummy matter, which, in evaporating, forms a flavourless yellowish mucilage; the leaves afford nearly one-fourth, the flowers and seeds still less.

All its virtues depend on its mucilage, and consequently its demulcent and emollient qualities, where the membranes become abraded, or the mucus thin and acrid: it moderates tickling coughs, gives relief in hoarseness, erosions of the stomach and intestines, dysentery, difficulty and heat of urine, and nephritic complaints: two or three ounces of the fresh roots, or one ounce of the dry, may be boiled in a sufficient quantity of water to a quart, to which one ounce of gum arabic may be added, and one dram of nitre: a little of the juice of liquorice renders it more palatable. From long boiling, it acquires a bitterish taste; and when ordered in a decoction of the woods, it must be put in some time after the other ingredients.

The London College has introduced a syrup of *althea;* and more refined practice a very pleasing and more efficacious form—a paste made from its powder, viz. pate de guimauve.

The custom of sitting over an infusion of marshmallow leaves for curing the piles, is useless, for nothing of the mucilage arises with the watery vapours.

Externally it is employed in emollient poultices; and in the foreign Pharmacopœias it is an ingredient in, and gives a name to, an ointment.

The great comfrey root is preferable in all the cases wherein the *althea* is used.

ALTHA'NACA, or ALTHANACHA. See AURIPIGMENTUM.

ALTHEBE'GIUM. An Arabian name for a swelling observed in cachectic and leucophlegmatic habits, and such as is seen under the eye-lids of those who sleep too much.

ALTHIT. (HALTHITH, Arab). See LASERPITIUM.

A'LTIMAR. BURNT COPPER. See ÆS USTUM.

ALTI'NGAT. RUST OF COPPER, OR FLOWERS OF COPPER. See ÆRIS FLOS.

ALTINURA'UM. See VITRIOLUM.

A'LUACH, or A'LUECH. See STANNUM.

A'LUD. (ALHUD, Arab). See AGALLOCHUM.

ALUD'EL. (Arab. *vessel*). A CHEMICAL SUBLIMING VESSEL; called also *Cementerium*. Many are to be employed at once; the matter to be sublimed is put into a body or pot, the upper part is fitted into the *aludel*, and this *aludel* into another, &c.: to the top *aludel* a head or alembic is fixed to receive the sublimed matter.

A'LUM, (from αλυσομαι, *to wander*; from its creeping roots). See CONSOLIDA.

ALU'MBAIR. BUTTER. See ADEPS.

ALU'MBOTI. CALCINED LEAD. See MINIUM, under PLUMBUM.

ALU'MEN (ALUM, Arab.). The Greeks called it στυπτηρια, *Asbos*, *azub*, *Aseb*; and when extremely hard, as iron, *Elanula*. It is an earthy salt, consisting, in a great measure, of the vitriolic acid and a pure clay, changing the purple juices of vegetables into a red colour; and extracted from substances usually called alum ores, which either are, or probably were, originally composed of clay and sulphur.

The present practice employs only the last two of the following species; but all the four have been in use.

1. ALU'MEN PLUMO'SUM OFFICINA'RUM. EARTH FLAX.

It is entirely rejected from medicine, being more dangerous than useful. See AMIANTHUS.

2. ALU'MEN PLUMO'SUM VE'RUM, also called *scissile*, *jamenum*, *plumeum*, *trichites*. The PLUMOSE, FEATHERED, OR HAIRY ALUM.

It sometimes shoots upon the surface of those minerals that afford the factitious *alum*, and is also found on other bodies in the form of fibrous efflorescences. It seems to be the native *alum* of the ancients; and is formed by the evaporation of water that hath passed over beds of *alum* stone.

3. ALU'MEN COMMUNE, COMMON ALUM; also called *alumen crystallinum*, *rupeum*, *factitium*. FACTITIOUS OR ROCK ALUM; ENGLISH ALUM.

4. ALU'MEN ROMA'NUM, ROMAN ALUM; also called *alumen rubrum*, *rutilum*, *rochi Gallis*. ROCK, RED, OR ROCH ALUM, by the French.

These two latter agree in their general qualities. The greatest quantities of them are artificially produced from different minerals, such as a blue slate, which is found about Scarborough in Yorkshire, Preston in Lancashire; and a whitish stone at Tolfa near Rome: these stones are calcined and exposed to the air. They thus absorb oxygen and become an acid salt; for in all alum the acid is in excess, which occasions its changing the blue colour of vegetables to a red. In the alum of commerce, or rather in the form offered to us as a medicine, there is a proportion of potash or ammonia. Each of these is supplied in its preparation; the latter from urine; and the former, at least, is essential to its crystallisation, but the excess of either, above the other, does not seem to injure its medicinal properties. It generally contains, according to Vauquelin, 49 parts in 100 of sulphate of alumine; 7 of sulphate of potash; and 44 of water. This proportion of water occasions by heat the watery fusion; but, in a higher temperature, the water, and at last the acid, escape. Its crystals are regular octaedrons, representing an indented column, whose sides are equilateral triangles. It is soluble in about 16 times its weight of cold water, in a temperate heat, and in about 3-fourths, at the boiling point. Its specific gravity is 1.71. As the acid is in excess, its proper name is *super sulphas aluminæ et potassæ*. When more completely saturated with the aluminous earth, it crystallises in cubes, and is called cubic alum; but it then loses its medicinal powers.

The English or common *alum* is colourless, and commonly in large masses, into which it is cast by melting the crystals after the *alum* is perfectly made, and then pouring the fused matter into vessels, whose cavities give the forms it appears in. The Roman *alum* is of a reddish colour, and in small crystallised masses; but its chief difference from the English is in its being less styptic, and less nauseous. The name of roch, or rock *alum*, is applied to *our* alum, on account of the hardness and size of the masses; but foreigners apply it to the Roman, on account of the hard stone, or rock, from which it is extracted.

Alum hath a peculiarly sharp, rough, astringent taste; it melts over a gentle fire, sending up in a vapour nearly one-third of its weight, and becomes a light, white, spongy substance, called ALUMEN USTUM, BURNT ALUM; it is the only salt that, with other animal ingredients, or vegetable matters, will make the black pyrophorus, which is owing almost exclusively to its potash. With an infusion of galls it becomes turbid and whitish. Upon adding a fixed alkaline salt to a dissolution of *alum*, its earth is precipitated, and its acid uniting with the alkali forms a tartarum vitriolatum, sulphas potassæ.

It is used by dyers to strike, fix, clear, and brighten their colours: it serves as the *mordant* to all colours; and by dipping paper in it, ink is prevented from spreading: vintners fine their liquors with alum; fishermen use it to dry codfish; it preserves animal substances from putrefaction, and wood from burning; it is used in the manufacture of leather; by calico printers, engravers, and soap-boilers; and bakers mix it with flour to make their bread white and compact.

Medicinally, it is employed as a powerful astringent; as such it is prescribed to preserve the gums, to restrain uterine hæmorrhages, and check the fluor albus; but though in these diseases it is highly commended, it is rarely, and with great caution, to be admitted in dysenteries, particularly in the beginning. Though celebrated as an astringent in some cases, it is no less extolled in the colic and other painful disorders of the bowels, attended with obstinate constipation. See Percival's Essays, vol. ii. The doses in these cases are from five to twenty grains, and may be repeated every four, eight, or twelve hours; and when duly persisted in, prove gently laxative, mitigate the pain, abate flatulence, restore the appetite, and strengthen the organs of digestion. *Alum* is powerfully tonic, and is supposed to contribute to the relief of pain in the intestines, by blunting the morbid sensibility of their nerves. In robust habits, after due bleeding and purging, it cures agues; and Dr. Cullen thinks it ought to be employed with other astringents in diarrhœas. In active hæmorrhages it is not useful, though a powerful medicine in those which are passive. It should be given in small doses, and gradually increased. It has been tried in the diabetes without success: joined with nutmeg it has been more successful in intermittents, given in a large dose, an hour, or a little longer, before the approach of the paroxysm. In gargles, in relaxations of the uvula, divested of acute inflammation, it has been used advantageously; as well as in every state of the cynanche tonsilaris. It is also preferable to white vitriol, or acetated cerusse, in the ophthalmia membranarum; from two to five grains are dissolved in an ounce of water, for this purpose. Cullen's Mat. Med.

The Roman *alum* is counterfeited with common *alum*

coloured; but break it, and the counterfeit will be found pale within, while the true is of a deeper red.

Its pharmaceutical preparations are well known. The aqua aluminosa contains a drachm of the salt to six ounces of water. In the compound alum water, as much vitriolated zinc is added: in many hospitals, however, the proportions are greatly increased. The alum curd consists of the white of two or three eggs shaken with a little alum, recommended for chronic inflammation of the eyes; and alum whey is made by adding two drachms of alum to a pint of cow's milk. The purification of alum by chalk, as directed by the London College, seems to injure its virtues. See STYPTICUS HELVETII PULVIS.

In extemporaneous prescription, the greatest caution is requisite. Almost all the salts destroy the union of its ingredients, but fortunately selenite is not of that number; so that hard water may be employed in its solution. Yet carbonat, nitrat, and muriat of lime, will decompose it. Mild ammonia and magnesia with its various neutrals, and all salts whose bases are barytes, potash, soda, and perhaps strontian, will have the same effect. It is decomposed also by the gallic acid; probably by tanin; certainly by the gummy resin kino; by various colouring matters; by different animal and vegetable substances. A similar effect is produced by eau de luce, by the different mercurial salts, and by the sugar of lead.

ALU'MEN CA'TINUM. A name of potash. See CLAVELLATI CINERES.

ALU'MEN GLACIALE. When transparent like ice.

ALU'MEN PLUMOSUM. } See ALUMEN.
ALU'MEN USTUM. }

ALUMINO'SÆ, Aq. Waters impregnated with the particles of alum. What gives efficacy to these waters is said to be an acid aluminous mineral salt, dissolving a slight mixture of iron, and united with other materials. They are supposed to be deobstruent, and beneficial to hypochondriac and cachectic patients; and not astringent, as the idea of their being solely impregnated with alum would induce us to conclude.

ALU'NSEL. A DROP. See GUTTA.

A'LUS. } See CONSOLIDA.
A'LUS GA'LLICA. }

AL'USAR. See MANNA.

ALVEA'RIUM, (from *alveare, a bee-hive*). The bottom of the concha or hollow of the external ear; it terminates in the meatus auditorius. It is in this cavity where the ear-wax is principally lodged.

ALVEOL'ARIS PROCE'SSUS. So called from the likeness to an honey comb. See MAXILLARIA SUPERIORA OSSA.

ALVE'OLI, (a dim. of *alveus, a channel,*) called also *botrion*, or *bothrion*; *frena*, *mortariolum*. The sockets in the jaws in which the teeth are set; they are lined with a very sensible membrane, which also incloses the roots of the teeth. There are usually sixteen of these *alveoli*, or sockets, in each jaw.

A'LVEUS, a channel. Medicinally, it is applied to many tubes or canals through which some fluid flows, particularly to ducts which convey the chyle from its receptacle to the subclavian vein.

ALVIDU'CA, (from *alvus*, *the belly*, and *duco*, *to draw*). Medicines which purge. See PURGANTIA.

A'LVI'FLU'XUS, (from *alvus*, and *fluo*, *to flow*). See DIARRHŒA.

A'LVUS, (from *alveus*, *a channel*). The BELLY. Celsus uses this word for the belly, relative to the intestinal discharge, as Hippocrates and others use the words κοιλια, or κοιλιη. See also ABDOMEN.

A'LYCE, (from αλυω, *to be anxious*). See ALYSMOS.

ALY'PIA, ALY'PIAS, A'LYPUM, (from α neg. and λυπη, *pain*). The HERB TERRIBLE. It is also called WHITE TURBITH. *Frutex terribilis*, *empetrum*, *thymelæa*, and *globularia fruticosa*. *Globularia alypum* Lin. Sp. Pl. 139. Not used at present in medicine.

ALY'SMOS, A'LYCE, (from αλυω, *to be uneasy*, or *anxious*). ANXIETAS, ANXIETY. Hippocrates uses it to express that restless uneasiness that is attendant on acute diseases. Duretus distinguishes between the αλυσμος ανιμιτος and the αλυσμος ναυτιδης. The first is caused by an oppression of the vital powers; the latter by sickness in the stomach; but of this last *alysmos*, called also *diaporema* and *aporia*, there are reckoned four sorts.

The 1st and 2d of which are without, the 3d and 4th *with* fever; and occasioned, 1st, By something uneasy in the stomach, producing an irregular contraction of the heart, and a difficult passage of the blood through the lungs. Uneasiness of the stomach by sympathy, as from a stone in the kidneys, &c. produces this disorder.

2d, By vapours or spasms in the stomach, or other viscera; as in the cholera morbus, hysteria, &c.

3d, From a difficulty in the passage of the blood through the lungs, which may be from a spasmodic stricture in the smaller vessels, in which case the blood is confined to the larger. In inflammatory fevers, this symptom is attended with a low pulse, oppression in the breast, and difficult breathing.

4th, From a stricture of the vena portæ, which prevents a free circulation of the blood in the lower belly. In this case there is great weight and oppression of the hypochondria.

ALYS'SUM, MADWORT, (from α, for *anti*, and λυσσα, that madness which the mad dog occasions by his bite). It is the *marrubium alysson* Lin. Sp. Pl. 815, and has been considered as a diaphoretic.

ALYS'SUM GALENI. The MARRUBIUM.

ALYS'SUM PLINII. The MOLLUGO.

ALYS'SUM VERTICILLATUM. See MARRUBIUM VERTICILLATUM.

ALZE'MAFOR. See CINNABARIS.

ALZI'LAT. The name of a weight of three grains.

ALZO'FAR. BURNT COPPER. See ÆUS USTUM.

ALZUM, ALDUM, and ALRUM. The name of the tree that produces gum bdellium in some ancient authors.

A'MA, A'ME, or A'MES, (Syriac). A sort of small cake. Aretæus uses this word to compare the quantity of hellebore for a dose.

AMA'LGAMA, (from ἁμα, *simul*, and γαμειν, *nubere*, vel μαλαττειν, *mollire*). Its chemical character is

A. A. A. In chemistry it is a soft paste, produced by mixing mercury with a metal.

All metals may be amalgamated with mercury, except iron; but gold amalgamates the most readily; then silver, lead, and tin in order; copper with difficulty.

With amalgamated gold, silver and other metals are gilt; but this subject does not belong to medicine.

A'MALT. The abbreviation for *amalthæum*.

AMAME'LIS, (from αμια and μηλεα, *an apple*). The *amamelis* of Hippocrates is supposed to be the same with the *epimelis* of Dioscorides, which is the small bastard medlar.

There is another medlar in Italy, called the *epimelis*, also *setanium*. See MESPILUS.

AMANI'TA, (from α, priv. and μανια, *madness*). The eatable mushroom, not poisonous. Their tribe is therefore called *Aminita*, *Fungi*, and *Tubera*. The fungous productions called MUSHROOMS, TRUFFLES, &c.

Among the ancients these are noticed only by Oribasius, Paulus Ægineta, and N. Myrepsus.

Among the moderns, they have only within about fifty years claimed particular attention, and it was long doubted whether they were really vegetables, or only the nidus of numerous animalcules. It is needless, on a point not connected with medicine, to enlarge by adducing the history of opinions on this subject. M. Bulliard has, at last, proved them to be really organised bodies of the vegetable kingdom. That they are propagated by seed is highly probable; but what Bulliard seems to have mistaken for the seed, Gærtaer and Mirbel have shown, with some success, to be buds. Parmentier joins in the same opinion. What has been described as the male and female organs are consequently parts whose uses have not yet been discovered. Mushrooms, however, resemble plants in this respect, that their nutrition is derived from fluids drawn in by vessels; and the more solid kinds, resembling cork, show the annual deposition of concentric coats: in those still more solid, the resemblance to plants is stronger; while, in the transitory productions of short duration, the fluids, instead of being conveyed by vessels, seem to pass through a cellular substance by capillary attraction. From analysis they appear, as we have said, of an animal nature; and, under water, give out hydrogenous, azotic, and carbonic acid gas; by distillation, ammonia.

Parmentier considers mushrooms only as condiments. He thinks them incapable of being assimilated, and without any nutritious particles. In this, however, he is evidently mistaken; since tanin precipitates an albuminous substance from the water in which some of the species have been infused. A few only of the mushrooms are eatable: some are insipid, and some poisonous. Of the eatable ones, however, the flavour is delicious; and, as it is volatile, mushrooms are employed in Piedmont to give a flavour to some liquors. The poison of the injurious kinds is of a sedative nature, resembling, as we shall find, in its effects, hemlock. Some authors have therefore advised substituting a similar flavour from other vegetable substances. We know that an Indian bean, a species of dolichos, will, in a great degree, supply it as in the soy. The bottoms of artichokes resemble it very nearly; and, by some management, even celery is not very unlike.

The only sorts in general use are the MUSHROOM, the TRUFFLE, and the MORILLE.

The true mushrooms, *agaricus campestris* Lin. are known by their external whiteness, and by being of a pale red within when young, and of a deeper red, or dark, when older; they are, at their first appearance, of a round figure, and not much larger than a small nut; after they have a little unfolded their membranes, they appear red, full, and close; on the top is a disagreeable softness, equal and white; the matter within is very white, with short and thick stalks. They grow in fertile ground, and should be gathered for eating as soon after springing up as possible, for they then contain an oily and a saline part; and if they stay long before they are gathered, their salts become more active and hurtful.

Another species of agaric, which now begins to attract the attention of the luxurious, is the *a. orcades* of Bolton; that kind which produces the circular appearances in fields, styled fairy rings. Its substance is tough, and consequently it is used only to make catchup, or in powder. It greatly resembles another species, the *muceron* of the French, employed in ragouts. There are several other species of agaric used, particularly a large one found in Cornwall, near the coast, but we need not enlarge further on the subject.

The TRUFFLE belongs to that family of fungi whose seeds are internal. The *tuber cibarium* of Bulliard is, we believe, the only species generally eaten; though the musk, the white, the American truffle, and some others, specifically distinct, are mentioned among delicacies. It is firm and fleshy, and its surface covered with prismatic tubercles; when at its full growth blackish, with white veins. It is buried about four or five inches deep in the earth, and discovered by hogs, or dogs trained for the purpose, as these animals are very fond of this fungus. De Bosch, who has written at some length on the truffles of Piedmont, informs us, that numerous tipulæ may be found over the place where truffles abound; and the larvæ of little flies, with red eyes, which likewise feed on truffles, lead to the spot. With respect to truffles, Bulliard gives up his seminal system, and calls them viviparous; as he finds the young fungus attached to the parent by a cord resembling the umbilical. As a food, truffles are stimulant and difficult of digestion. M. Bouillon la Grange has engaged at great length in their analysis; of which we find an abstract in some late volumes of the Critical Review. It differs little from the chemical analysis of other fungi; but we may remark, that truffles contain magnesia and some portion of albuminous matter. From the truffle the most odoriferous and pleasing liqueur is prepared.

The MORILLE is a mushroom whose stalk is hollow, and whose head is irregularly indented and wrinkled. It belongs to the family whose seeds are on the superior part of the mushroom, or, more strictly, which adhere to the surface of the cavities of the hat. It is of the genus *phallus*, and two sections have been distinguished; of which the *p. esculentus* and *impudicus* are examples. Ventenat, however, has shewn that this distinction is not strictly accurate, (Mem. de l'Institut, vol. i.). Yet on the whole, in a general review, it may

be adopted. The morille, in its early stages, is of a greyish brown, but becomes afterwards black. In the first period it is preferred on account of its odour and flavour; for at last it becomes insipid. It should be cut off, not torn up, because the water, which rises in the cellular substance, conveys some earth with it; and, if collected while the dew is on the ground, it soon becomes mouldy. When strung on cord, they will keep in a good state a long time, but should be moistened with warm water before they are used. Some other species of phallus are esculent; but it is useless to enlarge on them. If we recollect rightly, 13 species are described by Ventenat in the Memoirs of the Institute, and three other American species have been since added.

To various causes are attributed the disagreeable effects which some persons experience after eating them. The deleterious effects of these vegetables have been attributed to little worms, to their being too old, too long kept, &c. We cannot deny the effect of the worms; but as they are seldom, if ever, observed in the esculent kind, it is not probable that any injury can arise from them. The other causes are certainly inadmissible; since mushrooms are generally eaten at every period of their growth with impunity. We suspect that the mischief rather arises from mistaking the species, which, from the similarity of the poisonous to the esculent kinds, is easy. Bosch, however, informs us, that steeping the mushroom in water, or, what is preferable, vinegar, for a short time, will take away every probable inconvenience. The poison of the deleterious kinds, which differ in their chemical analysis from the others only in being more watery, is not of a volatile nature, and does not rise in distillation. Mushrooms raised from seed in hot-beds are never, we believe, poisonous. They are said to contain a larger proportion of oil; but they are less sapid, and more firm in their substance. It is the *agaricus esculentus*, or *campestris* of Linnæus, the *amanita esculenta* of La Marck, that submits most readily to this artificial mode of propagation.

When offended by eating them, some of the following symptoms are produced; a qualmishness first affects the patient, which increases to a considerable degree of sickness, swelling of the stomach or of the belly, restlessness, giddiness, a palpitation of the heart, heartburn, colic, hiccough, diarrhœa, accompanied with a tenesmus, flushing heat in the skin, with more or less of redness there, and swelling in the face, and sometimes a sensation all over the body, which resembles what is felt from a general swelling; the patient stares in an unusual manner, all objects appear different from what they did before; a difficulty of breathing comes on, and the mind is strangely confused; delirium, trembling, watching, fainting, cold sweats, apoplexies, and convulsions, have followed the eating of this sort of fungus.

For the relief of persons under these circumstances, as speedily as possible, from gr. x. to ℈ i. of white vitriol, dissolved in a draught of warm water, should be given; and if the sickness is still urgent, the same quantity repeated two or three times, that the stomach may be well emptied. After this a large spoonful of vinegar in a glass of water should be frequently taken. The poison is not of the acrid kind, so that fat broths and oily medicines are useless. After evacuations upwards, a passage downwards by purgatives or clysters must be procured. After due evacuations of each kind, and besides the vinegar, cyder and perry, that are brisk and sparkling, may be now and then given. If any paralytic symptoms appear, sinapisms or blisters are necessary.

AMA'RA. (Marar, *to grow bitter*. Heb.) Bitters. Bitterness is a simple perception which cannot be defined, but must be referred to experience. What is the nature of the substances possessed of it, in a chemical view, we cannot determine, and consequently cannot explain.

The bitter is so often united with the astringent, the tonic, or the aromatic principle, that it has not been usual, in therapeutical authors, to distinguish the effects of the pure bitter. In this place, it must be considered as unconnected with either; and examples of a truly *pure* bitter we may find in the camomile flowers, the quassia, the gentian, and the columba. These, it is said, are tonic: we can scarcely think so. They are antiseptic, and most probably antacid; and from these qualities they correct the morbid state of the fluids in the stomach, thus giving strength by destroying the causes of weakness. The bile of animals appears to be a pure bitter; yet it is probably not so, since it occasions in the stomach sickness and faintness.

Dr. Cullen seems to suspect that bitters are narcotic; but his chief argument arises from their effects in gout, when, in the form of the duke of Portland's powder, they have been long continued. Various collateral circumstances have, however, convinced us that bitters should *not* be long continued without some intermission.

Bitters have been used as resolvents; a term not strictly defined, but intended to convey the idea of their resolving obstructions of the liver or other viscera. When joined with fixed alkalis or neutral salts, they seem to have this effect; and, in this union, they are also febrifuge. They formed the mild febrifuge of Boerhaave, who, with little chemical accuracy, styled them saponaceous. In this form, at least, pure bitters are not injurious to the robust or inflammatory habits; and we suspect that without the union of the salts they would not be hurtful in such constitutions; yet they are seldom, if ever, indicated in persons of this description, and the disquisition would tend to no useful purpose. Bitters, we have said, are stomachic; they are also slightly laxative; but we have never found them, as some authors have alleged, diaphoretic.

There is another class of bitters unconnected with those above mentioned; viz. the narcotic. Of this kind we have examples in the hop, the cocculus Indicus, the lactuca virosa, opium, perhaps the bitter of the myrrh, and of the Iceland liverwort. These are never employed, except in very small doses, for the purposes before mentioned. They will be more fully considered under their proper heads. We mention them in this place merely to connect the subjects, and to suggest a suspicion that these two kinds are very nearly related; to enforce also a due attention to the supposed narcotic power of common bitters. With this perhaps their anthelmintic power may be connected; but though the greater number of anthelmintics *are* bitter, yet it is in a very slight degree, if at all, a property of bitters in general. An additional proof of the connexion of the narcotic with other bitters, is their febrifuge power.

The faba St. Ignatii, a bitter of the narcotic class, is highly celebrated for the cure of intermittents; and a considerable febrifuge power seems to reside in the greater number.

Bitters yield their virtues both to watery and spirituous menstrua: they yield very little of their taste by distillation, either to water or spirit; nay, the bitterness is so tenaciously detained, as to be improved in many extracts. Cold water extracts the pure bitter without any mixture of unpleasant roughness. Even the cold infusion of the carduus benedictus is pleasant.

AMA'RA DU'LCIS. See SOLANUM LIGNOSUM.

AMA'RA INDICA. See MEMORDICA.

AMA'RA, Tinct. } See GENTIANA.
AMA'RUM SIMPLEX, Infus. }

AMARA'CUS, (from *α*, *non*, and *μαραινω*, *to decay*, because it keeps its virtues a long time,) SAMPSUCHUS. See MAJORANA MAJORI FOLIO.

AMARA'NTHUS, (from the same). LUTÆ'US. GOLDILOCKS. See ELICHRYSUM.

AMARE'LLA, (from *amara*, bitter). See POLYGALA. A name also of Gentian.

AMA'RUS, DU'LCIS ORIENTA'LIS. See COSTUS.

AMA'RUS SAL. See CATHARTICUS SAL.

AMATO'RIA FEBRIS, (from *amo*, to love). See CHLOROSIS. In Vogel's Nosology, *amatoria* is defined to be a fever of a few hours' continuance, beginning with a great degree of coldness, and arising from expectation of marriage.

AMATO'RIA VENI'FI'CIA, (from *amo*, and *venificium*, *witchcraft*). See PHILTRON.

AMATO'RIUS. The *obliquus superior*, or *trochlearis*, and the *obliquus inferior oculi*, are thus named, as ogling is performed by these muscles.

AMATZQUI'TL, (Indian): vel UNEDO PAPYRACEA. *Arbutus unedo* Lin. Sp. Pl. 566.

The wood is of a light texture, the leaves resemble those of the lemon tree, but are hairy and more pointed; the fruits are large as Pontic nuts, divided into white grains of the same shape and nature with those of a fig. It is met with in warm countries only. A decoction of the bark of its root is commended in fevers.

AMAUROSIS, (from *αμαυρόω*, *obscure*). It is a DECAY OR LOSS OF SIGHT, when no fault is observed in the eye, except that the pupil is somewhat enlarged and motionless. This disorder is styled a *gutta serena; cataracta nigra; offuscatio; cæcitas minor; mydriasis.* Some call it AMBLYOPŒIA; q. v.

M. de St. Yves distinguishes this disease into the perfect and imperfect kinds. The perfect consists in total blindness; in the imperfect, there is at least a power of distinguishing light from darkness. There is a species which comes on instantaneously, continues for some hours, or days, returning often periodically in hysteria, &c. In another species, the pupil is always contracted, whether the unaffected eye is open or shut. In infants, the pupil is sometimes, though seldom, of its natural size, but no movement is observed in it, however exposed to the light. The nyctyalops is supposed to be a species of this complaint.

The causes are, a palsy in the retina, a tumour, or a plethora in the adjacent vessels; a translation of either a venereal or other poison. Suppressed periodical evacuations, vapours, hysteric and other nervous symptoms, sedative poisons, external injuries, or whatever intercepts the nervous influence in the eye, may produce this disease. In the middle of the optic nerve runs that branch of the carotid artery which enters into the eye; this artery, when distended, may press the nerve; render it paralytic, and cause the periodical species.

Dr. Cullen ranks this genus of disease in the class *locales* and order *dysæsthesiæ;* and enumerates the species from the following causes, viz. compression, debility and its causes, spasm, and the applications or the swallowing of poisons. The application of the beladonna produces this disease.

On dissection, the optic nerve is sometimes found flaccid, and by far too small; in others it is compressed by extravasated blood, by a tumour, or by a turgescency of the artery which passes through it.

The phlegmatic, cachectic, aged, those with weak nerves, or that have been subjected to severities or excesses, and persons labouring under irregular or suppressed periodical discharges, are the principal subjects of this disorder.

The signs that indicate the presence of amaurosis are generally the blackness of the pupil of the eye, its size being larger or less than usual, and its not contracting nor dilating when exposed to a great degree of light. Its approach is generally attended with pain in the head; and as the pain decreases this disorder increases, though sometimes an absolute blindness comes on without any previous complaint. When it comes on without pain, and one eye only is diseased, no defect is discovered until the sound eye is closed; then the pupil of the diseased eye dilates, though exposed to a strong light; and when the other eye is opened it contracts to its natural size again. When it gradually comes on also, little specks appear on an object, or small flies seem to float before the eye, in the language of pathologists, *muscæ volitantes.* In infants the pupil is sometimes of a natural size, though it hath no movement; and thus they continue during many months, before they can see. When pregnancy, suppressed periodical discharges, nervous disorders, or vapours, are the cause, a headach, vertigo, drowsiness, noise in the ears, &c. often usher in this disorder: in these cases it frequently returns, but soon spontaneously passes away.

The prognostics are generally unfavourable: if this blindness succeeds a fever, comes on in the aged or very infirm, a cure is not to be expected; if one eye fails, the other soon follows; but if the case is slight, the habit of body robust, if it happens after the measles or the small-pox, or about the age of puberty, it is sometimes cured.

The treatment of amaurosis is not often successful. It is easy to draw indications from the causes; but when it proceeds from plethora, sanguine or serous, bleeding or purgatives have equally failed. In this exquisitely tender organ, palsy is apparently induced before the evacuations can relieve the oppression. Of internal remedies, valerian, castor, and the whole tribe of antispasmodics, have been most successful; but these should probably be confined to cases where it is connected with hysteria, and in these the disease often spontaneously disappears. The internal use of mercury has been recommended, but we have never found it efficacious. Active emetics have often succeeded, apparently from the general shock given to the system; and we

know not from what cause the vitriolated mercury (turbith mineral) seems most salutary. If the resolution or the constitution can bear these severe shocks twice a week, amaurosis may frequently be removed. Setons and blisters to the neck do no service; but when the blisters have been applied to the temples they seem to have been occasionally useful. Sternutatories have been employed, but, in our hands, with little success. The best is the turbith mineral, with about ten times the quantity of any mild powder. Electrical sparks drawn from the eye twice a day have proved highly beneficial; and the Galvanic influence, if rescued from the hands of quacks, promises considerable relief.

See Heister's Surgery, Hoffman's Med. Rat. Syst. St. Yves on the Diseases of the Eyes. Mead's Cautions and Precepts. London Med. Journal, ii. 10. Wallis's Sauvages' Nosology of the Eyes, p. 151, &c. 271.

AMAUROSIS À SY'NCHYSI. } See CALIGO PUPILLÆ.
AMAUROSIS À MY'OSI. }

AMAZO'NUM PASTI'LLUS, usually given to chlorotic maids. The AMAZONS' TROCH. These troches were formerly prepared of the seeds of smallage and anise, the tops of worm-wood, of myrrh, pepper, &c.

A'MBA. (Indian). See MANGA.

AMBAI'BA. (Indian). It is a tall tree growing in Brasil, with but few branches at the top; the trunk is hollow its whole length, except that its cavity is divided by a transverse membrane at every two or three inches distance, in the middle of which is a small hole. The root is very hard, even so as, by a gentle friction, to afford fire enough to burn cotton. The buds afford a juice that is cooling, if mixed with gruel. This the Indians call tapioca. See Raii Hist. Plant. It is the *cecropia peltata* Lin. Sp. Pl. 1449. A tree which produces a milky juice similar to the caoutchouc.

A'MBALAM, an Indian tree; also called *manga*. It resembles very nearly the cat-abolam. The root, used as a pessary, is said to promote the menses; the bark and the juices are used in dysenteries; and a decoction of the wood is commended in gonorrhœa. See Raii Hist. Plant. It is the *mangifera Indica* Lin. Sp. Pl. 290, the tree which produces the mango.

A'MBAR. See AMBRA.

A'MBARUM. (ABARA, Arabic). AMBERGRISE. See AMBRA CINERACEA.

AMBARVA'LLIS, FLOS, (from the Latin word *ambire*). See POLYGALA.

A'MBE, } (from αμβη, a LIP, EDGE, or BORDER).
A'MBI, }

An instrument used in dislocations of the humerus, called Hippocrates' *ambe*, from his having noticed it. Galen explains the word *ambe* by αφυωδης επανασταστις, *an eminence like a border*; and says, that the whole machine takes that name because its extremity runs out with an edge, like the lip or brim of a pot, towards the interior cavity.

When the head of the humerus rests in the axilla, this instrument is sometimes of service, but in no other case: and even here it is rarely used; for when gentle methods fail, violence seldom succeeds.

A'MBEGU. See MYROBALANI EMBLICI.

A'MBIA MO'NARD. A yellow liquid petroleum, smelling like tacamahaca. It flows from a fountain near the Indian Sea; and is used for the cure of itch.

AMBIDE'XTER. AMPHIDEXIOS. (From αμφι, *both*, and δεξια, *the right hand*). A man equally active with both hands.

AMBLO'SIS, (from αμβλοω, *to cause abortion*). See ABORTUS.

AMBLO'TICA, (from the same). Medicines which occasion abortion.

AMBLYO'GMOS, AMBLYOSMOS, (from αμβλυς, *dull*). DIMNESS OF SIGHT.

Hippocrates observes, that dimness of sight and coruscations of light are among the symptoms of an approaching hæmorrhage, in continual fevers and genuine tertians. Galen improperly explains this word by abortus.

AMBLYO'PIA, (from αμβλυς, *dull*, and ωψ, *the eye*). *Visus debilis*. This is a debility of sight, absolute or relative, without any apparent opacity of the cornea or interior part of the eye. See AMAUROSIS.

Hippocrates means by this word, in his Aph. xxxi. sect. 3. the dimness of sight to which old people are subject.

Paulus and Actuarius use it to express a *gutta serena*, and the latter considers it as arising from a defect of the nervous influence. De Meth. Med. lib. ii. cap. 7.

The *amblyopia* comprehends, 1st, *Myopia*, or *short-sightedness*: 2dly, *Presbytia*, or *seeing only at a great distance*: 3dly and 4thly, *Amblyopia tenebrarum* and *luminis*. It is the *dysopia* of Cullen; and the *amblyopia* of some writers is the amaurosis of Cullen. The remedy for this complaint is not easily assigned. The eyes of the myopes and presbytæ are said to be defective in their form, either too convex or too flat; so that the pencil of rays terminates before or beyond the retina, and distinct vision is of course impossible. The latter is more generally true than the former; for it must be obvious, that a deeper orbit, and consequently a more distant retina, or a stronger refracting power of the lens, may equally produce short-sightedness. In either case, there is no remedy but using glasses, about one number less than that which renders the vision perfectly distinct, or using the eyes to examine distant objects. Age however alone brings relief, and this at no long period before blindness ensues; yet it is more common for short-sightedness to continue to extreme old age, than for the short-sighted to be blind.

The presbytæ can scarcely, in any instance, procure strong or perfect sight. The weakness of vision may be relieved by cold bathing; cold applications to the eye; frequent ablutions with water, to which about 1-4th or 1-6th of good brandy has been added, by drawing sparks, or by Galvanism. The amblyopia tenebrarum arises from imperfect perception, and may be relieved, *if relieved*, by the same means. The opposite complaint, on the contrary, the seeing *only* by night, arises from too great sensibility, which renders common light excessive in its powers; and the disease is truly "tenebræ per tantum lumen obortæ." Age may lessen it, but medicines will have little effect. See Wallis's Sauvages' Nosology of the Eyes, p. 151, &c.

AMBLYO'PIA, HYDROPHTHA'LMICA, i. e. CALIGO HUMORUM. See CALIGO. It sometimes means also AMAUROSIS.

A'MBON, (from *αμβαινω, to ascend).* The edge of the sockets in which the heads of the large bones are lodged.

A'MBRA. See Succinum.

A'mbra Ara'bibus. } From *cineraceus, the colour*
A'mbra Cinera'cea. } *of ashes.*

A'mbra Gri'sea, (from *gris, grey).* Also named *succinum-griseum, succinum-cinereum, ambarum, ambra arabibus,* and in English ambergrise.

Much of it is met with in the Indian Ocean, and on the African coast; pieces of a considerable weight have been found in the northern seas. Sometimes it is seen floating on the surface of the sea, at others adhering to rocks; not unfrequently discovered in the stomachs of fish, or thrown on the shore; but it is found most plentifully about the island of Madagascar and the Molucca Islands: yet that brought to England comes from the Bahama Islands, and from Providence, where it is found on the coast. According to an account in the Philosophical Transactions, No. 385, and 387, this drug is only the produce of the *male* spermaceti whale: it is there said to consist of balls, from three to twelve inches diameter, lying loose in a large oval bag three or four feet deep or wide, nearly in the form of an ox's bladder, with a pipe running into and through the penis, four or five feet below the navel, and three or four feet above the anus. This bag is almost full of a deep orange-coloured liquor, not quite so thick as oil, of the same scent as the *ambergrise* which swims in it. These balls of *ambergrise* seem to be in laminæ, like onions; and, in the fluid, pieces of the laminæ are found. There are two, three, or four balls in a bag. Where one whale hath these balls, three or four have only the liquor in the bag. Whether these bags are peculiar to the male, or the aged fish, has not been determined. But the whole account is probably hypothetical. Accurate observers have constantly told us that the ambergrise is mixed with bones of cuttle-fish and other animal debris. It cannot then have been formed in a bag, from whence there is no very ample excretory duct, since the masses found are of a large size; nor can it have been produced in a bag to which the food has not access, since ambergrise is mixed with bones and other remains of the aliment. In fact, the accounts above referred to are collected from the observations of whalemen, who seem to have mistaken either the urinary concretions for ambergrise, or some secretory follicle, containing a substance similar to musk or castor. It is certain that the nature of the concrete was mistaken, since ambergrise very seldom appears to be composed of concentric coats. Neumann, Geoffroy, Cartheuser, and Macquer, think it a bitumen; but a paper was some years since presented to the Royal Society, by Dr. Swediaur, which asserts it to be an animal production, and the indurated fæces of the spermaceti whale. Messue calls it the spawn of the whale-fish. This opinion also is not very probable. It is not a fæculent substance, for it neither contains ammonia nor an ammoniacal salt; and we are informed by Geoffroy, that it is sometimes mixed with the beaks of birds, with honey-combs, even with their cells filled with honey: nor is it a natural production of the fish, since the whales in which it is found are poor and sickly, and do not evacuate their fæces when hooked. It is still probable, therefore, that it is not an animal production. We know that animals of very different kinds are extremely fond of it; and not only the cetaceous tribe, but fish, crabs, birds, and quadrupeds, seek it with avidity. It is not however digestible, though it apparently contains some nutritious particles, and is voided with little change. The excrements of some birds are collected with peculiar care on account of their fragrance, owing to their having eaten ambergrise. If however it was a fossil, we should probably have found it in its fossil state: a single instance of this occurs in the volumes of the Academy of Sciences, among the memoirs of foreign philosophers, but it has been contradicted; nor is the opinion of Buffon, adopted by Sonnini, that it consists of animal substances, agglutinated at the bottom of the sea by a liquid bitumen, more probable. Dioscorides, and some other ancient naturalists, thought it a vegetable substance, and Aublet considers it as the same with the rezin de coumier; and the younger Linnæus as the production of the *amyris ambrosiaca* Lin. Pl. Supplem. 216. Sp. Pl. ed. Wildenow, 335. vol. ii. If it must be an animal substance, it is probably derived from the food of the whale. Many of the molluscæ and cuttle-fish, on which whales feed, have the smell of ambergrise, particularly the *sepia tuberculata* of Montfort, and the *s. rugosa* of Bosc. The human excrementitious fluids often smell of ambergrise. The human excrement, in some of Homberg's experiments, was made to exhale this odour; and a towel employed to wash the hands, if shut up closely, is not very distant from it in smell.

Pure ambergrise, in its tenacity, softness, and easily yielding, resembles wax: it swims in rectified spirit of wine; grows soft in a very gentle heat; is opake, rugged, of a greyish ash colour, mingled with yellow and white or greenish spots; it hath no particular taste, though softish, oily, and somewhat aromatic; it adheres to the teeth; when bitten affords but little smell, except it is heated, and then it is very fragrant; set on fire, its odour is like that of burning amber; with a small degree of heat it melts into an oil, without froth, and in a great heat it is volatile. It may be broken into scaly fragments, but cannot easily be powdered.

The genuine is speckled with green or black spots: the less it is variegated, the worse: the worst sorts approach to a deep black. Its purity is ascertained by penetrating it with a hot needle, when its peculiar odour will be exhaled.

It is soluble in boiling spirit of wine: from which, if the saturated solution be set in a very cold place, a part of the ambergrise concretes into a whitish unctuous substance. Distilled, it yields an aqueous phlegm, a brown acidulous spirit, a deep-coloured oil, a thicker balsam, and sometimes a little concrete salt. The spirit, oil, balsam, and salt, are similar to those obtained from amber, except that the oil is more agreeable to the smell.

Rectified spirit of wine takes up near 1-12th of its weight of ambergrise. According to Neumann, if the spirit is impregnated with a little essential oil, the ambergrise will dissolve more readily in it. A deeper coloured, but not stronger, tincture is made with alcohol. Dulcified acids and alkaline spirits have no effect upon it; water and expressed oils have as little.

It is one of the most agreeable perfumes: it height-

ens the natural odour of other bodies; but the great secret to this end is, to add it so sparingly, that while it improves the smell of that to which it is added its own may not be discovered. It has been given as a cordial, aphrodisiac and antispasmodic, but is neglected by modern practice. The preparations belong to the trade of the perfumer. The usual dose was from twelve grains to a scruple. Hoffman informs us, that a highly rectified spirit of roses, drawn off repeatedly from a fixed alkali, is its best menstruum.

A counterfeit as well as adulterated sort is too often to be met with; the first generally consists of musk, civet, storax, labdanum, and aloes wood, mixed together; the latter of a large quantity of bullock's blood, duly flavoured with musk and civet. See Neumann's Chem. Works, and Lewis's Mat. Medica.

A'MBRAM. See Succinum.

AMBRE'TTE. The French name of Abelmoschus, which see.

AMBRO'SIA, (from α, *priv.* and βρωμα, *food*; superior to mortal aliment). The name of a sweet shrub, anciently used for making garlands. *Ambrosia maritima* Lin. Sp. Pl. 1401.

The modern ambrosia is the *botrys*, q. v. The ancients seem to have given this name to various plants, as the lily, the greater house-leek, &c. Gerrard. In chemistry, it implies a highly rectified tincture; and it is applied as a title of peculiar reverence to some ancient antidotes.

AMBULA'TIO, (from *ambulo*, *to walk*,) walking. See Æora.

AMBULA'TIVA, (from the same). See Herpes.

A'MBULO, (from αμβαλλω, *to cast forth*). The name of a disease called also *furiosus*, *flatulentus*, *flatus furiosus*. It is a distention or inflammation attended with pain, and variously periodical. See D. D. Joh. Michael. Prax. Clin. Special. Cas. 19.

AMBU'STA, (from *amburo*, *to burn*). Burns, or scalds; called also *causis*, *ambustio*, *ambustura*. Dr. Cullen places this case as a variety of the phlogosis erythema.

A *burn* is from solid substances; a *scald* from any hot fluid, or solid when in a fluid state. Their danger is according to the degree, the part injured, the peculiarity of the constitution, and consequent symptoms. Wounds from burns are more liable to form a cicatrix than from other causes.

Burns differ in degree only. The slighter kinds resemble inflammation; those where much substance is destroyed, mortification.

In the slighter kinds, medicines that neither heat nor cool in a great degree are to be preferred. Cold water may be used, by means of linen rags dipped into it, and the application repeated as often as they become either dry or warm. In the same manner brandy and rectified spirit of wine may be applied, repeating the dressings until the pain abates, and then the camphorated spirit of wine is to be preferred.

Vinous and volatile spirits, if applied before the blisters rise, generally prevent them, and always moderate the inflammation; but if the injury is on a membranous or tendinous part, it is best to mix oil with the spirit, otherwise it will too much contract it.

To the same purpose as the above, and in want of them, any of the following may be used:—The white of eggs beat thin; vinegar, in a quart of which one handful of common salt is dissolved; the pickle from olives; the brine from cabbage; oil of turpentine; any cooling oil or liniment; vinegar; lintseed or olive oil; apples or potatoes scraped, and applied as a cataplasm. If the blisters are considerable they may be punctured and dressed with any cooling ointment; and if digestion is necessary, a proportion of ung. resinæ flavæ be added. Should fever follow, the appropriate remedies must be employed.

In the severer kinds, if a crust is formed, the cure is effected by emollients and suppurants, as in the case of gun-shot wounds. See Sclopetoplaga.

If the accident hath happened in the face, or, in females, in the neck, whatever can tend to increase the cicatrix must be avoided: emollients folded in linen cloths are the best applications; an emollient fomentation, with about two ounces of the camphorated spirit to a pint, may be used at the renewal of the other dressings, during the first three or four days, or until the crust is separated; after which the procedure will be as in any common wound.

If the crust remain firm above three days, make incisions through it, to discharge the matter underneath. To prevent a cicatrix, as the skin forms, let it be often exposed to the stream of hot water, and apply a cerate of wax and the oil of eggs.

Where all is destroyed even to the bone, Heister says, that the only method is amputation; but the methods here recommended will often succeed, and save the limb.

A violent head-ach in one, and pain in the limbs of another person, were removed by the parts affected being accidentally burnt, and that only slightly. Homberg thinks that burning with moxa, and with cauteries, cure by quickening the motion of the humours, by thinning them, and by destroying the ends of the vessels, by which the fluids flow less that way. On the whole burns can only be judiciously treated by considering them as high inflammations, of the erythematous kind, and the treatment must accord, by evacuants if necessary, and by bark; attending in each to the material benefit arising from removing pain by proper opiates, without which but little advantage will be gained, whatever other means are used. For burns, or scalds, the following preparations are esteemed as highly useful.

Linimentum oleosum—*oily liniment*. R. Olei olivarum ℥ i. ss. aquæ calcis ℥ iij. This is more particularly adapted to burns, especially where the skin is scorched, or destroyed, from its softening qualities: repeated affusion of, or continual immersion in, cold water, more conveniently relieves scalds.

Cremor lithargyri acetati. See Plumbum.

Lotio lithargyri acetati camphorati—*camphorated lotion of acetated litharge*. R. Sp. camphorati ʒ ij. aq. lithargyri. acetati ʒ i. gradatim commisceantur et paulatim adde aq. distillatæ ℔ i. In topical inflammations, having a tendency to become erysipelatous, this possesses much efficacy.

Lotio spirituosa—*spirituous lotion*. R. Spt. vini rectificat. ℥ iv. aq. calcis ℔ ss. This acts as a sedative, and alleviates the pain of the parts inflamed.

Mr. Cockburn recommends a plan, which we have found very successful. The part burnt is to be bathed with vinegar, till the pain is no longer felt; and this application is not contraindicated by even a loss of substance. Afterwards, a common poultice, covered with finely powdered chalk, is to be applied, and repeated at first every four hours, and after a day or two every six or eight hours. In a few days the cure is completed. The effect of this plan is the coagulation of the fluid in the blisters, and their immediate healing.

Mr. Kentish, of Newcastle, recommends the use of the *aqua ammoniæ*, *oil of turpentine*, or *alcohol*, as the first applications; and afterwards a dressing of the unguentum resinæ flavæ, softened with oil of turpentine, with a cordial diet and the use of opiates, from which he has been very successful in his practice in some extremely desperate cases; and in cases of costiveness he has recourse to calomel to keep the body moderately open.

He has given to the public several cases, with the modes of treatment he made use of; and as they must vary according to particular circumstances occurring, and differences of the constitutions in individuals to whom such accidents have happened, we refer the reader to the perusal of his work, as the nature of our publication will not permit us to descend too minutely unto such particulars as may be necessary to be known by the practitioner.

Bell's Surgery, vol. v. 357. Pearson's Elements of Surgery, part i. 159. White's Surgery, 24. Kentish on Burns.

AMBU'STIO, AMBUSTION, (from *amburo*, *burning*, or *scalding*). See AMBUSTIO and CALCINATIO.

AMBU'TUA. (Indian). See PAREIRA BRAVA.

AME'A, a plant used on the coast of Africa in bleedings of the nose; its powder is used as snuff.

AMENDA'NUS. See ALNUS.

AME'LI, a tree growing on the coast of Malabar, described by Reed too imperfectly to be classed in systems. A decoction of its leaves is useful in colics, and its roots infused in oil are said to be good resolvents.

AME'LPODI. See BELLUTTA TSJAMPACAM.

AME'NE. See GEMMÆ SAL.

AMENORRHŒ'A, (from α, neg. μην, *mens*, and ῥεω, *fluo*). A DEFECT OR WANT OF THE MENSES, OR MONTHLY FLUX. See MENSES DEFICIENTES.

AMENE'NOS, (from α, negative, and μενος, *strength*). WEAK, FEEBLE. In this sense Hippocrates often uses this word.

AME'NTIA, (from α, privat. and *mens*, *the mind*). MADNESS, IDIOTIC INSANITY; also *anoia*, *fatuitas*, *oblivio*; FOOLISHNESS, IDIOTISM, &c. Some use *amnesia* as a synonime. Dr. Cullen defines it to be the weakness of the mind in judging, from either not perceiving or not remembering the relations of things. He ranks this genus of disease in the class neuroses, and the order vesaniæ. His species are, 1. *Amentia* congenita, NATURAL STUPIDITY, i. e. from the birth. 2. *Amentia* senilis, DOTAGE, OR CHILDISHNESS, from the infirmities of age. 3. *Amentia* acquisita, when from accidental injuries a person becomes stupid or foolish. In the last of these only can we afford any relief; and this species arises from the powers of the constitution being greatly debilitated by preceding complaints, where the nervous system has been long and severely affected, and the mind equally debilitated: cheerful company, gentle exercise in a pure clear air, a generous mode of living, properly regulated, and cordial medicines, if necessary, bid the fairest for performing a cure. See MANIA, MOROSIS, and MELANCHOLIA.

AMENTUM, a LOOP OR BOND, (from αμμα, *a thong*). It is also a name for SCISSILE ALUM. See ALUMEN PLUMOSUM.

AME'RI. (Indian.) See INDICUM.

AMERICA'NUM, BALS. See PERUV. BALSAMUM.

AMERICA'NUM TUBERO'SUM. AMERICAN POTATO, having a tuberous root. See BATTATAS CANADENSIS.

AMETHY'STA PHA'RMACA, (from α, neg. and μεθυ, *wine*). Medicines which either prevent or remove the inebriating effects of wine.

AMIA'NTHUS, } (from α, priv. and μιαινω, *to pol-*
AMIA'NTUS, } *lute*,) so called from its white or silvery gloss, which is not easily defiled. Also called *asbestus*, *asbestinum*, *cinum fossile*, *asbestinum vivum*, *Indicum*, *corpasium*, *caristum*, and *Cypricum*; *alumen officinarum*, *Sparta polia*, *salamandra*, EARTH FLAX and SALAMANDER'S WOOL.

It is a magnesian earth composed of small silvery filaments; met with in many of the islands of the Mediterranean Sea, and in Italy. It is worked either into linen or paper, both which resist the most violent flame, and are cleaned by calcining. It is dug up also in the island of Anglesey, and in Oxfordshire.

AMI'CULUM. A covering for the pubes. It is also used in the same sense as the word AMNIOS.

A'MIDUM. See AMYLUM.

AMINÆ'A. A gum so called from AMINÆA, a place where it is produced. See ANIME.

AMINÆ'UM VINUM. WINE of AMINÆA; called afterwards *Falernum*, in Italy. It is a strong kind of wine.

AMINÆ'UM ACETUM. Vinegar of Aminæan wine, or any very strong wine vinegar.

AMISA'DU. See AMMONIACUS SAL.

A'MMA, (from απτω, *to bind*). See BRACHERIUM.

AMMAN. CHAR. PLANT. The abbreviation for *Ammani*, Characteres Plantarum.

A'MMI, (from αμις, *an urinal*; because it provokes urine. *Sison ammi* Lin. Sp. Pl. 363,) or A'MMI VE'RUM; called also AMMI CRETICUM, *ammi* parvum foliis fœniculi, *ammi* semine tenuissimo et odoratissimo, *cuminum Æthiopicum*, *fœniculum annuum origani odore*, ROYAL CUMMIN, and TRUE BISHOP'S WEED. AMMI *veterum* is the *lagœcia cuminoides* Lin. Sp. Pl. 294.

The seeds of these plants only are used in medicine. The common sort is a native in the southern parts of Europe; and the seeds of this species are larger, paler, and very different in flavour, as well as in medical power, from the true, which is a native of Egypt; and the seeds are of a reddish brown colour, small, and flat on one side, convex and furrowed on the other. We very rarely meet with them; the seeds of the amomum, and of parsley, being often sold for them.

The seeds of the true bishop weed are an agreeable carminative, of a moderately warm taste, resembling origanum in their smell. By distillation with water, they yield much oil of a yellowish colour, and contain-

ing their whole flavour; spirit of wine also conveys their odour. These seeds have been recommended as emmenagogues and diuretics, but are only moderately warm stomachics.

A'MMION. See CINNABARIS.

AMMOCHO'SIA, (from *αμμος*, *sand*, and *χεω*, *to pour*). A remedy for drying the body, by covering it with hot sand, or salt, which is preferable.

AMMO'NIA MURIA'TA. See AMMONI'ACUS SAL.

AMMO'NIA PRÆPARA'TA, *olim* SAL VOLA'TILIS SALIS AMMONIA'CI.

AMMO'NIA AQUA, *olim* SPS. SALIS AMMONIACI.

AMMO'NIA AQUA PU'RÆ, *olim* SPS. VOLA'TILIS CAU'STICUS. See A'LCALI VOLATILE. There are several preparations wherein *ammonia* is considered the principal ingredient, and upon which, in many cases, practitioners fix their chief dependence.

LINIME'NTUM AMMO'NIÆ; *volatile liniment*.—℞. Olei olivar. ℥ i. ss. aq. ammon. ℥ ss. m.—if required stronger, 1 oz. of ammonia is added to 2 oz. of the oil. This is an excellent, though not very powerful, application in rheumatic affections and sore throats.

LINIME'NTUM AMMO'NIÆ OPIA'TUM; *opiated liniment of ammoniæ*. ℞. Aquæ ammon. puræ ʒ ij. opii purificati, ʒ i. ss. sp. vini tenuioris ℔ i. digerantur simil donec opium omnino solvatur.—In rigid and painful swellings of the joints, this is considered as possessed of much efficacy.

LINIME'NTUM PETRO'LEI BARBADE'NSIS AMMONI'ATUM, *ammoniated liniment of Barbadoes tar*. ℞. Petrolei Barbadensis ℥ i. ss. aquæ ammoniæ puræ ℥ ss. m. In diseases of the hip, and other joints, this remedy is strongly recommended by Dr. Kirkland.

LINIME'NTUM CA'MPHORÆ AMMONI'ATUM, *ammoniated liniment of camphor*. ℞. Aq. ammon. puræ ℥ iij. olei olivarum ℥ i. camphoræ ʒ ij. In oleo solvatur camphora, deinde adjiciatur gradatim aquæ ammoniæ pura. This is employed by some practitioners in deep seated inflammations, or to parts that suppurate imperfectly, in order to quicken their action.

LO'TIO AMMO'NIÆ ACETA'TÆ, *lotion of acetated ammonia*. ℞. Aquæ ammoniæ acetatæ. spt. vini rectificati, aq. distillat ā ā. p. æ. m. This is used in external inflammations, and applied in the same cases as the lotio ammoniæ muriatæ. See AMMONIACUS SAL.

AMMONI'ACI EMPLA'STRUM cum HYDRA'RGYRO, olim *Emplastrum*. Ex AMMONI'ACO cum MERCURIO. P. L. 1788. ℞. Ammoniaci colat. p. ℔ i. hydrargyri purificati p. ℥ iij. olei sulphurati p. ℥ i. vel quod satis fit. Rub the quicksilver with the sulphurated oil, until the globules disappear, then add gradually the ammoniacum in a liquid state, and mix. Five ounces of this plaster contain an ounce of quicksilver; and it is applied to indurated glandular tumours, in order to disperse or bring them to suppuration.

AMMONI'ACUM. GUM. Called also *armoniacum*, but improperly; *hammoniaci lachryma*, *assac*, *azac:* and in English, GUM AMMONIAC.

It is a concrete gummi-resinous juice, produced in the East Indies, and brought in masses from Ammonia, consisting of little lumps, which inwardly are very white, but outwardly yellowish or brownish; its whitest parts become yellow on being exposed to the air. From what plant it is obtained we know not; but, according to Dioscorides, it is from a shrub called ARGASYLLIS. It has been supposed with great probability to be an exudation from a species of ferula; another species of which produces asafœtida. It hath a strong smell, somewhat like that of galbanum, but not so disagreeable; a nauseous sweetish taste mixed with a bitterness.

Such pieces as are white, clear, dry, and large, should be preferred for internal use.

Thrown on live coals, it burns away in flames; it is soluble both in water and vinegar into a kind of milk; but the resinous part, which is nearly one half of the whole, subsides on standing: spirit of wine dissolves near one half of it, taking up all its active parts.

Dr. Dedier says, that ℔ i. of this gum, afforded by distillation of phlegm ʒ vi. volatile spirit ℥ ij. a volatile fetid oil ℥ vi. But other skilful chemists have failed to obtain any oil from it by this process. Water is very slightly impregnated with it by distillation.

This drug has been esteemed a deobstruent, and an useful medicine in hysteric complaints; but modern practice confines its internal use to its expectorant powers in asthma, and difficult breathing: it gently moves the belly, and externally applied with squills, it has been recommended for resolving indurated tumours. See AMMONIACI EMPLASTRUM cum HYDRARGYRO.

The dose may be from gr. x. to ʒ ss. three times a day, dissolved in water, when it is called lac ammoniaci; or in pills, which is the most agreeable form.

It is adulterated with common resin, and the method of purifying it is, by softening it in a bladder, which is immersed in boiling water; and straining it while fluid: but for inward use, the best is the largest and most unadulterated pieces.

AMMONI'ACUS, SAL; AMMONIA MURIATA; called also *cyreniacus sal*, AMMONIAC SALT and ARMONIAC, but improperly; likewise *alemzadar*, *alemzadad*, *adarige*, *aquila*, *alfol*, *alacab*, *alazalet*, *alcob*, *alfatide*, *aliocab*, *alisteles*, *almisadar*, *anotasier*, *hasacium*, *musadi*.

Many writers speak of the natural and artificial. The natural sort, spoken of by the ancients, according to Dioscorides, is only the sal gem, and is reckoned by them among the alimentary salts; but others say that it was made from the urine of camels, and was deposited in the sands near the temple of Jupiter Ammon. We have no evidence of native sal ammoniac of this sort being found. Tournefort observes, that out of the simple native salts other compounded salts are naturally produced, viz. the essential salts, which naturally are concreted from the juices of plants, among which are native ammoniacal salts.

The artificial is the only sort known and used in the shops. It is a neutral, composed of a volatile alkaline salt and the acid of sea-salt; hence the term ammonia muriata.

Sal ammoniac is brought to us generally in round cakes, convex on one side, and concave on the other, from the shape of the vessels into which they are sublimed. When these cakes are broken, the salt appears of a needled texture, or composed of striæ, running transversely and parallel to one another: the internal

part is generally pure, and of an almost transparent whiteness; the outside, for the most part, is foul, and of a yellowish green or black hue.

In England, this salt is obtained from burnt cows' dung; it is obtainable from every species of soot by sublimation or solution. At Newcastle, it is made from the bittern, which remains after making common salt, and old urine; from one hundred pound weight of the bitter cathartic salt, and three hogsheads of urine, fifty-six pounds of sal ammoniac are obtained. In Egypt it is made from the burnt dung of quadrupeds that feed exclusively on vegetables. This dung is collected only in the first four months in the year, when the cattle feed on spring grass, which is a sort of clover: at other seasons, and when the cattle eat other sort of food, it is unfit for this purpose. As to the camel, its excrements are not preferable to those of any other cattle which feed on grass, nor is their urine ever used. Mr. Hasselquist says, that the salt-workers in Egypt pretend, that the excrements from men, goats, and sheep, are preferable to all others; and he further tells us, that March and April are the only times in which they make this salt. See the account in his voyages.

It may also be produced from

A'CIDUM MURIA'TICUM	with	Sal. C. C.
		Ammónia. pp.
TINCT. FE'RRI MURIA'TI		Sal. fuliginis.
		Sp. Ammón. compositus.
HYDRA'RGYRUS MURIATUS.		Sps. Ammóniæ comp. fétidus.
		Líquor C. C.
		Aq. Ammónia.
		Ammónia acetáta.

Consequently the tinc. ferri muriati, and the hydrargyrus muriatus, will be decomposed by either of the preparations in the second column.

The *ammoniac salt* is soluble in water and in spirit of wine, and in the air alone. It renders water extremely cold during solution; and when dissolved and mixed with a vitriolic acid effervesces violently, producing a sense of cold. Its crystals resemble feathers, or long shining spicula.

Mixed with a fixed alkaline salt, and then sublimed, it affords a dry volatile salt; but mixed with quick-lime, its volatile parts are only to be obtained in a liquid form. When unmixed, it may be sublimed with a considerable degree of heat, without the least change in its nature or properties; but if the fire is hastily raised during its sublimation, it volatilises many kinds of bodies mixed with it.

On account of its sea-salt, it turns diluted nitrous acid into aqua regia, but does not curdle milk, nor alter the colour of an infusion of roses.

Rubbed with quick-lime, or with a fixed alkaline salt, it emits an urinous smell, though dry. If a little hydrarg. mur. be added to its solution in lime water, the mixture becomes of a yellow colour.

In soldering, tinning, and casting shot, the crude salt is much used. It becomes volatile in a heat somewhat greater than that of boiling water.

Boerhaave says, that it preserves all animal substances from putrefaction; that its brine penetrates deeply; that it is one of the most efficacious, aperient, attenuant, and resolvent medicines, a good sternutatory, diaphoretic, sudorific, and diuretic.

When used externally as a discutient, or detersive, it is mixed with some proper fomentation, in the proportion of ʒ vi. or ℥ i to ℔ ij. of the liquid.

It is more pungent to the taste than common salt, but is less antiseptic; it is a more powerful sudorific, and a less active purgative. In large doses, as ʒ ij. it opens the belly, and in yet larger it proves emetic; it is a good febrifuge, and peculiarly assistant to the bark. In many instances, where the bark and emetics failed in agues, the crude salt given to ℈ i. every four hours, with an infusion of camomile flowers, for some days, then every six, and at least every eight hours, hath succeeded: it is used both as an antiseptic and a repellent in gargles; when the throat is inflamed, it powerfully dissolves viscid mucus in the mouth and fauces. In violent hypochondriac cases it hath been of singular efficacy, by a daily use of it in doses just within what are required to render the bowels lax, or perhaps in such as produce a slight looseness; after taking it six, eight, and twelve months, the cold bath hath completed the cure. From ʒ i. to ʒ ij. dissolved in ℥ viij. of any simple water, is a good substitute for the common saline mixture, and may be given, as to quantity and time, in the same manner. Dr. Cullen, however, doubts of these powers. He does not admit of its attenuating or dissolving the fluids; but, like other saline matters, in passing by the excretories it may be suited to promote their discharge. With the Peruvian bark, it may be of some use as a diaphoretic; but he doubts that in obviating the consequences apprehended from the use of the bark it can be of any service: nor does he allow that, externally applied, it has the power of discussing tumours, otherwise than by giving a moderate stimulus to the vessels on the surface; not by entering the pores, and by that means attenuating the viscid fluids. Materia Medica, vol. ii.

Truth, as usual, perhaps lies between. Like other neutrals, it seems to assist the febrifuge power of the bark, and prevent the latter producing the stricture on the surface, which sometimes occasions great inconvenience. Yet we have not been aware that it is more useful than any other neutral. It does not act as a laxative, but in a dose that is not agreeable to the stomach, and that few will persist in. As a gargle and a discutient, however, it may act; we have found it highly useful. Mr. Justamond strongly recommends the following in the cure of the milk abscess. R. Ammoniæ muriatæ ℥ i. sps. roris marini ℔ i. m. Linen rags should bedipped into this, and kept continually moist on the part affected. Ammoniæ muriatæ ℥ ss. aceti. sps. vinosi rectificati, āā ℔ i. m. is also an useful application.

The impurities of this salt will not dissolve in common water; and the purification is consequently effected by the solution and filtration. The very last crystals seldom betray any mixture of any other salt.

Preparations of this drug are the ammonia prepared.

FLOS SA'LIS AMMONI'ACI, which is only the salt sublimed; and hath been called *aquila alba philosophorum*, and *aquila Ganymedis*.

AMMONI'ACI VEGETABILIS, Sal. See SP. MINDERERI, under ALCALI.

AMMO'NIÆ ACETA'TÆ LINIME'NTUM. See AMMONIA.

AMMONI'TRUM, (from αμμος, *sand*, and νιτρον, *nitre*). In our glass-houses called FRIT. See FRITTA.

AMMO'NII COLLY'RIUM, (from αμμος, *sand*). A collyrium which removes sand or gravel from the eyes; called also *hygidion*. It is a mere farrago.

AMNE'SIA, or AMNE'STIA, αμνηστια, (from α, priv. and μνησις, *memoria*). FORGETFULNESS. See AMENTIA.

A'MNION, or A'MNIOS, (from αμνος, *a lamb*, or *lamb's skin*). Martinus thinks it hath its name in allusion to αμνιον, *a vessel*, used for the reception of blood in sacrifice. It is also called *armatura*, *agnina membrana*, and *pellicula*, *charta virginea*, *galea*, *indusium*, *amiculum*. THE INTERNAL MEMBRANE WHICH SURROUNDS THE FŒTUS. It is a fine, thin, transparent membrane, soft, but tough, smooth on its inside, but rough on the outer. Dr. Hunter says, that it runs over the internal surface of the placenta, and that this membrane, which seems not vascular in the human subject, makes the external covering of the navel string, to which it is most firmly united; and that viewed in a microscope, it appears to have blood vessels, but they are lymphatics. It is found in all animals, both viviparous and oviparous. The fluid contained in the amnios is of a dilute white colour, transparent by filtration, with a faint smell: it contains an albumen similar to that of the blood, muriated soda, and an uncombined alkali, with a small proportion of animal matter. In the liquor amnii of the cow there seems to be a peculiar acid, styled the amniotic acid. Annales de Chimie, xxiii. 269.

AMOGA'BRIEL. See CINNABARIS.

AMO'MI. See PIPER JAMASCENSE.

AMO'MUM, (from HUMAN, Arabic, *a pigeon*,) whose foot it was thought to resemble. STONE PARSLEY.

Botanists enumerate three species, viz. the true, the bastard, and as a third sort, the tree nightshade is included.

The *amomum* verum is also called *amomum* racemosum, *carophi*, *elettari primum*, Hort. Malab. TRUE AMOMUM, OR TRUE STONE PARSLEY.

The seed is the only part that is considered as medicinal, but it is not known whether the true *amomum* of the ancients exists or not; the most probable account is that of P. G. Gamelli, in the Philos. Trans. which is, that the *tugus*, called by some *birao*, and by others *carophi*, is the genuine *amomum* of Dioscorides. See Dr. James's Dict. article AMOMUM.

Many confound the *amomum* with great cardamom.—It is a native of China. The college of Edinburgh supply the place of the *amomum* verum with the caryophylli aromatici. The college of London have rejected it.

The *amomum vulgare* is the *sison amomum* Lin. Sp. Pl. 362, also called *sinon*, *amomum Germanicum*, *sium aromaticum*, BASTARD STONE PARSLEY.

Its seeds, the only part used in medicine, are ripe in August; have a light agreeable smell, a warm, bitterish, aromatic taste; and are esteemed as carminative and diuretic. They are not so hot and pungent as, by the best accounts, the true *amomum* seeds are, nor is their flavour of the same kind.

All their virtue rises with water in distillation; but by boiling in an open vessel, it is soon lost in the air; they yield their virtue also to spirit of wine.

The third sort resembles the common nightshade.

See Dale and Miller. It is also a name of the *cassia caryophyllata*, and *piper Jamaicensis*.

AMO'MUM CARDAMOMUM. See CARDAMOMUM.

AMO'MUM SCAPO NUDO. See ZEDOARIA.

AMO'MUM GRANUM PARADISI. See CARDAMOMUM MAJUS.

AMONGA'BRIEL, or AMOGA'BRIEL. See CINNABARIS.

A'MOR, LOVE, (from HAMAH, Hebrew, *to burn*; or AM, *a mother*; because love is the natural passion of mothers to their children). Though not itself a disease, it produces diseases.

The symptoms produced by love are as follow: the eye-lids often twinkle, the eyes are hollow, and yet appear as if full with pleasure; the pulse is not peculiar to the passion, but the same with that which attends solicitude and care; when the object of this affection is thought of, particularly if the idea is sudden, the spirits are confused, the pulse changes, and its force and celerity are very variable: in some instances the person is sad and watchful; in others, not conscious of his state, he pines away, is slothful, and regardless of food; though the wiser, when they find themselves in love, seek pleasant company and active entertainments.

As the force of love prevails, sighs grow deeper, a tremor affects the heart and pulse, the countenance is alternately pale and red, the voice is suppressed in the fauces, the eyes grow dim, cold sweats break out, sleep absents itself, at least until the morning, the secretions become disturbed, and a loss of appetite, a hectic fever, melancholy, or perhaps madness, if not death, constitute the sad catastrophe.

Æginet. lib. iii. cap. 17. Oribas. Synop. lib. vii. cap. 9. or a treatise professedly written on love, as it is a distemper, by James Ferrard, Oxford, printed 1640.

AMO'RIS PO'MA; also called *lycopersicon*, *solanum pomiferum*, *mala aurea*; LOVE APPLE. *Solanum lycopersicum*, Lin. Sp. Pl. 265. It is a species of solanum about the size of a cherry, green at the first, and of a yellowish red colour; the flowers resemble those of nightshade; the fruit is fleshy and soft; it contains many flat whitish seeds in a juicy pulp. The plant flowers in July, and the fruit ripens in September.

Their quality is cooling. In Italy they are eaten with oil and vinegar.

See Miller Bot. Off.

AMORGE, (from αμεργω, *to press out*). See AMURCA.

AMO'STEUS. See OSTEOCOLLA.

AMO'TES. See BATTATAS HISPANICA.

AMPE'LION, (from αμπελος, *a vine*). VINE LEAVES, OR THE TENDRILS OF VINES. Hippocrates commends them for making pessaries to promote the menses.

AMPELI'TIS, (from the same). CANNEL COAL. Named also *terra* or *lapis ampelites*, *pharmacitis*, *obsidianus lapis*, *carbos*.

This species of coal is a bituminous earth, black as jet, and so hard that it takes a good polish, and is made into boxes, basins, and various other utensils. It contains much sulphur and salt, is divided into scales and

easily powdered; when old, that is, when long kept after taking it out of the mines, it falls into powder, and then yields a quantity of saltpetre.

It burns more bright than any other kind of coal: powdered and strewed upon vine trees it destroys the worms that injure them, hence its name: it is rarely used in medicine, but is commended as being more drying than terra Samia, or than many of the earths that have been employed with credit in medicine.

AMPELOCA'RPUS, (from αμπιλος, *a vine*, and καρπος, *fruit*,) so called, because its seeds resemble the young fruit of the vine. See APARINE.

A'MPELOS. See BRYONIA.

AMPHARI'STEROS, (from αμφω, *both*, and αριστερος, *the left hand*). It is the reverse of ambidexter, that is, not having a proper use of either hand. Figuratively it signifies unlucky or unfortunate.

AMPHEMERI'NOS, AMPHEMERINA. It is the continued fever of Linnæus and Vogel, (from αμφι, a Greek preposition, signifying *a revolution*, and ημερα, *a day*,) a quotidian intermittent. See QUOTIDIANA FEBRIS.

It is by some considered a remittent fever, in contradistinction to the febris quotidiana, which is an intermittent, and is defined a kind of remittent fever, whose paroxysms return every day of a similar nature, though it is rarely observed to be regular. Sauvages enumerates no less than twenty-four species.—See Sauvages, vol. ii. p. 322.

AMPHIARTHRO'SIS, (from αμφω, *both*, and αρθρωσις, *an articulation*). A mixed sort of articulation, partaking of the diarthrosis and the synarthrosis; it resembles the first in being moveable, and the latter in its connection. The species which compose it have not a particular cartilage belonging to each of them, as in the diarthrosis, but they are both united to a common cartilage, which, being more or less pliable, allows them certain degrees of flexibility, though they cannot slide upon each other; such is the connection of the first rib with the sternum, and of the bodies of the vertebræ with each other. See ARTICULATIO.

AMPHI'BIUS, AMPHIBIOUS, (from αμφω, and βιος, *life*). Animals are thus called that are capable of living as well by land, or in the air, as by water.

Though it is not our design to treat of subjects which belong to natural history, yet, respecting this class, there are various facts applicable to the human body in a sound or a diseased state. The term is confined to animals with a single heart, whose respiration is in a great degree voluntary. There is probably no amphibious animal, in the strictest sense of the word; for no animal has, at the same time, lungs and gills. The siren, which induced Linnæus to form a new order from this circumstance, is probably an imperfect animal in its progressive state. That lately described by Schreber, in the Philosophical Transactions, seems, from the arguments adduced in the Critical Review, to be equally so. Frogs, which in their early state breathe by gills, lose them when more perfect; and, if carefully watched, they may be found, at some period, in possession of both organs. The molluscæ, and shell fish, breathe by gills; but it is pretended that some species can breathe air as well as water by those organs. If so, these are truly amphibious. The crustaceous animals, particularly the crab, can apparently breathe both air and water; but this power is limited in its duration. In short, animals are destined to live wholly on land or wholly in water. The real amphibia are very few, and among those whose habits are little known. Other animals differ in the duration of the period when they can leave the element most congenial to them, but in either it is short.

The lungs of the amphibia differ in their structure from those of more perfect animals; but we have yet to learn how they are better adapted to a longer residence in water than those of the mammalia and aves. The heart, we have said, is single: it is certainly so in every physiological view, and the blood is not necessarily conveyed through the lungs, as in the other classes. It either attracts oxygen more rapidly, while it is exposed to air, or combines more difficultly with carbone. As the cartilaginous fish are now removed to the pisces, we find only two orders of amphibia—those *with* feet, and those without; the reptiles and the serpents.

The bones of the amphibia are less firm than those of other animals, and they approach, in their mode of reproducing lost parts, the vegetable kingdom. The principle of life is not confined to one organ, but exists in a less degree in different parts, as in the buds of vegetables. Thus they are more tenacious of life, and can endure longer abstinence than other animals. As their eggs are not so much exposed to shocks or the action of hard bodies, they have not, in general, such solid coverings as the eggs of the aves. All the amphibia are perhaps oviparous: those which appear viviparous, are apparently hatched within the body, and excluded from the egg and the mother about the same time.

Dr. Parsons divides the amphibia into such as chiefly live on land, and dive only occasionally, or those who rise to the air only at times to breathe. The former have, in many instances, the foramen ovale closed. It is so in the otter. Men used from the earliest period to diving, can exist a long time under water, and it has been supposed that the foramen ovale is open. It has, however, never been found so; and of those where the blood does not pass through the lungs, the complexion is of a blue colour. The stories of the Calabrian, and the young Sicilian named *fish Colas*, have been apparently much exaggerated.

AMPHIBLESTROI'DES, (from αμφιβληστρον, *a net*, and ειδος, *forma*). The RETINA, or NET-LIKE COAT OF THE EYE; also the same as RETIFORMIS, which see; and VERRICULARIS TUNICA.

AMPHIBRA'NCHIA, (from αμφι, *about*, and βραγχια, *the fauces*). The fauces or parts about the tonsils.

AMPHICAU'STIS, (from αμφι, *about*, and καυστρα, *a ditch*). A sort of wild barley; so called because it grows about ditches. See also PUDENDUM MULIEBRE.

AMPHI'DEON, or AMPHIDÆ'UM, (from αμφι, *on both sides*, and δαιω, *to divide*). The mouth of the womb, which opens both ways. See Os INTERNUM.

AMPHIDE'XIOS. See AMBIDEXTER.

AMPHIDIARTHRO'SIS, (from αμφω, *both*, and διαρθρωσις, *articulated*). So Winslow calls the articulation of the lower jaw, which is partly by a ginglymus, and partly by an arthrodia.

AMPHIMERI'NA HUNGARICA, (from *αμφι, about*, and *ημερα, a day,)* called also *morbus Hungaricus; cephalonosa; febris Hungarica, castrensis*, and *carceris; languor pannonicus:* is said to be a kind of tertian remittent fever. Sauvages calls it *asthenia pannonica*, and doubts whether or no it differs from *typhus*. It affects chiefly soldiers in camp; and is sometimes epidemic, gradually destroying the functions of the machine, and in the end proving fatal.

AMPHIMERI'NA CATARRHA'LIS. See CATARRHA'LIS FE'BRIS AMPHEMERI'NA.

AMPHIMERI'NA TUSSICULO'SA. See CATA'RRHUS.

AMPHIMERI'NA ANGINO'SA. See SCARLATI'NA ANGINO'SA.

AMPHIME'TRION, (from *αμφι, about*, and *μητρα, the womb).* The parts about the womb.

A'MPHIPLEX, (from *αμφι, about*, and *πλεκω, to connect).* According to Rufus Ephesius it is the part situated betwixt the scrotum, anus, and internal part of the thighs.

AMPHIPNEU'MA, (from *αμφι, about,* or *around*, and *πνευμα, breath).* See DYSPNŒA.

AMPHISBÆ'NA, (from *αμφι, either way*, and *βαινω, to go).* Galen says, it is an animal with two heads. Aetius describes it as a venomous serpent, which moves with either end forward, from which circumstance it hath its name; and says, the bite is like the sting of a bee, as to its effects, though somewhat more violent, but it is cured in the same manner. The serpent which bears this name in modern systems, has no resemblance to that described by the ancients, and is not venomous.

AMPHISMI'LA, (from *αμφι, on each side*, and *σμιλη, an incision knife).* A dissecting knife with an edge on each side.

AMPHI'TANE, (from *αμφι*, and *τανυω, extended).* See TINCAL.

AMPHODO'NTA, (from *αμφι, on both sides*, and *οδους, a tooth).* By this word, Hippocrates expresseth animals that have teeth in both jaws.

A'MPHORA. A Roman measure for liquids, (from *αμφιφορευς*, by a syncope *αμφορευς*; it is called so from the two handles for carriage; *αμφι, on both sides*, and *φερω to bear).* Its contents are seven gallons and one pint English.

AMPO'TIS, (from *αναπινω, to regurgitate).* The RECESS OF EBB OF THE TIDE. Hippocrates used this word to express the recess of the humours from the circumference to the centre of the body.

AMPU'LLA, (from *αναζαλλω, to swell out).* In chemistry all bellied vessels are called *ampullæ*, as BOLT-HEADS, *excipula*, or RECEIVERS, CUCURBITS.

AMPULLA'SCENS, (from *ampulla).* The alvus *ampullascens* is the most tumid parts of Pecquet's duct: in modern language, the receptaculum chyli.

AMPUTA'TIO, AMPUTATION, (from *amputo, to cut off).* It is the cutting off a limb. *Ectome, excisio*, and *extirpatio*, are used in the same sense. *Excisio* may indeed be applied to the operation where one part is cut out of another, as some encysted tumours.

Hippocrates says, when speaking of a mortification, that what is putrified must be cut off, but does not mention the taking off limbs. Celsus is the first who describes this operation. Till the sixteenth century, we have no account of any method to prevent the hæmorrhage which happens in this sort of operation, except Celsus's, of making a ligature about the vessels. Paré tells us, that, previous to making this incision, a ligature, with a thin fillet, must be made above where the *amputation* is to be performed, which, he says, first, keeps up the skin and muscles in a raised posture; secondly, prevents an hæmorrhage; and, thirdly, lessens the sense of feeling. He is the first who clearly speaks of preventing the hæmorrhage, when these operations are performed. In 1674, Mr. Morel, a French surgeon, introduced the tourniquet, as it is now used: but the first mention of this instrument is in the Currus Triumphalis è Terebintho, published in London by an English surgeon in 1679. About the end of the seventeenth century, Messrs. Verduin and Sabourin, one a Dutchman, the other of Geneva, left a label of the flesh and skin to wrap over the stump, and called it 'l'opération de l'amputation à lambeau;' but they probably learnt it from an Englishman, who published this practice in 1679; see CURRUS TRIUMPHALIS E TEREBINTHO. Paulus Ægineta used the actual cautery; but Ambrose Paré secured the vessels by drawing them a little out with the forceps, then making a ligature round them, as is often mentioned by Celsus, though neglected by so many of his successors. In the present (eighteenth) century, improvements are both many and important in this branch of surgery; the crooked needle, and most other parts of the apparatus, being now introduced or improved.

CASES REQUIRING THE LIMB TO BE TAKEN OFF.

Mr. Bilguer, an eminent practitioner in the armies of the king of Prussia, during his late wars, reduces them to six, as follow:

1. A mortification, which spreads until it reaches the bone.

2. A limb so hurt, that a mortification is highly probable.

3. A violent contusion of the flesh, which at the same time hath shattered the bones.

4. Wounds of the larger blood vessels of the limb, when recourse is had to amputation, as the only method of stopping the hæmorrhage; or through an apprehension that the limbs should perish for want of nourishment.

5. An incurable caries of the bones.

6. A cancer or humour in danger of becoming such.

Perhaps Mr. Bilguer may have restrained this operation rather too much; but his ingenuity renders his instructions deserving of attention.

In cases from mortification, Mr. Sharpe hath well established the propriety of waiting until it ceases, and granulations of new flesh show a better state of the constitution. He observes that gun-shot wounds are best, if the necessary amputation is immediately performed; and that the disorders of the joints, ulcers of long standing, and all scrofulous tumours, generally return on other parts after amputation.

Mr. Pott observes, that in the instances generally demanding amputation, if the rule is adhered to, a limb will now and then be taken off that possibly might have been restored; but the number is so small, in proportion to those who, under the same apparent circumstances, would end fatally, that it can make no

difference in the general treatment. Selection of one case from another is what constitutes judgment in surgery; and happy is the man who, amidst the following demands for amputation, singles out the circumstances in which he will succeed, and save the threatened part. In general, then, amputation is necessary—

1. In some compound fractures. See FRACTURA.

2. A wound in the principal artery of a limb; in some aneurisms; a large wound with loss of substance, from arteries not contained within the cavity of the body, as those of the thigh, leg, or arm. It is true, every instance of a wounded humeral or crural artery does not demand this operation; but if the wound is such, that the collateral branches in their neighbourhood are prevented from carrying on the circulation, a speedy amputation will be necessary. See ARTERIA; FEMORALIS ARTERIA; POPLITEA ARTERIA; TIBIALIS ARTERIA; HUMERALIS ARTERIA, &c.

3. When joints are wounded, violently injured, or otherwise diseased. When the heads of bones are diseased, or their ligaments lacerated, in most instances amputation is necessary. See VULNUS, SCLOPETOPLAGA, SPINA VENTOSA, &c.

4. A caries of the whole substance of a bone, or of the bones which compose a limb. See CARIES.

5. Some mortifications. See MORTIFICATIO.

6. Many instances of gun-shot wounds. See SCLOPETOPLAGA.

7. Cancers. See CANCER. Extensive foul ulcers, and some deep-seated encysted tumours.

8. Swellings of the bones or deformed limbs.

9. A disease resembling the œdema described by Richter.

Large bones should not be amputated in the joint, on account of the extreme thinness of the flesh in those parts, which cannot easily be brought to cover the bone, whence many inconveniences may arise; but if there is a probability of succeeding in this respect, the objection vanishes.

If amputation is determined on, the following should be in readiness:

1. A tourniquet.

2. A smooth fillet, an inch broad, and half an ell long.

3. The amputating knife.

4. A catlin.

5. Saws of different sizes, particularly a small one made of a watch spring for splinters.

6. A forceps—a small pair of scissors with long handles.

7. Crooked needles, armed with wax thread.

8. Lint and tow, made into compresses ready for use; tapes and adhesive plaster in slips.

Calomel mixed with starch, and strewed on a pledget of lint, is perhaps the best application to the stump of an amputated limb.

9. A retractor.

10. A roller of five ells in length; the many-tailed bandage, or a woollen cap.

11. Pledgets of sponge.

12. Cordials to raise the patient's spirits, and proper attendants.

Previous to amputation, a large dose of the tincture of opium is sometimes given to lessen pain; and we have sometimes ordered, with advantage, the tourniquet to be placed and screwed moderately tight for an hour previous to the operation.

AMPUTATION *of the* ARM.

In most amputations, the operation should be a finger's breadth, or more, above the sphacelated, or otherwise injured part.

Apply the tourniquet so, as that it may press upon the chief artery of the limb to be taken off. When the arm is the part to be amputated, some recommend a pressure on the artery as it passes over the first rib.

Then let an assistant draw the skin back, while the operator binds the fillet round where the incision is to be made. This fillet both guides the knife, and keeps the flesh tight, so that it more easily yields to the knife; or more exactly to make the circular incision, a slip or two of plaster may be preferred to the fillet for directing the knife; two slips may be laid, the one upon the other; and if another slip is placed about three-fourths of an inch higher, its effect will greatly assist those of the lower.—On the exact cutting the skin, muscles, &c. the speedy cure of the stump very much depends.

Having proceeded thus far, give the patient a cordial, and cheer him.

Two assistants holding the limb in a straight line, an incision must be made quite round through the skin and fat to the flesh; then take away the fillet or slips of plaster; and the assistant, who holds the upper part of the limb, must draw the skin as far back as he can; after which, as near the edge of the retracted skin as possible the flesh must be divided, at twice, to the bone; and if there are two bones, divide the flesh between them with the point of the same knife. That the bone may be sawed off as near to the edge as possible, it is necessary to cut the skin, &c. to the muscles first, that you may draw it back, and cut the flesh as far under the skin as possible, in order to having the skin to reach over the flesh and the bone of the stump as soon as it is dressed. To assist this intention of bringing the skin over the end of the stump, the retractor is contrived, which must be put on after the incision is made through the muscles, to draw them up, as forcibly as the patient can easily bear: thus the bone can be sawed off more closely to the edge of the flesh, and with less danger of tearing it with the teeth of the saw. When there are two bones, as in the fore-arm, after having cut through the muscles, and divided the interosseous ligament, some recommend, instead of the retractor, to pass a compress between the bones, and therewith to draw back the divided parts, until the bones are sawed through.

When there are two bones, apply the saw in such a manner that both may drop together, to prevent making splinters, and also to avoid the painful jar which the patient feels when this is neglected. While the saw is working, the assistant who holds the lower part of the limb should gently depress it, that the saw may have room to pass; and the operator should make his strokes with it as long as possible.

If, after amputation, the larger arteries are not easily seen, the tourniquet may be slackened, and by the discharge of blood they will be discovered; then with the curved needles secure them, as directed in wounds of the arteries. When the tenaculum can be used for

drawing out the artery, it will always be the best method; and, having so done, tie the end of the artery with a narrow flat tape. If an ossified artery is cut through, a cautery, either actual or potential, must be applied. In the fore-arm, compresses generally suffice for checking the hæmorrhage.

When the arteries are secured, bring the skin over the end of the bone as far as possible; then apply a pledget of soft lint, and over it another of soft tow, or more if required; over these lay a pledget of tow spread with the common cerate, and then with two long slips of sticking plaster, placed across each other, confine the whole by fixing the ends of these slips along the sides of the stump; after this finish the dressing, by turning a worsted night-cap over the whole. It is properly observed by some surgeons, that dry lint, as an extraneous body, in which light it should be considered, and as which it always acts, when clotted with blood, occasions pain, swelling, and inflammation, therefore should be laid aside, and in its place a large quantity of flour should be strewed over the whole stump. This forms a natural cataplasm with the blood and serum. Over this apply dry lint, or what other dressings you like, which may all be removed the next day, if necessary, without pain to the patient, or trouble to his assistants.

The custom of finishing by a roller from below upward, or indeed any way applied, is now omitted by the ablest surgeons, as its pressure causes inflammation, pain, and sanies, instead of a well digested matter.

In the 2d vol. of the London Medical Obs. and Inq. Mr. Kirkland proposes the use of sponge for a part of the dressing, as soon as digestion is begun in the stump, after an *amputation*. He observes, that the greatest danger after this operation, is from an absorption of the matter from the wound after the inflammation is gone off, particularly if the digestion proceeds not very kindly; and to prevent this inconvenience, as soon as the state of digestion is well advanced, he directs a thin layer of fine lint to be applied to the stump, and, immediately upon that, some thin pieces of fine sponge, which have just then been made wet, but are squeezed as dry as can be by the grasp of the hand. The thinner matter of the discharge from the wound being absorbed by the sponge, the fever, diarrhœa, and other symptoms which it occasions when taken up into the circulation, are prevented; and where, from the thinness and acrimony of the discharge, sponge pledgets are necessary, he orders antiseptic diuretics to be administered internally, and, if needful, the bark.

When the dressing is finished, the patient should be laid in bed, and an assistant should gently and constantly hold his hand on the stump during some hours, not only to guard against a hæmorrhage, but also by the gentle pressure to make the dressings adhere more firmly.

The tourniquet may be gradually raised to admit the circulation of the part more freely; and if no danger seems to threaten, it may be removed the next day.

As soon as the patient is in bed, some blood, to prevent a fever, may be taken in plethoric habits.

On the third or fourth day remove the dressings, and proceed as in a common wound. If any part of the lint adheres, leave it to separate by digestion.

The *amputation* of the arm, and of the fore-arm, are the same, except that in the fore-arm the brachial artery, dividing into branches, sometimes demands the use of the needle, more than when the operation is in the arm. In general, when the arm is amputated above the elbow, the same procedure will be necessary as is directed for the *amputation* of the thigh just above the knee.

See Bell's Surgery, vol. vi. 425. White's Surgery, 200, 201, 202.

The Amputation *of the* Arm *at its* Joint *with the* Scapula.

Mr. Morand, the elder, first took off the arm at the shoulder, and Mr. Bromfield performed it with success in London. Here the tourniquet cannot be applied; but Dr. Hunter observes, that, when we consider the situation of the blood vessels as they pass over the first rib to the arm, it evidently appears, that by turning the shoulder outwards, and making a proper pressure with compresses, we can check the circulation in amputating the humerus, at its articulation with the scapula, which is the most intimidating circumstance in the operation.

The patient's arm being held horizontally, make an incision through to the flesh, from the upper part of the shoulder, across the pectoral muscles, down to the arm-pit; and, to save as much skin as you can, begin it about two inches below the joint, then turning the knife with its edge upwards, divide that muscle, and part of the deltoid. The great artery and vein are thus exposed, and should immediately be secured by ligatures, at least two fingers' breadth below the axilla. For this purpose, carry the arm a little backward; then divide these vessels at a considerable distance below the ligatures, and pursue the circular incision through the joint, cutting first into that part of the bursal ligament which is nearest to the axilla; for, by beginning on the upper part of the shoulder, the projection of the processus acromion, and processus coracoides, will very much embarrass the operation. Having discovered the true situation of the acromion, draw back the skin, and in dividing the flesh introduce the knife two or three fingers' breadth under it, for much of the deltoid muscle is thus saved, which will fill up the wound, and expedite its healing. Then raise the arm, that the head of the biceps muscle may be more easily found and divided; divide the ligament on the upper part, next on the sides, after which, the head being lifted out of the socket, cut away all that detains it, taking care not to divide the artery above the ligatures. The remaining flesh at the arm-pit should be nearly of a triangular figure, the broad part being next to the axilla. Apply the remaining flesh immediately to the socket of the scapula, and lay over them dry lint and pledgets, which may be secured by a plaster of the shape of a Maltese cross. To prevent the force of the artery, lay a bolster in the arm-pit, to press upon it; secure the whole with the bandage called the spica descendens.

See Bell's Surgery, vol. vi. p. 417.

Amputation *of the* Breast.

The patient being placed on a high chair, hold her arm horizontally backward, and a very little downward; thus the pectoral muscle is more expanded, and the disordered part more easily separated from it; then make

a circular incision through the teguments, and dissect out the morbid part. The compress and bandage are generally sufficient to prevent hæmorrhages, the needle being seldom required; though the branches of the mammary arteries, especially one larger than the rest from towards the arm-pits, near the edge of the pectoral muscle, will be sometimes troublesome. The management in other respects is the same as in wounds in general.

If, in the course of the cure, a fever comes on, with pains about the præcordia, and a difficulty of breathing, death is the consequence. Proper and timely bleeding may prevent these symptoms. Bell, vol. ii. 434.

Amputation *of the* Fingers *and* Toes.

Sometimes a finger or toe that is nearly cut through with a sharp instrument, if brought together while warm, will unite; at least it is better to make the attempt. When cut obliquely, their re-union may be more certainly expected.

The fingers and toes are best amputated in their articulations; a straight knife must be used, and the incision of the skin should be made not exactly upon the joint, but a little towards the extremity of the finger or toe, that more of it may be preserved for the easier healing afterwards: it will also facilitate the separation of the joint, when the finger is cut from the metacarpal bone, to make two small longitudinal incisions on each side of it first. When the lower joints are separated, the first incisions should be from a little above, to a little below the joint on each side, and so deep as to divide the ligaments. The skin grows over the cartilage very readily. If the cartilage is removed by the knife's point, or by any accident, the skin heals better, and unites speedily to the bone; but this is not necessary. If the patient is plethoric, let the blood run from the amputated joint, and no hæmorrhage will happen thereafter. It is never necessary to take up an artery.

In case of supernumerary fingers or toes, if troublesome, cut them off: sometimes there is no bone where they are to be cut off; in this case a knife may be used: but if there is any bone, a strong pair of scissors may be used, for in infants these bones are not hard.

See Bell's Surgery, vol. vi. p. 411. White's Surgery, 199.

Amputation *of the* Hand.

Heister thinks it best to amputate the hand with a knife only, at the joint of the wrist; but the usual method is to cut through the bones above the wrist: in which case, see Amputation *of the* arm.

Amputation *of the* Metacarpal *and* Metatarsal Bones.

If any of these bones are carious, only so much as is disordered may be separated; a small spring saw is the most proper to divide the bones. After these operations, the parts heal soon, and a part of a hand or foot may still be useful.

In these cases carry your knife first along the side of the bone that is to be removed, and as close to it as you can, at the same time making the wound as smooth as possible. If one of the middle bones is to be removed, we must of course make two incisions, one on each side: having done this, divide the integuments from the bone above and below transversely, then scrape off the periosteum, and saw through the bone with the saw called the metacarpal saw. Hold the saw very steady, and make long strokes when using it. If two bones are to be removed, we should proceed as above in general; also remember to divide the integuments, &c. transversely between the two bones, as is done between the tibia and fibula, or between the radius and ulna, in amputations of those parts. As in amputations of the fingers and toes, so in this case, the tourniquet is not required.

White's Surgery, 300.

Amputation *of the* Leg.

If the leg is to be amputated, though the injury is ever so near the ankle, as a long stump is thought more inconvenient than a short one, it is preferred to amputate about four or five fingers' breadth below the tuberosity of the tibia; if it is cut higher, the aponeurotic expansion of the flexor muscle will be hurt; besides, the stump would be too short for an easy support on the wooden leg; and an artery which runs into the thickness of the tibia to be distributed to the marrow, would be unnecessarily wounded.

As the gastrocnemei muscles draw back the skin more strongly than it is drawn elsewhere, it is proper, in order to keep the skin equal after the operation, to cut so that the wound on the calf of the leg is further from the middle of the ham, than the wound in the fore part is from the middle of the patella.

In amputating the upper limb and the breast, a chair is the properest to place the patient on; but for the lower limbs, a table about two feet and a half high is to be preferred.

The tourniquet must be placed three or four inches above the patella, and so as to press more particularly on the artery in the ham. The slips of plaster directed in the amputation for guiding the knife, must be placed four or five fingers' breadth below the patella; and the operator must stand on the inside of the leg, because the fibula will then be sawed at the same time with the tibia: but if, on the contrary, the saw is laid on the inside of the leg, the tibia will be first divided, and the fibula, being too weak to bear the force of the saw, will be apt to splinter, so not only render the operation tedious, but also the cure more difficult afterwards.

Though the practice of making a short stump hath so generally obtained, Mr. White prefers amputating betwixt the calf of the leg and the ankle, in cases that will admit of saving so much of the leg; he gives instances of his practice this way, and assures us, that the motion of the long stump is more easy than that of the short one.

After the separation of the limb, the dressing and general treatment will be the same as in amputation of the arm. See Medical Obs. and Inq. iv. 168. Bell's Surgery, vi. 374. White's Surgery, 204.

Amputation *of the* Penis.

If a cancer, or a sphacelus, in consequence of a scirrhous gland, should appear in the penis, then every part to which the contagion had reached is speedily to be extirpated, lest the taint be diffused further.

Some cut off the penis with a knife; see Le Dran's

Operations: but the following method is to be preferred.

Pass a small tube of lead, or of silver, into the urethra, a little further than the affected part; then with a silken thread make a ligature upon the sound part near to that which is diseased; make this ligature tighter every day until the latter falls off. See Bell's Surgery, i. 538.

Amputation *of the* Thigh.

In this operation on the lower part of the thigh, the first incision is to be made a little more than two inches above the patella.

The tourniquet must press upon the crural artery, on the upper and inner part of the thigh, where the head of the vastus internus muscle and the triceps meet.

In amputating above the knee, we are advised to cut down to the bone at once; but as there is a great thickness of the skin and flesh, it is almost impossible. However, in cutting, we should remember that the stump should be of a conical form. In this case it is of no consequence on which side of the bone the operator stands. It frequently happens in amputating the thigh, that the flexor muscles contract more than the extensors; so that the patient's knee should be kept slightly bent while cutting through the latter, and extended during the incision of the former. This will produce a more convenient stump, without adding to the patient's pain. Perhaps it may be still better, according to Richter, to divide the extensors higher, and the flexors lower; or, which amounts to the same, in the relative positions just mentioned. Mr. Allanson recommends scooping out the flesh in the form of a truncated cone, but this greatly increases the pain without any adequate advantage; nor, according to Richter and Mursinna, is it easily or usefully practised. However the operation is performed, the skin that is preserved is brought together as nearly as its size will permit, and, as much as possible, joined by the adhesive inflammation.

When *amputation* is performed on this limb, the muscles, not being attached to the body of the bone, frequently retract; this never happens in the arm, and may be remedied by placing the patient on his side, and keeping the muscles in as relaxed a state as possible. The method of amputating with flaps was first invented to remedy this inconvenience, which hath occasioned the contrivance of a new mode of amputating, by Mr. Allanson, of Liverpool. He first makes an incision through the skin, then dissects a sufficient quantity of it from the muscles to cover the stump; divides the muscles down to the bone, where he finishes the dissection, and then saws through the bone at the same place, in the usual manner. He afterwards takes up the vessels with the tenaculum, brings the skin over the stump, leaves the ligature hanging out at the external orifice, and applies no kind of dressings except something to cover it superficially.

After the operation, the roller that is to keep down the skin should go round the waist, and descend down the thigh to the stump: thus abscesses are prevented, which otherwise would form themselves on the upper part of the thigh. It has been recommended in *amputations* of this limb, to dissect away the cellular substance, as this has been thought to produce all the suppuration and discharge: it hath been tried, indeed, and with seeming success: but others omit this part of the operation, and think the cellular membrane is a convenient cushion for the stump to rest on.

Another circumstance deserving attention is, after the operation, to press the crural artery the whole length of the thigh by a long bolster.

The operation has been sometimes performed with a double flap; that is, a portion of the skin is preserved from above and below. This mode of performing it has not yet become general; yet our experience hitherto is in its favour. One inconvenience attending the operation with one or two flaps is, the hæmorrhage sometimes ensuing, which has induced Mr. Halloran to propose our not attempting the union till the suppuration has come on, both in the stump and the internal surface of the flap. They are then applied to each other with more advantage.

If the operation is made on the upper part of the thigh, the danger is very great; the discharge from the wound when it digests being so copious, that the patient's strength soon sinks, and death is a speedy consequence. If *amputation* in the upper part of the thigh be necessary, it would be best performed in the articulation; for then the crural artery would be better secured, and many other inconveniences avoided which attend in the usual method; but in the most desperate circumstances, taking off the thigh at the articulation is not yet encouraged. Bell's Surgery, vol. vi. 338. White's Surgery, 201.

This Herculean operation has been practised with, at least, *promise* of success, by Mr. Kerr of Northampton, (Duncan's Med. Com. vi. 337); yet we suspect the danger must be very imminent to lead to a similar trial.

The boldness of modern surgeons has, however, gone one step further. Mr. Park has proposed, in cases where an accident, or a swelling of the joint of the knee or the elbow, rendered amputation necessary, to saw through the bones near the joint, on either side of the articulation, and unite the disjointed ends by a callus, as a stiff joint was preferable to the loss of a limb. He admits, that it may be of less use in scrofulous swellings than in cases of fracture near the joint. We have, however, no instance of a follower of this intrepid example; though we think the attempt much more justifiable than some others which we shall have occasion to record.

A German surgeon, M. Wrabetz, proposes amputating without the knife. A cord is to be macerated in a strong vesicating ointment; and, after retracting the skin, to be tightened round the limb. The crevice which it makes is to be filled with an astringent and antiseptic powder, and the patient supported with tonics and cordials. The cord must be kept constantly tight till it reaches the bone, which we suppose must be then sawn off, though this is not mentioned.

See Sharpe's Operation of Surgery, ch. xxxvii. Sharpe's Critical Enquiry, ch. vii. Heister's Surgery. Le Dran's Operations. Bilguer's Dissertation on Amputations. A Complete Treatise on the Gangrene and Sphacelus, with a new Method of Amputation, by Mr. O'Halloran. Allanson's Practical Observations on Amputation. Mynors's Practical Thoughts on Amputations, &c. London Med. Journal, vol. i. 231. Bell's Surgery, vol. vi. 301. White's Surgery, 190.

AMPUTATU'RA, (from *amputo, to cut off*). A wound from the entire separation of a part from the body.

AMU'CTICA, (from αμυσσω, *to vellicate*). Remedies that by vellicating and stimulating the bronchiæ raise a cough, and so contribute to the discharge of what is in the lungs. They are given to relieve disorders of the voice, and the aspera arteria; and are also called *arteriaca*.

AMULE'TA, (from αμυω, *a band*, because it was tied round the person's neck; or from αμυνω, *to defend*). AMULETS.

Amulets and charms are so nearly allied, as to be considered in the same light. In each, superstition, the common disease of weak minds, is indulged.

Sometimes words, επιδεσμοι, or *carmina*, were written and carried by the patient on some part of his body, or in some of his garments. These were called AMULETA, from *amovere, to remove*, and PRO'EBIA, or PRO'EBRA, from *prohibere, to defend*. The Greeks call them APOTROPŒ'A, PHYLACTE'RIA, AMYTE'RIA, ALEXITE'RIA, and ALEXIPHA'RMACA, because they imagined that these remedies could defend them, not only against such diseases as proceed from natural causes, but also against the power of other enchantments.

These *amulets* were formed of any materials which fancy suggested.

Serenus Samonicus invented the ABRACADA'BRA for the cure of the fever called hemitritæa. The Jews attributed the same virtue to the word ARA'CALAN. The Arabians were anxious to see if the stars favoured them, and call it TALI'SMA, i. e. IMAGE.

Amulets tied about patients for the removal of disease were called PERIA'PTA, and PERIA'MMATA, from περι, *circum*, and απτω, *necto*. Blanchard says that they are medicines which, being tied about the neck, are believed to expel diseases, especially the plague. The royal touch was ridiculously said to cure the king's evil.

Charms seem to have imposed a belief, that those who were exercising them were particularly favoured by some superior being. This gave the world a venerable idea of the practitioner; and as the mind affects the body, the persuasion of the patient might sometimes contribute to a cure.

Yet it has happened that this supposed amulet may have some virtue. We mean not to allude to quills of quicksilver and arsenic worn about the neck, the eel-skin tied about the legs to prevent cramp, or the stones worn against hæmorrhages; but the essence vessels hung round the neck, the καρδιοφυλακα of the Greeks, if filled with any very volatile aroma, may have been useful in guarding against contagion. Even the camphor, if not too closely confined, may have some effect; and we remember being told by a former recorder of London, that he found it imparted some warmth. The aromatic vinegar and the attar of roses diffuse a very sensible perfume, however closely shut up; and M. Morveau's antipestilential box, which contain ingredients that, on the access of the atmosphere, act on each other, producing a copious exhalation of pure air, though as an external appendage it may rank with amulets, must have a certain and powerful effect.

AMU'RCA (from αμεργω, *to press out*). AMORGE and BYSMA are probably the same. It is the sediment from olive oil, found after the newly pressed oil hath deposited its gross contents.

A'MYCHE, (from αμυσσω, *to scratch*). A superficial exulceration, or scarification of the skin.

AMY'CTICA. STIMULATING, VELLICATING. See AMUCTICA.

AMY'GDALÆ, (αμυγδαλεη, *almond,*) ALMONDS. The fruit of the AMYGDALUS, ALMOND TREE. *A communis* and *nana* Lin. Sp. Pl. 677.

AMY'GDALÆ AMA'RÆ. BITTER ALMONDS.

AMY'GDALÆ DU'LCES. SWEET ALMONDS.

The leaves and flowers of the almond tree resemble those of the peach tree, a species of the same genus, *a. persica* Lin. Sp. Pl. 676. It is a native of Africa, and flowers earlier in the spring than most other trees, though its fruit is not quite ripe until autumn.

Of the fruit we have two sorts, the sweet and the bitter; which are varieties, only changing these qualities with the soil. It is the *amygdalus communis* Lin. Sp. Pl. 677. The almonds from Barbary, where the tree is indigenous, are bitter, while those cultivated in Europe are sweet.

The bitter matter resides in the mucilage, and dissolves with a little heat in water and in spirit of wine: a part arises with both in distillation; but spirit seems to extract, and water to elevate, the greatest quantity. A simple water may be distilled from them after the oil is pressed out, possessing the same qualities as that drawn from cherry stones. It is not, however, at present employed. The flavour, when required, is obtained from peach or laurel leaves.

The distilled water of bitter almonds is strongly impregnated with the noxious matter which gives them their bitterness and flavour. It seems by some late experiments to consist of the *Prussic acid*, and may prove a poison, as is the case with the common laurel, to which it appears extremely analogous. Four or five bitter almonds are commended as anthelmintic, taken in a morning fasting: they are said to be diuretic, but occasion sickness and vomiting; to dogs, foxes, fowls, storks, horses, especially while very young, to pigeons, cats, and some other animals, they are poisonous.

The sweet kind should be chosen free from rancidity; and, if in the shells, from all appearance of insects, a species of which penetrates them, and destroys the kernel. They digest with difficulty, and afford very little nourishment, unless extremely well comminuted. As a medicine they obtund acrimony in the primæ viæ, are softening, and relaxant. They are a good intermedium for uniting with water several substances, which of themselves are not miscible with it: camphor, and many resinous substances, triturated with almonds, easily dissolve into a milky liquor. For this purpose the almonds must be freed from their skin, but it should not be by infusing them in hot water, as this separates the oil. A longer infusion in cold water is preferable. Six or eight sweet almonds peeled sometimes cure the heart-burn; and one or two almonds at most will mix five or six grains of camphor or resin.

Sweet almonds are usually blanched, i. e. freed from their skin, by steeping them in hot water until it easily slips off: then triturated with water, their oil unites therewith, by the mutation of their mucilaginous and farinaceous matter, into an emulsion or milky liquor.

The pure oil of almonds, triturated with a thick mucilage of gum arabic, forms a more permanent emulsion than the milk of almonds of the dispensatories; from which the oil does not separate either on standing two or three days, or on the addition of a moderate quantity of acid. One part of gum, made into mucilage, is enough for four parts of oil. The white of egg, or syrup, with a little spirituous water, will form an emulsion, but less perfect than the gum.

℞. Gum arab. pulv. ʒ ss. aq. distillatæ ʒ i. f. mucilago per triturum, et adde ol. *amygd.* ʒ i. ss. sacch. alb. ʒ ss. postea paulatim adde aq. distillatæ ℔ i. f. emuls. If to this emulsion half an ounce of gum arabic be added, it is called ARABIC EMULSION; if half an ounce of chalk, it is named the ABSORBENT EMULSION; if half a drachm of camphor, it is called the CAMPHORATED EMULSION.

The emulsions partake of the quality of the oil, and are prescribed with the same intentions, particularly relieving heat of urine and the strangury, whether from spontaneous acrimony, or irritating food or medicines.

These emulsions, on standing, throw up a cream, and the whey beneath turns sour. Acids joined to them form curd and whey, as in milk.

The milky solution of almonds in water, though containing oil, may be given in acute and inflammatory fevers, without danger of the ill effects which the oil by itself may produce, since emulsions do not become rancid, or acrid by heat; and in most cases the acescency is rather an advantage in the emulsion.

The expressed oil of almonds is obtained from the sweet or the bitter sorts equally. The oil of bitter almonds was called *metopium*, because the Egyptians used to make an oil in which bitter almonds and galbanum were ingredients; and they named their compound, oil of metopium, from the plant that affords the galbanum: others give the same name to the simple expressed oil of this fruit.

By bruising and pressing the almonds, they afford nearly one half of their weight in oil: by boiling them in water, part of their oil separates, and is collected on the surface; but that obtained by pressure, without heat, is the most agreeable.

As a medicine, this oil is useful *externally;* like that of the olives and linseed, it is used to soften and relax the skin; *internally*, to sheathe acrimonious bile, or other fluids, to relieve a tickling cough, hoarseness, costiveness, or nephritic pains. Oils are given in the form of emulsion, the proportion of two ounces to half a pint of water, and sweetened with half an ounce of some agreeable syrup. Draughts of manna and oil of almonds, at the same time using the common emulsion as the usual drink, are of service in the gravel, and in dysuries. The tenesmus, to which some pregnant women are subject, and which endangers abortion, is most speedily relieved by clysters of it, with a few drops of laudanum. Thebesius thought that he found good effects from almonds in hydrophobia, and Bergius speaks of the emulsion of bitter almonds curing obstinate intermittents after the bark had proved unsuccessful.

AMY'GDALÆ, and AMYGDALIA. See TONSILLÆ.

AMYGDALA'TUM. The emulsion of almonds.

AMYGDALOI'DES, (from *αμυγδαλον, almond*, and *ειδος, forma,*) also COMETES. Thus Oribasius calls the species of tithymalus, which is named *tithymalus masticus*.

It is a name for the white species of the gum benzoin, and of a stone resembling the kernel of an almond in figure, which is the petrified spine of the echinus marinus, or sea urchin. It is also a name for the *gobius* or *gudgeon*.

AMYGDALO-PE'RSICUM, (from *αμυγδαλον*, and *περσικον, the peach*). The ALMOND PEACH.

AMYGDA'LUS SI'MILIS, GUATIMALE'NSIS. See CACAO.

AMY'LA. Any sort of chemical fæcula.

A'MYLI TROCHI'SCI. See BECHICA.

AMY'LUM. AMY'LEON. AMY'LION. (From *α*, neg. and *μυλη, a mill*, because it is made of corn without a mill, or without grinding). It is the fæcula of wheat, and with us called STARCH; named also *amidum*.

It is the purest farina of the wheat, but deprived of its gluten; and made also from potatoes. It was invented in the isle of Chios, and is valued according to its lightness, newness, and smoothness.

Starch is often very useful as a mild glutinous astringent, and, mixed with milk, an excellent aliment in fluxes and catarrhs; ʒ i. of starch dissolved and boiled in ℥ iij. of water, with a little sugar, forms an elegant jelly, of which a table spoonful may be taken every hour. If dissolved in thin gruel, it is lenient, incrassating, and of service against sharp defluxions, hoarseness, a dry cough, spitting of blood, diarrhœa, dysentery, internal ulcers, heat of urine, gonorrhœa, &c.

In diarrhœas and dysenteries, when the stools are bloody, and the intestines relaxed, the following far excels astringents, or any other kind of clysters:

℞. Gelatin ex. *amylo*. ℥ iv. extract. thebaic gr. iij.

Sp. vini. Gallic. opt. ℥ ß vel. ℥ i. m. enem. pro re nata injiciendum.

In spasmodic affections of the neck of the bladder, and in that distressing sense of weight and uneasiness, when, in gonorrhœa, the prostate gland is affected, the former clyster of starch, with opium, is an useful remedy, omitting the spirit.

A'MYON, (from *α*, priv. and *μυς, a muscle*). A limb so emaciated that the muscles scarcely appear.

AMY'RIS OPOBA'LSAMUM, and its variety. *Balsamea Gileadensis* Wildenow, 334, vol. ii.

AMY'RIS GILEADE'NSIS. See BALSAMUM.

AMY'RIS ELEMI'FERA, Lin. Sp. Pl. Ed. Wildenow, 495. See ELEMI.

AMY'RIS ZEYLO'NICA, (*gum. elemi orientalis,*) Wildenow, 334.

AMY'RIS AMBROS'IACA, (see AMBERGRISE,) Wild. 335. This species yields an odoriferous balsam from its wounded trunk or branches, a dram of which is taken in red wine, it is said, with advantage in the dysentery. The *a. balsamifera* Wilden. is full of aromatic particles, and the berries have the taste of *balsam copaibæ*. It is a tree found in the island of Jamaica.

AMYTHA'ONIS, Empl. Amythaon's plaster.

℞. Gum ammon. cer. flav. gum bdel. ää ʒ viij. tereb. rad. irid. illyr. gum. galb. ää ʒ xx. m.

A'NA, signifies *of each*. Thus take of aloes, frankincense, myrrh, ä or ää (that is, of each) ʒ i.

ANA'BASES, (from *αναβαινω, to ascend*). See ACMASTICOS.

ANAB'ATICA, (from the same,) applied to continual fever, when it increases in malignity. See SYNOCHUS.

ANA'BOLE, (from *αναβαλλω, to cast up*). The discharging any thing by vomit.

ANABROCHI'SMOS, (from *ανα, -sursum*, and *βροχος, a noose*). An operation performed on the hair of the eye-lids, when they are offensive to the eye.

ANABRO'SIS, (from *αναβρωσκω, to devour*). A corrosion of the solid parts by sharp humours, or any medicine. The same as *diabrosis;* it occasions a discharge of blood, and often happens in the lungs.

ANACA'MPSEROS, (from *αναχαμπτω, to bring back;* and *ερως, love*). An herb, supposed to have the power of reconciling lovers or friends if it was but touched. See CRASSULA.

ANACA'RDIOS ANTIDO'TUS THEODORE'TUS. *The Antidote of Anacardium. A divine gift.*

It is a confect made up of many warm ingredients, but without opium.

ANACA'RDIUM, ANACA'RDUS, (from *καρδια, the heart*). A tree in the East Indies, whose fruit resembles the heart of a bird. *Anacardium orientale*, the MALACCA BEAN TREE. *Avicenna germinans* Lin. 891.

It is said that the Indians use the caustic oil of the nuts of this tree to stain their chintz and calicoes, which sets the colours so as not to wash out.

The kernel, like that of the cashew nut, is mild and agreeable to the taste; yields, by expression, an oil like that from almonds, and is equally good as a medicine.

The *anacardium occidentale* Lin. is used only as a dye or stain.

A confect was formerly made of the kernels, called by Messue *confectio sapientium;* and by others, *confectio anacardii.*

ANACATHA'RSIS. EXPECTORATION. (From *ανακαθαιρομαι, to purge upwards*). Under this title the effects of emetics, masticatories, sternutatories, &c. are included.

ANACATHA'RTICA. Medicines producing anacatharsis.

ANACHRE'MPSIS, (from *ανω, upwards*, and *χρεμπτομαι, to hawk*). The hawking up any thing from the lungs.

ANA'CHRON. See ANATRON.

ANA'CLISIS, (from *ανακλινω, to recline*). Hippocrates uses this word to express the reclining posture of the sick. It also means a couch or sick-bed.

ANACLI'SMOS, (from the same). That part of a chair on which the back of a sick person leans.

ANACŒLIA'SMUS, (from *ανα*, and *κοιλια, venter*). A remedy used by Diocles, which seems to have been gentle purging, with a view to relieve the lungs.

ANA-COLUPA. An Indian plant mentioned in the Hortus Malabaricus, whose genus is not determined. Its juice is said to be useful in epilepsies, and to cure the bite of the naja.

ANACOLLE'MA, (from *ανακολαω, to agglutinate*). It is the same as *frontale*, only that it is always made of agglutinants or drying powders. Junker describes an *anacollema frontale* for stopping bleeding of the nose. See CATAPLASMA.

ANACOMI'DE, (from *ανακομιζω, to repair,*) to recover a person after sickness.

ANACTO'RIUM. See GLADIOLUS.

ANACY'CLEI, (from *κυκλοω, to wander about*). Circulatores, mountebanks. See AGYRTÆ.

ANACYRIO'SIS, (from *ανα*, and *κυρος, authority*). Hippocrates, in his treatise on decency, advises physicians to keep up their authority, and the dignity of their profession, which he expresseth by this word.

ANADENDROMA'LACHE, (from *ανα δενδρον, a tree*, and *μαλαχη, the mallow*). See ALTHÆA.

ANADIPLO'SIS, (from *αναδιπλοω, reduplico*). A frequent reduplication of fevers. Blancard.

ANADO'SIS, (from *αναδιδωμι, to distribute*). A distribution of the fluids, and consequently a part of nutrition. See DISTRIBUTIO.

ANADRO'ME, (from *ανω, upwards*, and *δρομω, to run*). Hippocrates uses this word to signify pains from the lower to the upper parts of the body.

ANÆSTHE'SIA, ANAISTHÆ'SIA, (from *α*, non, and *αισθησις, sensio,*) also *anodynia*. INSENSIBILITY, or LOSS OF FEELING BY THE TOUCH. A resolution of the nerves occasioning a loss of feeling; generally a symptom of palsy: the same as *stupor*. It is in the *locales, dysæsthesiæ*, of Cullen.

ANAGALLIS, (from *ανα*, and *γαλα, milk*, because it has the property of coagulating milk,) called also *corchoron, pimpernella, bibinella*, and *æritis*.

The *anagallis* of the Greeks is the *macia* of the Latins. The species used in medicine is the *anagallis arvensis* Lin. Sp. Pl. 211.

The expressed juice, inspissated to an extract, is pungent, saline, and austere, and any other preparation seems useless: it is resolvent and detergent, and has been given in hydrophobia.

ANAGALLIS AQUA'TICA. See BECABUNGA. This is an European plant of the same species, and to be collected before the flowers expand. Its taste is acrid and nauseous, and it has been used in powder, in a dose of twenty grains, three or four times a day, in epilepsy and melancholy. Stoll recommends from ʒ i. to ʒ ij. of the extract, in jaundice. If given in infusion, ʒ ij. of the leaves are added to a pint of water.

ANAGARGALI'CTION, } (*ανα*, and *γαργαριων,*
ANAGARGARI'STON, } *the throat*). See GARGARISMA.

ANAGLY'PHE, (from *αναγλυφω, to engrave*). See CALAMUS SCRIPTORIUS.

ANAGY'RIS, (from *Anagyris*, a city in Attica,) NON FŒTIDA. See CYTISUS ALPINUS.—*Fœtida* Lin. Sp. Pl. 534. The smell is rank, and the taste bitter. It is used as a cathartic and emmenagogue.

ANAISTHÆ'SIA. }
ANAISTHE'SIS. } See ANÆSTHESIA.

ANA'LCES, from *α*, neg and *αλκη, strength*). WEAK, EFFEMINATE. Hippocrates uses this word as an epithet for the Asiatic nations.

ANAL'DES, (from *α*, neg. and *αλδεω, to increase*). NOT INCREASING. Hippocrates applies this word to fruits growing about the river Phasis.

ANALE'NTIA. A species of epilepsy mentioned by Paracelsus. A corruption of the word *analepsia.*

ANALE'PSIA. Johannes Anglicus and Riverius give this name to the species of epilepsy which proceeds from a disorder of the stomach. It is sometimes synonymous with epilepsy in general. See EPILEPSIA.

ANALE'PSIS, (from *αναλαμβανω, to recover* and *regain vigour after sickness*). Hence,

ANALE'PTICA. ANALEPTICS. Such remedies

as exhilarate the spirits, and restore flesh and strength. See CARDI'CA and RESTAURA'NTIA.

Dr. Cullen says, they are medicines suited to restore the force of the body when lost, and are sometimes stimulants; but more commonly nutrients. The term he considers as attended with ambiguity, and thinks that it should be rejected.

Besides the nutritious quality of restoratives, they are supposed to have a fragrant, subtile, oleous principle, which immediately affects the nerves, warms and stimulates the whole system. No such principle, however, exists; at least no such has been discovered.

In diseases, the speediest way to restore strength is to remove the causes of debility; but this is not to be done by medicines, which increase only the vital heat; for in convulsions and fevers the motions are very strong, and yet the natural strength is languid. True strength, however, depends rather upon proper aliments, turned into wholesome blood; the only source of firmness and vigour.

Cordial flowers and herbs, musk, ambergrise, oil of cinnamon made into olea sacchara, chocolate, shell-fish, &c. are the supposed *analeptics;* but they are only such as stimulating nutrients.

ANALGE'SIA, (from α, neg. and ἀλγος, *pain*). INDOLENCE, or absence of pain or grief. A state of ease.

ANALO'GIA, (from ανα, *per, by*, and λογος, *ratio, reason*). ANALOGY. It is the mode of reasoning of things not perfectly known, by comparison with others which are better understood, and drawing conclusions from their similitude. See BOTANICAL ANALOGY.

ANA'LTHES, (from α, neg. and ἀλθω, *to cure*). INCURABLE.

ANA'LTOS, (from α, neg. and ἁλς, *salt*). UNSALTED.

ANA'LYSIS, (from αναλυω, *to resolve*). In chemistry it is the term used for decompounding any mixed body, and reducing it into its constituent parts. The chemists make use of two modes of analysis: 1. by fire; 2. by menstrua. Indeed the modes of decompounding bodies are all founded on the difference of the properties belonging to the various principles of the body to be analysed. Suppose, for instance, a body to be composed of several principles, possessed of different degrees of volatility, the volatile parts will rise in proportion to the degrees of volatility which they possess on the application of heat; and if any are fixed, they will remain in the retort or crucible. This is called ANALYSIS BY FIRE. But when a body is compounded of several substances, one of which, for instance, is soluble only in spirits of wine, a second in water, and a third in æther, these substances may be very easily separated from each other, by submitting successively the compound to the action of these menstrua. This is called the ANALYSIS BY MENSTRUA. See, on this subject, Macquer's Chemical Dictionary; Memoirs of the Royal Academy of Sciences, for the years 1719, 1720, 1721; Elements and Principles of Chemistry, by Lavoisier, Fourcroy, Chaptal, and Thomson.

In anatomy, the dissection of the human body is called ANALYSIS.

ANAMNE'STICA, (from ανα, and μναομαι, *recorder, to remember*). Medicines supposed to improve the memory, or restore it when lost. We need not add, that the power of such medicines is imaginary.

ANAMNE'STICA SIGNA. COMMEMORATIVE SIGNS: signs which discover the preceding state of the body: as demonstrative signs shew the present state; and prognostics shew the future state.

ANA'NAS. The Brasilians call it *yayanna*. The PINE APPLE. The *bromelia ananas* Lin. Sp. Pl. 408; called also *carduus Brasilianus*.

Mons. Le Cour, of Leyden, was the first who raised this fruit in Europe: they were brought from the East Indies to the West, and from thence into Europe. It resembles the cone or fruit of a pine tree, and from thence takes its name; the richness and the flavour of the fruit are well known. It is, however, cold, watery, and indigestible. See ALIMENT.

ANA'NAS, WILD. See KARATAS. *Bromelia karatus* Lin. Sp. Pl. 408.

ANA'NDROI, (from α, non, and ανηρ, *vir*). Hippocrates applies this word to women who have never known men.

ANA'PALIN, (from ανα, and παλιν, *rursus*). On the contrary side; as if nature endeavoured to free herself from some disease, by her exertions on the side opposite to that wherein the affection arose. It is opposed to CATI'XIS, which see.

ANAPHALANTI'ASIS, (from αναφαλαντ⊃, *a bald person*). Baldness of the eye-brows.

ANAPHONE'SIS, (from ανα, and φωνη, *vox*). A species of exercise which consisted in vociferation.

It is supposed to increase the natural heat, improve the appetite and digestion, and to be useful to the phlegmatic and cachectic. Singing is a gentler exercise. See Hieron Mercurialis De Arte Gymnasticâ.

ANA'PHORA, (from αναφερω, *to bring up*, or *upwards*). Hippocrates uses it for thanks due to an obligation. Any discharge from the mouth.

ANAPHO'RICOI, (from the same). Those who spit blood; or, according to Actuarius, those who spit with difficulty.

ANA'PHRA, (from α neg. and αφρος, *froth*). Hippocrates uses it as an epithet for stools that are not frothy.

ANAPHRODI'SIA, (from α, neg. and αφροδισια, *venery,*) called also *agenesia; atechnia*. IMPOTENCE WITH RESPECT TO VENEREAL COMMERCE. In the *locales*, *dysorexiæ*, of Cullen.

This disease arises from a deficiency of semen, or a weakness of the muscular powers necessary to its effectual discharge. In some instances, the semen itself seems defective in its essential qualities. Sauvages has given us five species, which Dr. Cullen thus divides. The *true species* are the paralytic and gonorrhœal; the *spurious species*, where impediments occur to prevent the act, from piles, or some fault in the urethra; *what is called false or fictitious*, supposed to arise from magic. See Sauvages, vol. i. 770.

The cure of this disease depends upon the removal of its separate causes. Sauvages gives us an account of a man being cured by immersing the penis often in the day in a strong decoction of mustard seed. If it is occasioned by weakness or a simple gonorrhœa, such aids are to be called in as are calculated to invigorate the system; tonics and corroborants are to be made use of,

particularly cold bathing, avoiding high seasoned foods and cordial stimulants. No error is more common or more pernicious than indulging highly nourishing food in such instances; for there is no more frequent cause of debility than over distended vessels. If from the piles, or faults in the urethra, these complaints must be combated by the appropriate remedies.

ANAPHROME'LI, (from α neg. αφρος, *froth*, and μελι, *honey*). It is honey so despumated that it will not froth.

ANAPLA'SIS, (from αναπλασσω, *to restore to the original form*). Hippocrates uses this word for the accurately replacing and restoring a fractured bone, and for a restoration of flesh. It is synonymous with DIAPLASIS.

ANAPLERO'SIS, and ANEPLERO'TICS, (from αναπληροω, *to fill up*). The restitution of any wasted part. INCARNA'NTIA, *incarnatives*, are called *anaplerótica*. The same with PROSTHESIS.

ANAPLE'USIS, (from αναπλεω, *to wash out*). When faulty humours rot the bone so that it falls out of its joint, as happens sometimes in the jaw, this term is employed by Hippocrates. In Vogel it implies the scaling or separation of the carious parts of a bone.

ANAPNEU'SIS, (from αναπνεω, *to respire*). RESPIRATION, PERSPIRATION. Aretæus uses it to express a truce from pain.

ANAPODOPHYL'LON, (of *anas*, *a duck*, πους, *a foot*, and φυλλον, *a leaf*). DUCK'S FOOT; so called from its resemblance; or *pomum Maiale*, MAY APPLE: called also *podophyllum peltatum*, *aconiti folia*, Lin. Sp. Pl. 723. The Americans call it BLACK SNAKE ROOT. It bears the hardest winter in an open ground, and is increased by parting the root in August.

ANAPSY'XIS, (from αναψυχω, *to make cold*). REFRIGERATION, i. e. cooling.

ANARAPHE, (from ανα, and ραφη, *suture*). It is the suture and retraction of the upper eye-lid, when relaxed, (*sutura blepharica suspensis*, *collectio et breviatio superioris palpebræ*). It is employed not only in relaxation of the palpebra, but where the hairs are thick and long.

ANARISITE'SIS, (from α, neg. and αριστον, *a dinner*). Hippocrates uses this word for the substraction of a dinner from a patient.

ANARRHI'NUM, (from ανα, and ρις, *a nose*). See ANTIRRHINUM.

ANARRHŒ'A, (from ανα, *upward*, and ρεω, *to flow*) A flux of humours from below upwards.

ANA'RTHROI, (from α, neg. and αρθρον, *a joint*,) fatness so considerable as to obliterate the joints.

A'NAS. The DUCK. See A'NSER.

ANASA'RCA, (from ανα, *through*, and σαρξ, *flesh*,) called also *catasarca*, *episarcidiam*, *intercus*. *Pituita alba*, *hyposarca*, *hyposarcidies*, *veternum hyderos*, *Galeni phlegmatia*, *phlegmatitia*. A species of DROPSY from a serous humour between the skin and flesh; or rather a general accumulation of lymph in the cellular system. It occurs in the class *cachexiæ* and order *intumescentiæ* of Cullen, and he enumerates the following species, viz.

1. ANASA'RCA SEROSA, from serum, retained on account of the suppression of some accustomary evacuations; or from an increase of serum from too much water thrown into the habit, from too large a proportion of neutral salts.

2. ANASA'RCA OPPILATA, when the veins are considerably pressed, which happens to many pregnant women, &c.

3. ANASA'RCA EXANTHEMATICA, after eruptive disorders, and particularly after the erysipelas.

4. ANASA'RCA ANÆMIA, when the blood is rendered extremely poor from considerable losses of it.

5. ANASA'RCA DEBILIUM, in weak constitutions.

An œdema, in any part, hath the same appearance as the *anasarca*, but it is partial; a leucophlegmatia is general; and an *anasarca* is the worst state of the leucophlegmatia.

Its seat is the cellular membrane; if only one limb, or a particular part, hath its cellular membrane filled, it is called an ŒDEMATOUS SWELLING.

It is known by the sight and the touch; the skin of the part is considerably swelled, its colour is paler, and upon pressing it deeply with a finger the impression remains some time: if the belly is affected, the navel appears to be sunk in, and in a morning the eye-lids, or the whole face, appear fuller than in the latter part of the day.

The occasional causes are, scirrhous glands, cachexy, suppression of periodical evacuations, and every cause that will impoverish the blood and debilitate the system. The more immediate causes are, a defect of red globules in the blood, an increased action of the exhalant arteries, or a want of power in the absorbent vessels into the cellular membrane.

Persons recovering from lingering diseases are very subject to this complaint, particularly if they replenish their weak vessels too fast by full diet. Exposure to cold and damp air, particularly in the night, from the check it gives to the natural discharge by the skin, late hours, too tight ligatures on the legs, scirrhosities and obstructions in the liver or other viscera, dispose to and produce either general or partial anasarca. For the cure of this complaint see DROPSY.

Scarifications with a knife are much commended when the legs and thighs are turgid with extravasated serum; and, indeed, the water is speedily discharged this way; but the lips of the wound will close in two days, so as to admit of no discharge; and from a defect of heat in the constitution, the part is apt to mortify. To obviate these difficulties, Dr. Fothergill advises this operation to be performed with the common scarificator used in cupping, and the instrument to be placed so as to make the wounds transversely: if the skin is thick, the lancet may be so set as to make deeper, and consequently wider, incisions: thus a large quantity of water will often drain from the legs or thighs without risk of inflammation, or deterring the patient from a repetition, if necessary. The punctures must be made in the most depending part of the leg; and their number and repetition depend on the circumstances of each individual case. The application of glasses, either before or after scarifying, is unnecessary; but the instrument must be gently pressed upon the skin, until a surface is formed sufficiently flat to admit the lancets in the scarificator to act equally. In all cases where the skin is so stretched as to threaten inflammation, rupture, or a gangrene, and when the breath is greatly impeded, these openings should be made without delay. Blisters are often employed in the same circumstances instead of scarifications, and are equally useful. In some respects

they are of superior utility, as the discharge can be continued for a longer period, and the increased surface admits of the evacuation of a larger quantity of fluid. An oblong blister may be applied just above the inner ancle, and continued till a thick white or purulent discharge is produced. After this period but little water appears, and the sore should be healed. If necessary to be longer continued, blisters may be employed on the outside; and, when these have acted sufficiently, we may return to the former surface, which will be now healed. Apprehensions have been entertained of gangrene following the application of blisters in this way. No such inconvenience has, however, occurred to us in a long practice; and should a little black spot appear, a warm antiseptic fomentation, and sprinkling the spot with the powder of myrrh or of oak bark, has always separated it. We must add, that not only in this, but every species of dropsy attempted to be cured by internal means, however they may be relieved by different evacuations, unless the urinary organs continue their evacuating power, the cure will never be lasting. See Lond. Med. Obs. and Inq. vol. iv. p. 120, 122. Dr. Leake's Medical Instructions, edit. v. Cullen's First Lines, vol. iv. edit. iv. Le Dran's Operations, edit. ii. p. 113—116. The London Practice of Physic, edit. v. Bell's Surgery, v. 499. Wallis's Sydenham on the Dropsy.

ANASPA'SIS, (from ἀνα, and σπαω, *to draw*). A contraction of the stomach. Hippocrates.

ANA'SSUTOS, (from ἀνω, *upwards*, and συω, *to move*). Hippocrates, when speaking of the suffocation observed in hysteric fits, and the air rushing out with violence upwards, employs this epithet.

ANASTA'LTICA, (from ἀναστελλω, *to contract*). See ASTRINGE'NTIA.

ANA'STASIS, (from ἀναστημι, *to cause to rise*). A rising up to go to stool; also a migration of humours, and a rising up or recovery from sickness. Hippocrates.

ANASTOICHEIO'SIS, (from ἀνα, and στοιχειον, *a principle* or *element*). A resolution of a body into the elements of which it was composed: a colliquation or dissolution of the solids or fluids of the body.

ANASTOMO'SIS, (from ἀναστομοω, or ἀνα, *per*, and στομα, *a mouth*; also *axanastomósis*, *inosculátio*). Anatomists use the word to express the inosculation of the arteries and veins, or their running into one another. The menses, discharged, are said to be discharged by *anastomosis*, i. e. by the opening the mouths of the vessels into the uterus.

If the blood transudes through the sides of the vessels, the discharge is said to be *per diapedesin*, transudation.

If the vessels are corroded by acrid humours, the discharge is *per diabrosis*, erosion.

ANASTOMO'TICA, (from the same). Medicines suited to open the mouths of the extreme blood vessels; sometimes of the same import with *aperientia*.

ANAT. The abbreviation of *Anatómica*.

ANA'TES, (from *nates*, *the buttocks*). A disease of the anus.

ANA'THRON. A salt which vegetates on rocks in the form of white stony moss. It is the FOSSIL ALKALI.

ANATHYMI'ASIS, (from θυμιαω, *to fumigate*). See EVAPORATIO.

ANA'TICA PROPO'RTIO, (from *ana*, *equal*). EQUAL PROPORTION.

ANATO'MIA, ἀνατομη, (from ἀνα, *through*, and τεμνω, *to cut*, or from ἀνατεμνω, *to dissect*).

Anatomy is the art of dissecting the human body in order to demonstrate the shape, structure, connexion, and situation of the parts; this, though it does not teach the remedies of a disease, leads us to understand the situation of the diseased part, and the influence of the disease on the functions. In short, whatever perfection the art of healing might have arisen to by the aid of practical experiments and observation, it cannot be denied that its greatest lights were received from *anatomy* and physiology. To know the peculiar structure of each part, its use, what functions it performs, what connexion it hath with other parts, and influence on them, whether near or remote, are advantages too obvious to be denied.

The sympathy of the nerves leads us to distinguish many diseases, the seat of which is in one part of the body, whilst a very distant one is the part complained of. The intercostal branch, and the eighth pair of nerves, run almost all over the body.

Hippocrates, though he only once had the opportunity of viewing a human skeleton, yet used every method in his power to inform himself in this branch of his art, and hath left behind a tolerably good description of the human bones.

After Hippocrates, succeeded Alcmæon of Crotona, Aristotle, Herophilus, Erasistratus, Aretæus, Praxagoras, Galen, Oribasius, Nemesius, Mundinus, Alexander Achilinus, Guido de Cauliaco, Jacobus Berengarius Carpensis, Nicolaus Massa, Andreas Vesalius, Jacobus Sylvius, Michaelis Servetus, Realdus Columbus, Ambrosius Paræus, Bartholomæus Eustachius, Volcherus Coiter, Andreas Cæsalpinus, Hieronymus Fabricius ab Aquapendente, William Harvey, Theophilus Bonetus, William Cooper, James Douglas, Clopton Havers, Marcellus Malpighius, Nathaniel Highmore, Anthony Nuck, Pecquet, Monro, sen. Morgagni, Needham, Nicholls, Ruysch, Steno, Winslow, Cheselden, the two Hunters, the second Monro, and many others, who, as physicians, surgeons, or both, did honour to their profession.

The first anatomical publication in the English language was, The Englishman's Treasure, or the true Anatomy of Man's Body, by Thomas Vicary, Surgeon in London. It was printed and reprinted three or four times between the years 1548 and 1633.

It is the advice of the greatest anatomists, that authors on this subject should not be read before an acquaintance with the parts is, in some degree, obtained by seeing bodies dissected; previous to dissection, books rather retard than facilitate the progress. When, by seeing all the parts demonstrated and their uses explained, the student hath a clear idea of them, reading will be necessary, both to fix the impression on the mind, and to inform him of different opinions and disputed points, which he will now be in some degree able to appreciate and determine.

Those whose circumstances do not favour their attendance on dissection, may acquire a good general knowledge of the *anatomy* of a human body from Cheselden's work, which is still an excellent introduction; and Bell's Anatomy, in three volumes octavo. Winslow's Anatomy seems best calculated for the attention of those who have already been familiar with dissections, and the demonstrations given by able ana-

tomists; but one of the most useful works for students is a System of Anatomy and Physiology, published at Edinburgh, 1791.

The Anatomical Tables of Albinus, Eustachius, Jenty, and Cooper, should be attended to. Bell's plates of the bones and muscles are indifferently executed: those of the vessels and nerves in a superior manner.

Several parts of the human body, particularly the internal, are excellently delineated in Haller's Icones; and the brain very minutely and elegantly engraved in Viq. d'Azyr's works. The plates of the lymphatics in Hewson's little tract, and of the lacteals in Mr. Sheldon's work, are particularly correct, and many plates of the latter exquisitely finished. The gravid uterus has been illustrated with some admirable plates from Dr. Hunter and Dr. Denman; and the parts concerned in the disease of hernia illustrated in some very distinct masterly engravings by Mr. A. Cooper. Mr. Cheselden's Anatomy of the Bones is the most correct work in osteology, and Albinus' in myology. Eustachius' Tables contain chiefly these subjects, but some of the internal parts are added, and sufficiently explained by Albinus; for the copper-plates of Eustachius were discovered without his own explanations. The gradual development of the parts of the human body, from the period when they can be first discovered, is delineated with equal delicacy and elegance by Hunter and Soemering.

ANATOMY, COMPARATIVE. This subject has of late only obtained its share of attention; and the little application that it admits of in the practice of medicine, prevents us from enlarging on it. Where the parts of animals illustrate the functions of the human economy, we shall describe them in their places. Those who wish to pursue the subject will not yet find very ample assistance. The *first* Dr. Monro (for he confessedly merits this epithet in every view) left a little tract on *comparative anatomy*, which, in the limited circle to which he confined himself, is very satisfactory. In the beginning of the last century Blasius published his Anatome Animalium; Mr. Collins' two folio volumes on this subject, with numerous plates by Faithorn: the descriptive part is, however, vague and imperfect; the plates are clear and distinct. At this time M. Cuvier is preparing a large, and what will be a most valuable, work on *comparative anatomy*, with numerous very elegant plates. He has permitted one of his pupils to publish his Lectures, of which two octavo volumes only have appeared, and these have been translated into English. Two other volumes were announced as in the press long since; but they have not yet been published. Dr. Harwood, of Cambridge, published some years since a small part of a magnificent work on *comparative anatomy*. It comprehends chiefly the organs of the throat, including, if we recollect rightly, the larynx; and Kircher, in his Musurgia, has delineated this organ in all the variety of birds. The detached papers on the same subject, in the Philosophical Transactions, and the Memoirs of the French Academy, we cannot enumerate. A part of the latter may be found in Buffon's Natural History; and many facts of importance in a French continuation of Geoffroy's work on the Materia Medica, by Nobleville, containing the animal kingdom. In the anatomy of insects no modern author can rival Reaumur in attention and ingenuity, or Swammerdam in the patient industry and minute dexterity displayed in the Biblia Naturæ. We must add, that the anatomy of fish has not been so carefully and accurately described as by the elder of the present Monros. The anatomy of the cow has been described by Vitet, and that of the horse in numerous modern veterinary publications.

ANATOMY, MORBID. Dissections are of the utmost consequence, in connecting the morbid changes with the symptoms that have preceded. Unfortunately, we can more often trace the effects of disease than its cause; and to add to the difficulty of drawing from dissections any useful consequences, in a very few instances only have we received an accurate account of the previous symptoms. Morgagni's work, De Sedibus et Causis Morborum, is a most ample and valuable collection of dissections; but, unfortunately, the symptoms of the disease are often imperfectly detailed; and the cases taken from the communications of his friend, Valsalva, are much less satisfactory than his own: this work has been translated by Dr. Alexander; and we have received a valuable abstract of the first part from Dr. Hamilton of Edinburgh. Bonetus, an indefatigable collector, preceded him in this path; and his Sepulcretum Anatomicum, amidst many vague and useless narratives, contains facts of value and importance. A selection from this almost forgotten author would still be valuable. The collection of Lieutaud, viz. Historia Anatomico Medica, would be more useful, had the previous symptoms been more carefully detailed. At present, many of the facts are numerous and important. The first volumes of the collection of Ruysch's works, contain many singular effects of disease, with excellent plates; and Haller's little volume of Pathology is curious in the same view. Dr. Baillie's late fasciculi of *morbid anatomy* are very important and valuable, as they are illustrated with plates, executed with equal accuracy and elegance: and the medical collection, in our own language, contain many well detailed cases, with the dissections. These volumes are now become so numerous, that a descriptive index to the whole number would be valuable.

Anatomy is sometimes used in the sense of analysis, as we find in *anatomia spagyrica:* sometimes figuratively for an exact search and examination.

ANA'TON. See ANATRON.

ANATRE'SIS, (from ανα, and τιτραω, *to perforate*). Galen uses this word to express trepanning.

ANA'TRIPSIS, (from ανα, and τριβω, *I wear*). Friction: sometimes called *tripsis*.

ANA'TRIS. See ARGENTUM VIVUM.

ANA'TRON, NATRON, (Arab). A lake of Egypt, where it was produced. The MINERAL FIXED ALKALI. See ALKALI.

On the Peak of Teneriffe the inhabitants call it SALITRON, which is their name for salt petre also.

Anatron is a name of the spume or gall of glass, which bubbles on the surface while in the furnace; of the *terra Saracenica*, of which are three kinds, the red, black, and azure; and of a white stony excrescence, found on rocks somewhat in the form of moss.

ANA'TROPE, (from ανατρεπω, *to subvert*). A subversion or relaxation of the stomach, with loss of appetite and nausea. Vogel defines it, a want of appetite with nausea.

ANA'TUM. See Ovorum testa.

ANAU'DIA. } See Catalepsis.
ANAU'DOS. }

(From *α*, neg. and *αυδη*, *speech*). Galen confines it to one who hath lost the use of speech, but retains his voice: aphonia signifies the loss of voice.

ANAVINGA. The genus to which this plant belongs was established by Wildenow, under the name *cascaria*, Wild. v. ii. Sp. Pl. 629. It is the *a. ovata* of Reed, and La Marck; employed as a sudorific.

ANA'XYRIS, (from *αναξυρις*, *the sole of a shoe*,) as the herb so called has its leaf shaped in that form. See Lapathum vulgare.

A'NBAR. See Ambra.

A'NCEPS, (from *am*, *on both sides*, and *caput*, *the head*). It implies hesitation respecting the nature of a disease, or the effects of a medicine.

A'NCHA, ANKA. An Arabic word, to press upon; as the thigh, which is the support of the body. See Femur.

A'NCHE, OS. See Femoris, os.

A'NCHILOPS, or A'NCHYLOPS, (from *αγχι*, *near*, and *ωψ*, *the eye*). See Ægylops.

ANCHO'AS. The Mexican name for the male ginger.

ANCHORA'LIS, PROCE'SSUS, (from *αγκυρα*, *an anchor*). See Processus coracoides.

ANCHU'SA, ALCANNA. Alkanet root. *Anchusa officinalis* Lin. Sp. Pl. 191; a mucilaginous plant of weak powers.

Anchu'sa tinctoria, Lin. Sp. Pl. 192. The roots are of a deep purplish colour outwardly; and they give out a deep red colour to oil, wax, unctuous substances, spirit of wine, and spirit of turpentine. $\frac{1}{10}$th part of the bark of this root colours $\frac{19}{20}$ths of any of the above matters; by a gentle heat they most perfectly extract its colour. It is now only used for colouring oils, ointments, and plasters; formerly it was considered to possess astringent powers, and recommended in many disorders.

A'NCHYLE. See Anchylosis. A contraction of a joint; or the back part of the knee.

ANCHYLOMERI'SMA. In Sagar's Nosology it signifies a concretion or growing together of the soft parts.

ANCHYLO'SIS, (from *αγκυλος*, *crooked*). A stiff joint, a species of which is called *orthocolon*. It is a species of *contractura* in Cullen's Nosology. When the bones are immoveable, and the joint in a bent position, it is called *ancyle*: but if the limb be straight, and cannot be bent, *orthocolon*. Petit divides this case into the true and false; in the true the bones are united; in the false, from the contraction of the tendons, the limb is rendered immovable, without the joint being injured.

The bones are covered at their ends, where they form joints, with cartilages, to facilitate their motion, and to prevent any further production of bone; and if these cartilages should be eroded, a bony excrescence will follow, and produce this disorder: it is sometimes, however, the cure of worse misfortunes.

The general causes are, a caries, abscesses in the joints, ossification of the ligaments, scrofula, and rickets, contraction of the tendons.

When the bones are united, the cure is impossible; and, whatever else may be the cause, very uncertain, on account of the difficulty of reaching the seat of the disease; often from the difficulty of knowing the part of the joint principally affected.

The most simple case of this kind is that from a long confinement of the limb to one position; an inflammatory affection of the ligaments, from external injuries, is generally difficult; rheumatic and arthritic matter falling on the joint hardly ever to be removed; but the worst case is that from a white swelling, a scrofulous disease.

If the cause is a rigidity of the tendons, emollient topics are the proper means of relief. Dr. Lobb, from observing the glovers soften hard leather with a mixture of the white of egg and water, proposed it in some instances of this kind, it is said, with the best success.

Others commend mucilaginous oils, of which the neat's foot oil is the best.

If an inflammatory state of the ligaments is the cause, astringent and stimulant applications, and not emollients, are the best. Blisters, the most powerful remedy of this sort, have in many instances succeeded in this case while it was in a recent state; but many blisters must be often applied in succession.

In more inveterate cases a few cures have been effected by the pump. Warm or cold water, falling from a considerable height upon the part, hath, by repetition, been successful. The warm bath hath had the like happy effects by continuing in it an hour or more, and repeating the application for several weeks successively. After the bath or the pumping, emollients may be applied.

When the joints themselves are not diseased, pumping and friction are perhaps the best remedies, gradually exercising the joint by a motion, which extends the muscles without giving great pain. When some mobility is obtained, the extension of the muscles may be preserved by any instrument, which keeps them in the state procured by the action of the remedies. Mr. Bell has recommended an useful machine for preserving this extension in the knee joint; and MM. Koeler and Trampel have described others, in no respect of superior efficacy.

Of the applications, some have preferred the more stimulating and astringent, as the fat of ducks, the brine of herrings with vinegar, vitriol, or alum; arum root often joined with the cicuta; the sabine ointment applied to blistered parts; oil of marjoram, turpentine, &c. Others recommend the more relaxing oils, the althæa ointment, with warm applications of water and vapour. The gum ammoniac with vinegar of squills is supposed to have a good effect, on a principle not easily explained. In general, where there is a deficiency of the synovia of the joint, the stimulating applications are the best; where the fault is in the rigidity of the tendons, the relaxing ones.

In scrofulous cases, all means hitherto used have failed; however, as palliatives, when the tumour bursts into ulcers, the aqua lithargyri composita, and similar preparations, are considerably beneficial.

See Petit on the Diseases of the Bones. Heister's Surgery. Mém. de l'Acad. Royale des Sciences, years 1721 and 1728. Aikin's Obs. on the Preparations of

Lead. Bell's Surgery, vi. 283. White's Surgery, 431. Boyer on the Bones.

ANCHYNO'PES. See LOLIUM.

ANCHYROI'DES, (from *αγκυρα, an anchor*, and *ειδος, forma*). A process of the scapula, not unlike the beak of an anchor. See CORACOIDES.

A'NCI, also GALIANCON (from *γαλη, a weasel*, and *αγκων, an elbow*) ANCUS, WEASEL-ELBOWED. When the head of the humerus is in the arm-pit, such patients are also called *mustelanci*. The disorder which this name expresses, is a luxation of the humerus in the uterus; or in infancy, when an abscess thrusts out the head of the bone. Those who have the foot similarly distorted are called *vari* and *volgi*.

A'NCINAR. See BORAX.

A'NCON, (from *αγκαζομαι, to embrace,*) because the bones meeting, and being there united, fold one into another. See OLECRANON.

ANCONÆ'US, (from *αγκων*, the *elbow,*) MUSCULUS: called also *cubitalis musculus*. It rises by a round short tendon from the outer condyle of the os humeri backwards; it soon grows fleshy, and is inserted into the ulna about three inches below its head, serving to extend the fore-arm. This muscle is reckoned by some as a part of the *brachiæus externus*; from which in dissection it cannot be separated without violence.

A'NCORA. See CALX.

ANCORA'LIS. See CORACOIDES PROCESSUS.

ANCO'SA. See LACCA.

A'NCTER, ANCTERIA'SMOS, (from *αγχω, to blind*). The Greek term for the fibula, or button, by which the lips of wounds are held together, which operation Galen calls *αγκληριασμος, ancteriasmus. Infibulatio*, an operation which consisted in passing a fibula through the prepuce of stage players and buffoons.

ANCU'BITUS. That affection of the eyes in which they seem to contain sand. It is also called *petrificatio*.

ANCUNULENTÆ. Filthy women are so called during the time of menstruation. *Ancunulenta* is composed of *am*, from *αμφι, about*, and *κονιαω, to pollute*. From the Greek *κονις* comes the Latin *cœnum, mud* or *filth*, whence are derived *cunire* and *inquinare, to defile*.

ANCYLOBLE'PHARON, (from *αγκυλος, bent*, and *βλεφαρον, an eye-lid*). A disease of the eye which closes the eye-lids.

Sometimes the eye-lids grow together, and also to the tunica albuginea of the eye, from carelessness when there is an ulcer in these parts. Both these cases were called *ancyloblepharon* by the Greeks.

This disorder derives its origin from glutinous discharges, such as attend most ophthalmies; chiefly in ulcerated eye-lids, and is prevented by warm milk, and absorbent or abstringent powders. If the coalition is a perfect concretion of the palpebræ with each other, or with the eye, there is sometimes a small aperture, which is generally in the great angle of the eye; if there should not be any, a perforation must be made in either angle, a probe with a groove then introduced, and with a fine edged knife let the parts be separated. If the eye-lids adhere to the globe, they must be carefully divided from each other; being more sparing of the eye-lid in the operation than sclerotica. If the adhesion is only to the conjunctiva, blindness is not the consequence; if on the cornea, the sight is generally lost. This may be supposed to happen when the disease has arisen from a cause that affects the whole eye, as a violent burn, hot lime, or any other acrid fluid in the eye. In this case the cornea adheres to the eye-lid, and the ball of the eye feels collapsed; a strong light cannot be perceived through the lid, and the motion of the ball of the eye cannot be distinguished. This kind of adhesion is sometimes called *symblepharon*, and it is often firm and fleshy. If the adhesion is not to the cornea, it may be separated by the knife; but the greatest caution is necessary not to injure the sight. No directions can assist the operator, who must be left to his own judgment and dexterity. If the adhesions are chiefly membranous, a blunt knife *only* will easily separate them, with little danger. Hildanus attempted the separation by passing a silk, with the assistance of a probe, into the eye at the external canthus, and out of it at the internal; the ends were joined, and a small bit of lead suspended, whose weight gradually, and with little inconvenience, separated the agglutinated parts. This method however is chiefly useful in the slighter cases, and would have little effect when the adhesions were general to the ball of the eye. The re-union is better prevented by injection, or lint placed between the eye-lid and ball of the eye, after dipping it in some mild liniment, than by a plate of lead, as recommended by Sauvages; as that might, from its hardness, bring on inflammation.

When the eye-lids adhere slightly, and the complaint has not been of long duration, they may be separated, according to Mr. Bell, by the end of a blunt probe insinuated behind them, so as to tear them asunder; but when they adhere firmly, or to the eye-ball, he advises slow dissection of every adhering fibre, and then the eye only to be covered with a piece of soft lint spread over with Goulard's cerate, or any other cooling emollient ointment; and after the first dressing, a small portion of the same to be daily insinuated between the eye-lids. Perhaps, in preference to all others, one part of mercurial ointment, with four parts of axunge, may be introduced twice a day: the parts may be bathed twice a day, also, with a weak solution of the zincum vitriolatum purificatum, or cerussa acetata. When the whole eye-lid is closed, a slight opening may be made at either canthus to introduce the probe and divide the eye-lid through its whole course, and the divided edges should be dressed with Goulard's cerate, or any other cooling application. The eyes should not be kept long shut; and, even after the first nap, they should be opened and the dressing renewed. See Wallis's Nosologia Methodica Oculorum, p. 51. Bell's Surgery, vol. iii. p. 297. Cullen's First Lines, vol. i. p. 271. edit. 4.

ANCYLOGLO'SSUM, (from *αγκυλος, crooked*, and *γλωσσα, the tongue*). A contraction of the ligaments of the tonge: TONGUE-TIED. Vogel defines it to be an adhesion of the tongue to the adjacent parts, so as to hinder sucking, swallowing, and speaking.

Some have this imperfection from their birth, others from some disease. In the first case, the membrane which supports the tongue is too short or too hard; in the latter, an ulcer under the tongue, healing and forming a cicatrix, will occasion it; these speak with some difficulty, and are called by the Greeks *μογιλαλοι*. See MOGILATIA.

The *ancyloglossi* by nature are late before they speak, but when they begin they soon speak properly; these we call tongue-tied, and the membrane which confines the tongue may be cut with scissors, being careful not to extend the points of the scissors so far as the frænulum. When the child's tongue is tied, he does not suck freely, he loses the nipple very frequently, and whilst sucking he makes a chucking kind of a noise. The instances rarely occur which require any kind of assistance; for if the child can thrust the tip of its tongue to the outer edge of its lip, this disease does not exist; and if the tongue is not greatly restrained, the frænulum will stretch by the child's sucking and crying. Besides, without an absolute necessity, which scarcely ever exists, an operation should not be admitted; for without great circumspection, by cutting the frænulum, the nerves passing there may be also cut, and a loss of speech be the consequence.

Sometimes the tongue is bound down with a fleshy substance, which should never be cut through, because a dangerous hæmorrhage might follow, without any attending advantage. It is advisable only to direct the nurse, now and then, to stretch it gently by a light pressure on it with her finger. When, in consequence of delivering a child by the feet, a swelling is observed under the tongue, nothing is required, for the tumour will soon subside.

See Hildanus in Cent. iii. Obs. 28, where he gives an accurate account of the nature, cure, and bad effects that may follow on improper methods being used for the cure of this disorder. He never cuts more of the frænum than appears ligamentous, and then orders it to be gently rubbed two or three times a day with honey of roses. Bell's Surgery, vol. iv. p. 336. If the tongue is too loose, by the frænum being too long, or not carried sufficiently near the apex, no remedy can be employed. The only inconvenience arises from the child, in attempting to suck on waking, inverting the tongue, the point of which suffocates him. This must be cautiously guarded against, or the tongue bandage of Petit may be employed.

ANCHYLOME'LE, (from *αγκυλος*, *crooked*, and *μηλη*, *a probe*). A crooked probe, or a probe with a hook.

ANCYLO'TOMUS, (from *αγκυλη*, *a hook*, and *τεμνω*, *to cut*). Any crooked knife used in surgery.

ANCYROI'DES, a process of the scapula, so called from *αγκυρα*, *uncus*, *a beak* or *hook*, and *ειδος*, *form*. See Coracoides processus.

A'NDA, probably the same with Andira, q. v.

ANDE'NA. Steel which melts in the fire, and may be cast into any form.

ANDHU'RA. See Andira acu.

ANDI'RA, called also *angelyn et arbor nucifera*. It does not occur in the system of Linnæus.

It is a tree which grows in Brasil, whose wood is proper for building. The fruit is a yellow kernel; it is bitter, astringent, and, if taken inwardly, it destroys worms; ℈ i. of it in powder is a dose.

ANDRA'CHNE, (from *ανηρ*, *a man*, and *αχνη*, *froth*,) so called because it was supposed to increase the seminal fluids. See Portulaca.

ANDRANOTOMIA, (from *ανηρ*, *a man*, and *τεμνω*, *to cut*). The dissection of a male subject.

A'NDRAPHAX, or ANDRAPHA'XIS, (from *αδρως*, *quickly*, and *αυξω*, *to increase*,) so called from its quick growth. See Atriplex fœtida.

A'NDRIA, (from *ανηρ*, *a man*). See Hermaphroditus.

A'NDRIUS, manly, (from *ανηρ*, *a man*,—*strong*). It is metaphorically applied to strong wine, or wine from the island of Andros.

ANDROGENI'A, (from *ανηρ*, *a man*, and *γινομαι*, *to generate*). A succession of males.

ANDRO'GYNE, } (from *ανηρ*, *a man*, and *γυνη*, *a*
ANDRO'GYNI, } *woman*). Effeminate men, and hermaphrodites. See Gynanthropus.

ANDRO'MACHI THERI'ACA. This medicine of *Andromachus* hath above sixty ingredients in it. It is needless to repeat the universal good ascribed to this composition by its author; or its high reputation in consequence of its being considered as an antidote to all poisons. See Alexipharmica.

So many drugs were crowded into one medicine, that a concurrence of similar ingredients might be more effectual; but, according to Pliny, it was only to make people more confident in their favour. An idea indeed seems to have prevailed in the middle ages, that numerous ingredients rendered a formula better adapted to a variety of diseases. From the number of poisonous plants sometimes used in such remedies, it seems to have been also an object to accustom the constitution to their effects, so that, at other times, they may be harmless.

The treacle of *Andromachus* is called Venice treacle, because great quantities of it were made there, and conveyed to other countries. It is now disused.

ANDRO'NION; i. e. Andronis pastilli, the *troches* of Andron. They are made with alum, balaustines, &c.

ANDROPHAGE, (from *ανηρ*, *a man*, and *φαγειν*, *to eat*). Man-eaters, cannibals. A few nations of this savage disposition still exist; and the inhabitants of New Zealand, our antipodes, are certainly such.

ANDROPO'GON NA'RDUS. See Nardus Italica.

Andropo'gon schæna'nthus. See Juncus odoratus.

ANDROSA'CE, *tubulana acetabulum*, and also called *umbilicus marin. cochlea cælata*, *acetabulum marinum minus*, *fungus petræus marinus*, *cotylēdon marina*, and sea navel-wort. It is a sub-marine production, found on the rocks and shells of fishes about the coasts of the Mediterranean. It consists of numerous, slender, short filaments, more or less bent or arched, of a whitish or gray colour, hard and brittle, bearing each upon the top a striated concave body, nearly of the figure of an inverted cone.

In powder it is given as a vermifuge and diuretic. It does not differ from coralline. In the flame of a candle, when dry, it yields a dazzling brightness, and the coralline does the same.

ANDROSACES, summer navel-wort.

A plant on the sea coasts of Syria. It is called *androsace*, (from *ανηρ*, *man*, and *ακος*, *a cure*.)

Two drams of this herb, or of its seed, taken in wine, powerfully promote urine. The species is uncertain.

ANDROSÆ'MUM, or ANDROSÆ'MOM. *Hypericum*, *androsæmum*, Lin. Sp. Pl. 1102. Also called *Siciliana*, *clymenum Italorum*, *ascyrus*, *ascyos*, *hyperi-*

cum, *ciciliana*, *dionysias*. In English it is named TUTSAN, or ALL-HEAL, PARK-LEAVES, and ST. PETER'S WORT. It grows in hedges and thickets. Two drams are moderately purgative, but it is rarely used.

The name *androsæmum* is from *ανηρ*, *a man*, and *αιμα*, *blood*, for it makes the fingers red if they rub it. *Tutsan* is a corruption of the French words, *tout-sain*, which signifies all-heal.

ANDRO'TOME. See ANDRANATOMIA.

ANDRUM, an endemic disease on the coast of Malabar. It is called in the language of the country the popular water rupture, and is in reality HYDROCELE, q. v. The disease is supposed to arise from the brackish water, and is preceded by an erysipelas of the scrotum. It is prevented by putting at the bottom of the wells some pure sand, through which the water filters, and is rendered more pure. The partial remedy of tapping is the only one employed, and this is frequently repeated.

ANDSJUDÆN. See ASAFŒTIDA.

ANE'BION, (from *αναβαινω*, *to ascend*,) so called from its quick growth. See ANCHUSA.

ANECPY'ETUS, (from *α*, neg. and *εκπυησις*, *suppurated*,) not admitting of suppuration.

ANEILE'MA, or ANEILE'SIS, (from *ανειλεω*, *to roll up*, or *involve*). An involution of the bowels from flatulence or gripes.

ANE'MIA, (from *ανεμος*, *wind*). The name of a disorder which Hippocrates mentions, but does not describe; probably flatulence.

ANEMO'NE, (from *ανεμονος*, *wind*,) so called because it will not open its flowers till blown upon by the wind. WIND FLOWER, or CORN ROSE. Called also *phenion*. *A. hepatica* Lin. Sp. Pl. 758. The root of the scarlet *anemonies* is detersive if bruised while fresh, and applied to ulcers, and on the skin it raises blisters. The herb hath been used in collyriums and errhines. See HEPATICA NOBILIS.

ANEMO'NE PULSATILLA. See PULSATILLA NIGRICANS.

ANEMONO'IDES, (from *ανεμονη*, *the wind flower*, and *ειδος*, *forma*,) also called *memorosa*, *ranunculus*, *phragmitis albus vernus*. The WOOD ANEMONE; resembling in virtues the garden anemone.

ANENCE'PHALOS, (from *α*, neg. and *εγκεφαλος*, *the brain*). Born without brains; metaphorically foolish.

A'NEOS, (from *α*, non, and *ανω*, *clamo*, *to bawl out*). Loss of voice and reason.

ANEPITHY'MIA, (from *α*, non, and *επιθυμια*, *desire*). LOSS OF APPETITE. See ANOREXIA.

A'NE'RIC. } See SULPHUR VIVUM.
A'NE'RIT. }

A'NE'SUM. See ANISUM.

ANETHO'XYLA, the woody root of dill.

ANE'THUM, } (from *ανω*, *after*, and *θεω*, *to run*,) so
A'NET, } called because its roots run out a great way. DILL, or ANET. It is the *anethum graveolens* Lin. Sp. Pl.

The herb, flower, and seeds, are medicinal, but the seeds only are used in the shops. They are carminative and antispasmodic: ʒi. to a dose is reckoned specific in hiccoughs. In some symptoms of indigestion, arising from a relaxation of the stomach, they are said to be serviceable, and more efficacious than the other seeds, by promoting a secretion of milk. They give over all their virtue by distillation to water, but not by digestion or infusion. With the distilled water there arises a considerable portion of oil, which, as a carminative against hiccough, from two to four drops are given for a dose. Rectified spirit of wine obtains all the virtue by digestion, but takes very little over with it by distillation. The medicine, and its simple water, are alike deservedly neglected.

ANE'THUM FŒNI'CULUM, FRU'CTIBUS OVA'LIS. See FŒNICULUM VULGARE.

ANE'TICA, (from *ανιημι*, *to remit*). See ANO'DYNA.

ANEURI'SMA, (from *ανευρυνω*, *to dilate much*,) called also *hæmatocele arteriosum*, *abscessus spirituosus*, *emborysma*. See ABSCESS.

The *aneurism* is a tumour arising from the dilatation or rupture of the coats of an artery. Arteries only are the seat of this disorder; and any artery, in any part of the body, may be thus affected, as any vein may be the seat of a varix. It is defined a soft pulsating tumour upon an artery.

Dr. Hunter divides *aneurisms* into four kinds; viz. the true, the false, the mixed, and the varicose.

First, OF THE TRUE ANEURISM.

The true *aneurism* is formed by a dilatation of the artery. It may happen in any part of the body, but most frequently is found in the curvature of the aorta, which is subject to this disorder from the extraordinary impulse of the blood; from the curvature it runs upwards along the carotids, or the subclavians, generally increasing, till by its great distention it is ruptured, and the patient dies.

The degrees of the dilatation of the aorta, in cases of this kind, are various; in some the curvature of this artery hath been so enlarged as nearly to fill the upper part of the breast. It is singular, that the part of the vessel which is the weakest, and where the disease begins, is apt to be stretched more in proportion than other arteries; and to form particular cells, where they meet with firm resistance, more than where their support is soft and yielding.

The sac formed by the distention of the artery is not a distention of a particular coat, but of the whole substance of the vessel; but the thickness of the coats of these sacs continues only to a certain period; for when the vessels of the coats can no longer yield, the circulation grows languid, the sac becomes thinner at its apex, and soon after bursts. As the *aneurismal* tumour also increases in size, it meets with resistance from the neighbouring parts; and as the coats will be more or less affected, according to the degree of the resistance, in some places they will be simply distended, in others absolutely destroyed. Where the *aneurism* presses against the diaphragm, it will be thinner than where it suffers no pressure; it is still thinner where it presses against the tendinous part of this muscle; and where it presses the spine, it is the soonest destroyed. A proof that all pressure must be avoided in such cases.

The blood that fills these tumours is always fluid, by being constantly renewed; but, notwithstanding this blood is fluid, its passage in the tumour is retarded; and this remissness in its motion, which is more or less considerable according to the size of the *aneurism*, occasions some of the fibrin of the blood to separate from

the red part; and adhering to the internal coat of the *aneurism*, it there forms fibrous strata, which may easily be taken for real membranes by those not accustomed to observe them. These fibrous strata cannot be dispersed by any means, either external or internal; and pressure cannot be used, because it will destroy the coats of the artery.

Secondly, THE FALSE ANEURISM, called *Ecchymoma Arteriosum*,

Is formed by a rupture or wound in the coat of the artery, and is of two kinds, viz. the diffused and the circumscribed.

The DIFFUSED is that in which the extravasated blood runs through the cellular membrane, in the interstices of firmer parts: this generally makes a rapid progress, may extend itself to a great distance, and hath little or no pulsation except very near the aperture of the artery; but these circumstances will somewhat vary, according to the size of the opened artery and the strength of the circulation. This species of false *aneurism* is analogous to the emphysema, and is the highest species of ecchymosis.

The CIRCUMSCRIBED TUMOUR beats, and sinks under pressure, like the true *aneurism;* and indeed cannot be distinguished from it except by the knowledge of its cause, or by a careful dissection of the part: it appears soon after the accident which gave rise to it, and is commonly slow and gradual in its progress. It happens when the orifice in the artery is very small, so that the blood flows but slowly, and finds the adjacent membranes so firmly united as to keep it within a certain channel. It consists of one bag with a smooth inside, and communicates by an aperture with the cavity of the artery. This species of *aneurism* is, perhaps, the most common among those that happen in the arm after bleeding, especially when a considerable pressure hath been made immediately after the accident.

Thirdly, THE MIXED ANEURISM,

Is formed partly by a wound or rupture in the artery, and partly by a dilatation. It cannot easily be distinguished from the circumscribed species of the false *aneurism;* and will often so emulate the true one, as not to be distinguished from it but by a careful dissection.

Fourthly, THE VARICOSE ANEURISM, OR THE ANEURISMAL VARIX,

Occurs when there is an anastomosis, or an immediate communication between the artery and the vein of the part where the patient hath been bled, in consequence of the artery being wounded through the vein, so that blood passes immediately from the trunk of the artery into that of the vein, and so back to the heart.

This species differs from the common spurious *aneurism* in one circumstance only, viz. the wound remaining open in the side of the vein as well as in the side of the artery. But this circumstance will occasion a great difference in the symptoms, the tendency of the complaint, and in the proper method of treating it.

Mr. Bell, in his System of Surgery, divides the *aneurism* into two species, viz. the encysted, and the diffused. The *encysted* includes all those instances in which, the coats of the artery being only dilated, the blood is confined in its proper coat: of this kind he reckons the *varicose aneurism*. The *diffused* includes all those in which, from an aperture in the artery, the blood is spread in the cellular membrane out of its proper course.

The causes of *aneurisms* are various. A natural weakness in a part of an artery is the immediate cause of the true *aneurism*. The internal causes are, a fulness of the arteries concurring with some violent motion or concussion; an internal tumour pressing on some part of an artery; or violent action, sudden anger, vomiting, &c. which propel the blood too forcibly to some particular part. By stretching the artery, a true, or by bursting it, a false *aneurism*, or the mixed one, will be thus formed: convulsions, and other violent spasmodic symptoms, with other concurring causes, may be ranked in the number of internal causes. In some instances the coats of the artery are unusually and irregularly weak. We then find *aneurisms* through the whole arterial system; and the predisposition to this complaint is styled *diathesis aneurismatica*. Externally, strains, blows, and punctures, are the most frequent causes; pressure used on a true *aneurism*, by bursting the coats of the artery, produces a false one; suspending the breath, as in lifting great burthens, wrestling, &c. may occasion either.

It hath been said that a polypus, existing internally, sometimes occasions an *aneurism;* but Dr. Hunter observes, that it rarely or never happens that a polypus is formed till the last moments of life, when the heart's power having nearly ceased, the whole blood cannot be propelled from the heart; which, when found after death, has been supposed to have pre-existed, and to have been the cause of what it was only the effect.

There is no certain criterion by which to ascertain the existence of internal *aneurisms* before they approach to the surface of the body; whatever symptoms they occasion before they form a tumour externally, as they may be produced by other causes, are but equivocal signs. The *pathognomonic sign* of all the species of *aneurism* is, a perceptible pulsation in some part of the tumour, more or less manifest, as the artery is seated superficially or deep; yet we shall find, that any other tumour receiving pulsation from an adjoining artery will sometimes resemble it; and when the effused blood is in large quantity, it will obscure the pulsation. The true *aneurism* is generally of an oblong figure, and hath a strong pulsation in it; it subsides on depression: if it is an *aneurism* of the aorta, a strong pulsation is perceived against the sternum and ribs on every systole of the heart; and when it extends above the sternum, there is a tumour, with pulsation. These tumours are without pain or discoloration in the skin, except on the point of bursting; they subside by pressure while the blood is fluid, but when it is coagulated they yield in a very slight degree; if the sac has a narrow basis, the blood re-enters the artery with a hissing noise when the tumour is pressed. Sometimes there is a redness from the expansion of the parts beyond their capacity, or a dark colour from the putrefaction of the blood, in which case a fever and fainting also occur. The common appearances of an *aneurism* from the wound of a lancet are a discharge of blood through the orifice of the skin, by jerks, instead of an uniform stream; and on stopping the orifice, the blood spreads between the

muscles of the shoulder and arm, constituting the diffused *aneurism:* in this case the arm becomes livid from the ecchymosis, and the blood coagulating, obscures any sensible pulsation.

In the false kinds of *aneurism*, the cyst is probably formed of a portion of the aponeurosis that runs over the vessel, which, from extravasated blood underneath, is thickened and expanded: that this membrane is the cyst, seems to be confirmed by our so readily discovering the puncture in the artery upon opening the tumour; or it may be formed of the cellular membrane, which admits both of thickening and expansion.

In the varicose *aneurism*, the vein that was punctured will become varicous, and will have a pulsatile jarring motion, on account of the stream from the artery; there will be a hissing noise, which will be found to correspond with the pulse; and the blood in the tumour will be almost entirely fluid, because it is kept in constant motion: it is soon formed to its largest size, and so remains, if not disturbed by imprudent management: no considerable inconveniences arise from it. This sort of *aneurism* may be further known by placing a finger over the orifice in the artery, where the stream of blood propelled into the vein at every pulsation is felt: by applying the ear to the tumefied vein, a tremulous motion and noise are perceived; by pressing the corresponding artery, this motion and noise cease; and on the removal of this pressure, the motions, &c. return; the artery becomes larger in the arm and smaller in the wrist; the vein being emptied by pressure, instantly fills again on taking the pressure off; the pulse at the wrist grows weaker as the artery above enlarges.

The beginning *aneurism* in the aorta should be distinguished from a palpitation of the heart; from hysterics, in which symptoms of suffocation sometimes attend; from fever with fainting, both which are sometimes the consequence of false *aneurism;* from varices of the veins and their effects; from an emphysema; from an ecchymosis; from encysted swellings in the neck, in which is often perceived a strong pulsation from the stroke of the adjacent artery; and from tumour formed in consequence of ruptured veins.

The *aneurism* of the aorta may prove fatal by injuring the general health, as it continues to increase in its size; it may be supported during many years, but no cure can be attempted, nor other palliatives used than what consist in composure of mind and quietude of the body. All *aneurisms* are incurable that lie too low for the operation; and, if unadvisedly opened, the patient's life is in immediate danger; for bandages, which are the only palliatives in such cases, are but uncertain aids. The diffused *aneurism* is not only subject to hæmorrhages, but also to mortification.

The method of cure is the same in the true, the false, and the mixed *aneurisms:* the varicous needs but little, if any assistance: if it is enlarged by exercise and becomes painful, indulge a little rest, and moderate the future labour; perhaps bathing the part with a little spirit may afford some relief, but bandages and all other pressure must be avoided.

To palliate, when the operation is impracticable, bleed as often as is required to keep the force of the circulation moderate; let the diet be temperate, and the exercise very gentle; keep the bowels constantly free; where pressure is used, it must be such as only lessens the force of the blood, but does not resist it; flannel bandages, or knit stockings, &c. are the most proper for this purpose. But all pressure should be avoided when the aorta is the seat of the *aneurism*, however the tumour may appear externally: it is true that, if the integuments give way, and the coagulum formed on the inside of the tumour hath lost its support, the assistance of a bandage is immediately necessary, as it is the only means to prevent a fatal hæmorrhage; in this dilemma, if the substitutes to the integuments are judiciously applied, and accompanied with such topical medicines as resist both suppuration and putrefaction, the life of the patient may be preserved for some time. In one instance, recorded in some of the Medical Observations, where several *aneurisms* occurred in the lower extremities, the blood lost by the bursting of one cured the rest. This circumstance might lead us to try active bleeding in true aneurisms.

When the operation can be admitted, it is advisable first to attempt the cure by compression, because it sometimes proves effectual; is always a good preparatory step to the operation, by its enlarging the collateral anastomosing branches, and disposing the part to have a more free circulation after the division of the artery: but when the tumour is large, the palliative method should not be long continued, because it injures the neighbouring parts, and will occasion more inflammation and sloughing when the operation is performed.

The pressure, whether before or after the operation, should be confined as much as possible to the affected part, that the passage of the blood through the anastomosing vessels may be free; by which we may prevent the mortification that sometimes ensues from a want of a free circulation.

Some few instances of small *aneurisms*, and punctures of the artery from bleeding, have succeeded by the use of a bandage, but they almost all require the operation at last, which is performed nearly in the same manner in every part; but larger *aneurisms* cannot receive any advantage from the pressure; therefore, when used long enough as a preparative to the operation, the latter should not be delayed. Plenck's apparatus is well adapted to close the wound instead of the common bandage; and the German surgeons have introduced several refinements in the management, which are perhaps unnecessary. Yet where the *aneurism* has been cured by compression, it is more probable that the canal of the artery is obliterated, than that the wound is so firmly healed as to resist the arterial current.

If, however, the cure be attempted in this way, the pledget should be very carefully laid on the wounded artery, so as to close the wound accurately without pressing on the veins or any anastomosing artery; the limb should be kept at rest, blood taken from the other arm, and every part of the antiphlogistic plan rigorously adopted. When it is probable that the wound of the artery is firm, the bandage and pledget should be removed; and gently loosening the tourniquet, we should observe whether any tumour appears on the part. If there should not, a more moderate pressure must be still for a time continued.

In the event of having wounded an artery, M. Theden advises us to let the blood flow for a time, and while the proper bandages are preparing, to keep a strong general pressure on the cavity of the elbow. A

spiral bandage must then be applied, inclosing a cylindrical compress along the artery. The whole must be wetted with his own *aqua traumatica*, q. v.; but as wetting contracts the linen, the bandage should not at first be drawn too tight. In three or four days the bandages grow slack, and they must be again applied, and every precaution taken against any of the folds slipping.

Mr. Bell observes, that in diffused or false *aneurisms*, pressure cannot be applied to the artery alone, without at the same time affecting the refluent veins; and as this circumstance, by producing an increased resistance to the arterial pulsations, must undoubtedly force an additional quantity of blood to the orifice in the artery, there is reason to suppose it hath been productive of mischief. But though pressure ought never to be attempted in any period of the diffused *aneurism*, yet in some stages of the other species it may be often employed with advantage. In their early stages, while the blood can be yet pressed entirely out of the sac into the artery, by the use of a bandage of soft and somewhat elastic materials, properly fitted to the part, much may be done in preventing any considerable increase of the swelling: indeed, by this continued support, complete cures have been at last obtained. Yet, though pressure to a certain degree hath sometimes proved useful, it ought never to be carried to a great length: tight bandages, in these cases, always counteract the intention. The greatest length to which pressure ought to go, should be to serve only as an easy support to the parts affected. With compression, other means should at the same time be used; such as low diet, occasional bleeding, a lax state of the bowels, freedom from strong exercise, &c.

The Operation for the Aneurism in the Humeral Artery.

Having taken away some blood, and promoted such other discharges as seem needful, apply the tourniquet near the shoulder, tighten it so that the pulse cannot easily be perceived; lay the arm in a convenient situation; then make an incision on the inside of the biceps muscle, above and below the elbow, a considerable length, which, being in the course of the artery, will discover it as soon as the coagulated blood is removed. Be careful not to cut the larger veins, nor the bag; the same attention is necessary in cutting the aponeurosis of the biceps; for this aponeurosis, the capsula, the bag, and the skin, are all united by the pressure.

If the orifice does not readily appear, let the tourniquet be loosened, and the effusion of blood will direct you to it; then carry a crooked needle armed under it, tie the vessel just above the orifice, and when you have secured the upper part, slacken the tourniquet a little; for if on slackening it there is any hæmorrhage from the inferior parts of the artery, it plainly appears that the collateral branches are open, and that there is a free circulation. The first ligature secured, make a second a little below the orifice, and leave the intermediate space of the artery to slough away without dividing it.

Avoid taking up the nerve with the ligature if you conveniently can; the readiest method to do this is, as it lies on the inside, at a little distance from the artery, to relax that vessel by bending the arm moderately, and to raise the artery from its bed by a probe introduced into its orifice, or by pinching it up with the finger and the thumb: the nerve is easily distinguished from the artery by feeling; and thus the artery may be drawn from the nerve. If the nerve should be taken up, and a portion of the adjacent flesh being taken up with it, no inconvenience need be feared.

After the operation, the limb is generally some little time without pulsation, which, if it does not recover in twenty-four hours, amputation is not to be deferred. This operation is indeed often necessary; but warm spirituous applications, and dry heat from warm sand and ashes should be first tried, and continued so long as the operation can be safely deferred.

In the London Med. Obs. and Inq. vol. ii. page 360, is an instance of an *aneurism* in the arm being cured by the operation; but, instead of the ligatures, a steel pin was passed through the lips of the orifice in the artery, and secured by twisting thread about it, as in the hare-lip; after a few days the pin came away with the dressings.

Under some particular circumstances, taking up the femoral artery in popliteal *aneurisms* may be performed with success, and the leg preserved, where the misfortune occurs from falls, bruises, or punctures, in sound, healthy constitutions; but if the *aneurism* arises gradually in habits where there is reason to suspect a diseased state of the arteries, amputating the limb is certainly the least dangerous mode, and should be preferred.

The advantages of Mr. Hunter's operation for the popliteal *aneurism*, viz. tying the artery far above the aneurismal sac, are owing to the wound being small; for the true aneurismal sac is untouched, and disappears from absorption; as well as from the greater probability of the artery in a distant part being sound. Mr. Lambert's method of stitching the wound of the artery by the hare-lip suture (Med. Obs. and Inq. vol. ii. p. 360), and M. Descham's (Médecine Eclairée par les Sciences, iii. 67), have been seldom followed, or generally approved.

See instances of *aneurisms* of the femoral artery being cured in the Lond. Med. Obs. and Inq. vol. iii. p. 106. And in the Edinb. Medical Commentaries, vol. ii. p. 176. Also in Warner's Cases of Surgery.

See Aetius Tetrabib. 7. serm. iii. cap. 10. P. Ægineta, lib. vi. cap. 37. Marcus Aur. Severinus de Efficaci Medicina. Morgagni de Sedibus et Causis Morborum. Mém. de l'Acad. Roy. an 1712, 1733. Philos. Trans. Abr. vol. iii. viii. De Haen de Aneurismatib. Rat. Medendi. Mém. de l'Acad. Roy. de Chirurgie. Scriptores de Aneurismatibus curâ Lauth. Monro's Remarks on the Formation of *Aneurisms*, in the Edinb. Med. Ess. vol. ii. and iv. Le Dran's Operations in Surgery. Sharpe's Operations of Surgery. Dr. Hunter's, and others', Observations on *Aneurisms*, in the Lond. Med. Obs. and Inq. vol. i. ii. iii. and iv. Lond. Med. Journal, vol. vii. Transactions for promoting Medical and Chirurgical Knowledge, vol. i. Bell's Surgery, vol. i. White's Surgery, p. 115; and Home on the same subject.

Aneuri'sma præcordio'rum. Called also *cardiogmus*, *cardionchus*; *aneurism* in the heart, or in

the aorta near the heart, which occasions pain in the præcordia.

ANFRACTUO'SUS, (from *an*, and *frango*, *to break*). ANFRACTUOUS. Full of windings: called *anfractuosities*.

ANG. ET ANGUIL. The abbreviation of Simplici del excellente m. luigi Anguillara. Venet. 1561, 8vo.

ANGEIOTO'MIA, (from αγγειον, *a vessel*, and τεμνω, *to cut*). An opening of the vessels, as in arteriotomy and phlebotomy. It also signifies a particular dissection of the vessels for anatomical purposes.

ANGEIOTOMI'STA. An ANGEIOTOMIST. A person skilled in the course of the blood vessels, or who can dissect them readily.

ANGE'LICA ARCHANGE'LICA. So called
ANGE'LICA SATI'VA. [from its angelic virtues.
Called also *imperatoria sativa*, *pectoraria herba*. It is the *angelica archangelica* Lin. Sp. Pl. 360. It is found by the sides of rivulets, on the mountains of Lapland, and is cultivated in gardens all over Europe; the best is said to be produced in Bohemia and Spain: but Linnæus thinks that the best is that which grows on the mountains in northern countries. The roots are in the greatest perfection in the second spring; they should be well dried and kept in a dry place, and frequently aired, or they grow mouldy, and are the prey of worms. The whole plant is used; and hath been so much esteemed as to have obtained the name of PRINCEPS ALEXIPHARMICORUM. Some physicians think that the English *angelica* differs from the Spanish only in the latter having been long kept, by which the disagreeable flavour of the fresh root is lost. Though all the parts of this plant possess the same virtues in a great degree, yet the root is the strongest. It resembles zedoary as a medicine, but is milder, and a good carminative. Externally applied, it discusses inflammatory tumours in cold habits. By some authors it has been highly praised as a *carminative*, a *stomachic*, *sudorific*, and *emmenagogue*; and considered as a specific against some poisons and malignant fevers: in present practice it is seldom employed. In Lapland it is employed in coughs, and hoarseness. The stalks are roasted in hot ashes, and the flowers boiled in milk till they form a soft extract.

The seeds come nearest to the roots in medical virtue, but scarcely retain either their vegetative or medicinal power until the following spring. The leaves lose nearly all their virtue in drying. A strong water is obtained from either the leaves or seeds by distillation; but spirit of wine best extracts the oil in which the virtues of the dried roots reside.

The stalks and the roots are candied by the confectioners; and the stalks were formerly blanched and eaten as celery. In Norway the roots are sometimes made into bread.

All the species of *angelica* have similar virtues, chiefly differing in the degree, but the *a. archangelica* is the best. The wild sort, in use, is the *angelica sylvestris* Lin. Sp. 361. See LEVISTICUM.

ANGE'LICA PRATENSIS APII FOLIO. See OREOSELINUM. Also a name of the *saxifraga anglica*.

ANGE'LICA GRANA, a name of Dr. Anderson's pills.

ANGE'LICUS PU'LVIS. See MERCURIUS VITÆ.

ANGELOCA'LOS. The true name of the twenty-fourth appellation of Myrepsus, and not, as is commonly writ, *alcancali*.

A'NGELYN. See ANDIRA.

A'NGI. BUBOES in the GROIN, (from *angor*, *anguish*). See BUBO.

ANGIGLO'SSI, (from αγκυλη, *a hook*, and γλωσσα, *the tongue*). STAMMERERS.

ANGI'NA, (from αγχω, *to strangle*,) also called *cynanche*, *kynanche*, *lycanche*. QUINSY; thus named, from an abbreviation of the French word *squinancie*.

It is an inflammation in the parts of the throat subservient to respiration, speech, and deglutition; it is called a STRANGULATION OF THE FAUCES; more properly, an INFLAMMATION OF THE INTERNAL FAUCES. Aretæus supposes that it is named *cynanche*, from dogs being subject to it; or else, because in this species of quinsy it has been said the tongue is inflamed and so swelled, that it hangs out beyond the teeth like a dog's. Cœlius Aurelianus says, that the voice of the patient in the quinsy resembles that of a dog, or a wolf; hence called *lycanche*: or, perhaps, the word cynanche is derived from κυων, *canis*, and αγχω, *strangulo*; because a set of symptoms affect the patient in a species of quinsy, not unlike the appearances observable in hanging dogs.

If the disorder is epidemic, it is so usually between the spring and summer, and after long continuance of cold and rainy weather.

The true *quinsy*, the *cynanche tonsillaris* of Cullen, is an acute inflammatory disorder. The bastard *quinsy* is a milder catarrhal one; and its fever chronical, of the catarrhal kind.

The Greeks give different names to the true *quinsy*, according to the respective parts on which this disorder falls: the Latins, considering the disorder as one, wherever its violence might have more peculiarly been manifest, included them all under the name *angina*; as we under that of *quinsy*. The curious may see the various appellations given to the different circumstances of this disorder in the writings of Aretæus, Cœlius Aurelianus, Hildanus, and Alexander Trallian.

The *cynanche* of Dr. Cullen is placed in the class *pyrexiæ*, and order *phlegmasiæ*: and defined a fever, sometimes of the typhoid kind; redness and pain of the fauces; deglutition and breathing difficult, with a sense of straitness in the throat. This genus contains five species:

1. CYNANCHE TONSILLARIS, when the inflammation begins in the tonsils, and affects only the mucous membrane of the fauces with redness and tumour, having an inflammatory fever attending.

2. CYNANCHE MALIGNA, also *ulcerosa gangrænosa*, and *ulcerosa* when it affects the tonsils and mucous membrane of the fauces, with tumour, redness, and mucous sloughs of a white or ash colour, spreading and covering ulcers; attended with a typhoid fever, and eruptions.

3. CYNANCHE TRACHEALIS, when it is attended with difficult respiration, shrill inspiration, hoarse voice, harsh sounding cough, scarcely any tumefaction appearing in the fauces, little or no difficulty of swallowing, and the fever inflammatory. This among the Scotch is called the CROUP. See SUFFOCATIO STRIDULA.

4. CYNANCHE PHARYNGÆA ŒSOPHAGEA, when

there appears a redness, particularly at the lower part of the fauces, and swallowing becomes extremely difficult and painful; the respiration sufficiently free, and the fever inflammatory.

5. CYNANCHE PAROTIDÆA, when the external parotid and maxillary glands are tumefied, respiration and deglutition slightly affected, and the fever a mild inflammatory one. This species is called the MUMPS amongst the English; in Scotland, the BRANKS; with the French, OURLES. There is also a species of *quinsy* to which children are subject, called PŒDANCHONE.

The seat of the cynanche tonsillaris is properly in the mucous membrane of the upper part of the throat, and all the surrounding parts of the muscles which move the jaws. The young, the sanguine, and those of an inflammatory diathesis, are most disposed to the true *quinsy*; and a disposition to it is often acquired by a few repetitions. The causes are the same as are productive of inflammation in general; particular constitutions and former habits determine the inflammation to particular parts.

If all or most of these parts are inflamed, the case is desperate; for the return of the blood through the compressed jugulars being interrupted, the fauces, lips, tongue, and face swell; the tongue is inflamed, and hangs from the mouth; the eyes are red, prominent, and ghastly; the brain is filled with blood; and delirium, yawning, stertor, strangulation on lying down, with a manifest redness, tumour, pain, and pulsation in the breast and neck, supervene.

The proper symptom of a *quinsy* is, the difficulty of swallowing solids or fluids; for if a large tumour affects the top of the œsophagus, and contracts it, liquids, but not solids, may pass through it; but if the tumour be seated in the top of the larynx, where it is covered with the epiglottis, solid substances, by pressing the tumid epiglottis, find a way to the œsophagus; while liquids, not pressing with equal force, slide through the gaping space, by the tumour, into the asperia arteria, and cause great uneasiness.

The complaint is generally obvious to the senses, and can but in few instances be mistaken. Shivering, and other symptoms of inflammatory fever, often precede; but very frequently the difficulty of swallowing is the first inconvenience felt. The florid redness round the fauces, and on every part of the throat, at once points out the disease; and this, with a flow of saliva, often constitutes the whole. When however more violent, the upper part of the larynx, the muscles of the neck, and the œsophagus itself, in a great portion of its track, suffer. The soreness externally is very acute; the breathing difficult, with a wheezing noise; the pain violent, extending to the ear; and deglutition, from the swelling, almost wholly obstructed. The different parts affected are known from the inconvenience attending the performance of their different functions; but we need not distinguish them, as the practice will not differ.

It is not, we have said, difficult to distinguish the inflammatory sore throat, when we reflect that it consists in a difficulty of swallowing, with fever, and a *florid* redness of the fauces. Scirrhi, spasms, tumours, and venereal swellings, can never be mistaken for this disease; for though there is often an attending redness, yet it is not of the florid kind, nor is inflammatory fever present. The inflammation sometimes affects the muscles of the larynx, and is in some cases dangerous; yet the easy access that may be obtained to the neighbourhood of the diseased parts, gives us a power of relieving quickly. The greatest danger arises from gangrene, and suffocation from the swelling of the parts, particularly the tonsils. In common sore throat, however, gangrene is a very unusual consequence; and we have more often seen an inflammatory cynanche arise from the active stimulants employed in the malignant species, than gangrene from the present disease. When the tonsils suppurate, the previous swelling often threatens suffocation; and it has been thought necessary to open a passage for the access of the air to the lungs through the rings of the trachea; see BRONCHOTOMY. We have seen this more than once employed with success, but it has never appeared necessary in our practice. Active gargles to hasten the maturation, bathing the feet often in warm water, or inhaling warm vapours from the mouth of a funnel, sometimes with the addition of camphor, have generally ripened the abscess without danger. If the symptoms are more urgent, the swelled tonsil may be punctured with the point of a scalpel.

The treatment of inflammatory angina is not very difficult. When it is ascertained to be the true cynanche tonsillaris—and for the distinction of the greatest importance we must refer to a following article where we treat of the malignant kind—every part of the antiphlogistic regimen should be employed in all its rigour. Diluting liquors, abstinence from animal food, and even animal broths, and cooling purgatives, are highly proper. Gargles should be almost incessantly employed, and a great error prevails in using gargles occasionally only. Two or three times a day will indeed be sufficiently often; but they should never be employed for a less period than from an hour to an hour and a half. The syringe is chiefly useful in children, and in the malignant kind. Bleeding is seldom necessary, except when the swelling of the fauces is rapid and considerable, in healthy strong constitutions: it should then be actively employed, and not less than sixteen or eighteen ounces taken at once, and repeated after eight or ten hours. Such an emergency will, however, seldom occur: it has not at least occurred to us in a practice of above thirty years. Topical bleeding with leeches is sometimes employed, but seldom necessary; and this remedy is inconvenient, as it is difficult to stop the blood, when there is no bone against which a pressure can be made. As a purgative the salts perhaps with senna are preferable.

Vomiting early is often highly beneficial; and even in a more advanced state, if it can be practised without much pain, it is particularly advantageous, from the discharge it procures from the affected glands. We have heard of its being employed to burst an abscess formed on the tonsils; but it is, undoubtedly, at this period, precarious, if not highly dangerous.

Blistering is a remedy of peculiar importance. The plaster has been applied to the back or to the throat. Where the muscles of the trachea are greatly affected, the latter may be proper; and the former is, in no instance, improper The most useful application of blisters is, however, from behind the ear, extending under the lower jaw to the trachea. The ammonia, either in its mild or pure state, joined with oil, and mustard cata-

plasms have, at times, supplied the place of blisters; and, when the external fauces have been very sore, a common poultice is an useful application. We have not found the addition of camphor either to the liniments or poultices useful.

The kinds of gargle have occasioned some little discussion. In the early stages they have been emollient and discutient; in the latter astringent and antiseptic. A pint of barley water, with two drams of crude sal ammoniac, is a gargle of the former kind. We have not found a cold gargle of water with a portion of brandy recommended; and it has never before occurred to us, but we think it merits a trial. Acids have been reprobated in the early stages: but the disadvantages enumerated are those of the mineral acids. The acetous is, at any period, useful; and the sharper it can be borne, without pain, the more useful. This kind of gargle generally consists of an infusion of baum or sage, with a portion of honey, sharpened with vinegar to such a degree as the inflamed fauces can bear. The raspberry vinegar however, alone, swallowed slowly, is perhaps equally efficacious with any gargle; and, as it is pleasant, it will be more steadily pursued than a less agreeable medicine. In the same way, a small bit of crude sal ammoniac, or of salt prunella, held in the mouth till it gradually dissolves, has been highly useful. Figs, as they are supposed to have a peculiar efficacy in ripening abscesses, have been often used in decoctions employed for gargles. The addition of squills to the gargle, as recommended by Dr. Fordyce, is seldom of peculiar service.

The mineral acids and astringent gargles are scarcely in any instance required in inflammatory angina, though recommended in the more advanced stages. They are of great service in those inflammations which arise from relaxation; and when angina often recurs, the inflammation is of a less active kind. Decoctions of the oak bark with the vitriolic or muriatic acid, are more effectual than any form of the Peruvian bark. The myrrh we have never found necessary or useful.

Gangrene, we have said, scarcely ever follows inflammation of the throat; and scirrhi of the tonsils, though mentioned as a consequence, are certainly rare. The tonsils we have seen often scirrhous, but never cancerous; and they have remained in the scirrhous state through a long life.

See Aretæus, Cœlius Aurelianus, Hildanus, Trallianus, Hoffman, Boerhaave, Le Dran's Operations, Wallis's Sydenham, and Fordyce's Elements, part. ii. Cullen's First Lines, i. 279. edit. 4.

ANGI'NA AQU'OSA ŒDEMATO'SA. Boerhaavii Aphor. 791. This is a species of dropsy, arranged by Dr. Cullen under ANASARCA, the second species, which arises from obstruction, occasioned by compression of the veins; see ANASARCA OPPILATA. It is called LOWERIANA, being produced upon a dog by Lower's tying up the jugular veins, which brought on the angina aquosa that occasioned suffocation; see Sauvages' Nos. Meth. vol. i. p. 678.

ANGI'NA GANGRÆ'NOSA, called also *garotillo*, *angina maligna*, *epidemica gangrænosa*, *ulcerosa*, *ulcusculosa*, *suffocativa*, ERYSIPELATOUS, ULCERATED, MALIGNANT, OR PUTRID SORE THROAT; *cynanche maligna* of Dr. Cullen.

This is a disease of great danger and importance. It is probably not a new one; but its nature and proper treatment were seemingly obscured by the too common term of pestilential, and the farrago of remedies adapted to a name. The history is very accurately detailed in Dr. Cullen's Synopsis, where a chronological list of the authors who have treated of it is inserted.

It attacks like a slight inflammatory sore throat, though sometimes only a languor insidiously creeps on, with a little difficulty of swallowing; and, in the worst cases, even this is absent. The strength, however, rapidly sinks, the features fall, a ghastly paleness comes on, and death quickly follows. In slighter kinds, the course is not very different from that of the inflammatory species, though seemingly slight, with alternate chills and heats, pain in the head, &c. till the debility appears, when every other bad symptom immediately follows. Every sore throat, should, therefore, be carefully examined.

In the most active inflammations of the throat, white specks will sometimes appear on the velum pendulum or tonsils. If the inflammation is florid, the constitution robust, and the pulse firm, these spots may be disregarded. On the contrary, in some instances of the most malignant kind, no sloughs can be observed. The distinction must be taken from the colour of the inflammation. In the true malignant sore throat, the colour approaches rather to the crimson and the pink than the red; and sometimes a shade of brown, not far distant from the cinnamon, is mixed. The pain in swallowing is slight in proportion to the degree of inflammation; languor, listlessness, and indifference, are very conspicuous; and the features display the same want of fulness and tone: the eyes are red and watery. At this time the pulse will be sometimes apparently strong, but a slight attention shows that the strength of the stroke is apparent only: it throbs with a kind of convulsive weakness, rather than beats with a steady firmness. The tongue grows brown, the breath offensive, and delirium, at night, comes on: by day, a wandering is only observable. When there are sloughs on the throat, the edges are of a dark pink red; they are observed to cover, and sometimes they conceal a considerable loss of substance; they enlarge, become deeper, and the edges black. An ichor, or a thin acrid matter, is discharged from the nose or ears; the stools are thin and highly offensive. The fever is said to remit in the morning, but the remission is inconsiderable, and will never assist in the distinction, though it will sometimes lead to an insidious security.

Sometimes, from the beginning, exanthemata appear; and the putrid sore throat is frequently, if not constantly, an attendant on scarlatina: these soon assume a darker hue, and appear livid. The breath in the earlier periods is not affected, but a wheezing noise supervenes if neglected; and this, in the worst kinds, is succeeded by the shrill barking sound which has occasioned the Spaniards to give it the name of GAROTILLO. It evidently arises from the erysipelatous inflammation extending to the larynx, and is generally a fatal symptom. The eruptions have been described as favourable and critical: we have generally found them accidental, and only of use as an index of amendment, or of the disease increasing in violence and malignancy. In a disease which runs its course generally in less than five, always in seven days, no prognostic is to be depended on but a more florid appearance in the

throat, and a more healthy aspect of the edges of the sores.

The disease is epidemic, and attacks the active and robust as well as the infirm. We have not found the number of its victims greatly disproportioned in any period of life, in any situation or time of year. It is certainly infectious, though the infection is not active, or its influence very extended.

All evacuations are highly injurious; and an emetic, with which we are often directed to begin, sometimes operates with such violence as to debilitate greatly. If a stool or two be necessary, a clyster, or a very mild, quickly operating laxative, is alone admissible. After this the bark is to be given in active doses, with aromatics. Half a dram of the bark, with ten grains of aromatic species, should be exhibited every two hours. If it seems to produce strictures on the skin, and rigor, five or six grains of camphor, and three or four of true James's powder, (guarded by a little opium,) should be added to each dose. These may be washed down with a strong decoction of bark, sharply acidulated with either of the mineral acids. We may, however, remark, that in this disease the bark seldom disagrees.

The action of these remedies is greatly assisted by diet and gargles. Port wine should be given freely: it should indeed enter into every part of the food, and be drunk alone, cold. Even sleep is less necessary than bark and port wine; and should it continue above three hours, the patient must be awakened, for the loss of time cannot be regained. The quantity of the medicine and the wine must be regulated by the effect. If we gain nothing in the first thirty-six hours, we may depend on a fatal event: if we lose ground in twenty-four, our hopes will be inconsiderable. We have known women unaccustomed to wine drink two bottles within twenty-four hours, for more than a fortnight. The gargles should be of a strong decoction of bark, very sharply acidulated with mineral acids or with the strongest Cayenne vinegar, or some Cayenne in substance should be added; and they should be frequently used, or, as the patient is languid, injected with a syringe. Pepper-corns constantly bitten, and the saliva swallowed, we have often found highly useful.

These are the appearances, and such the practice in the more violent attacks of the complaint; and we have never seen an instance of it, when taken early and treated in this manner, in a constitution moderately strong, proving fatal. The same plan, less actively pursued, is adapted to the milder kinds. But even the mildest should not be treated with indifference.

In the worst cases, a palsy of the muscles of the throat has come on, and nothing could be swallowed. We must then inject nourishing clysters and port wine, alternately, every three or four hours, with a little opium: use a semicupium of a strong decoction of bark; and let wine and jellies be kept in the mouth as long and as frequently as possible. This plan has succeeded, in more than one case, in our hands; and in one of these the patient swallowed nothing for six days.

We have not mentioned, among the remedies, blisters, for authors are much divided respecting their effects; and many idle theoretical discussions have been indulged on the subject. They certainly have never been injurious, but we dare not say that they have ever been advantageous. On a candid and dispassionate review of what we have seen, we can scarcely recommend them. The myrrh, also, we have not mentioned internally, or in gargle, because we think it too weak a minister to be trusted in emergencies, and it is unnecessary in slighter cases. Yeast, effervescing mixtures, and clysters, have not been sufficiently tried in circumstances so desperate; and, as the other remedies seldom fail, these are at least unnecessary.

See Aretæus de Causis et Signis Morborum, lib. i. cap. 9. Dr. Fothergill's Treatise on the Putrid Sore Throat. Dr. Huxham. Le Cat, Johnson, and Chomel on this disease. Northcote's Treatise on the Ulcerated Sore Throat. Dr. Percival's Essays. Dr. Fordyce's Elements, part. ii. Cullen's First Lines, i. 284. edit. 4.

Angi'na trachealis. In compliance with Dr. Johnson, and consonantly with our observations in a former article, we mention this species as a separate one, and distinct from that sometimes comprehended under this title by other authors. The croup we shall next consider under the appellation of *angina stridula*, and confine the present term to the *malignant angina*, extending to the trachea, or to that species of the disease in which the larynx and trachea are originally attacked. To this complaint authors have not, perhaps, paid due attention: it is indeed seldom an original disease; yet, within our own observation, it has appeared to be so. It is truly an erysipelatous inflammation, in contradistinction to the phlegmonic; nor does it materially differ in its treatment from putrid pneumonia, or angina maligna. We need not, in such instances, dread the power of the bark in inducing dyspnœa, but employ it freely with cordials. The only question is, whether blisters are more admissible or more effectual? From our own experience we cannot encourage their application; but they certainly do no harm.

Angi'na stridula. This is the *cynanche trachealis* of Cullen; a disease that, for its singularity and fatality, has fixed the attention of pathologists and practitioners. We wish we could solve the difficulties, or direct a more scientific or successful method of cure than has hitherto been adopted.

The cynanche was the boast of Dr. Cullen, as a natural well established genus, under which the species were scientifically arranged. The subject of nosology we must, at a future period, consider; but we may now add, that self-complacency had never so baseless a foundation. The species agree in no one principle but affections of the parts connected with the neck. Is it a group of complaints in which the breath is affected? No: in the gangrenous sore throat, and the mumps, the breathing is free.—The swallowing? This is not affected in the malignant angina or the croup.—Inflammation? Scarcely any inflammation occurs in the mumps. Yet we mean not to undervalue nosology, or its great advocate. We think highly of both; and if there ever was a man to whom medicine was peculiarly indebted as a science, who, by enlarged and comprehensive views, has added to its value, its utility, and importance, that man was Dr. Cullen. Our pages will be an ample commentary on this text; but our eulogium is not the rash, hasty effusion of a *young* theo-

rist, but of a person who has for a long series of years brought his opinions to the test of practice. Near fifteen years have passed since his death, and no friendly hand has scattered flowers over his tomb, appreciated his genius, his talents, and his virtues. We have some reason to accuse his family of insensibility, or his pupils of ingratitude, did we not know that attempts had been made, in vain, to procure the honourable office of his biographer. But this is from our present purpose.

The ANGINA STRIDULA, (from *stridere, to make a noise,*) is called also *angina, membranacea, interna, perniciosa, polyposa, catarrhus suffocativus, and morbus strangulatorius.* It is chiefly a disease of children, and is distinguished by a difficult inspiration sounding as through a brass tube, harsh cough, with seldom any tumour in the throat, and no difficulty in swallowing. This definition differs from that of Dr. Cullen, who is a little warped by his adherence to system. A cold and a short cough precedes for some days, when the harsh breathing comes on, with little or no fever; sometimes suddenly, at others more gradually, increasing by degrees, till suffocation closes the scene. The other functions are scarcely disturbed. The pulse, at first a little harsh, or slightly quickened, in the progress becomes very rapid and low. The face, at first flushed, is in the latter stages livid, though sometimes full. The stomach and bowels are not apparently affected. The cough is dry, flaky substances are spit up, and the patient struggles with an attempt to discharge something solid from the trachea. The internal fauces are, in a very few cases, swelled and red. It is sometimes epidemic; seems more frequent in low, marshy situations than in more elevated spots; and peculiar to children, at least scarcely ever attacking those above twelve years of age.

The disease consists in a membranous substance, lining not only the trachea above its divarication, but also its minutest branches, though the larger parts of the tube are first affected. It has been considered as a spasmodic disease by some, as it attacks suddenly, and is relieved by the warm bath and asafœtida; and as inflammatory by others, who rest, with equal security, on the cough preceding, and the utility of bleeding. In the early period it is undoubtedly inflammatory, but this stage is short and transitory; the exudation soon commences, and the remedies for inflammation lose their efficacy. It may be perhaps asked, in what, then, does the disease in its progress consist? Certainly not in spasm, but in this peculiar exudation, of which we have scarcely any other example: and the more general ideas of spasm and inflammation have, we fear, misled practitioners in the treatment of the disease. The exudations, which are usually the consequence of inflammation, agglutinate contiguous parts, not in the form of a membrane, but of cellular texture. It is thus in the lungs when united to the pleura, and in every instance of adhesive inflammation. A preternatural quantity of mucus hardens in masses, but not in membranes; for the mucus of the bronchial glands in catarrhs and asthmas, never assumes a membranous form. In fact, the inflammatory effusion consists of the gluten of the blood diluted with the serosity: the croupy membrane is a peculiar secretion. The labours of physiologists have discovered lately a new ingredient in the blood, which they have called fibrin; which concretes in a fibrous substance, sometimes membranous, and has even been suspected of possessing a portion of irritability. It is undoubtedly this substance which is effused; but why inflammation, at this particular period, should occasion the exudation of fibrin rather than of gluten; why this should occur at an age when fibrin is not peculiarly abundant; and why a portion of the blood, which contains the largest share of azote, should be separated at a time of life when this principle is in a small proportion; are difficulties that we cannot surmount. The chemistry of the animal fluids is in its infancy. We know not the effects of the "play of affinities" in the fluid parts of the system; and, by some unexpected combinations, azote may be separated in constitutions that appear to contain the smallest share of it. Thus we cannot detect sulphur in the animal system; yet we find it separated in the intestinal canal, and making a large proportion of the fluids of some malignant ulcers and cancers. The whole is at present involved in obscurity.

To detail the progress of a disease which generally goes on from bad to worse, or to estimate the period when nature can no longer bear up against the accumulations that obstruct respiration, would be useless: the distinction it is of more consequence to consider. The peculiar breathing is not the criterion of the complaint, for it occurs often in children without any bad consequence, and in persons of every age. Experience can see a distinction in the appearances which language cannot convey; but, in general, it may be considered as true, that the clangous inspiration if not relieved within twenty-four hours, or, if relieved, recurring within twelve, is of the croupy kind, especially in children under four years. The asthma of infants has undoubtedly been mistaken for croup; but in those we think the respiration is attended with some rattling noise, while in croup it is clear and shrill. See ASTHMA SPASMODICUM. Many cures have been reported of croup, which were certainly cases of this kind; for those who have been able to distinguish the disease, have repeatedly failed with the same remedies. It is not infectious, but it seems to prevail in particular situations; and in families it has affected all the children about a certain age.

We have said that it is for a short period inflammatory, and this we judge from the effects of active, decisive bleeding. If there be *any* truth in medical observation, a large bleeding, immediately on the attack, has cured the disease. At a future period scarcely any thing has succeeded, though a few victims have been rescued.

Emetics, topical bleeding with leeches, blisters, and purgatives, have been repeatedly tried, scarcely in any instance with success. We had long since determined to neglect these and to pursue an opposite method, viz. by a cordial and sudorific plan to endeavour to direct the morbid fluids to the surface, led by some relief apparently obtained by a quack medicine, which certainly had no other powers. This method would have been attempted, had not bold empiricism introduced another, viz. large and repeated doses of calomel. Even to very young children five or six grains are given every two or three hours, till a discharge of a green bilious matter comes on; and the relief, it is said, soon follows. We have some confidence in the reports we have received

of the success of this medicine, though in our hands it has failed; and the rapidity with which mercurials of all kinds break down the denser parts of the blood, renders it, in our opinion, a remedy of great apparent utility. The thin green bilious discharge seems an evidence of this effect. Strong mercurial frictions might perhaps be at the same time employed.

ANGI'NA ERYSIPELATOSA, MUCOSA, EPIDEMICA, ANGINOSA, EXANTHEMATICA. MUCOUS QUINSY. See SCARLATINA ANGINOSA.

ANGI'NA PAROTIDÆA. The *cynanche parotidæa* of Cullen; *catarrhus bellinsulanus*, *ourles*, and *orcillons*, of other authors. After a slight inflammatory fever, the parotid and maxillary glands swell sometimes rapidly, and to a considerable size; but they seldom suppurate, and the disease requires no particular remedy. The fever is decisive in its attack, and appears of a specific nature. What leads more strongly to this opinion is, that the swelling sometimes ceases suddenly, and is transferred to the testes in the male, and to the mammæ in females. We have, however, seen it twice pretty generally epidemic among children, without observing either metastasis. Twice in adults we have seen an instance of the former, and the swelling yielded to the common remedies. In the neck, it has been usual to keep the part warm; to give nitre and purgatives, and to rub in mercurial ointment. Nothing is, however, necessary; and those who have been most neglected, have been soonest restored to health. Keeping the swelled neck warm is always improper; nor does there seem the slightest reason to suspect a translation to the brain. Gooche's Cases and Remarks, p. 74—76, and Appendix, p. 13. Cullen's First Lines, edit. 4, vol. i. p. 303.

ANGI'NA PHARYNGÆA. This species is particularly rare. It is described by Eller, *De Cognoscendis et Curandis Morbis*; and a case of it occurs in the third volume of the Medical Commentaries. The pain is felt behind the sternum, in swallowing only, and the breath is not affected. The cure is easy, and consists in swallowing slowly nitrous and mucilaginous medicines. The complaint is uncommon and trifling.

ANGI'NA SPASMODICA. See ASTHMA.

ANGI'NA PECTORIS. For the first account of this disease, the world is indebted to Dr. Wm. Heberden of London.

The patient is seized whilst walking, and more particularly if he walks soon after eating, with a painful sensation in his breast, extending to his arms; at first no further than the insertion of the deltoid muscle, but in succession to the elbows, wrists, and fingers' ends; the moment he stands still, this uneasiness vanishes: but, after this complaint hath continued some months, it does not cease so suddenly after resting; it will now come on even while the person is in bed, obliging him to rise every night for several months together. In some inveterate cases it hath been brought on by very trivial accidents, such as coughing, going to stool, by swallowing, speaking, or from any slight disturbance of mind. Sometimes, though rarely, it attacks while the patient stands or sits still. In some persons it is the worst in winter, in others during the summer season. When a fit approaches whilst the patient is walking, its duration is short; but if it comes on in the night, it will continue an hour or more. Sometimes, though rarely, there are several days before any remission is manifest; and, during this time, the danger is imminent. The pulse is, at least sometimes, not disturbed with the pain, consequently the heart is not affected by it.

Persons of fifty years of age and upwards, of gouty habits, with short necks, and who are inclined to be corpulent, are the most subject to this disease; it is, though rarely, met with in those who are younger.

The fatal event is generally sudden: yet some continue affected with it for twenty years; and in some it almost spontaneously disappears.

The seat seems to be in or about the sternum, but always more to its left side than to any other part; and the pain is more common in the left arm.

The cause is most probably a spasm, or convulsion, as appears from its sudden attack and speedy departure, the long intervals of ease, the relief afforded by wine and spirituous cordials, its generally bearing the motion of a horse or carriage well, and its coming on in the night after the first sleep; at which time asthmas, the nightmare, convulsions, and other disorders attributed to the disturbed functions of the nerves, are peculiarly apt to return, or to be aggravated.

Dr. Parry has lately endeavoured to show, that the disease arises from an ossification of the coronary arteries of the heart; but, in general, it may be remarked, that it attends persons of advanced life, where such ossifications are not uncommon; and that we can perceive no connexion between the effect and the cause. If the functions of the coronaries were impaired, we may expect only a mortification, or a washing of that organ. In his dissections also, it has been observed, that, in the only case where ossifications were found, the disease was obscurely marked; while the others, more certainly cases of angina pectoris, offered no such appearance. In general, ossifications have been found near the valves, and in almost every portion of the heart or larger vessels; yet these are evidently effects only.

With regard to the cure, evacuations have been tried, but to no purpose; though wine and other cordials, taken at bed-time, will prevent or weaken the night fits, yet nothing does this so effectually as opium; ten, fifteen, or twenty drops of the tincture of opium taken at bed-time, will enable those patients to keep their bed until the morning, who have been forced to rise and sit up two or three hours every night for many months. A blister applied to the sternum, and kept open with nervous medicines, particularly the bark and valerian; and sometimes the preparations of copper seem to be most effectual; and, unless the disease be supposed to have vanished spontaneously, have cured it. Dr. Macbride advises issues in the thighs, with small doses of calomel; but this plan has either not been tried, or been unsuccessful. This quantity of opium, or more, may safely be continued as long as it is required. Dr. Bergius, a Swedish physician, says, that this disorder is a kind of spasmodic asthma, and that it is relieved by a solution of gum. ammon. ℥ ss. in aq. puleg. vel hyssop. ℔ ss. two spoonfuls to be taken two or three times a day. See the Lond. Med. Trans. vol. ii. p. 59. iii. 1. 37. Medical Obs. and Inq. v. 233. 252. London Med. Journal, v. 162. Memoirs of the Medical Society of London, 238. 306.

ANGIOLO'GIA, ANGEILOGIA, (from *αγγειον, vas*, and *λογος, sermo*). ANGIOLOGY. It treats of the glands, lacteals, lymphæducts, nerves, arteries, veins, and other vessels; including their structure and distribution.

ANGO'LAM. It belongs to a new genus, not yet to be found in the systems, the *alangium*. It belongs to the natural order *myrtoides*, and is a polypetalous flower of the *decandria monogynia* class and order. A large tree growing in Malabar. It runs up to the height of one hundred feet, and is twelve feet thick. It is an evergreen; its fruit resembles a cherry, and is most delicious.

The expressed juice of the root cures the bites of serpents, discharges the water of dropsical swellings, and kills worms. Raii Hist. Plant. The species is that with ten petals; another with six petals is less valued: its fruit is healing; but the leaves infused in oil are applied to wounds, and the root is purgative.

ANGO'NE, (from *αγχω, to strangle*). A NERVOUS SORT OF QUINSY. Vogel defines it to be an acute stopping up of the fauces, without inflammation. The convulsive quinsy, and hysteric suffocation, are enumerated among its species.

A'NGOR, (from *ango, to trouble*). A concentration of the natural heat of the body, causing a palpitation of the heart and anxiety. In the beginning of a fever it is a bad prognostic.

A'NGOS, a VESSEL; a receptacle of humours. See VAS.

ANGSA'NA, vel ANSAVA, (Indian,) called also *draco arbor*.

It grows in the East Indies. The liquor which distils from a wound made in this tree is used as a medicine, when it is condensed into a gummy consistence. It is of a red colour, astringent, and is sold for dragon's blood. Raii Hist. Plant. Dale. It has not yet been reduced to its place in the vegetable system.

A'NGU. See CASSADA.

ANGUI'LLA, (from *εν*, and *χτομαι, to involve*, because it rolls itself in the mud). The EEL.

Eels that are met with in rivers, or other clear running waters, are the best; the liver and the gall are extremely acrid. Boerhaave says, that no fish has a more acrid gall; and that with a mixture of the galls of the *eel* and the pike, made into pills, he hath cured many rickety children with hard and swelled bellies.

The TORPEDO, or TORPORIFIC EEL, found in Guiana, in South America, if caught by a hook, violently shocks the person who holds the line; and the shock is communicated in a circle like the electrical. Hence it is called the ELECTRIC EEL. No shock is perceived by holding the hand in the water near the fish when it is neither displeased nor touched; but if it is angry, it can give a shock to a person at five or six inches distance. This shock is produced by an emission of electric or Galvanic energy, which the fish discharges at pleasure. On the death of the animal no such property remains, and then the Indians eat it.

A'NGUIS. *Serpens anguis, anguis coluber natrix torquata*, the SNAKE.

Our *snakes* in England, and those in other cold countries, the viper excepted, do not injure us with their bites. Their fat is as good as that of the viper.

ANGUI'UM SENE'CTÆ. The *exuviæ*, or skins of serpents that are cast in spring; the slough or cast skin of a snake is as good. A decoction of it boiled in wine is said to cure deafness, pain in the ears, &c.

ANGULA'RIS ARTE'RIA, (from *angulus, an angle*). See MAXILLARIÆ ARTERIÆ.

ANGULA'RIS MUSCULUS. See LEVATOR SCAPULÆ et PATIENTIÆ.

A'NGULI O'CULI, (from *angulus, an angle*). See CANTHI.

A'NGULUS ACU'TUS TI'BIÆ. The spine of the tibia, or the shin.

ANGU'RIA, (from *αγγος, a vessel,*) so called because it resembles a cup. See CITRULLUS.

ANGUSTA'TIO, } (from *angustus, strait*). ANXI-
ANGU'STIA, } ETY, restlessness in distempers. They also signify a narrowness of the vessels.

ANGUSTIFO'LIA PLANTA'GO, (from *angustum, narrow*, and *folium, a leaf*). See PLANTAGO MINOR.

ANGUSTU'RÆ CORTEX, ANGUSTURA BARK. This bark, at first imported in the year 1788, was supposed to be the production of a tree on the coast of Africa; but it is now found to come from the Spanish main. Mr. Bruce pronounced it to be the bark of a tree called *wooginos*, by which he was cured of the dysentery in Abyssinia; and having brought over some seeds, and planted them in Kew gardens, their product he calls BRUCEA ANTIDYSENTERICA, vel FERRUGINEA; but, in the Medical Commentaries of Edinburgh, 1790, they are, on comparison, proved to be very different. This bark is imported in pieces of six inches long, and one inch and a half in breadth. The epidermis is whitish, the substance compact, and the colour, when powdered, not unlike that of rhubarb. It is a powerful bitter, joined with an aroma, not much more pungent than cascarilla, having a portion of pure oil, which approaches in its nature to camphor. It seems also to possess a narcotic principle; and has been considered more powerful than the Peruvian bark, both as a tonic and antiseptic: the virtues reside more in its gummy than resinous extract; but both are extracted by warm water, together with the oily portion. The diseases in which this medicine has been employed are those in which the Peruvian bark has been useful. In intermittents it is generally inferior in efficacy; in low fevers, and those of the putrid kind, it has seemed superior. In head-achs, attended with fever, but arising from the stomach; in dysentery, and dyspepsia; it has been of great service. From various experiments, the Angustura bark seems to claim the highest rank as an antiseptic. An extract is made in the following manner:

Take four ounces of the Angustura bark, put it into a flannel bag of a conical shape, pour upon this boiling water, and repeat it till the filtering liquor has but little taste or colour. Let the infusion be evaporated by a gentle heat, and thirteen drams and twenty grains of extract, of the full flavour of the bark, containing two drams of resinous matter, will remain. See Brande's Experiments and Observations on Angustura Bark.

ANHA'LDINUM. An epithet of a corrosive, described by Hartman.

ANHALTI'NA REMEDIA, (from *anhelo, to breathe with difficulty*). Medicines which facilitate respiration.

ANHALTI'NA A'QUA. ANHALT WATER of the Brandenburg Dispensatory. Sp. vini rect. is distilled from turpentine, and twelve or thirteen other ingredients of the aromatic kind added; but a more elegant spirit of a similar nature may be obtained by mixing a proper quantity of the essential oils of rosemary, lavender, or sage, with the common oil of turpentine, and then distilling them from spirit of wine. This water is an excellent cordial.

ANHELA'TIO, A'NHELO, ANHELI'TUS, (from *anhelo, to breathe short,*) PANTING. A shortness of breath after strong exercise. In fevers, dropsies, asthmas, pleurisies, &c. there is always an anhelitus. To express this Hippocrates often uses the word *pneuma*; but the same term amongst the chemists signifies SMOKE, and also HORSE DUNG; this last is called, when hot, *cancinpericon*.

ANHI'MA. (Indian). An aquatic bird of prey in Brasil, larger than a swan. Its horn is esteemed an antidote against poison.

ANHUI'BA. (Indian). See SASSAFRAS.

ANICE'TON, (from α, *privat.* and νικαω, *to conquer,*) INVINCIBLE. An epithet for a plaster ascribed to Crito; an infallible remedy for the acores.

ANICE'TUM. See ANISUM.

ANI'DROS, ANIDROSIS, ANIDROTI, (from α, neg. and ἱδρωω, *to sweat*). Without sweat.

A'NIL. See INDICUM.

A'NIMA MUNDI, (from ανεμος, *wind, spirit*). The SOUL OF THE WORLD. The ubiquitarian principle of Plato, like Des Cartes' æther, pervading and influencing all parts and places, and the archæus of Van Helmont and Paracelsus. In the works of the elder chemists and pharmaceutists, it means a concentration of the virtues of bodies, by any means that can be supposed to develop their powers, as solution, distillation, &c. Thus we have *anima jaspidis*, aloes, and rhubarbari.

A'NIMA PULMONUM. A name given to saffron on account of its supposed use in asthmas. See CROCUS.

A'NIMA HEPATIS. The name of SAL MARTIS.

A'NIMA ORTICULORUM. A term for HERMODACTYLLS, &c.

A'NIMÆ. The VESICLES OF HERRINGS; are thus called because they are light and full of wind. They are supposed to be diuretic.

A'NIMAL, (from *anima, life*). All bodies endowed with life, and with a power of spontaneous motion necessary to support life, are called *animals*. Animals are thus distinguished in general from vegetables. But perhaps a more correct and scientific definition is the following:—An animal is an organized body, sensible, capable of voluntary motion, provided with a central organ of digestion. They are all capable of reproducing their like: some, by the union of the two sexes, produce small living creatures, and are called *viviparous*; others lay eggs, which require a due temperature to produce young, styled *oviparous*; some multiply without conjunction of sexes, *hermaphrodites*; and others are reproduced when cut in pieces, like the roots of plants, *animal plants*.

After man, all other animals have been divided into eight classes, in the following manner:

DAUBENTON'S DIVISION *and* CHARACTERS *of the Eight Classes of* ANIMALS.

<table>
<tr><td colspan="6">Having a head.</td><td colspan="2">The most part having no head.</td></tr>
<tr><td colspan="6">With nostrils.</td><td colspan="2">Without nostrils.</td></tr>
<tr><td colspan="6">With ears.</td><td colspan="2">Without ears.</td></tr>
<tr><td colspan="2">Two ventricles in the heart.</td><td colspan="4">One ventricle in the heart.</td><td colspan="2">The heart variously formed, or unknown.</td></tr>
<tr><td colspan="2">Warm blood.</td><td colspan="4">Blood nearly cold.</td><td colspan="2">A whitish fluid instead of blood.</td></tr>
<tr><td colspan="2">Inspiring and expiring air frequently.</td><td colspan="3">Inspiring and expiring air at long intervals by lungs.</td><td>Admitting the air by gills.</td><td>Admitting the air by spiracula.</td><td>No apparent entrance or aperture to admit air.</td></tr>
<tr><td colspan="2">Viviparous.</td><td colspan="6">Oviparous.</td></tr>
<tr><td colspan="2">With teats.</td><td colspan="6">Without teats.</td></tr>
<tr><td>1st Ord. Quadrupeds.</td><td>2d Ord. Cetaceous Animals.</td><td>3d Ord. Birds.</td><td>4th Ord. Oviparous Quadrupds.</td><td>5th Ord. Serpents.</td><td>6th Ord. Fishes.</td><td>7th Ord. Insects.</td><td>8th Ord. Worms.</td></tr>
<tr><td>Four feet and hairy skin.</td><td>Fins and no hair.</td><td>Feathered.</td><td>Four feet and no hair.</td><td>Scaly without feet or fins.</td><td>Scaly with fins.</td><td>Having antennæ.</td><td>Having neither feet nor scales.</td></tr>
</table>

We shall add the Arrangement of CUVIER, which is in general preferred:

Animals with vertebræ.	Blood hot: heart with two ventricles.	Viviparous with mammæ.	Mammalia.
		Oviparous without mammæ.	Aves.
	Blood cold: heart with one ventricle.	Lungs sometimes with gills.	Reptiles.
		Gills without lungs.	Fish.
Animals without vertebræ.	With blood vessels.	A simple spinal marrow without articulated limbs.	Molluscæ.
		A knotty spinal marrow without articulated limbs.	Vermes.
		——— *with* articulated limbs.	Crustaceæ.
	Without blood vessels.	A knotty spinal marrow *with* articulated limbs.	Insects.
		No spinal marrow; no articulated limbs.	Zoophytes.

We may subjoin for its curiosity, perhaps from its scientific accuracy, that of M. VIREY; premising only, that he understands, by the great sympathic or intercostal, a nervous system, not immediately and directly issuing from a brain, but, like the intercostal in the human body, composed of nerves from different sources.

Animals.	With two nervous systems, the cerebral and sympathic:	With hot blood	Mammalia.
			Birds.
		With cold blood	Reptiles.
			Fish.
	With a nervous system surrounding the œsophagus, the sympathic:	With a heart	Molluscæ.
			Shell-fish.
		Without a heart	Insects.
			Worms.
	With nervous molecules; zoophytes.	Solitary	Echinodermes.
			Hydri and infusory animals.
		United	Corals and ceratophytes.
			Madrepores and sponges.

Animal substances differ from vegetable in their chemical nature and changes they spontaneously undergo. Though not peculiar to the animal system, yet azote and phosphoric acid are their most distinguishing ingredients. The acid gives the distinguishing appearances to the earth which forms their basis, and the azote is the chief principle of the volatile alkali, formed during their spontaneous decomposition by putrefaction. Volatile alkali is contained in animal substances when entire, particularly in the blood, where it exists in an ammoniacal salt; but its proximate principles, azote and hydrogen, are more frequently found, and the alkali is formed during the decomposition. The same principles are found, also, in the gluten of farinaceous seeds, in mushrooms, and many other vegetable substances, particularly in the whole family of the cruciferæ; and a volatile alkali is separated from vegetables in various chemical processes. Hydrogen, its other principle, is more generally diffused through the vegetable and mineral kingdoms, and can scarcely be considered as an animal substance. Carbone, oxygen, and lime, the other animal radicals, are found in almost every substance.

There seems to be no peculiar animal acid. The zoonic and sebacic are probably the acetous: the acid of ants and of silk, the formic and bombic, are acetous. The Prussic acid is still little known; and if any merit the appellation of animal acids, they are the phosphoric and the uric: of which the latter is only peculiar to the animal kingdom, and perhaps may at last appear to be the oxalic disguised by azote, as Proust supposes the bombic acid to be. The other animal productions are fibrin, albumen, gelatine, mucilage, oils, sugar, resins, sulphur, and iron occasionally, perhaps accidentally, occurring. Gelatine and mucilage connect animal with vegetable substances, as they admit of the acetous fermentation. With oxygen, mucilages form resins, of which there are few examples in the animal system, and the proportions are small. If we recollect rightly, the bile, the cerûmen of the ear, and the urine, are the only instances in the human body.

The oils and fats of animals, like the gross oil of vegetables, are soluble either in water or in spirit of wine, by the intervention of a third body only, as mucilage or gum. The oils of animals differ from those of vegetables.—1. The finer animal oils are not, like the vegetable, procured by a moist, but almost always by a dry distillation, that is, by combustion; and hence all animal oils have an empyreumatic smell. 2. Though an acid is found in the fat of animals, yet in the distilled oils of animal matter a volatile alkaline property is found; but in those of vegetables there is always an acid. The volatile alkaline salts, therefore, contained in the oils of animals, render them more penetrating and stimulating than the distilled oils of vegetables. One drop of the ol. c. c. intimately mixed with the sp. vini. rectif. ℥ ij. is powerfully stimulant and sudorific. Independent of the oil collected in the cells of the adipose membrane, or that obtained by distillation, the decomposition of animal substances, by means of the nitrous acid, procures it in considerable purity.

The odorous matter of some animal substances, as musk, castor, &c. is, like the essential oils or resins of vegetables, soluble in sp. vini rectificati, and volatile in the heat of boiling water.

The gelatinous principle of animals, like the gum of vegetables, dissolves in water, but not in spirit or in oil. Like the gums, also, it renders oils and fats miscible with water. However, many animal juices differ greatly even in these general properties from the corresponding ones of vegetables. Thus animal

serum, which appears similar to vegetable gummy juices, and mingles with cold or warm water, concretes by heat into a solid mass: the heat necessary is about one hundred and fifty of Fahrenheit.

Animal substances become putrid much sooner than vegetable ones, and when corrupted are much more offensive. See PUTREDO.

Animal matter, burnt in the open air, is resolved, like vegetables, into soot and ashes, but with this difference, that no fixed alkaline salt can be obtained from the ashes, and no acid vapour accompanies the smoke. Exposed to the fire in close vessels, after the watery moisture, a volatile alkaline salt is obtained, together with an empyreumatic oil that is more fetid than that from vegetables.

ANIMAL BEZOA'RDICUM OCCIDENTA'LE. THE LESSER AMERICAN DEER.

ANIMAL BEZOA'RDICUM ORIENTA'LE. THE BEZOAR GOAT.

ANIMAL MOSCHI'FERUM. THE MUSK ANIMAL. See MO'SCHUS.

ANIMAL ZIBE'THICUM. See ZIBE'THUM.

ANIMAL KINGDOM. It is not our object to ascertain with precision the limits of this kingdom of nature, or to mark the various shades of distinction between animals and vegetables. It occurs in this place chiefly to notice the various medicines which it affords.

The *mammalia* chiefly furnish aliment; yet artificial teeth are formed from those of the *trichecus manatus:* castor and civet from the *viverra zibetha* and *castor fiber;* musk from the *moschus moschiferus*. The various species of *cervus* afford a nutrient jelly from their horns, and formerly the volatile alkali was also prepared from them, though now supplied by bones. The milk of the *cow*, the *goat*, the *mare*, and *ewe*, are well known; and the suet of the sheep, and the lard of the hog, need scarcely to be noticed. The morbid concretions, the bezoars, are not at present employed; the elk's hoof is disregarded; the bile of the ox and sheep seldom prescribed; and the gastric juices chiefly used as an external application.

The *physeter macrocephalus*, from the cetaceous tribe, furnishes the *spermaceti*, now styled adipocire; and the different species of sturgeon, from their air bladders, the *isinglass*. The oil which spontaneously separates from the liver of the pike (*esox lucius*) is used in obfuscation of the eyes; the oil from the liver of the codfish in rheumatism.

Among the *amphibia*, the *rana esculenta* is nutritious; and the *rana bufo*, it is said, has been used in cancers, by sucking the venom. Several of the *lizards* are supposed to possess medicinal powers. The *l. agilis* has been used as a remedy for cancers; the *l. scincus* as an aphrodisiac; and the flesh of the *l. iguana*, like that of some of the whales, has been suspected of exciting to action the latent venereal poison.

Of *insects* we shall on a future occasion treat more at length. See INSECTA. The *vermes intestina* furnish the lumbricus terrestris and the leeches; of the *molluscæ*, we employ only the sepia officinalis, and the limax maximus terrestris; of the *testacea*, the ostrea edulis and maxima, and the helix pomatia; of the *lythophites* the madrepore, the coralline, the corals, and the sponges.

ANIMA'LCULE. A diminutive of the word *animal;* that is, they are such little creatures as require to be viewed through glasses to discern them distinctly. Rain, snow, and dew, contain them in great numbers. In boiled water they sometimes revive.

The animalculæ in a fluid are generally collected in a mass; if disturbed, they separate, as fish in a pond, and continue for a time distant from each other. They follow the fluid to the last drop, and then seem to struggle and die; after their apparent death, on adding water, they revive. When seemingly dead, they are very flat; but soon recover their plumpness when revived. They are destroyed by the slightest atom of oil of vitriol; of solutions of common salt, salt of tartar, and sugar: urine and blood are equally fatal.

In short, animal life abounds so copiously, that wherever a nidus occurs, its peculiar animals are found; but in this place we must consider them only as connected with medicine. The animalcules discovered by Lewenhoeck in male semen, encouraged physiologists to suppose that they had unravelled the mysterious subject of GENERATION. More mature reflection and repeated observation have, however, dissipated the phantom, as we shall see under that article. Animalcules have also been considered as the causes of various diseases. Linnæus's Dissertation on the fifth volume of the Amœnitates Academicæ, entitled Exanthemata Viva, contains almost all the facts dispersed in various authors on this subject; and Langius has with equal anxiety reduced almost every disease to this cause. The complaints enumerated by Linnæus as owing to animalcules are, itch, dysentery, hooping-cough, small-pox, measles, plague, and syphilis. With respect to dysentery the argument is curious: in dysenteric stools, animalcules were found, and these animalcules were only killed by an infusion of rhubarb. Unfortunately, rhubarb will not cure dysentery. At present it is doubted whether even the itch is owing to animalcules.

A later idea of a disease from animals is that of Mr. Adams, who derives cancer from a species of tenia. His arguments are at least specious, and they will be considered in their proper place. See TÆNIA and CANCER.

See Philos. Trans. Abr. vol. iii. Dr. Hook's Micrographia.

ANIMA'LE DIPPE'LII, O'LEUM. DIPPEL'S ANIMAL OIL.

This is a common animal oil highly rectified: the number of rectifications required is in proportion to the former state of the oil: seldom less than six are necessary. It must be closely kept from the access of the air.

Animal oils thus rectified are thin, limpid, and of a subtile, penetrating, not disagreeable smell and taste. They are antispasmodic, sedative, and diaphoretic, in doses, from five to thirty drops. Hoffman speaks highly in their favour, observing, that one dose excites sweat, and supports it for twenty-four hours without languor or debility; and that if twenty or more drops are given on an empty stomach, six hours before the accession of an intermittent fever, they frequently remove the disorder: in chronical epilepsies and other convulsive symptoms, especially if given before the usual time of the attack, and preceded by proper evacuations, they are effectual.

They lose much of their quality by keeping.

All empyreumatic oils dissolve in sp. vini rect.: and the more they are rectified, the easier is their solution, a circumstance in which they differ from essential oils,

which, by repeated distillations, become more difficult to dissolve.

ANIMA'LIS FACU'LTAS. See FACULTAS and ACTIO.

ANIMA'LIS MO'TUS. ANIMAL MOTION.

This is the same with muscular motion, and is divided into two species sufficiently known, voluntary and involuntary. See MUSCULUS.

ANIMA'LIS SPIRITUS. ANIMAL SPIRITS. See CALIDUM INNATUM.

ANIMA'TIO, (from *animo, to give life, to animate*). ANIMATION. The particular effect produced by the vis vitæ in all animated bodies, by which life is begun and supported.

A'NIME, so called from its refreshing odour. The Portuguese corrupted the word *animæ* into *anime*.

The GUM ANIME is also called RESINA ANIME, and *courbaril rezina, aminæa, animum*. By Piso the tree from whence it is obtained is called *jetaiba*, by the Indians *courbaril*. *Hymenæa courbaril* Lin. Sp. Pl. 537.

The gum anime is a transparent, yellowish white, resinous gum, obtained from a large tree in Brasil, New Spain, and the East. The latter Dioscorides calls by the names *myrrha* and *minæa;* but in our shops we have no other than the American kind. The small tears are the purest. It hath but little taste, though to the smell it is very agreeable. It easily breaks between the teeth; but if chewed for some time, it softens and becomes adhesive. If it is laid on a red-hot iron it immediately melts, inflames, and burns quickly away, leaving only very little white ashes.

It dissolves in sp. vini R. but is very little affected by water, except in distillation, when a part of its flavour and a small quantity of oil rise. The Brasilians are said to use it in fumigations for pains and achs from cold; for palsy and contractions. With us it is esteemed diuretic. The dose is ℈ i. The gum copal is often sold for it.

ANIMELLÆ. The glandules under the ears, and under the lower jaw, called *lacticinia*.

ANIMI, et ANIMÆ DELIQUIUM. See LIPOTHYMIA.

ANIMI'FERA A'RBOR BRASILIA'NA. See COURBARIL.

ANIMUM. See ANIME.

A'NIMUS, (from ανεμος, *wind or spirit*). The MIND. The body and the mind reciprocally affect each other; whatever invigorates the body, renders the faculties of the soul proportionably active and strong: what depresses the strength lessens the spirit, the resolution, and the more active intellectual faculties.

The circulation of the blood not only unites the soul with the body, but also governs and directs its operations; with the circulation of the blood, the animal and vital functions continue: they vary, and cease to be, according as the circulation varies or ceases. To preserve, then, the faculties of each, we must attend to the health of both.

The regulation of the mind is consequently a subject of the highest importance, and must be considered at some length; both as it affects individuals adapted for different employments, as necessary to the preservation of health, and as a means of alleviating disease, and assisting the powers of medicine. The medicina mentis has not, perhaps, obtained a sufficient share of attention; and the few dissertations by Hoffman, Boerhaave, and Gaubius, have scarcely elucidated so intricate a subject.

It has been long since observed, that the most furious and courageous animals possessed strong fibres, a rich glutinous blood, and solids remarkably firm. The bones of the lion are said to be capable of striking fire with steel. These corresponding states of mind and body are supported by large supplies of animal food; and we animate the spirit of cocks fed for combat, of horses for speed, and of pugilists, by food of a nourishing power beyond the usual standard, which will afford strength, without overfilling the vessels.

A more calm and steady exertion of mind, a collected coolness, and an accurate discrimination of circumstances, in general similar, are connected with a very different state of body. The fever, excited by high diet, will not fit a person for duties of this kind. The sleep must be calm and undisturbed; the stomach not oppressed with crudities; the vessels not overfilled; the secretions neither obstructed nor preternaturally propelled. It is the state in which the student will best succeed; it is that to which the gamester, with unremitted attention, brings his constitution; and it is that perhaps most consistent with the best state of the intellectual faculties. Yet a habit of study cannot be long indulged with perfect impunity. This regular co-operation of body and mind is disturbed by the late hours which sometimes study demands; by the inactivity which persevering attention occasions. To the regular, calm performance of the functions succeeds from these causes a mind agitated and irritable; a stomach loaded with flatulence; bowels oppressed by accumulations. The powers of the mind are heightened to unusual quickness, and the body seems to want the activity thus diverted to other purposes. Yet the mind is a considerable gainer by the exchange. Fancy is more alive; analogies, remote and in general unperceived, become obvious; the imagination active, embodies airy nothings, and gives form, shape, and semblance, with hues more vivid than nature would own. The body, however, sinks under the exertion; and the irritable, sleepless, jaundiced, student, is the prey to the natural ills in consequence of his own irregularities, and to those which his imagination, thus exalted, portrays; happy to lose them in insensibility, or to exhibit an example how low human intellect can sink, as well as to what a height it can soar.

Indolence, combined with free luxurious living, gives another turn to the intellectual faculties. The vessels overloaded, produce languor, an incapacity for exertion, and at last a real, unconquerable debility. In this state, too, the mind equally suffers. Listlessness, inactivity, and lethargy, come on; the mind and body, equally torpid, sink together, and no cause of debility produces effects so difficultly subdued. Abstinence, even conducted with caution, occasions fainting; exercise is attended with the most distressing fatigue; and the abridgment of the long protracted slumbers induces even a worse languor than it was intended to relieve. An entire loss of sleep and of appetite, as well as of memory, and sometimes of reason, are the consequences.

Great exertions of mind and body are not attended with effects so fatal. If united, they seem scarcely injurious. Exertions of body alone, if regular occasional sleep is allowed, do little harm; and exertions of mind,

though strong and long continued, with moderate attention to hours of relaxation and rest, are not very injurious. The sailor and the mathematician are, perhaps, the persons who afford the strongest examples of each, and both have been remarkable for longevity.

The indulgence of passions, in every instance, undermines the constitution. The present subject confines us to mental passions. Anger, in excess, is a short madness, and unfits every man for careful enquiry and examination. Fear deprives us of our resources, and grief depresses every bodily function. Even joy, by extreme animation, has been fatal; and love, absorbing every other feeling, has, even when successful, been little less injurious. In short, every passion should be kept in due subordination, and regulated by reason and judgment.

We are thus brought to the next part of our enquiry—the regulation of the mind, as necessary to the preservation of health. The Almighty, when he gave us passions, bestowed also reason and judgment. By the due subordination of the former to the latter we obtain the chief good, *mens sana in corpore sano*. Yet it is with passions as with other causes of disease; they are hurtful only in excess. They are given to vary the dull uniformity which, without them, would ensue; to agitate the stagnant lake, which might otherwise become putrid and injurious. Our hopes, our fears, our joys, and sorrows, become useful stimuli to the intellectual system, as wine, and sometimes high foods, to the material. The torpid misanthrope, and the most strictly temperate men, are seldom healthy or long lived. The principle within us, which regulates our systems, which corrects our deviations, and urges us to the supply of our wants, languishes for want of action, as the muscle no longer exercised loses its power. In short, our frame is adapted for action: let the causes of activity cease, and we can no longer exist. Let not this be considered as the language of Brunoniasm, or the apology for excess. We disapprove of each: but a man may vary his habits without becoming a glutton or a drunkard; and may speak the language of common observation, without being wedded to a sect.

The regulation of the mind is of great importance in a studious man. The hour of sleep should not approach, while the mind is irritated by study. A calm serenity should be allowed to steal on, by light conversation, or by works which engage the attention, without mental exertion, before the time of retiring, and that time should not be protracted beyond eleven. During the times of study, the mind should never be forced to labour. It is sometimes less fitted than at others; and it often happens that the period of the best health is not that of successful study. The mind is then seemingly too much alive for confinement to a single subject, and will bend with greater ease when a little bodily fatigue has checked its too soaring flights. The studies also should be varied: few men studied more than Lord Kaimes; yet few preserved the mental powers so little weakened to extreme old age. This he owed to the variety of his studies, and to mixing them with the affairs of common life. A student was supposed to be above these; but he will gain little in the estimation of those "whose praise is fame;" he will gain little in mental or corporeal vigour for being so. Perhaps a student should be abstemious: this is, indeed, necessary, unless he combines bodily exercise with study; but he should certainly avoid studying soon after his meals, however slight they may be.

An important regulation of mind, particularly to the student, is the power of turning to a different subject, from that which engages his attention, without confusion or difficulty. This power few possess, but it is not difficult of attainment. It chiefly consists in having clear ideas on every subject, and declining any, until reflection has given that clearness, which enables us to see at once the whole of it with its various bearings. When this is attained, it is only necessary to avoid hurry. If a new subject is started, a few minutes' delay will prevent confusion; and, before custom has made a change common, the time allowed for the mind to resign one, and resume the other, should be enlarged. By habit, as usual, great facility in the process will be acquired, and it will seem intuitive. A very convenient power which may perhaps also be easily acquired is, that of employing the mind at once on two subjects of unequal importance; to talk, for instance, on common topics in general company, while the mind pursues some abstruse and intricate reasoning in its own recesses. This, we believe, is attained only by exercise and experience.

The regulation of the mind is of great importance in alleviating disease, and assisting the power of medicine. The effects of diseases purely corporeal, on the mind, are singular. In hectics, for instance, confidence of returning health constantly prevails, notwithstanding the hasty approaches of debility in every form. In syphilis, where there is no real danger, the mind is in as great a degree depressed, with an equal confidence of not surviving. In some fevers, the depression is so great, and the certainty of dying so strongly fixed, that the patient looks on the person as his worst enemy who foretels a different event. We might pursue this connection between the mind and body in a great variety of diseases. We mention them as instances only, to render the directions for the management more easy. Of the confident state of mind little need be said; yet this confidence must be sometimes lessened, when the arrangement of worldly affairs is necessary. When the mind is unreasonably depressed, ridicule and argument are equally cruel and misapplied. To reason with a madman is ridiculous; and the mind is partially deranged, which admits such unreasonable fears. The best method is to admit the danger, but to magnify the power of medicine; and, if any instance of recovery can be found in similar circumstances, ostentatiously to point it out. Mental impressions, except in very particular complaints, are by no means very permanent. They will in time lose their power; but, unfortunately, in many instances this power is retained till the constitution has received irretrievable injury.

The operation of medicines is sometimes assisted in chronic cases by exciting hope, and placing the completion of the expectations at a distance. If, by the relief of a troublesome symptom, one step can be gained, it will give a confidence which will materially assist the future progress.

Cheerful conversation, where the strength will permit, is of great importance in amusing the mind. The complaints, however, should not form the subject, nor should it be unkindly disregarded. When it unavoidably recurs, the conversation should be dexterously shifted;

not, as if that topic was forbidden, but as if it was not of importance, or because something more interesting offered. In general, patients should have sufficient power over their minds to prevent irritation from little inconveniences or disappointments, that must occasionally happen from the failure of their medicines. The calm, well-regulated mind possesses considerable advantages over the hasty, the fretful, and impatient. The one will recover in the most apparently desperate circumstances; the other will yield to diseases, scarcely in themselves dangerous.

ANI'NGA'IBA, *(Indian,) Brasil. arbor aquatica.* The genus has not been ascertained. It seems to belong to the families of the *balisiers* and *aroids*.

The bulbous roots of the aquatic species are used for fomentations against inflations of the hypochondria. Of that species which is found in the woods, the leaves are bruised and applied as a general remedy for healing ulcers. Raii Hist. Pl.

ANISA'TUM, (from *ανισον, aniseseed).* A wine in which aniseseeds are infused.

ANISCA'LPTOR, (from *anus, the breech*, and *scalpo, to scratch).* See Latissimus dorsi.

ANI'SUM, A'NESUM, ANICE'TUM, A'NISE. It is the *pimpinella anisum* Lin. Sp. Pl. 379. *Anisum herbariorum.* Common anise.

The common *anise* is a native of Egypt, Crete, and Syria: cultivated in the southern parts of Europe, and grows in our gardens in England; but it does not arrive at any great degree of perfection with us. The seeds only are used in medicine: those which are produced in Spain are smaller than those collected in other countries, and are generally the most esteemed.

Aniseseeds have an agreeable aromatic odour, and to the taste they are gratefully warm, with a degree of sweetness; they are much used in flatulent complaints, and a scruple of the powder has been given for a dose, and in spasms of the bowels: they are also moderately anodyne, diaphoretic, diuretic, and discutient; an infusion of them in water moderates the thirst in a dropsy, and abates the diarrhœa; the fume received through the nostrils is said to abate head-ach; they promote an appetite, and check convulsive coughs, when a flatus and coldness in the stomach are the causes. They are supposed to increase the milk in nurses. Geoffroy says the odour is perceptible in that fluid. Cullen's Mat. Med.

Those who are offended with the seeds may employ the tincture, for the spirit in some measure covers their flavour.

Water and spirit of wine both completely extract the virtues of aniseseeds; but in distillation very little of the seeds are carried over with the spirit; however, after its evaporation, a powerful and agreeable extract remains.

Angelica seeds are added to improve the flavour of those of the *anise*, in the compound water of aniseseeds. This water is apt to be milky if drawn so low as directed in the dispensatory: it has been considered an elegant cordial stomachic medicine; a glass of it assists digestion after full meals, and when vegetables have been too freely eaten.

Along with the water in distillation, their essential oil, called by Van Helmont *intestinorum solamen*, arises to the quantity of ʒi. from ℔ iii.; it possesses the taste, smell, and all the virtues of the seeds in the highest perfection: it congeals when the air is not sensibly cold into a butyraceous consistence: so that the water in the refrigeratory should rather be warm, particularly towards the end of the process. The dose is from ten to thirty drops.

This oil is also obtained from *aniseseeds* by expression; it is of a greenish colour, grateful to the taste, and strong of the seeds, of which, if sixteen ounces are lightly moistened by exposure to the steam of boiling water, about an ounce of oil may be obtained from them. This oil is gross, insipid, and inodorous, similar to the common expressed ones, with a part of the essential oil of the seed, on which its flavour depends. If this expressed oil is digested in rectified spirit of wine, the essential oil is extracted from it; or if it is distilled in water, the essential oil rises and leaves the other behind. The gross oil seems to reside in the kernel of the seed, the essential in the cortical part.

Ani'sum I'ndicum, *Stellatum; Sinense; Philliſense; Badian Semen; Fœniculum Sinense; Cardamomum Siberiense; Zingi.* Indian or stellated anise. It is the produce of a small tree which grows in Tartary, China, and the Philippine islands. The husks contain the chief of the flavour, which is the same as that of the common *aniseseed*, but not so fiery: if they are digested in spirit of wine, they yield a most acrid resinous extract. The seeds afford much essential oil by distillation in water, which is thinner, more limpid, and more fragrant than that from the common sort.

The seeds of this species of *aniseseed* are not yet common in the shops, though they are deserving of a preference to those in use. To the virtues of the common *aniseseeds* they are supposed to add an expectorant power, and to be useful in atonic diseases of the lungs. Added to tea they make it more grateful and less injurious. The dose of the powder is ʒ ss. In infusion ʒ i. is added to a pint of water.

Ani'sum fructico'sum Galbani'ferum;—*Africánum fructicéscens, fólio, et cáule vére cærúleo tinctis.* See Galbanum.

ANNETE'STES. So Paracelsus calls the Galenists, because he thought them ignorant of the causes and principles of things.

ANNO'RA. See Ovorum testæ et calx.

ANNOTA'TIO, (from *annoto, to mark).* The very beginning of a febrile paroxysm, called also the attack of the paroxysm. There is another *annotatio* or *epismasia*, proper to hectic fevers soon after eating: in this there is no previous shivering.

ANNUE'NTES MUSCULI, (from *annuo, to nod,*) so called, because they perform the office of nodding or bending the head downwards. See Rectus internus minor.

ANNULA'RIS CARTILAGO; is thus named from its shape, *annulus, a ring.* See Cricoides.

Annula'ris digitus. The ring-finger, or that next to the little one.

Annula'ris vena. The vein betwixt the ring and little finger.

Annula'res ligaments, the name of those ligaments which confine the tendons of the carpus and tansus.

Annula'ris muscle. Sphincter ani.

Annula'ris process. A protuberance of the medulla oblongata.

A'NNI'TEMPORA CONSTA'NTIA, vel INCONSTA'NTIA. Consistent seasons, such as keep their usual temperature. Or inconsistent seasons, when the weather is unsettled.

A'NNUS A'MADIN. Long life.

A'NO, ανω, upwards. Anothen. The superior parts. Emetics are thus called, as purging medicines are called κατω, *downwards*.

ANOCATHA'RTICA, (from ανω *upwards*, and καθαιρω, *purgo*). Medicines which purge upwards, as emetics.

ANOCHEI'LON, (from ανω, and χειλος *a lip*). The upper lip.

ANOCŒ'LIA. See Cœlia.

ANO'CHUS, (from ανεχειν, *to retain*). A stoppage of the intestinal discharge.

ANO'DMON, (from α, neg. and οδμη, *a smell*). Without smell. It stands opposed to fetid.

ANO'DUS. A word used by chemists for what is separated from the nourishment by the kidneys. The Greek word ανοδης, *anodus*, (from α, neg. and οδους, *a tooth*,) signifies *toothless*.

ANO'DYNA, (from α, neg. and ωδυνη, *pain*). Anodynes are medicines which ease pain and procure sleep. They are usually divided into three sorts, viz.

1. Paregorica. Παρηγορεω, *mitigo*, called also *anetica*. Paregorics, or such as assuage pain.

2. Hypnotica, hypnopæos. Hypnotics, or such as relieve by procuring sleep; υπνος, *somnus*.

3. Narcotica. Narcotic, or such as ease the patient by stupifying him; ναρκοω, *stupefacio*.

These divisions are not however correct, as there is no distinction between paregorics and hypnotics, except in degree; nor is there any evidence of the stupefacients acting differently from the latter: it would, at least, be a difficult task to ascertain where the one order begins, and the other ends. We would suggest a more natural and convenient division, viz. narcotics and inirritants; the first to be again divided into opiates and stupefacients; the second into medicines which excite new motions, or those which remove sources of irritation. We thus include anodynes of every kind.

Though we cannot accurately discriminate between the opiates and stupefacients in their respective lists, where they approach near to each other, we can distinguish them in their extremes; and may instance, as examples, opium and hemlock. The opium, we know, is taken from the poppy; but its natural order, the *rhœades*, affords no other medicine. The *umbellatæ* contain the hemlock and the dropwort; and the *solanaceæ* plants of the strongest carcotic powers, solanum, digitalis, hyoscyamus, datura, and many others. From other classes of plants we find the wolf's bane, (*aconitum napellus*,) flammula Jovis, lactuca virosa, laurocerasus, (*prunus laurocerasis*,) camphire, *laurus camphora*,) agaricus muscarius, coculus Indicus, lolium temulentum, (*l. spicis aristatis*,) and the Indian hemp, *cannabis sativa*. Chemistry gives us the oil of wine, nitrous æther, wine, and ardent spirits. All these seem to act in a way somewhat similar; viz. on the nervous system through the medium of the stomach, and perhaps differ only in degree; for the hemlock and the henbane, in moderate doses, seem to produce easy and quiet rest.

What change is produced in the nervous system by these medicines, or the opposite class of stimulants, we cannot in this place determine, because it would anticipate the subject. We may however observe, that in animals styled *cerebral* by Virey, (see Animal,) the whole nervous system communicates with the head, and that the stomach is the organ by whose nerves the head is most readily affected. A small sedative power, applied to a nerve, has little influence beyond the nerve itself, and the organ to which it is sent; but the same degree of activity exerted on the stomach, produces effects more extensive, which are soon communicated to the brain and the whole system. Of the change in the nerves from these medicines we know little. It is highly probable, that an active fluid, analogous to the electrical or Galvanic, gives them their peculiar power; that its activity is confined to the nervous fibril, which, in its minuter ramifications, is accompanied by a non-conducting sheath or coat. At the extremities only is the nervous fibril free from this impediment, and in the stomach are these extremities chiefly accessible. The power, then, whatever it be, in sedative substances, which occasions this diminished action, most powerfully affects those nerves, and is from their constitution immediately communicated to the brain, diminishing or destroying its functions.

The system of Dr. Brown has occasioned a considerable change in the language of pathology and therapeutics, by the distinction which he introduced between direct and indirect stimulants. In this place it is sufficient to hint at the difference of language, because it is apparently supported by stimulant powers, which, in the greater number of anodynes, are at first obvious. It has been supposed by sounder physiologists, and more accurate observers, that these substances contain a stimulant with the sedative power, and that the former is more quickly exerted than the latter. This idea is not however very probable, both from the great dissimilarity of the two principles, and that the previous stimulant effects are disproportioned to the sedative, while many sedatives seem to produce no previous stimulus. Both in the arterial and nervous systems we have found great reason to suspect, that *irregular* action has been mistaken for *increased* action; and from the effects of sedatives, we very generally see irregular action only. This principle we shall have occasion to develop in explaining many parts of the animal economy. In the question before us we may instance the most common sedative, when in excess, because it is preceded by the most violent stimulating effects—we mean ardent spirits. While every artery in the body seems to act with increased energy; while the more violent passions are animated to phrensy, the voluntary muscles are certainly weakened during its action. The other intellectual functions are no longer exercised. The mind and body, even in the moments of fury, lose in many respects their power. If we are rightly informed of the effects of the Indian intoxicating powers, even in the moments of phrensy, partial debility is apparent, and, in the action of opium, we find very quickly irregular wanderings of the mind, though sometimes accompanied with a quicker or somewhat fuller pulse; and, in general, it will be very difficult to discover in this latter medicine a real stimulating power. When we consider its use

in inflammatory diseases, we shall show that it is seldom dangerous from its stimulus. The foxglove, and some others of the *solanaceæ*, seem to have no stimulating effect: they are purely sedative, and act as such on the arterial and nervous system; but it is doubtful whether they are truly anodyne or hypnotic.

A tendency to sleep is constantly produced in situations where we cannot readily trace the cause; viz. after a full meal. Whether, in the process of digestion, some gas of a sedative nature is evolved; or whether, as former physiologists have supposed, the pressure of the stomach on the descending vessels occasions a greater flow of blood to the head, is uncertain. Each cause may have some influence. For this reason it is needless to observe, that anodynes should not be given after a full meal: they are at least unnecessary; yet custom has long established the innocence, if not the utility, of the fumes of tobacco in such circumstances.

The *inirritants*, the second class of sedatives, are as various as the causes of irritation they are designed to remove. Extraordinary action, in any part, is relieved by blisters and friction; and, in some instances, well managed conversation, by inspiring hope, confidence, or cheerfulness, will produce sleep. Mental irritation is also soothed by exciting a less distressing series of thoughts; by melodious strains; by light narratives; by repeating verses or numbers; by watching, in imagination, corn waving in the wind; or roving, in fancy, through well known streets and roads. All these produce new motions, and less active ones, so that natural sleep soon follows. The regular movement of a coach, and, not to speak indecorously, the drawling voice of a dull preacher, will have the same effect.

We remove irritation of the nerves by the use of the pediluvium; but for this purpose it should be long continued, and the water not very warm; at about 98° of Fahrenheit it may be continued for more than half an hour. Irritation of the stomach may be removed by drinking cold or warm water. The irritation of too pure an air may be avoided by sleeping in a lower or more marshy situation, abounding more with hydrogen: thus asthmatics sleep better in a less elevated spot; and hectic patients have certainly slept sounder in the neighbourhood of a stable. Vapours of nitrous æther, and of hops, scarcely belong to this head; but perhaps their powers have been greatly exaggerated. Cold has been considered as a cause of sleep: it is certainly a cause of death, beginning with torpor; but slight degrees of cold are highly inimical to rest. Nitre, which cools the system and checks inordinate circulation, seems sometimes to occasion sleep by this operation; and camphor, in a way less obvious, seems, in febrile cases, to act as an hypnotic.

A great inconvenience resulting from opiates is a languor and dizziness on the following morning, similar to what results from taking ardent spirits or wine in excess. In some cases the cicuta seems to act as an anodyne, without the same consequences; and a preparation of opium by a surgeon of Lancaster, appears to affect the head very slightly after its operation. This is partly owing to its being a watery, rather than a spirituous, solution; and a tincture from wine or weak spirit is scarcely inferior. The correctors of opium we must consider under that article. See Opium.

ANO'DYNA. Indolence, or absence from pain. Synonymous with *Anæsthesia*.

ANO'DYNUM. Also ANTIPODA'GRICUM, BALS. The Anodyne balsam.

Bates's anodyne balsam consists of linim. sapon. ℔ i. tinct. theb. ʒ iv. m. Bateman's drops are made in the same way, only with a weaker spirit, and tinctured with aniseseeds.

Bals. Anodyn. Guidonis, contains tacamahacæ pulveris terebinthinæ Venet. āā p. æq.

A retort is filled to nearly two-thirds of its capacity, and the oil distilled with a fire gradually increased: The red oil swims on the water, and must be separated, but differs little from other empyreumatic oils. If two parts of opium and eight of soap are digested in 48 parts of spirit of wine, adding to the strained liquor four parts of camphor and one part of oil of rosemary, an excellent anodyne balsam will be obtained.

Ano'dynum minera'le. See Nitrum, and Nitrum stibiatum.

ANO'DYNUS FOTUS. Anodyne fomentation.

℞. Capit. papav. contus. ʒ ij. Flor. sambuc. et flor. chamom. āā ʒ i. coq. in aq. font. ad ℔ ij. et colantur, adde acet. accerrim. ʒ vi. aq. ammoniæ ʒ i. m.

ANŒ'A, ANOI'A, (from α, neg. and νους, *the mind*). Stupidity. See Amentia.

ANOMA'LA, anomalous, (from α neg. and ομαλος, *equal* or *smooth*). Unequal, irregular.

ANOMŒ'OS, (α, non, and ομοιος, *like*). Dissimilar or heterogene. Hippocrates uses this word for viscid or unnatural humours.

ANOMPHALOS, (from α, neg. and ομφαλος, *a navel*). Without a navel.

ANO'NIS, (from α, priv. and ονημι, *to assist*,) so called, because it hinders the plough; called also *ononis*, *resta*, or *arcsta bovis*, *remora aratri*, petty-whin, cammock, and rest harrow. *Ononis spinosa* of Linnæus, Sp. Pl. 1006.

The cortical parts of the roots have a faint smell, and a sweetish bitter taste. In a dose of ʒ i. they are diuretic and aperient.

ANO'NYMOS, (from α, neg. and ονομα, *a name*). Nameless.

It was formerly a name of the cricoid cartilage; and many exotic trees and shrubs are ranked now under this name.

Ano'nymos America'na. A sort of wild madder. See Rubia sylvatica lævis.

A'NORA. See Ovorum testæ et calx.

ANO'RCHIDES, (from α, neg. and ορχις, *a testicle*). Such as are born without testicles.

ANORE'XIA, anorexy, (from α, neg. and ορεξις, *appetite*): also *apositia*, *asitia*. A want of appetite, without loathing of food. The Greeks call such as take no food, or have no appetite, *anorecti* and *asiti*; but those who have an aversion to food, they call *apositoi*.

This disorder, when original, is caused by bad diet, and excess in eating or drinking. In old age it may proceed from weakness. But it is more frequently a symptom of some other disorder, particularly of fevers, and the cure depends on the removal of the original one. Dr. Cullen ranks this genus of disease in the

class *locales*, and order *dysorexiæ*. He seems to think it always symptomatic; yet points out two species, viz.

1. ANOREX'IA HUMORALIS, when the stomach is offended with mucous, bilious, or other humours.

2. ANOREX'IA ATONICA, when the fibres of the stomach have lost their tone. He uses this word *anorexia* as synonymous with *dyspepsia*.

In the first species an emetic is highly necessary, and must be occasionally repeated, lengthening if possible the intervals; and during the interval, warm tonics and aromatics should be employed. From the emetics a large quantity of very viscid mucus is sometimes thrown up; and it has been an object to dissolve this substance, but no solvent has yet been found. We have tried lime water, pure kali, and ammonia, with little success. It must be occasionally discharged, and its accumulation prevented by aromatics and tonics. The whole tribe of astringents and stomachics have been employed, but scarcely any one merits a preference. Bile in the stomach produces anorexia and nausea, with a putrid taste, sensible on the back part of the tongue: this also must be discharged; but it may be corrected with lemon juice, though, in weak stomachs, a considerable commotion follows.

If excess in drinking is the cause, besides temperance and a light but cordial nourishing diet, with daily exercise, the dilute acid of vitriol with the bark, and, when circumstances admit, the waters of Bath, Buxton, Llandrindod, Pyrmont, and other chalybeates, will be serviceable.

If acids prevail in the primæ viæ, vegetables should be avoided, and the diet be chiefly of the animal kind. The drink may then be Seltzer water, or any of the chalybeate kind; magnesia, warmed with the oil of carui, is useful; or any of the warmer bitters with the pure kali.

If there are a nausea and aversion to food, the same remedies in general succeed as in a simple loss of appetite; the difference of the cases consisting only in the degree. Hoffman particularly commends mint and its preparations. See APEPSIA.

ANO'SIA, (from α, neg. and νοσος, *a disease*). The absence of a disease.

ANO'SMIA, (α, non. and οσμη, *odour*). A diminution or loss of smelling. This function may be destroyed in various ways, from a dryness of the pituitary membrane; its too great mucosity, as in a coryza; its infarction, as in ozæna; and from an obstruction of the nostrils, as in a polypus. According to Dr. Cullen the species may be reduced to,

1. ANO'SMIA ORGANICA, when there is some evident fault in the membrane that lines the nostrils, as a catarrh, a polypus, a venereal infection, &c.

2. ANO'SMIA ATONICA, when the membrane of the nostrils has no perceptible imperfection, as in paralysis. In these different instances, an attention to the cause will lead to the means for relief.

ANOTA'SIER. See AMMONIACUS SAL.

ANO'THEN. See ANO.

A'NPATER. See SULPHUR.

A'NSER. (Syriac word, AUZA.) The goose. See ALIMENT.

The fat of *geese* is penetrating and discutient beyond that of any other animal.

A'NSJUDEN. See ASAFŒTIDA.

ANTA'CIDA, (from αντι, *against*, and *acida*, *acids*). ANTACIDS. Such remedies as resist or destroy acids. See ALTERANTS.

The best antacid is pure kali; but it is not sufficient that we destroy the present acidity in the stomach: its digestive power must be increased in such a degree as to prevent future disturbance from this cause; for which purpose, see ANOREXIA, and APEPSIA.

ANTAGONI'STA, (from αντι, *against*, and αγωνιζω, *to strive*). One acting in opposition to another.

This word is applied to muscles which counteract each other.

ANTA'LE. See ANTALIUM.

ANTA'LGICUS, (from αντι, *against*, and αλγος, *pain*). Such remedies as ease pain.

ANTALIUM, (from αντα, *before*, and ἁλς, *the sea*,) also called *antale*, and *tubulus marinus*. It is a shell like a pipe, of the thickness of a small quill, and about an inch and a half in length; it is hollow, and hath hollow lines running from one end to the other: its colour is white, or a greenish white. A kind of worm is the natural inhabitant of this shell, and its medical uses are the same with the shells of oysters, &c.

ANTALKALI'NA, (from αντι, *against*, and αλκαλι, *alkali*). Such medicines as resist or destroy acids. See ALTERANTS and ANOREXIA. Bile is the most common alkaline acrimony found in the stomach.

ANTAPHRODISI'ACOS, ANTAPHRODI'TICA, (from αντι, *against*, and Αφροδιτη, *Venus*). Anti-venereal, or such means as extinguish amorous desires. Such are violent fatigue, especially if combined with low diet, whatever draws the attention from venereal subjects, active stimulant diuretics, and sometimes, apparently, nitre and camphor.

ANTAPODO'SIES, (from αντιαποδιδωμι *to reciprocate*). Returns of the paroxysms of fevers.

ANTARTHRI'TICUM, ANTI-ARTHRITICUM, (from αντι, *against*, and αρθριτις, *the gout*). Medicines against the gout.

ANTASTHMA'TICA, ANTI-ASTHMATIC, (from αντι, *against*, and ασθμα, *an asthma*). Remedies against an asthma.

ANTATRO'PHON, (from αντι, *against*, and ατροφια, *a consumption*). Medicines against consumptions.

ANTECE'DENS CAUSA, (from *antecedo*, *to go before*). See PROEGUMENE.

ANTECEDE'NTIA SIGNA, ANTECEDENT SIGNS. Such signs as precede the disease.

ANTELA'BIA, (*ante*, *before*, and *labium*, *a lip*). The extremities of the lips.

ANTELIX, or ANTIHELIX, (from αντι, *opposite*, and ἑλιξ, *the helix*). It is that part of the ear which is opposite to the helix.

ANTEMBALLO'MENOS, ANTIBALLO'MENA, (from αντι, *instead of*, and εμβαλλω, *to contribute*). SUBSTITUTED. Called also *succedanea*, succedaneous.

ANTE'MBASIS, (from αντι, *mutually*, and εμβαινω, *to enter*). A mutual insertion or ingress, applied by Galen to the bones.

ANTEME'TICA, (from αντι, *against*, and εμετικος, *vomiting*). Remedies against vomiting. These are all neutral salts, particularly the citras potassæ (the saline draught); and its power in this respect is increased if

given in an effervescing state; opiates, and, in cases of debility, a glass of wine, or even brandy.

ANTENDE'IXIS, (from *αντι*, *against*, and *ενδεικνυμι*, *to indicate*). *Contra-indicatio.* A CONTRA-INDICATION. When one symptom requires a remedy which another symptom forbids. *Prohibens* is used in the same sense.

ANTENEA'SMUS, (from *αντι*, *against*, and *τεινασμος*, *implacable*,) ANTENEA'SINUM. The same with *enthusiasmus*. A particular kind of madness: in it the patient is furiously irritated, and endeavours to lay violent hands on himself. These people are apt to be seized with sudden convulsive startings of the hands and feet; and therefore the disease is thought to coincide with the *chorea sancti viti* in some degree.

ANTEPHIA'LTICS, (from *αντι*, *against*, and *εφιαλτης*, *the night-mare*). A name for the remedies adapted to the cure of this disorder.

ANTEPILE'PTICA, (from *αντι*, *against*, and *επιλημψις*, *the epilepsy*). See EPILEPSY.

A'NTERA. See ANTHERA.

ANTE'RIOR MALLEOLUS, (from *ante*, *before*, and dim. of *mallus*, *a mallet*). See MUSC. EXTERN. AURIS.

ANTERIO'RES NA'SI, Musc. See PYRAMIDALIS NASI.

A'NTERIT, MERCURY. See ARGENT. VIVUM.

ANTHE'A, (from *ανθος*, a *flower*,) in the plural signifies REDNESS, like the top of a carbuncle.

ANTHE'LIX. See AURICULA and ANTELIX.

ANTHE'LMIA, (from *αντι*, *against* and *ελμις*, *a worm*,) the annual WORM-GRASS of JAMAICA. *Spigelia anthelmia* Lin. Sp. Pl. 213. The perennial worm-grass of Maryland is the Indian pink. It is the *Spigelia Marylandica*, though formerly referred to the genus *lonicera*, with the trivial name of *Marylandica*.

It is found in different parts of Jamaica, and of the other windward islands.

Half a dram of this latter herb may be infused five or six hours in a quarter of a pint of boiling water; one half of the strained liquor may be given to a child of twelve years old, and the other half the next morning: if no inconvenience is manifest from this dose, the infusion may be made still stronger.

For adults who are not remarkably feeble, ʒ iii. of this herb may be boiled in a pint and half of water to ℔ i. and the doses may be from two to six common spoonfuls, according to its effects on the patient.

In most persons it procures sleep; in many, after taking a full dose, the eyes are observed to sparkle, and also to be distended after the sleep is over. If there was a fever from worms, the pulse becomes more regular, and the heat moderate; and, by the use of cathartics, worms are discharged. This medicine must be continued as long as the worms are observed to pass away with the stools. If its effect is such as to produce a painful distention of the eyes, it must be omitted. An emetic should generally precede its use: in large doses it sometimes proves emetic and cathartic, produces vertigo, dimness of sight, and convulsions of the eyes. It should therefore be cautiously administered, with the intervention of a purge of calomel and rhubarb. In general, however, in this climate it is very inert, probably from being too long kept.

ANTHELMI'NTICA, (from *αντι*, *against*, and *ελμις*, *a worm*). *Vermifuges* and *antiscolica* are words of the same import.

These are medicines which either destroy or expel worms situated in any part of the primæ viæ. They were formerly divided into those which destroy, and those which expel worms: modern authors have formed four species, because there may be cases where the exhibition of either may be improper, as the particular state of the stomach and intestines may be unable to bear their action.

1. VENENOSA, { Quicksilver and its preparations. Powder of tin. Sulphur.
2. CATHARTICA, { Scammony. Jalap. Aloes. Gamboge.
3. LUBRICANTIA, { Oil of olives. Linseed oil.
4. TONICA. { Savine. Worm-seed. Tuscany infusion, and powder.

This more complicated arrangement appears however, to be an unnecessary refinement. Were we to refine in turn, we should divide them into external and internal; referring to the latter the remedies for itch, the mode of extracting the vena medinensis, and animals, by puncture. At present, however, we must confine ourselves to the internal anthelmintics; and we find it only necessary to distinguish the medicines that destroy worms, into those that act mechanically, or those which poison.

Worms are most common in children, and more frequent in the human body than in animals. We remarked, in treating of animals, that all nature swarmed with life, and that a nidus was only requisite to produce, in each instance, species peculiarly its own. Mucus is much more prevalent in the bowels of children, for reasons that cannot be assigned, than in those of adults, and worms are consequently more often found; nor are the proofs of the abundance of mucus equivocal, for children bear the most active laxatives with ease: they bear doses of cathartics which to strong adults would be highly dangerous. This, then, is the reason why children are so often infested with worms; and this, too, is the reason why worms are so often unjustly accused of producing their complaints. No medicine is half so fatal to worms as fever; for fever, excited by surgical operations, where the general system was not previously affected, will generally occasion worms to be discharged. It is certain, indeed, that in relaxed habits, mucus of the intestines is more particularly copious, and consequently tonics occasionally prove anthelmintics; but they act so remotely that they do not deserve this title, nor would they have obtained it but that some of the narcotic bitters are, at the same time, bitter and poisonous to these animals. This is particularly observable in the tansy, the fetid hellebore, and the fern roots.

The mechanical anthelmintics are, the powder and filings of tin, the setæ of the dolichos pruriens, amalgams of tin and quicksilver, crude quicksilver, and aurum musivum. Numerous are the nauseous fetids employed to kill worms; and from the inefficacy of the greater number, we suspect that they have been sup-

posed equally disagreeable to worms and our own palates. Among the more noted anthelmintics, is the cabbage tree bark (*Geoffræa inermus*); savine; rue; worm seed (*artemesia santonica*); male fern root; southernwood; tobacco; the husk and extract of walnuts; the root of the yellow helmet flower (*aconitum anthora*); lavender cotton (*abrotanum fœmina*); bastard ipecacuanha (*asclepias curassavica*); several species of annona and jatropa; the pride of India bark (*melia azedurach*); helleboraster (*helleboris fœtidus*), &c. Each of these medicines has had its advocates and opponents, and it is at last acknowledged, that few remedies of this class can be depended on. The last, however, the bearsfoot, is often effectual; and, in the tænia, the male fern root is almost certain. That it acts as a poison there is great reason to believe, since the portions discharged, that before the exhibition of the medicine had life, are afterwards voided dead. The tobacco is chiefly anthelmintic in clysters, in cases of ascarides; and, when these worms abound, the asafœtida has in the same way succeeded. Other remedies seem to act as poisons in a different manner. Olive and castor oil certainly destroy worms. Even the lower classes of animals require air, and, though they are enabled to extract oxygen more perfectly from impure air, and to live longer without that which is pure, yet they require it to be renewed. Oils may deprive worms of their natural food, or may obstruct those pores through which they may receive supplies either of air or nourishment. Alkaline and earthy neutrals are of uncertain action. Salt and water perhaps evacuate only; but in the muriat of barytes we may suspect a poisonous quality. Sulphurated gas, or waters impregnated with sulphurated hydrogen gas, have been recommended to impregnate the fluids so as to destroy hydatids. The Harrowgate water possesses similar impregnations, and may be equally useful; but we have never employed it, or heard from adequate authority of its success. Mercurials, except as evacuants, are of doubtful efficacy; but the corrosive sublimate has been recommended in tænia.

The choice of anthelmintics for different kinds of worms, is a subject that requires some attention. In the lumbrici, all the poisonous bitters are preferable; but the fetid hellebore is the most certain and effectual. The best mode of exhibiting it is in powder. It is an evergreen, but has each year, as usual, new leaves. An equal number of the new and old are carefully dried and powdered; and from two to six grains of the powder may be given, according to the age or constitution, twice a day, interposing an active laxative about twice a week. In tænia, the male fern root, salt water, sulphat of barytes, and the mechanical anthelmintics, except the setæ of the dolichos, which is rather adapted to the lumbrici, are chiefly useful. The raspings of a pewter plate with a rough file we have found the best form of powdered tin; but the male fern, followed by the drastic powers of calomel and gamboge, according to the receipt of Madame Bouffler, seldom fails. In ascarides we must depend chiefly on those medicines which act only when they arrive at the rectum, or those whose action is very powerful, viz. aloes and calomel. Infusions of tobacco, solutions of asafœtida, and of olive oil, injected into the rectum, are very effectual: but these animals are seldom eradicated. We have observed that they are generally accompanied with pain and affections of the stomach, and have doubted whether, though they appear exclusively in the rectum, their origin is not in the superior part of the canal. If this be true, tonics should probably be combined.

The choice of these medicines, as adapted to particular constitutions, furnishes little subject of remark. In general the more active drastics should be avoided in the weaker habits; and we have suspected that some of the poisonous anthelmintics are not exhibited without danger. The muriat of barytes and the male fern root have, we think, been sometimes injurious. The fetid hellebore, though apparently the most suspicious medicine, from frequent trials we can pronounce free from any effects inimical to the general health.

ANTHE'MIS, (from ἀνθος, *a flower*). Wild Camomile. See Chamæmelum vulgare.

Anthe'mis cotula and nobilis. See Chamæmelum fœtida, and Flore pleno.

Anthe'mis pyrethrum. See Pyrethrum. Galen says the anthemis is the same as *euanthemon*.

A'NTHERA, (from ἀνθος, *a flower*). Also *antera*. A compound medicine used by the ancients, called from its florid red colour. Various compositions had this name. *Antheræ*, indeed, were prepared for any particular part of the body, in the form of powders, or electuaries, and were used as collyriums, dentifrices, &c.

ANTHE'REA. See Anthora.

ANTHE'REON, (from ἀνθος, *a flower*). Called also *Geneion*. Hippocrates uses this word to express the chin, and all that part of the face where the beard grows.

ANTHE'RICOS, (from the same). According to Dioscorides, it is the flower of the asphodel; others say it is the stalk only. See Asphodelus.

ANTHE'RICUM. See Asphodelus luteus.

A'NTHINES, (from ἀνθος, *a flower*). A name of some medicated oils and wines, named from their red colour.

ANTHOPHY'LLUS, (from ἀνθος, *a flower*, and φυλλον, *a leaf*). The aromatic clove, when ripe. See Caryophilli aromatici.

ANTHORA, ANTITHORA, (from αντι, *against*, and θορα, *monk's-hood*,) so called because it is said to counteract the effects of the thora. *Antherea, aconitum salutiferum*, wholesome and yellow helmet flower, wholesome wolf's bane, monk's hood, *aconitum anthora* Lin. Sp. Pl. 751.

This plant is distinguished from the poisonous aconites, by the leaves not being glossy, by their being cut entirely down to the foot stalk, and by the segments being very narrow, and of nearly the same width from end to end. It is a native of the Alps and Pyrenées, from whence we have the dried roots, which are of an irregular roundish shape, a little oblong, brown on the outside, white within, hard to break, but not tough; to the taste it is acrid and bitter, to the smell it is faint; if chewed, it a little constringes the fauces, and a nauseous sweetness is perceived. In doses of ʒ i. it is cathartic and anthelmintic.

ANTHOS, ἀνθος, (from ανω, *upwards*, and θεω, *to run*, because in its growth it runs upwards,) a flower. Hippocrates means by this word, *flowers* in general; and if Galen is right in his comment, includes the seeds

with the *flowers*. It is also used for *æris flos*; but when used alone, signifies the flowers of rosemary, and is sometimes, but improperly, taken for the plant. See ÆRIS FLOS, and ROBISMARINUS.

ANTHO'SMIAS, (from ανθος, *a flower*, and οσμη, *smell*). A name applied to sweet scented wine.

A'NTHOUS, (from ανθος, *a flower*). Properly rosemary; but, transferred to metals, it signifies the fifth essence, or elixir of gold.

ANTHRA'CIA, ANTHRACOSIA, (from ανθραξ, or A'NTHRAX). A BURNING COAL. A hard, painful, burning swelling, which attends the plague. See CARBUNCULUS.

ANTHRACO'SIS O'CULI, ανθραξ. A scaly corrosive ulcer of the eye, attended with a defluxion.

A'NTHRAX. See CINNABARIS, and CARBUNCULUS.

ANTHRI'SCUS, (from ανθρισκα, *flowers*). See CAUCALIS.

ANTHROPE'A, (from ανθρωπος, *a man*). See CUTIS.

ANTHROPOLO'GIA, (from ανθρωπος, *a man*, and λογος, *a discourse*). The science of anatomy.

ANTHROPOMO'RPHOS, (from ανθρωπος, *a man*, and μορφη, *shape*). See MANDRAGORA.

ANTHROPOSO'PHIA, (from ανθρωπος, *a man*, and σοφια, *wisdom* or *knowledge*). The knowledge of the nature of man.

A'NTHUMON, among the ancient physicians, the name of the epithymon or dodder growing on thyme.

ANTHYPNO'TICA, (from αντι, *against*, and υπνος, *sleep*). Medicines against sleepiness. These have been usually the correctors of opium; among the chief of which, vinegar, without sufficient reason, has been accounted. Coffee is certainly, in many constitutions, a preventer of sleep; and tea also in a less number. Many others do not occur in the lists of the materia medica; and we need scarcely add the well known observations of attention long fixed on abstract sciences, or agreeably amused by interesting details, indolence, inactivity, or a mind harassed by anxiety and apprehension, as means of preventing sleep.

ANTHYPOCHONDRI'ACA, (from αντι, *against*, and υποχονδρια, *the hypochondria*). Medicines against the disorders of the hypochondria.

ANTHYPOCHONDRI'ACUM, ANTHYSTE'RICUM, SAL. It is the residuum remaining after the distillation of the water, and sublimation of the sal ammon. which consists of the marine acid and the fixed alkaline salt, or the alkaline earth, according as one or the other was used in the process. The same term is applied to this salt when refined.

ANTHYSTE'RICA, (from αντι, *against*, and υστερα, *the uterus*). Medicines against hysteric affections.

ANTI, (αντι, *contra*, *against*). This Greek preposition is generally used in a compound term. See the preceding articles.

ANTI'ADES. See TONSIL. It sometimes signifies the *tonsils*, when inflamed. From αντιαω, *to be opposite*; because they answer one another.

ANTIA'GRI, (from αντιαδες, *the tonsils*, and αγρα, *a prey*). Tumours of the tonsils.

ANTIBALLO'MENA. See ANTEMBALLOMENOS.

ANTICACHE'CTICA, (from αντι, *against*, and καχεξια, *a cachexy*). Medicines against a cachexy.

ANTICA'DMIA. A third kind of fossil cadmia, also called *pseudocadmia*. *Anti* is here joined to express its being substituted for the true cadmia.

A'NTICAR. See BORAX.

ANTICA'RDIUM. The hollow at the bottom of the breast. (From αντι, *against*, and καρδια, *the upper orifice* and *the pit of the stomach*). Called also *scrobiculus cordis*.

ANTICATARRHA'LIS, (from αντι, *against*, and καταρρος, *a catarrh*). A remedy against a catarrh. See CATARRH.

ANTICAUSO'TICUS, (from αντι, *against*, and καυσος, *a burning fever*). Remedies against burning fevers.

A'NTICHEIR, (from αντι, *against*, and χειρ, *the hand*). The thumb of a person's hand. See POLLEX.

ANTI'CIPANS, (from *anticipo*, *to anticipate*). The Greeks express this by πιολαπ]ικος: it is applied to diseases, each of whose fits begins somewhat sooner than the preceding. If the catamenia arrive before their ordinary period, they are said to anticipate.

ANTICNE'MION, (from αντι, *over-against*, and κνημη, *the calf of the leg*). Hippocrates uses this word to express that part of the tibia which is bare of flesh.

ANTICO'LICA, (from αντι, *against*, and κολικη, *the colic*). Remedies against the colic. See COLIC.

ANTICONTO'SIS, (from αντι, *against*, and κοντος, *a staff* or *pole*). In Hippocrates it signifies the supporting a person with a staff or crutch.

ANTICUS, before applied to the situation of different muscles, and used as an epithet.

ANTIDI'NICA, (from αντι, *against*, and δινος, *circumgyration*). Medicines against a vertigo. See VERTIGO.

ANTIDOTA'RIUM, (from αντιδοτος, *an antidote*). See DISPENSATORIUM.

ANTIDO'TOS EX DUO'BUS CENTAU'RÆ GENE'RIBUS. See CHAMEDRYS.

ANTIDO'TUS, or ANTIDOTUM. The Chaldee word for which is *beluzaar*, also called *alexicaca*. An antidote, (from αντι, *against*, and διδωμι, *to give*). See ALEXIPHARMICA, and ADAMUS. Sometimes it is a general name for medicines; occasionally for compound ones.

ANTIDYSENTE'RICA, (from αντι, *against*, and δυσεντερια, *a flux*). Medicines against a dysentery. See DYSENTERY.

ANTIFEBRI'LE, (from αντι, *against*, and *febris*, *a fever*). Remedies against a fever. See FEVER.

ANTI'GONI COLLY'RIUM NI'GRUM. The *black collyrium* of Antigonus. It is made of cadmia, antimony, pepper, verdigrise, gum arabic, and rain water.

ANTIHE'CTICA, (from αντι, *against*, and εκτικος, *a hectic fever*). Remedies against a hectic fever.

ANTIHE'CTICUM POTE'RII. A medicine invented by Poterius, also named *antimonium diaphoreticum Joviale*; formerly extolled as effectual in hectic fevers; but from long experience disregarded, as of no consequence. It is an oxide of tin, and chalybeated regulus of antimony, in consequence of their deflagration with nitre. The neutral salt is separated by wash-

ing. For its mode of preparation, see Lewis's Dispensatory Improved. Ed. 8vo. Edinb. 1786.

ANTIHE'LIX. See AURICULA and ANTELIX.

ANTI-ICTERIC SPIRIT, in pharmacy. As biliary calculi, out of the body, are dissolved by an union of spirit of turpentine and spirit of wine, the union of these fluids has been attempted by distillation. Half an ounce of spirit of turpentine has been distilled with half a pint of spirit of wine; and the fluid drawn off, separated from the uncombined oil. One other circumstance is necessary, viz. a method of injecting this spirit into the gall-bladder!!

ANTILE'PSIS, (from *αντιλαμβανω, to lay hold of*). Hippocrates applies this term to the method of securing bandages from slipping. *Apprehensio* and *apprehensorium* are used in the same sense.

ANTILO'BIUM, (from *αντι, against*, and *λοβος, the bottom of the ear*). See AURICULA.

ANTILOI'MICA, (from *αντι, against*, and *λοιμος, the plague*). Remedies against the plague.

ANTI'LOPUS. Called also *gazella Africana*, *capra-strepsiceros*, *strepsiciceros*, the ANTELOPE.

It is of the genus *cervus*. The hoofs and horns have been used in medicines against hysterics and epilepsy; but are now neglected.

ANTILY'SSUS, (from *αντι, against*, and *λυσσα, the madness caused by a bite of a mad dog*).

It is the name of any medicine for the cure of this sort of madness. The pulvis antilyssus is composed of equal parts of the lichen cinereus terrestris and pepper. Hill's medicine is composed of ʒ ss. of alum, ℥ ss. of chalk, ʒ iij. of bole armoniac, ʒ i. of root of helenium, and six drops of oil of aniseseed.

ANTIMO'NIALES PI'LULÆ. Dr. Ward. WARD'S ANTIMONIAL PILL. Pills consisting of well levigated glass of antimony: one pill, containing about a grain of the antimony, is a full dose.

Mr. Clutton, the chemist, says that they contain a portion of arsenic.

ANTIMO'NIALIS PU'LVIS. The ANTIMONIAL POWDER.

Take of antimony coarsely powdered, hartshorn shavings, of each two pounds; mix and put them into a broad red-hot iron pot, stirring constantly till the mass acquires a grey colour. Powder the matter when cold, and put it into a coated crucible; lute it to another crucible inverted, which has a small hole in the bottom; augment the fire by degrees to redness, and keep it so for two hours; lastly, reduce the matter, when cold, to a very fine powder: this is said to be a preparation similar to, and equally efficacious with, that of Dr. James. It is inserted in the new Pharmacopœia, and is certainly preferable to the tartarized antimony joined with the testaceous powder which used to be substituted for that of James. This powder is a calx, intimately blended with the residuum or absorbent earth of the hartshorn. It is, however, unequal in its effects, probably from the degree of heat; and is more apt to affect the bowels than the James' powder. From three to six grains are a dose; if joined with a quarter of a grain of opium, it acts as a diaphoretic, and is considered as alterative. In inflammatory fever of the rheumatic kind, by repeating the dose every six or eight hours, it has frequently proved beneficial.

ANTIMO'NIUM, ANTIMONY. Called also *stibium*, *alcimad*, *alcotol*, *stimmi*, *platyophthalmon*, *larbason*, *satanus devorans*, *lupus philosophorum*, *aurum leporosum*, *ens primum solare*, *alamad*, *madail*, *duenech*, *afrob*, *alcofolo*, *cosmet*, *calmet*, *gynæcium*.

Antimony is sometimes found in a particular ore, but most frequently mixed with other metals. Basil Valentine, a German monk, gave it, as tradition relates, to some hogs, which, after purging, it greatly fattened; thinking in like manner to feed his brother monks, all died by the experiment; hence the name ANTIMONY, ANTI-MONK, (*αντι, against* and *μονος, monk*). It is called *satanus devorans*, and *lupus philosophorum*, from its power of devouring or destroying, as it were, all metals, when in fusion with it. It is a semi-metal, of a whitish or silver colour.

Mines of antimony occur in Hungary, Transylvania, Germany, France, and in England. The French *antimony* contains about equal parts of regulus and sulphur; but the best is from Hungary. The English is often mixed with lead or tin, from which it must be separated: that which is spotted with red is supposed by Dr. Alston to contain some arsenic, and should be rejected.

The antimony is generally found mixed with hard stones or spar, from which it is separated by eliquation. Some ores are mixed with arsenic or with cobalt; some are dug up composed of fine shining lines like needles, sometimes disposed in regular ranks, at others without any observable order; this is termed *male antimony*;—some are disposed in thin broad plates or laminæ, and called *female antimony* by Pliny; and, from their different mixtures and appearances, other names are given to them. See TRAITE' DE MINERALOGIE DE HAUY, iv. 252.

The mineral, broken into pieces, is put into earthen pots, whose bottoms are perforated with small holes, and a moderate fire is applied round them; as the *antimony* melts, it runs through the holes in the bottom of the pots, and is received into inverted conical moulds that are placed underneath; in these moulds the lighter scoriæ rise to the surface, while the purer and more ponderous metal falls to the bottom; the broad part of the loaves is consequently less pure than the smaller end. The *antimony* thus separated from its ore is called crude, and is a combination of the metal with sulphur.

The goodness of crude *antimony* is discovered by its weight, from the loaves not being spongy, from the largeness of the striæ, and from its totally evaporating on a strong fire.

Its general appearance is that of a ponderous brittle mineral, or semi-metal, composed of long shining streaks like needles, mixed with a dark leaden coloured substance. It hath no particular taste or smell, and is brought to the shops in the form of conical loaves. Its specific gravity is 6.860, and it melts at 779° of Fahrenheit.

Antimony, like most of the best medicines, found its way as an internal one in the medical practice with great difficulty; the ancients, if their *stimmi* was really antimony, considered it as a poison, and only fit for external uses. Basil Valentine, in the seventeenth century, 1676, first brought it into credit as an internal medicine, publishing a work called Currus triumphalis Antimonii; but it soon lost its repute, until Paracelsus raised its character again, after which it

was received and rejected several times, until, by the labours of Crato of Kraftsheim, Lintilius, Le Febure, and, above all, Hoffman, it acquired an established place in regular practice; and is now justly ranked with the most valuable part of the materia medica.

In the state of crude antimony, notwithstanding its boasted efficacy in rheumatic, cancerous, and other cases, it appears, from repeated trials, to be an inert substance with regard to the human body: it is, however, ordered by some physicians to be taken from one scruple to a dram, two or three times a day, in cutaneous and leprous disorders, in its levigated state. Its preparations are, in general, used both as alteratives and evacuants, and hardly any article in the materia medica will admit of so extensive a use in acute and chronical diseases. In fevers of the inflammatory kind, and inflammations, antimonials are alike the proper remedy; and in chronical diseases they may be often depended on. They promote all the secretions and excretions, particularly those of the skin, intestines, urinary passages, and bronchial glands, by gently irritating the whole vascular system. If given in small doses, gradually increased, yet in the proportion which excites no sensible discharge, they are highly efficacious.

As auxiliary to other medicines on which the cure more directly depends, their efficacy is considerable. They quicken their action and increase their powers, particularly those by which any evacuation is to be promoted; with such medicines, their operation is also more easy: as an expectorant, some of its preparations excel; but the discharge from the bronchial glands has been mistaken for a salivary excretion.

The preparations of this drug are numerous, and vary in their strength according to the quantity of nitre employed in the deflagration, or the discharge of the sulphur; but, except that which is called the muriated antimony, they only differ from each other in their degrees of activity. Two private prescriptions, which are deservedly celebrated, may be also mentioned, viz. the febrifuge powder of Dr. James, and that of Edinburgh; the latter of which is recommended to us on the best authority, as possessed of those very desiderata, the want of which was the cause of other preparations being complained of. It is called *antimonial salt*, and seems to be a preparation similar to that of tartarized antimony, though kept a secret by those who prepare it. It is soluble in water—invariably of the same strength—and a grain or two under or over the dose is not attended with any inconveniences. It is probably prepared with the mercurius vitæ, instead of antimonium vitrificatum; thus forming an *antimonium tartarisatum*. See TARTAR EMETICUM.

The labours of the alchemist have tortured antimony in various ways, as it was one of the metals by which he hoped to gain his imaginary riches. The pharmaceutist has not been less diligent at a later era; but our account of its chemical properties must chiefly or entirely respect its medicinal use.

Antimony, in its crude state, is combined with sulphur; and, as a medicine, we have said, nearly inert. When completely oxidated, as in the former preparation of the diaphoretic antimony, it is equally useless. Its active form is that in which the sulphur is partly separated, or where the metal is combined with an acid. As every scientific examination of the comparative activity of the different saline preparations shows that their effects are nearly in the proportion of their solubility, it is probable that the different calces also are active only as they are soluble in the fluids, perhaps the acid of the stomach. All the oxides are in different degrees soluble, and all are volatile. The carbonic acid alone has never formed an union with antimony.

The sulphur of the antimony is usually separated by deflagrating it with nitre or crude tartar, and the oxide is more or less active as the proportion of these additions is less or greater. The different preparations are generally denominated from the proportion of hydrogenated sulphuret, mixed with the metal. An alkali added to crude antimony forms a sulphuret, which dissolves the metal, and is called *liver of antimony*. If equal parts of crude antimony and nitre be deflagrated, a different combination of the metal, its alkali, and sulphur, are obtained, styled *saffron of antimony*. If sulphur of antimony, with three parts of nitre, be deflagrated, the metallic mass, mixed with the salts, is called the *solvent of Routrou*. When washed, it is the inert calx, mentioned under the appellation of *diaphoretic antimony*. The water employed in washing it, holds a little of the antimony, which, when separated by an acid, is called *cerussa antimonii*, or the *materia perlata of Kerkringius*. When some of the sulphur remains, by diminishing the proportion of nitre or tartar, the preparation is called the *medicinal regulus of antimony*. The metal and its oxides are equally volatile, and sublime in flowers, styled *nix antimonii*, which as a medicine is useless and neglected. Antimony exposed to great heat, excluding the air, becomes a glass, and the more readily the less it has been previously calcined. The regulus itself has been cast into pills, and in the form of cups. The pills are styled *perpetual;* for they produce a cathartic effect, and may be repeatedly employed without diminution: the cup imparts an emetic power to wine, without any loss of its substance or virtue by the employment of many years. Each is, however, uncertain, and often violent in its operations; and physicians have neglected both.

The vitriolic acid, if strong and hot, acts violently on antimony, and reduces it to a white inert oxide; the fluid above containing a solution of sulphat of antimony. The nitrous acid does not dissolve the metal, but is itself in part decomposed by it. We find a white oxide at the bottom, and a nitrat of antimony above. Water precipitates a part of the nitrat, but the remaining oxide is separated by an alkali, and becomes a deliquescent salt.

The muriatic acid scarcely acts on the antimony; but if the latter is oxidated by the nitrous acid, the solution is copious. The muriat of antimony is decompounded also by an alkali. The usual way, however, of combining antimony with the muriatic acid is, by oxidating the metal, or the acid, by a highly oxidated metallic salt, the corrosive sublimate. The metal thus united to the muriatic acid is highly soluble in water, and extremely corrosive. It sublimes in an oily form, and is called *butter of antimony*. It is called *antimonial caustic*, and in the late Pharmacopœias, *antimonium muriatum*. When a large proportion of water is added, the oxide, containing a small portion of the acid, is precipitated, called, from an Italian physician, the *powder of Algarotti;* by some, *mercurius vitæ*, though it

does not contain the smallest portion of mercury. The vegetable acids act on the metal more readily when oxidated; but this subject must be afterwards considered.

We are now enabled to examine the different preparations of antimony, and shall follow Dr. Black's arrangement. He considers the preparations of antimony retaining a portion of its sulphur, for of the pure regulus we shall take little further notice, as produced by simple triture; by the effects of heat and fire; by alkalis, nitre, and acids.

By triture alone, the *prepared antimony* of the shops is obtained. It is almost an inert mass; but we find Kunkell and some other authors recommending it in rheumatism; and we recollect its being used in the drastic electuary of Dover for dropsies, and as an anthelmintic. It forms the tablettes of Kunkell; and certainly sometimes produces nausea, when suspended in a bag, in the preparation of the Lisbon diet drink, in which the prepared antimony should be always employed.

By the effects of heat and fire we obtain the *vitrum antimonii*, the *antimonium vitrificatum* Phar. Lond. The sulphur is in a great measure separated by gentle heat; but the operation is difficult, from the volatility of the metal. It has been advised to add common salt of charcoal dust to diminish the fluidity and prevent sublimation; but the salt is sometimes decomposed, and renders the medicine dangerously active. The proper state of the oxide is that of a grey or ash colour, forming the darkish brown oxide of Thenard; whose valuable experiments on antimony communicated to the National Institute, but of which an abstract only, by M. Morveau, has been published (Annales de Chimie, xxxii. 257), we shall often refer to. In this state it contains 0.16 of oxygen; but in the glass, eight parts of the oxide of antimony are combined with one of the prepared antimony. The vitrum antimonii is a more important preparation, since it has been chosen for the antimonial oxide, from which the emetic tartar is usually prepared. This has always seemed to us one of the most certain states in which the oxide of antimony can be obtained, since a determined proportion of sulphur is necessary to its vitrification; and M. Vauquelin seems to be of the same opinion if the silicious earth which it acquires from the crucible, or from some parts of the remaining matrix, be separated.

The violent action of the glass of antimony is supposed to be mitigated by combining it with wax in the *vitrum antimonii ceratum*. This form, first recommended in the Edinburgh Medical Essays as a remedy for dysentery, is now neglected; since we gain nothing but what is more securely effected by other preparations of antimony. Eight parts of the glass are mixed with one of wax, and roasted over a gentle fire for a quarter of an hour. The wax seems to be in a great degree decomposed, for about one-ninth of the whole weight is lost.

An oxide of antimony with phosphat of lime occurs in the *pulvis antimonialis* of the London Dispensatory, the *pulvis stibialus* of the Dublin, and the *oxidum antimonii cum phosphate calcis* of the Edinburgh. It is introduced as a substitute for *Dr. James' powder*, and is certainly similar in its nature and effects. See ANTIMONIALIS PULVIS.

The preparation we have there described is very near to the specification of Dr. James; yet, at the time of its introduction, physicians confidently believed that a portion of calomel was secretly added. It unfortunately happens that we seldom find this preparation exactly the same in two different processes, from some uncertainty probably in the heat which we cannot detect; and it certainly is more disposed to act on the stomach and intestines, and less on the skin, than the powder of Dr. James. It differs also from this powder, in leaving almost double of an insoluble residuum. The preparation itself is truly an oxide, and contains no portion of phosphoric acid; and this oxide is combined with the phosphat of lime, though not very intimately: whether this earthy salt involves the more acrid oxide, like the wax, or what other effect it produces, we are yet ignorant, but the preparation is truly valuable. In water it is wholly insoluble; but it may be suspended in a mucilaginous draught, and given advantageously in that form, with a little care, to avoid deposition. With a small proportion of opium, it has been already observed, we obtain very exactly the effects of James's powder.

M. Chenevix has recommended a preparation of this nature, apparently more certain in its effects. Equal weights of muriat of antimony and phosphat of lime are dissolved in the smallest quantity of muriatic acid, and the solution poured gradually into water alkalised with ammonia. Some trials have been made with this preparation, but not sufficiently numerous to enable us to appreciate its real merits. It is certainly much milder than the pulvis antimonialis; more so than the James' powder. See Philos. Trans. for 1801. p. 379.

The first medicine prepared by the action of *alkalis on antimony* that we shall mention is, the former *regulus antimonii medicinalis*, the mildest *hepar antimonii*. One part of fixed alkali, and five of crude antimony, are melted together, with some common salt to promote their fusion; the result is a dark reddish brown insipid powder, not soluble in water; now rejected from the British and Irish Dispensatories. If the proportions of alkali are increased, the substance becomes gradually more soluble; and when the proportion is two parts of alkali to one of antimony, the salt is even deliquescent. The combination of the alkali and sulphur in the antimony forms a hepar, so called from the colour; and we thus obtain the different celebrated *livers of antimony*.

The *sulphur stibiatum fuscum* of the Dublin Dispensatory, the *kermes mineral*, is the second degree of oxidation of antimony, according to Thenard. It is an hydrosulphurated oxide containing sulphur, and, like glass of antimony, contains 0.16 of oxygen. It does not greatly differ from the golden sulphur except in the proportion of oxygen, and contains 72.760 of brown oxide of antimony. The principle of the composition is now sufficiently obvious; and we may only add, that the proportion of alkali differs. It was formerly two parts to one: in the Dublin formula, the alkali is equal to the antimony. The oxide is precipitated, in consequence of the kermes mineral being only soluble in the sulphurated hydroguret of potash, at 212°. As this heat lessens, the hydrosulphuretted oxide separates. In the different pharmacopœias the proportions differ; and, with fresh additions of sulphur and alkali, the whole of

the antimony may be perhaps converted to kermes. Fourcroy has given a new, and perhaps improved, form in the humid way. He boils six parts of pure potash 'of commerce' in twenty parts of water, and, to the boiling solution, adds about the twentieth part of the weight of the alkali, of prepared antimony. After boiling seven or eight minutes, the solution is filtered while hot, and the kermes suffered to precipitate. Gren and Hermstadt vary the proportions; but these differences relate only to commercial savings.

The kermes mineral has been highly esteemed on the continent in pneumonia; and is, in reality, a valuable preparation, since it is not so liable to become cathartic, or excite vomiting, as the other preparations of antimony. In pneumonia it is certainly a medicine of peculiar utility; and we strongly suspect, that, in other febrile diseases, it would be more advantageous than even the pulvis antimonialis. Why is it not tried? The question may be retorted on ourselves, and we have no adequate excuse to offer.

The *sulphur auratum antimonii* is not very different; and if the kermes mineral is often exposed to the air, it acquires so much oxygen as not to be a superior medicine. It is of an orange colour, prepared nearly as the former, taking care only to check the deoxygenation a little sooner. It contains about 0.18 of oxygen: the orange oxide of antimony is, in this preparation, 68.3 in 100 parts. Four pounds of the aqua kali are diluted with three pounds of water, to which two pounds of prepared antimony are added. These are boiled for three hours, strained while warm, and the superfluous alkali precipitated by the sulphuric acid, which must be afterwards well washed. In the dry way, five parts of potash are melted, with two parts of prepared antimony, and three of sulphur. The whole must be quickly melted, cooled, powdered, and dissolved in water. The sulphur auratum is precipitated, as before, with diluted sulphuric acid. The principle of both preparations is the power of the hydrogenated sulphuret of potash to dissolve the orange oxide, which by the acid is precipitated. The whole must be at once precipitated; for if done gradually, as was formerly the custom, the first portions were chiefly sulphur, and the third only was preserved for use. M. Proust, in the fifty-fifth volume of the Journal de Physique, has paid some attention to this subject; but the details are too minutely chemical for our consideration. He seems to have fully shewn the principle formerly alluded to, that the oxides, both at their minimum and maximum, are incapable of any combination with sulphur. For this reason, the oxides in an active state are only combined with this body, and it is not improbable that the sulphur, in every instance, is useless, though it is certainly neither injurious nor inconvenient. This preparation is not often employed in medicine, though scarcely inferior to the kermes mineral. It was once fashionable.

By the action of nitre on antimony we obtain the *crocus antimonii*. This is a sulphurated oxide also, and obtained by deflagrating equal parts of nitre and antimony; to which, as we have said, the London and Dublin colleges add a small proportion of sea salt. This sulphurated oxide, like the preceding, contains, according to Thenard, about 10.18 of oxygen. In the shops the proportion of nitre is sometimes curtailed, and the medicine is useless. In its best state, the crocus of antimony acts unequally and violently, and is only used in veterinary practice.

With a less proportion of nitre this preparation is called also *regulus antimonii medicinalis*, and it is sometimes styled *crocus metallorum*. Macquer and Lemery choose to call it *liver of antimony*. With a larger proportion of nitre, viz. two parts of the latter to one of the metal, a milder preparation is obtained, viz. the *emeticum mitius* of Boerhaave. With three parts of nitre we obtain the *antimonium diaphoreticum lotum* of Meuder, *antimonium calcinatum*, or the *antimonium diaphoreticum*, and the *calx antimonii nitrata* when unwashed. All these preparations are inert, and now little employed. The *antimonium ustum cum nitro* consists of antimony roasted to a calx, and then exposed for an hour to a red heat with nitre. The remainder was edulcorated with water, and it was erroneously supposed to be the same with James' powder. As a substitute for it this preparation was inserted in some of the former editions of the Edinburgh Dispensatory.

With acids the most active preparations of antimony are obtained. With the vitriolic acid the Dispensatories of the united kingdoms have admitted no formula. A vitriolated antimony was employed by Dr. Klaunig of Breslaw, which Wertholf used with advantage in fevers, and adds, that it proved emetic, cathartic, and diaphoretic. We have no reason, however, to think it superior in efficacy to the other preparations. The antimony is repeatedly distilled from the muriatic acid; and the sulphat, thus formed, is sublimed. The sublimed substance is then powdered, and alcohol burnt on it. Wilson's *antimonium catharticum* is supposed to be of the same nature.

With the nitric acid we have no antimonial preparation. The *bezoardicum minerale* is, indeed, prepared with nitrous acid from butter of antimony; but the acid is decomposed, and no traces of it remain. The result is still butter of antimony; though the metal is more oxygenated, and the preparation much milder.

The muriats of antimony are very important preparations. The *antimonium muriatum* of the London, the *murias antimonii* of the Edinburgh, and the *stibium muriatum causticum* of the Dublin, Dispensatory, are prepared in the same way. The crocus antimonii, with an equal weight of sulphuric acid, is added to double the weight of muriat of soda: the salt and the oxide must be mixed, and the acid slowly added. The whole is then to be distilled in a sand bath, and the sublimed matter suffered to deliquesce in the air. The liquid part is the muriat, or butter, of antimony. In this case the sulphuric acid decomposes the sea salt, whose acid unites to the oxide. In Thenard's scale this preparation contains one-twentieth of oxygen. As the sulphur adhering to the crocus antimonii renders the operation dangerous, Gottling's process is preferable. To four ounces of glass of antimony and sixteen of sea salt, he adds twelve ounces of sulphuric acid, diluted with eight of water. The butter of antimony is drawn off in a retort. This preparation is chiefly used as a caustic; yet we have been informed that it has been employed in very small doses internally: we know not with what success. The powder of algarotti we have already mentioned as its precipitate; and the Dublin college has

introduced a *calx stibii præparata*, in which the oxide is precipitated by an alkali. This last preparation contains 0.20 of oxygen.

The *emetic tartar* is the next preparation that occurs, and it is one of such convenient exhibition and extensive use, that all the art of the pharmaceutist, all the resources of modern chemistry, have been exhausted in rendering it more steady in its operation, more perfect, and more useful in its administration. We learn from Dr. Fordyce, that we are indebted for this preparation to Dr. Cullen. If true, we cannot sufficiently admire the sagacity and judgment that prompted him in the choice, nor be sufficiently grateful for a present of such value. In children, in maniacs, and many cases where no medicine could be given, this may be disguised; in all cases where active antimonials are wanted, this preparation may be easily and successfully administered. In almost every febrile complaint it is highly useful; and joined in a small proportion to resinous purgatives, it mitigates their acrimony, and renders them useful in smaller doses. Its advantages, however, will often recur, and we need not anticipate them in this place. The chemical details must now engage our attention.

The tartar emetic is emphatically called in French *l'emetique*, in the new chemical nomenclature; it is called *antimonium tartarisatum* by the London college; *tartris antimonii* by the Edinburgh; and *tartarum stibiatum* by the Dublin. The first two employ the crocus antimonii, and add three parts of this to four parts of the crystals of tartar, and thirty-two parts of water. The last orders two ounces of the precipitated calx of antimony, with four ounces of crystals of tartar finely powdered, and five pounds of water. In fact, the antimonium tartarisatum is a triple salt; for the crystals of tartar contain potash, and this union is essential to the medicine. The London appellation hits this union very happily; while the Edinburgh college, resigning the advantage of trivial names, which are as useful in pharmacy as in botany, renders every title a definition. The different oxides of antimony have all had their patrons; but the crocus is not in general prepared with sufficient accuracy for this purpose. The precipitated oxide of the Dublin Pharmacopœia, the pulvis algarotti of pharmaceutists, or the glass of antimony, may with more propriety be employed. It is only sufficient that the calx contain 0.20 of oxygen: we have before given some reasons for preferring the glass.

Like all the preparations of antimony, emetic tartar is active in proportion to its solubility; and the scale of solubility extends from three times its weight in boiling water, and fifteen at 60°, to forty and eighty in the same circumstances. In the former case the salt was peculiarly pure. Were we to follow every refinement adopted at different times by different chemists in preparing the emetic tartar, we might fill a volume. The quantity of water need not be more than will dissolve the tartrite of antimony when formed, and the time of boiling no longer than is necessary to the combination. Some time longer than that required for the solution of the crystals of tartar is requisite, though not a considerable period, or longer than a quarter of an hour. The excellence of the preparation consists in the size, the shape, and the length of the crystals with which the solubility of the salt is connected. The proper form of its crystals is that of triangular pyramids, or in octoedrons more elongated than those of alum. In general they are too short, and, if carefully examined, have a portion of uncombined oxide adhering to them. The impediments to a proper and regular crystallization are, first, the silica, discovered by Vauquelin; and he tells us, that if the salt be evaporated to dryness, this is separated in an insoluble state: the salt may then be crystallized without further impediment from it. Another cause of imperfect crystallization is a portion of uncombined tartrite of potash. For this reason the Dublin college order the fluid to be filtered, and the remaining salts to be thrown away; but the end may be as well obtained by increasing the proportion of the oxide. Thenard very properly advises two crystallizations; and this, we think, should always be done. His object is to separate the tartrite of lime, which crystallizes in silky needles. According to this author, the emetic tartar consists of thirty-eight parts of oxide of antimony; thirty-four of tartarous acid; sixteen of potash; and twelve of water, including loss. We observe a German chemist, in Tromsdorf's Journal, directs the solution, previous to crystallization, to be exposed for fifteen days to a strong light, which seems only to facilitate the formation of the crystals.

The antimonial wines of the Dispensatories are now only solutions of tartarized antimony in wine, or in a small proportion of water added to wine. These forms are convenient for division, and require no comment. The antimonial wine of the former edition of the London Dispensatory was an unequal medicine, as the glass of antimony infused in wine could be only dissolved by its tartar, which, in different wines, is in unequal proportions. Oxalates and acetites of antimony have been prepared; but their medical qualities are little known, or, if known, do not apparently differ from those of emetic tartar. The fluoric and boracic acids act on the oxides of antimony; but they have not yet been noticed by the medical chemist.

The decomposition of the antimonial salts, particularly the tartrites, is not so easy as some chemists have supposed. From a superficial view it would appear that all acids and alkalis would occasion a separation of their component parts. Authors, however, who have been full in their cautions on this subject, have not reflected that the emetic tartar is a triple salt, and that a minute portion of acid will affect only the tartrite of potash, while the antimonial neutral will not be altered in its medical properties, though, in a chemical view, the salt is not the same. The mineral acids will, indeed, decompose the neutral and the metallic salt, and some alkalis will certainly affect the latter. This must be particularly attended to if the preparations of foreign pharmacopœias are employed, as in many of their tinctures an alkaline salt is added. In the decoctions of our pharmacopœias it was sometimes an ingredient; but, we believe, the decoction of bardana was the last instance, and it is now disused. The peculiar powers of the emetic tartar are greatly weakened by bitters, and particularly the bark. A modern author of credit, Tromsdorf, remarks, that a scruple of emetic tartar, with an ounce of Peruvian bark in decoction, is not usually emetic.

Here, perhaps, we might stop; but various preparations, and various titles of well known preparations, are to be found in authors, of which a medical dictionary

should give some account. We have compacted what is useful in a continued narrative, but shall now insert a table of the preparations of antimony, in which they are arranged from the nature of the product, for which we are indebted to Dr. Duncan; and then add some of the preparations of foreign authors, which have been at least highly commended, though not usually employed in these kingdoms, in the order of the table.

Antimony has been exhibited:

I. In its metallic state.
- *a.* Antimonium: regulus antimonii.
- *b.* Alloyed.
  1. With iron: regulus antimonii martialis.
  2. With tin: regulus antimonii jovialis.
  3. With tin and copper: regulus metallorum.
- *c.* Combined with sulphur.
  1. Sulphurerum antimon. Ed. Antimonium Lond. Stibium, Dublin.
  2. Regulus antimon. medicinalis (Maet.). Febrifugum Craanii.
- *d.* Combined with sulphuret of potash.—Hepar antimonii.

II. Oxidised.
- *a.* In a smaller degree.
  1. Calx antimonii per se cinis antimonii.
  2. Flores antimonii argentini.
  3. Pulvis algarotti.
  4. Vitrum antimonii—combined with wax, vitrum antimonii ceratum.
- *b.* Combined with a little sulphur, crocus antimonii: crocus metallorum.
- *c.* ———— sulphuretted hydrogen, sulphur auratum antimonii.
- *d.* ———— hydroguretted sulphur, kermes mineral.
- *e.* ———— muriatic acid, butyrum antimonii.
- *f.* ———— tartarous acid and potash, tartarus emeticus: dissolved in wine, vinum antimoniale.
- *g.* ———— phosphoric acid and phosphat of lime, James's powder.
- *h.* Oxidised in a greater degree, antimonium calcinatum, London.

In following this table we must first remark, that, besides the alloys of iron, tin, or tin and copper, we find a *regulus saturninus* in Stahl; *r. venereus* in Lemery; an alloy of the regulus martialis with copper in Stahl, under the fanciful name of *rete vulcani; regulus lunaris*, and *solaris*, in Lemery, viz. antimony united with silver and gold. The regulus metallorum is usually styled the *electrum majus;* the regulus jovialis, *electrum minus*. We need scarcely add, that all these preparations are useless.

The *febrifuge of Craanen* excited general attention on the continent; and it has particularly engaged the attention of Stahl, of Hoffman, of Dieterich, and Vogel. It was supposed to be a specific in intermittents; to be of service in gout, in dropsy, and malignant fevers. In the long list of its qualities, however, which we have carefully perused, we perceive nothing but what other antimonials will perform; and, if useful in low fevers, the advantage must have arisen from the bark with which it was sometimes joined. It was prepared in a variety of ways: and the great object seems to have been its red colour, from which it was called *rubinus antimonii*, and *magnesia opalina*.

The *calx*, or *cinis antimonii*, is called by Grünling *terra sancta rulandi*. When not greatly calcined, it is grey, and, as Boerhaave tells us, violently emetic. When more calcined, it is, as usual, inert. The *flowers of antimony* have engaged, in a great degree, the attention of former chemists. The *various coloured flowers* of Lemery were produced by the unequal action of the fire on different parts of the metal, and were found to be violently emetic. The *red flowers* were sublimed with sal ammoniac, and the salt separated by washing. This preparation formed the basis of the *tinctura antimonii sicca* of Garman, and was of no great activity. The flowers, prepared by means of common salt, suggested the caution formerly mentioned. They were virulent in their operation; probably from some admixture of butter of antimony. We shall mention under this head only one other preparation, the *flos stibii helmontianus*. In this preparation the antimony was oxidated by aqua regia, and sublimed with sal ammoniac: it vomited violently; but, when washed, was milder. It was the *emeticus mitior* of Boerhaave.

The *sulphur auratum antimonii* and the *kermes mineral*, however, are the preparations which on the continent have obtained such extensive fame, and which foreign chemists have so strenuously laboured to improve. Indeed the former censure relating to the neglect of the kermes mineral in fevers, more generally must be confined to the English physicians. It was, we perceive, for many years the favourite febrifuge of the continent. The sulphur auratum antimonii is precipitated by quicksilver, dissolved in aquafortis, and thus forms the *mercurial sulphur of antimony* of Poerner, which he supposes highly useful in cutaneous complaints. Hoffman precipitates it by gold, dissolved in aqua regia, thus preparing the *sulphur antimonii solare;* and recommends it as a sudorific in venereal complaints. The *sulphur auratum liquidum* is a more modern, though operose, preparation. The sulphur auratum is dissolved in a caustic lixivium, and a soap prepared by adding oil of almonds or of poppies; and this is afterwards dissolved in a strong tincture of antimony. When it is recollected that the ancient physicians were so much attached to saponaceous remedies, it is not surprising that their prejudices and experience thus coinciding in a preparation should become a favourite. It was, in their opinion, aperient and deobstruent; sudorific and alterant; useful in dropsy, cancer, chronic exanthemata, and gout.

The *butter of antimony*, chiefly used as an external preparation, has been tortured in a variety of ways. It has been prepared with luna cornea instead of corrosive sublimate, and is then the *oleum glaciale lunare* of Lemery: with the martial, instead of the crude, regulus, it is the *martial butter of antimony;* and attempered by twice its weight of sulphuric acid, is styled *liquor fiellegrini*. Sala's *spiritus mellis, antimonio abstractus*, is only the butter of antimony in a milder form. The *oleum antimonii compositum* of Basil Valentine differs from the butter of antimony in the mode of preparation only, and the mixture of quicklime; which, as it does not rise in distillation, probably adds nothing to the pungency or efficacy of the application. The *balsam of antimony*, and the *liquor vulnerarius* of Basil Valentine, do not belong to this head: we mention them here only

as external applications. The glass of antimony in these preparations is united with distilled vinegar, evaporated to dryness, and mixed with the white of an egg. In this state it deliquesces, and then becomes the liquor vulnerarius.

The union of antimony with the vegetable acids forms, however, the most extensive list of preparations. The *magisterium antimonii idiaphoreticum* consists of the glass of antimony powdered and dissolved in distilled vinegar. If then joined with red coral, mother-of-pearl, and *hartshorn calcined*, 'seasoned' with the oils of cinnamon and cloves, it forms the *bezoardicum antimoniale* of Angelus Sala. We may just stop to remark in this place, that we find the union of hartshorn with antimony not uncommon among the earliest chemists, particularly in Angelus Sala, Schroeder, and in Hoffman's notes on Poterius, where he almost teaches the modern preparation of James's powder, and from whom Dr. James evidently caught the idea of his preparation.

In the *acetum emeticum* of Lemery the antimony is united to vinegar; and he remarks, that it is more effectual if prepared with crude than with distilled vinegar. The *tinctura ex croco metallorum* of Bicker is the crocus dissolved in vinegar, and inspissated to the consistence of honey. In different ways, the union of vinegar with the oxides of antimony has furnished the *vinum emeticum* of Lemery; the *aqua benedicta rulandi; claretum purgatorium; vinum Hippocraticum antimoniale; syrupus vomitorius;* and the *oxysaccharum vomitivum* of Schroeder; the *tinctura antimonii acida* of Rosentengel; the *tinctura* and *elixir antimonii* of Basil Valentine; the *vinum antimoniale* of Huxham; and the *essentia emetica* of other authors. The *panacea universalis, panacea antimonialis emetica*, or *tartarus emeticus solubilis*, of Lemery, deserves a more particular notice. It is a neutral, composed of muriated and tartarised kali, with four parts of butter of antimony, eight of crystals of tartar, forty-eight of water, and five of salt of tartar. It is suffered to deliquesce in the air, and the nauseating dose is from six to twenty drops. Bergman's *tartarus tartarisatus emeticus* differs only from the emetic tartar, in employing the tartarised kali instead of crystals of tartar. We may just mention the *tinctura antimonii tartarisata* of Mayer; the *tinctura antimonii hepatica salina, tinctura antimonii* of other authors. It consists of wine digested with two parts of hepar antimonii; but, though highly commended, it seems to possess no very striking or peculiar properties.

Some preparations remain which contain scarcely any or no antimony except in their titles, or the antimony in an inactive state. The antimonium diaphoreticum, when powdered and washed in a linen bag, gives the *cream of diaphoretic antimony*. The *pulvis albus antimonii* of Basil Valentine is prepared by deflagrating the regulus three times with an equal weight of nitre, and washing it after each deflagration. Spirit of wine is to be eight times added, and again separated by distillation. After a process so operose, the preparation is useless. *Magisterium of diaphoretic antimony, materia perlata, sulphur fixatum stibii, sulphur antimonii fixatum, cerussa antimonii, cerussa antimonii diaphoretica, diaphoreticum regulinum*, and *antimonium diaphoreticum*, are appellations of a similar inert calx. The *cerussa antimonii solaris, diaphoreticum minerale solare, stomachicum poterii*, are pompous names for the highly oxidised and useless calx made from the solar regulus, and employed to attract the particles of quicksilver, which, after a long mercurial course, were supposed to be fixed in the fluids. A similar *cerusse* was prepared from the lunar regulus. The *antimonium diaphoreticum joviale (antihecticum poterii)* is a white calx, prepared from the jovial regulus, deflagrated with three parts of nitre. It is neglected as a remedy; and if it retain any powers, they are certainly not adapted to the complaint in its common form. We have used it without apparent injury; and in cases where the bronchial vessels were greatly relaxed we thought it useful as a tonic. The *antimonium diaphoreticum martiale* is the *pulvis anticachecticus* of Ludovici; the *stomachichum* of Poterius; the *pulvis vitalis* of Hall; and useless as an antimonial: but it contains some iron in an active state, though the martial regulus is deflagrated with three parts of nitre. The *mercurius vitæ correctus* of Sylvius, *bezoardicum minerale*, is prepared from the mercurius vitæ, deflagrated with three parts of nitre, and consequently inert. The *calx antimonii sine sulphure* consists chiefly of lime water, to which 0.11 of calx of antimony, and 0.02 of calx of iron, are added. The flores antimonii nitrosi are only the inert white oxide sublimed. The cinnabar of antimony differs in no respect from common cinnabar.

We shall add a list of other preparations in which antimony has been employed, and to which it has given a name; but they contain only a small portion, if any, of the metal, and certainly owe no part of their virtue to it. These are, 1. *Lilium paracelsi*, called by Stahl *tinctura antimonii acris et alkalinus, tinctura antimonii spuria* of Cartheuser. 2. *T. antimonii rubra* of Roger Bacon. 3. *T. vitri antimonii* of Lemery, and his *T. antimonii diaphoretici*. 4. *T. ex regulo antimonii martiali;* the *antidotos pantagogos* of Schroeder. 5. *T. antimonii* Brixii. 6. *T. antimonii nigri (mineralis amara)* of Urbiger. 7. *T. Antimonii saponata* Schulzii. 8. *T. antimonii* Thedenii. 9. *Oleum vitri antimonii, quinta essentia antimonii* of Basil Valentine. 10. *Antimonii febrifugum, magisterium antimonii, arcanum, elixir, balsamum, oleum sulphuris, et clyssus, antimonii*, of the same author. 11. *Acetum philosophorum ex antimonio.* 12. *Aqua stimmi tartarea* of Schroeder. 13. *Spiritus antimonii compositus* of the same author; *Sp. bezoardicus* Bussii; *Sp. vitrioli philosophicus* of Lemery. 14. *Sp. salis antimoniaci* of Basil Valentine. 15. *Sal verum*, and *flores antimonii* of the same; and, 16. the *chevalier's powder.*

This enumeration is nearly complete. Some of the most insignificant and ridiculous forms only are omitted.

ANTIMO'NII SULPH. REG. SUCC. See ANTIMONIUM.

ANTIMO'NII SPI'RITUS. See CLYSSUS.

ANTIMO'NII RUBICU'NDA MAGNE'SIA. See MAGNESIA OPALINA.

ANTIMONIA'LE CAU'STICUM. See ANTIMONIUM.

ANTIMO'NII ESSE'NTIA. See ANTIMONI'ALE VINUM.

ANTIMO'NII OLEUM. ANTIMO'NIUM MURIATICUM. See ANTIMONIUM.

ANTIMO'NIUM DIAPHORE'TICUM JOVIA'LE. See ANTIHE'CTICUM POTE'RII.

ANTIMO'NIUM TARTARISA'TUM. See ANTIMONIUM.

ANTI'MORIS, (from ἀντὶ, *against*, and μόρος, *death* or *disease*). A medicine to prolong life. Also the

name of an antidote which Myrepsus improperly calls *diatamaron*.

ANTINEPHRI'TICA, (from αντι, and νεφριτις, *a pain in the kidneys*). Remedies against disorders of the kidneys. See NEPHRITIS.

ANTIPARALY'TICA, (from αντι, *against*, and παραλυσις, *the palsy*). Medicines against the palsy. See PARALYSIS.

ANTI'PATHES. A BLACK CORAL. See CORALLIUM NIGRUM.

ANTIPATHEI'A, (from αντι, *against*, and παθος, *an affection*). ANTIPATHY. An aversion to particular objects. It is doubtful whether there is any real foundation for feelings of this kind; yet, when we reflect that some animals, as toads or serpents, are generally objects of antipathy, we cannot wholly attribute the aversion to fancy, though we cannot explain it. Form, colour, but, above all, disproportion, excite it.

ANTIPERI'STASIS, (from αντι, and περιστημι, *to surround*). A compressing on all sides as the air presses.

ANTIPHA'RMICUM, (from αντι, *against*, and φαρμακον, *poison*). An ANTIDOTE, or PRESERVATIVE against poison. See ALEXIPHARMICA.

ANTIPHLOGI'STICA, (from αντι, *against*, and φλεγω, *to burn*). ANTIPHLOGISTICS. Medicines or remedies suited to resist, diminish, or cure inflammation, or an inflammatory diathesis of the constitution. Under this head may be classed all watery diluents, cooling saline diaphoretics, and diuretics, particularly nitre; antimonials in small doses; and BLEEDING, *general* and *topical*. See PHLEBOTO'MIA, CUCURBI'TULA, and HIRU'DINES. Besides, living on watery, cooling vegetables, drinking copiously of simple watery liquids, and abstaining totally from all animal food and stimulating diet, may be classed not amongst the weakest of the materials proper for promoting the desired intent, under circumstances where antiphlogistics are required.

ANTIPHTHI'SICA, (from αντι, *against*, and φθισις, *a consumption*). Remedies against a consumption. See PHTHISIS.

ANTIPHTHI'SICA TI'NCTURA; i. e. TINCT. SATURNINA. See PLUMBUM, N° 5.

ANTI'PHTHORA, (from αντι, *against*, and φθορα, *corruption*). A species of wolf's-bane, which resists corruption.

ANTIPHY'SICA, (from αντι, *against*, and φυσαω, *to blow*). Remedies against wind. See CARMINANTIA.

ANTIPHY'SON, (αντι, *against*, and φυσις, *nature*,) so called, because the loadstone acts against the common appearances of nature. See MAGNES.

ANTIPLEURI'TICUM, (from αντι, *against*, and πλευριτις, *a pleurisy*). A remedy against the pleurisy. See PLEURITIS.

ANTIPODA'GRICA, (from αντι, *against*, and ποδαγρα, *the gout*). Medicines which relieve or remove the gout. See ARTHRITIS.

ANTIPODA'GRICUM, BA'LSAMUM. See ANODYNUM BALSAMUM.

ANTIPOPLE'CTICA. See APOPLECTICA.

ANTIPRA'XIA, (from αντι, *against*, and πρασσω, *to work*). A contrariety of functions and temperaments in different parts, used by the ancients to express the variety of concurring, and often contrary, symptoms.

ANTIPYRE'TICON, ANTIPYRE'TON, (from αντι, *against* and πυρετος, *a fever*). A remedy against a fever; called also *antipyreuticon*.

ANTIQUARTANA'RIUM, or ANTIQUA'RTIUM, (from αντι, *against*, and *quartanum*, a *quartan fever*). A medicine against a quartan.

ANTIRRHI'NUM, (from αντι, *against*, and ρις, *the nose*,) also called *caput vituli*, *bucranion*, *os leonis*, *anarrhinum*, *lychnis*, *sylvestris*, *atochium*, SNAP-DRAGON, and CALF'S SNOUT.

A decoction is said to be used in the jaundice, but is chiefly used as a charm.

ANTIRRHI'NUM LINA'RIA. See LINARIA.

ANTISCO'LICA, (from αντι, *against*, and σκωλεξ, *a worm*). See ANTHELMINTICA.

ANTISCORBU'TICA, (from αντι, *against*, and *scorbutus*, *the scurvy*). Medicines against the scurvy; q. v.

ANTISCORBU'TICUS, CORTEX. See WINTERANUS, CORTEX.

ANTISE'PTICA, ANTISEPTICS, (from αντι, *against*, and σηπτικα, *septics* or *putrifiers*). What resists or corrects putrefaction. Complete putrefaction cannot be an object of practice, because it cannot take place in any considerable portion of the body without extinguishing life: it is, therefore, a tendency to it in any considerable degree, which, producing various morbid disorders, requires the utmost aid of the medical art. As this tendency may be brought on by excess of heat and motion, as well as receiving any ferment into the vascular system; as, when once fixed, and exerting its deleterious action, it induces great languor and debility in the moving powers; we perceive why our antiseptic class of medicines exhibits such apparently contradictory views; for we find both volatile and neutral salts in the same arrangement: the former considered as highly heating, and strongly stimulant of the moving powers; the other, cooling the system, and mitigating vascular action. Hence, then, it is apparent that they are only applicable in different states of putrescent action, or in different constitutions affected with putrescency. It is the same with acids and alkalis; for these both are enumerated under antiseptics. They have been properly divided into five heads:—1st. *Such as are cooling;* acids, and neutral salts. 2d. *Stimulant;* wine, alcohol, oil of turpentine, spices, salt of amber, alum, terra Japonica. 3d. *Tonic;* Peruvian bark, wormwood, camomile. 4th. *Antispasmodic;* camphor, asafœtida, musk. 5th. *Diætetic*, commonly styled *antiscorbutic*. These furnish examples of the particular divisions; and, from their nature, we shall readily know in what particular states each is applicable: where there is peculiar sensibility in the stomach, the TONIC are to be avoided; the REFRIGERANT, where a debility of the vital powers is manifest; the STIMULANT, when there is too great a degree of irritability, the circulation too highly accelerated, with a strong disposition to profuse bleeding; the SEDATIVE ANTISPASMODICS, when there is too languid a circulation, a lethargic disposition, or a considerable degree of torpor in the system.

See Macbride's Essay on the respective Powers of Antiseptics, Remarks on Mr. Alexander's Essays on Putrid Diseases. Cullen's Materia Medica. Wallis on Health and Disease.

ANTISPA'SIS, (from αντι, *against*, and σπαω, *to*

draw). A REVULSION. The turning the course of the humours whilst they are actually in motion. The doctrine of revulsion is the invention of Hippocrates.

ANTISPASMO'DICA, (from *αντι*, *against*, and *σπασμος*, *a convulsion)*. This class of medicines must be ranked among the more irregular and anomalous groups, as the individuals are adapted to a set of symptoms arising from a variety of causes, and not to a particular end or object. The causes of spasm differ essentially, and the remedies must equally differ. Spasm is obviously irregular action; and, from what we have already hinted, irregular action is commonly the effect of weakness. See ANODYNES. In this view antispasmodics must be tonics and stimulants. This, however, though an obvious, is a partial, result of the premises. When action is irregular, we may equally restore the equilibrium by stimulants and by sedatives; more often by the powerful effect of sedatives, which, by stopping all action, enable us to commence it more regularly. Thus in ileus, where strong spasm, and in consequence inverted motion, take place, we succeed better by stopping all muscular exertion, and again commencing the stimulus from above downwards, than by forcing the peristaltic motion in an opposite direction to that which has morbidly taken place. If, then, we were to fix on any general determinate action of antispasmodics, we would say that they were sedatives. Experience, however, corrects such hasty theoretical conclusions; and we shall find that they are sometimes stimulant, more frequently tonic, but most often sedative. Yet there is a class highly useful, referring to neither, the fetids, which we need not enlarge on at this moment, but shall treat of them in turn, under the appellation of *anomalous*.

The stimulant antispasmodics are not numerous. The chief are electricity and Galvanism. It is an unavoidable inconvenience in a dictionary, that we must anticipate what is afterwards to be fully explained, and the only remedy is, to give shortly the result of reasoning which is at a future period to be more carefully pursued. We shall find that the electrical fluid, and the Galvanic, (if not the same with that which gives activity to the nerves, certainly nearly allied to it,) excite the powers of life by their passage through the nerves. These, then, are stimulant antispasmodics; for they correct the irregular action of muscular fibres with considerable success. Volatile alkali acts, in many instances, very powerfully as an antispasmodic. Æther and ardent spirits are more equivocal; yet, as their action is immediate, we would refer them to the same head. Some other remedies are equally doubtful: we allude to quicksilver and iron. A very extensive view of the action of metals inclines us to consider the whole class as tonics; yet mercury certainly keeps up a steady increased action of the sanguiferous system, and iron, though less pointedly, is of a similar nature. We shall have occasion to explain all the powers of these metals on this principle; and, therefore, must arrange them in this order of antispasmodics.

The tonic antispasmodics are very numerous. Of this kind are the whole metallic tribe with the exceptions just mentioned, viz. arsenic, zinc, copper, and silver. Bark, of course, belongs to this order; and the viscus quercinus, the balsamum Peruvianum, and cold bathing, will not be refused a place in the same arrangement. The sedatives are also numerous and powerful. Bleeding ranks the highest, and opium follows. No other remedies can claim an equal credit; but warm bathing, fear, and other depressing passions, camphor, the flores cardamines, and, perhaps, hydrogenous gas, have no inconsiderable claims to our attention in the same way. Blisters, as explained under the article of ANODYNES, are sedative, by lessening the irritation of the sanguiferous system.

The anomalous antispasmodics include the fetids. These, from their effects, we suspect to be sedatives. When breathed, the want of elasticity in carbonic acid and hydrogenous airs gives the sensation of suffocation; and many of these show, in other instances, sedative effects, particularly the asafœtida; the sweet oil of wine, the most active part of Hoffman's anodyne and Tickell's æther; the fetid herbs (including the rue, savine, atriplex olida, and aristolochia), petroleum; ambergrise; the fumes of burnt feathers; musk, and civet.

Since we have considered blisters as taking off internal irritation, we might also, in a more general view, consider bleeding as a cause of derivation from a part unusually loaded, and perhaps irritated. Yet we chose to consider it separately, since we would connect this with a very different class of remedies, viz. those which act by arresting the attention, and, of course, breaking the habit. Spasmodic diseases soon become habitual; and when the cause is removed, the paroxysms recur from habit only. Bleeding, either from association or the terror of the operation, acts in this way; and Dr. Whytt has remarked, that a person, usually relieved by bleeding, has experienced the same relief on puncturing the vein. Keeping the attention alive has had a similar power; and it is remarked, that during a siege a town has been peculiarly free from nervous complaints. Sudden terror has been equally effectual; and we thus account for the effects of numerous superstitious remedies formerly recommended.

In another view, emollients and demulcents are antispasmodic; for when the more sensible mucous membranes are inflamed, and the more fluid mucus rapidly carried off, they are morbidly irritable; and from the common stimuli, irregular action is often excited. Causes of this kind sometimes produce spasmodic colics, and what are styled nervous coughs.

In the choice of these we employ the sedatives and fetids to shorten the fit; the stimulants and tonics to prevent returns. The stimulants, when employed in this way, are exhibited in more constant and less active forms, and then, probably, approach the nature of tonics.

ANTISPA'STICON, (from *αντι*, *against*, and *σπαω*, *to draw)*. A general epithet for any medicine that acts by way of revulsion.

ANTISTE'RNON, (from *αντι*, *opposite to*, and *στερνον*, *the sternum*, or *breast)*. The back is so called because it is opposite to the breast bone. See DORSUM.

ANTI'TASIS, (from *αντι*, *against*, and *τεινω*, *to extend)*. A CONTRA-EXTENSION: an opposite location of parts, as of the liver and spleen.

ANTI'THENAR, (from *αντι*, *against*, and *θενας*, *the palm of the hand)*. See ABDUCTOR POLLICIS MANUS INDICEM.

Dr. Hunter applies this name to a muscle of the foot, and says it arises from the os cuneiforme, and is inserted in the external sesamoid bone.

ANTI'THORA. See Anthora.

ANTITRA'GICUS, ANTITRA'GUS, (from *αντι*, *against*, and *τραγος*, *the thick part of the anthelix*). See Auricula.

ANTITY'PUS, (from *αντι*, and *τυπτω*, *percutio*). See Renisus.

ANTIVENE'REA, (from *αντι*, *against*, and *venereus*, *venereal*). Medicines against the lues venerea.

ANTIVENEREA'LIS, aqua preservati'va. It is a solution of caustic alkali, or corrosive sublimate, in water, to be injected up the urethra in men, and the vagina in women, and to wash the parts with after coition; but care must be taken that the solution should not be too strong lest it should occasion excoriation and inflammation. It will be sufficient if it be of such a strength only as will give a slight sensation of pungency on the tongue, or inside of the lips.

It has been suspected, that checking the discharge of gonorrhœa may induce hernia humoralis, or syphilis. We cannot deny that these have been sometimes the consequence; yet if the disease be taken in its early stages, we have not found such consequences. We know that a caustic applied very early to a chancre will check all further infection; and there is no reason why the discharge of mucus, excited by the preservative water, may not be equally effectual.

ANTIZEU'MIC, (from *αντι*, *against*, and *ζυμη*, *ferment*). Preventers of fermentation in general.

ANTONIAN, a mineral water of Germany, containing carbonated soda, common salt, and calcareous earth; the latter seemingly dissolved by an excess of carbonic acid gas.

ANTO'NII SANC'TI I'GNIS. St. Anthony's fire; so called, because St. Anthony was supposed to cure it miraculously; but in the Roman missal, St. Anthony is employed as being the preserver from all sorts of fires. See Erysipelas.

ANTONOMA'STICA. See Cochlæa cælata.

ANTOPHY'LLON, or ANTOPHY'LLUS, (*αντι*, *opposite*, and *φυλλον*, *a leaf*,) so called because its leaves stand opposite one another. The male caryophyllus, or the large full-grown ones. See Caryophilli aromatici.

A'NTRUM BUCCINO'SUM. See Cochlea.

A'ntrum genæ, Antrum Highmoria'num ma'gnum, called also *sinus maxillaris*, and *antrum maxillæ superioris*. Maxillary sinus. Highmore boasts of the discovery; but Casserius takes notice of this part before him, under the first name.

A'ntrum pylori, the great concavity of the stomach approaching the pylorus.

All the body of the upper jaw bone is hollow, and its cavity forms this antrum; each hath a winding passage into the nostril, called *ductus ad nasum*, on the side on which it lies; this cavity and the sockets of the teeth are often divided by the interposition of only a very thin bony plate. The membrane which lines this cavity is sometimes inflamed, and matter forming in it is discharged by drawing one of the dentes molares. See Abscessus sinus maxillaris.

ANTY'LION. The name of an astringent used by P. Ægineta; so called from Antyllus the inventor.

A'NUCAR. See Borax.

ANUS, called also *archos*, *culus*, *hedra*, *podex cyrseon*, *cyssaros*; and in Hippocrates, *cathedra*; some name it *perin*. It is the lowest part of the intestinum rectum, commonly called the fundament. The extremity of the rectum contracts into a narrow orifice, the sides of which are disposed in close circular folds. This is called sphincter ani, which see. It hath several muscles belonging to it, some of which surround it as sphincters; the rest are broad, and fleshy planes inserted in it, and which, being inserted likewise into other parts, sustain it in its natural situation, and restore it when disturbed by the force necessary for excluding the fæces: the latter muscles are termed *levatores ani*. Two ligaments belong to the *anus*, viz. the ligamentum cutaneum ossis coccygis, and the ligamentum pubis interosseum. See Ligamentum. The nerves of the *anus* and its muscles are from the ganglions of the plexus hypogastricus, the inferior cord of both the sympathetici maximi, and the common arch of the extremities of both cords. The margin or edge of the *anus* is a continuation of the skin and epidermis, with the internal coat of the intestinum rectum. This part is extremely vascular; and a troublesome hæmorrhage, when the operation is performed for the fistula in this part, often ensues.

The *anus* is subject to many disorders, and they are generally somewhat difficult of cure, because of the irritability of the part, which subjects it to receive fresh injury from many accidents. Aetius observes, that astringents which are acrid, the sensibility of the *anus* cannot bear; and that astringents which are not acrid, such as metals, should be applied. On the diseases of this part, see Aetius, Celsus, P. Ægineta, Turner, Heister, and Wiseman. See also Rectum. Discharges of wind from the anus are called *crepitus*.

Excrescences about the Anus.

Various excrescences are found about the verge of the *anus*; many of these, produced merely by relaxation and safely removeable, are unattended with pain, or any disagreeable discharge, and are single or distinct, whatever their number be. In removing them, the ligature, to avoid a troublesome hæmorrhage, is preferable.

When they discharge a bloody fluid matter and are painful, they are also generally in clusters, or not distinct; and for the most part disposed to be, if not already become, cancerous. Mr. Pott observes, that in cancerous cases of this kind there is rarely a single excrescence, but the gut is for the most part surrounded with them; and if a finger is passed into the intestine, those tumours produce the idea of pushing the finger into a rotten pomegranate. Beyond palliation, no relief can be afforded.

The Anus imperforated.

Sometimes children are born with a membrane across the *anus*, which obstructs the discharge of the excrements. If the situation of the *anus* cannot be discovered in consequence of the thickness of the superfluous substance which closes it up, a cure cannot be expected; for much, if not the whole rectum, is closed up or wanting. If the case admits of a cure, the situation of the *anus* will be seen by a prominence, or by a little hollow.

This accident is generally spoken of as if always cir-

cumstanced alike. Mr. Pott very judiciously divides it into four classes. 1st. Where there is no mark or vestige of an *anus* perceptible: in this case the rectum is as it ought to be until it arrives at the bulb of the urethra; from this there is no intestine, and no *anus* externally. If the rectum reaches too near the part where the *anus* should be, the impulse of the fæces against the skin will discover where a perforation may be made; but if no such impulse is to be felt, when the child coughs or cries, relief cannot be afforded. 2d. Where there is a circle or mark in the skin which points out where the *anus* should be: in this instance the difficulty is not considerable. However, it may be proper to add, that the perforating instrument should be introduced in the direction of the os sacrum; if it passes forward, the bladder, or the uterus, or both, may be injured; if it is to be introduced far up, to divide a membranous obstruction in the rectum, in cutting it should be moved not upward, but from side to side; thus you avoid wounding the prostate gland, or the vesiculæ seminales, and perhaps the neck of the bladder. 3d. Where there is a well formed *anus*, and perforated, but no communication with the intestinal tube, from the rectum being imperforated, if the child is not duly attended to, it dies in great agonies. If an infant hath had no stools during the first or second day after its birth, a finger should be dipped in oil, and thrust up the rectum, to discover whether any obstruction is there. 4th. Where there is neither *anus* nor rectum, but the intestinal canal terminates in the colon, no relief is to be expected. Another equally unfortunate kind is when a sort of rectum is rolled up like a bit of catgut. Here all attempts to assist are vain; for though a discharge should be obtained, as the intestine is deficient, evacuations could not be continued.

The means of relief, in the first three of the above classes, are the same. In either of them the operation should be performed without delay or regard to any objections; for, otherwise, death will inevitably follow. The best instrument is a large trocar, such as is employed for tapping in the ascites. The point of the trocar must be kept within the canula until it is fixed against the obstructing part; then pushed forward; and, if you succeed, the meconium will instantly be discharged: this discharge may be left to itself for three or four hours, or until the belly is well emptied. Afterwards pass a finger up the rectum, to discover whether there is any stricture. If a stricture is met with, introduce a probe pointed knife on the back of your finger, and divide it on each side. To finish the cure, let a small candle be introduced up the gut every two or three hours, or kept there until the *anus* is quite pervious, and no more aid appears to be required. In two or three weeks the stools will pass properly, and all inconvenience will generally be ended. See Bell's Surgery, vol. ii. p. 275. Edinb. Med. Comment. vol. iv. p. 164. White's Surgery, p. 379.

A'NUS ARTIFICIAL. This artificial aperture is generally at the ring of the abdominal muscles, in consequence of a hernia. It has occasioned many discussions in the works of the later German surgeons, particularly Richter and Loeffer; but the management cannot be easily described. Its formation must, when an union of the two ends of the divided intestine cannot be effected, be left to nature; and the little conveniences to be added, must depend on contrivance, rather than medical skill.

A'NU˜S, a contraction of *annulus, a ring.*

A'NUS. See CEREBRUM.

A'NI ABSCE'SSUS. See ABSCESSUS.

A'NI INFLAMMA'TIO. See PROCTALGIA.

ANTITYPUS, (from *αντι, against*, and *τυπης, ductile*). A hard substance which resists pressure; as a node. See RENISUS.

ANXIE'TAS, (from *ango, to torment*). See ALYSMOS.

ANYPEU'THYNA, (from *α*, neg. and *πευθεινος, hurtful*). In medicine this signifies events that cannot be charged on the physician, who is not, of course, accountable for them.

AO'RTA, (*αηρ, air*, and *τηρεω, to hold*). The term *aorta* was used by the ancients, who supposed that only air was contained in it. The name of the great artery proceeding from the left ventricle of the heart, of which all other arteries, except the pulmonary, are the branches: called also *crassa arteria; magna arteria.* From the heart it extends itself, by various branches, to the most distant parts of the body. Each of the divisions and subdivisions of the *aorta* receives a different name, e. gr. the *aorta* gives rise to the carotid and the subclavian arteries, the branches of these again receive other names. These branches are in pairs, except the cœliaca, the two mesentericæ, some of the œsophageæ, the bronchialis, and sometimes the sacræ.

The beginning of the *aorta* is furnished with semilunar valves, as the pulmonary artery; and the same triangular bodies close up the little space left by the valves. It is larger in women than in men. It is called the ascending *aorta* from the heart, so far as it goes upwards; and descending, from its curvature downwards, to the os sacrum, where it terminates in the iliacs. The descending *aorta* is divided into the superior, which reaches from the curvature to the diaphragm; and the inferior, which extends thence to the bifurcation, where the iliacs begin.

The *aorta* goes from the basis of the heart, nearly opposite to the fourth vertebra of the back, and ascends obliquely, with respect to the body, from the left to the right side, and from before backwards; then bends obliquely from the right to the left side, and from before backwards, reaching as high as the second vertebra of the back, from whence it runs down again in the same direction, forming an oblique arch. From this it descends in a direct course along the anterior part of the vertebræ, all the way to the os sacrum, lying a little towards the left hand, and there terminates in its two subordinate branches in the iliacæ.

The *aorta ascendens* is principally distributed to the thorax, head, and upper extremities: the superior portion of the *aorta descendens* furnishes the rest of the thorax: the inferior portion furnishes the abdomen and the lower extremities.

The *aorta* is subject to many disorders, as inflammation, ulcers, polypuses, aneurisms, ossification, &c.

APA'GMA, (from *απο*, and *αγω, to draw from*). See ABDUCTIO.

APALACHI'NE GALLIS, (from *απαλαχω, to repel*, because it is supposed to repel infection). See CASSINE.

APA'LLAGE, (from απαλλασσω, *to change*). Hippocrates means by it such a change as implies deliverance from a disease.

APANCHO'MENOI, (from απο, and αγχω, *to strangle*). STRANGLED, or SUFFOCATED.

APANTHI'SMUS, (from απανθω, *to grow thin*). A scarcely perceptible line in painting, to which Galen resembles the small capillary veins.

APANTHRO'PIA, (of απο, *from*, and ανθρωπος, *a man*). An aversion to company, or love of solitude; generally a symptom of melancholy.

APARACHY'TUM VINUM, (from α, neg. and παραχω, *to pour upon*). Wine not mixed with sea water.

APAREGORE'TOS, (from α, neg. and παρηγορεω, *to comfort, mitigate*). What affords no comfort or relief.

APARI'NE, (from πριν, *a file;* because its bark is rough, and rasps like a file). Called also *philanthropus*, *ampelocarpus*, *omphalocarpus*, *ixus*, *asparine*, *asperula*, GOOSE-GRASS, and CLEAVER'S BEES. CLEAVERS, GOOSE-SHARE. HAYRIFF. It is the *galium aparine* Lin. Sp. Pl. 157.

This plant has been tried in scrofula, but without success; and in some cancerous cases, the juice given internally, and the herb applied in a cataplasm externally, has been supposed to mitigate the severity of the pain. An extract made of its juice is possessed of a pungent saline bitterness. The fresh juice, in doses of two or three ounces, is slightly diuretic. It is best if gathered when half grown. The whole plant is however inert, and scarcely ever employed.

APARI'NE LATIFOLIA. See ASPERULA.

APARTHRO'SIS, (from απο, *ab*, and αρθρον, *a joint*). See ARTICULATIO.

A'PATHES, (from α, neg. and παθος, *an affection*, or *passion*). Those who seem to be void of human passions, instanced in Diogenes the Cynic, and Timon.

APATHI'A, (from α, neg. and παθχω, *to suffer*). APATHY expresses the quality of not feeling, a freedom from the impulses of passion and mental perturbation.

APECHE'MA, (from απο, and ηχος, *a sound*, *apochophema*). Properly a repercussion of sound; but in medical sense it signifies a CONTRA-FISSURE, or FRACTURE.

APEIROI', (from α, neg. and πειρα, *an experiment*). UNEXPERIENCED, UNACCUSTOMED.

APE'LLA, (from α, priv. and *pellis*, *skin*). Shortness of the prepuce. Galen gives this name to all whose prepuce, either through disease, section, or otherwise, will not cover the glands.

A'PEN, (Indian). A sort of bread made with the juice of the ambalam tree and rice in India.

APE'NSALUS. A vessel with a narrow neck to hold oil.

APE'PSIA, (from α, neg. and πεπτω, *to digest;* also *dyspepsia*). INDIGESTION. That genus of disease which Dr. Cullen names *dyspepsia*, he arranges in the class *neuroses*, and order *adynamiæ*. The symptoms are, a want of appetite, a sickness, sometimes vomiting, sudden and transient distentions of the stomach, eructations, heartburn, pain in the region of the stomach. These symptoms, or the greater number of them, are attended most commonly with costiveness, without any other disorder either in the stomach itself, or any other part of the body. In this case, when what ought to be digested and form materials for good chyle becomes acid, or putrid, a variety of other symptoms occurs, according to the nature of the materials thus morbidly changed. But indigestion is very frequently a secondary and sympathetic affection, though the just mentioned symptoms are essential to this disease, as idiopathic. All these may arise from one cause, viz. weakness, or loss of tone in the muscular fibres of the stomach: and this weakness is the proximate cause of the disorder, when an original one. The remote causes are various, as tumour, in the stomach itself; or some disorder of other parts communicated to the stomach, as in the gout; in these cases the indigestion is symptomatic.

In most instances of indigestion, as an original disease, the weaker action of the muscular fibres of the stomach is the chief cause; a depravity or defect of the gastric juice has been supposed to occasion it; but even here, perhaps, weakness is the only cause to which we can attend usefully in practice. To succeed in the cure, we must avoid the occasional causes, remove such symptoms as tend to aggravate or to continue the disease, and invigorate the tone of the stomach. For this purpose the patient must be informed of the necessary changes in his conduct; for though he has often pursued such a practice without sensibly suffering, except he conforms to a contrary one, the present complaints will not be removed. Crudities, acidity, and costiveness, must be obviated at least in their excess, as they tend both to aggravate and continue indigestion. When these ends are accomplished, the restoration of the tone of the stomach alone remains for perfecting relief.

Abstemiousness and excess, but chiefly the latter, are causes of indigestion. An over-distention of the stomach may in some measure injure its proper tone; and frequent long fasting, render it feeble. Hard drinking, and any of the causes of an anorexy, also injure digestion. Fasting, however, must be long continued, and frequently repeated, to have any bad effect. When it produces dyspepsia, improper food has been occasionally taken.

Anxiety and uneasiness of mind are often remote causes of dyspepsia, and when these are removed, the effects often continue. Intense study, not properly alternated with cheerful conversation or exercise, has the same effect; but no remote cause is more frequent or powerful than late hours, and indulgence in spirituous liquors. In these cases the management of diet is of considerable importance; and they form one of the very few exceptions to the general rule of suffering the stomach to be occasionally empty. When it is so in dyspepsia, all the symptoms are aggravated; and persons labouring under this complaint should frequently swallow some food. A bit of ship biscuit, as bread not subject to fermentation, is one of the best substances to be frequently taken, and a little beef tea may be also occasionally added. The food should in general be of the light animal kind, and the more flatulent vegetables and fruits avoided. The drink should be porter, or strong, not sweet, cyder; and the wine, Madeira or sherry. If these cannot be obtained, a slight addition of good brandy to *cold* water, without sugar, may be allowed. Tea should be at once abandoned; and an

infusion of our own warmer herbs, as pennyroyal, peppermint, or rosemary, substituted.

In some weak stomachs a singular aggravation of the symptoms comes on, in about an hour or two after a tolerably full meal, attended with a sense of sinking or weakness. This seems to be owing to a digestion unusually rapid, and consequently imperfect. In such cases, aliment of more difficult digestion, as eggs boiled hard, or the addition of condiments which retard digestion, may be allowed; but, in general, a bit of biscuit and a glass of wine will remove the sense of weakness, which is owing to the sudden emptying of the stomach before too much distended.

Little need be added in order to the cure; for the treatment is the same as is required in ANOREXIA, q. v.

The COLUMBO ROOT, not mentioned in the article ANOREXIA, is particularly useful when the stomach is languid, the appetite defective, digestion with difficulty carried on, or when a nausea with flatulence attends. It may be given in substance with any grateful aromatic, or infused in Madeira wine, now and then interposing gentle doses of the tincture of rhubarb.

A mixture of mustard seed with the columbo root is of considerable utility in complaints of this kind; particularly where acidity and flatulence prevail much in the primæ viæ; and the aqua kali puræ always assists its action: a warm plaster, with the addition of some opium, worn at the pit of the stomach, is occasionally of great service.

The Bath waters, assisted with warm nervous medicines and corroborants, are not to be omitted when circumstances admit of their use.

See Percival's Essays in the Reflections on Exper. 4, 5, and 6. Cullen's First Lines, v. iii. p. 217. edit. iv.

APE'PTON, (*α*, priv. and *πεπτω*, *to digest*). CRUDE OR INDIGESTED.

A'PER. The WILD BOAR. See PORCUS, and ALIMENT.

APE'RIENS PALPEBRA'RUM RECTUS. See LEVATOR PALPEBRÆ SUPERIORIS.

APERIE'NTIA, APERIENTS, (from *aperio*, *to open*). These are medicines supposed to have the power of opening the mouths of vessels, and clearing vascular or glandular obstructions. In this sense they are synonymous with the *anastomatica*, *deobstruentes*, and *deoppilativa*. But those medicines which render the bowels gently laxative are now generally called *aperients;* the removal of other obstructions is more confined to the term *deobstruents*.

In the writings of the ancient physicians, particularly the practitioners of the Boerhaavian school, aperients were considered as medicines of peculiar importance, and many vegetable substances of little real powers were arranged under this head, and supposed to act in consequence of a saponaceous principle. These are now disregarded; yet modern practice still adheres to some of these in jaundice and hepatic obstructions, though they seem to have little effect, except as gentle laxatives.

APERI'STATON, (from *α*, neg. and *περισασις*, *affliction* and *danger*). An epithet in Galen for an ulcer that is neither troublesome nor dangerous.

APERI'TTOS, (from *α*, neg. and *περιττος*, *redundant*). Such aliment as generates but little excrement. The opposite quality is called *perittomaticos*.

APE'RTUS, (from *aperio*, *to open*). It is used for *exulceratus*, as in saying an open cancer, &c. in which cases the tumour is ulcerated.

A'PES, (perhaps from *apio*, *necto*, *to join together;* because, connected together by the feet, they hang down from the entrance of the hive). BEES; called by the ancients BUGONES, q. v.

If they are dried and powdered, they are somewhat diuretic; but their chief use is for the preparing of honey and wax.

APEUTHY'SMENOS, (from *απο*, and *ευθυς*, *strait*). See RECTUM INTESTINUM.

APHÆ'REMA. See ALICA.

APHÆ'RESIS, (from *αφαιρεω*, *to take away*). To take away any superfluous part, medicinally or chirurgically.

APHASSIO'MENOS, (from *αφασσω*, *to handle*). To reduce any thing to a pulp or powder by rubbing it between the fingers. Hippocrates often applies this word to the touch of the pudenda, in order to discover disorders of these parts. It is the same as TACTUS.

APHE'BRIOC. SULPHUR.

APHELICE'STEROS, (of *απο*, *from*, and *ηλικια* *youth*). One past the flower of age.

APHEPSE'MA, (from *απο*, and *εψω*, *to boil*). See COCTIO.

APHE'SIS, (from *αφιημι*, *to remit*). Hippocrates generally signifies the remission or solution of a disease by this word.

APHILANTHRO'PIA, (from *α*, neg. and *φιλανθρωπια*, *the love of mankind*). The first degree of melancholy, when a person hates society, and delights in solitude.

APHLEGMA'NTON, (from *α*, neg. and *φλεγμα*, *phlegm*). VOID OF PHLEGM.

APHO'NÆ. See PEMPHIGODES.

APHO'NI, (from *α*, priv. and *φωνη*, *voice*). Those who labour under a coma. Hippocrates.

APHO'NIA, (from the same). See CATALEPSIS. It is also a name for the palsy of the tongue; one of the species of partial palsy. See PARALYSIS; called by some *anaudia*, see ANAUDOS, though Galen distinguishes them.

Dr. Cullen speaks of this loss of voice as a suppression of the full sound, which happens without coma or syncope. He ranks this genus of diseases in the class *locales*, and order *dyscinesiæ*, and observes three species, viz.

1. APHO'NIA GUTTURALIS; when the glottis and fauces are swelled.

2. APHO'NIA TRACHEALIS, when the trachea is compressed.

3. APHO'NIA ATONICA, when the nerves of the larynx are wounded. He also, in many cases, considers it as symptomatic.

If one of the recurrent nerves, formed by the par vagum with the nervus accessorius, extending to the larynx, is cut, the person is capable of only an imperfect pronunciation; but if both are cut, the speech and voice are lost. The loss of speech happening in hysteric patients is also called *aphonia;* but more properly that loss of speech is thus named which depends on some fault of the tongue.

As the motion of any part is destroyed, or lessened at least, by the interception of nervous influence, and as the nerves destined for the motion of the tongue arise

principally from the fifth pair, it appears that the seat of this disorder is in these nerves, and that the immediate cause is a diminution or total loss of nervous energy. Hence, a palsy of the tongue, which is either antecedent or subsequent to hemiplectic or apoplectic disorders, demands our utmost attention.

If an *aphonia* appears alone, it generally shows an approaching hemiplegia or apoplexy; but if it succeeds these disorders, and is complicated with a weak memory, and a sluggishness of the mental powers, it threatens their return. That *aphony* usually terminates most successfully, which proceeds from a stagnation of serous humours compressing the branches of the nerves which run to the tongue; but it is equally distressing and obstinate.

Other causes of this disorder are, repelled eruptions on the skin, obstructed periodical evacuations in plethoric habits, spasmodic affections, worms, fear, too free a use of spirituous liquors, and whatever destroys the ligaments from the aretænoid to the thyroid cartilages.

The prognostics vary according to the causes. That species which is owing immediately to spasms soon gives way in the removal of them. If a palsy of the tongue is the cause, it is very apt to return, if relieved; but often continues incurable.

In directing the cure, we must endeavour first to remove whatever impedes the nervous influence on the tongue; and secondly, to strengthen the weak parts. The particular causes must be next considered.

If worms are the cause, antispasmodics give temporary relief; but the cure depends on the destruction of these vermin. However, they seldom occasion the disease.

In congestions of blood about the head, bleeding, general and topical, with blisters constantly kept open, and active laxatives, are the best remedies.

That species of *aphony* which remains after the shock of an hemiplegia or apoplexy, particularly requires blisters to be applied to the nape of the neck, or under the fauces: other means are rarely effectual.

If spasmodic constrictions about the fauces and tongue are the cause, applications of opium are of the greatest service: anodyne antispasmodics may be laid under the tongue, and the feet bathed in warm water; carminative clysters also are useful; and ʒ ij. of asafœtida may be dissolved in four ounces of warm water for this purpose.

When a palsy of the tongue produces this complaint, evacuations, according to the patient's habit, must be made, and warm nervous medicines externally applied, and internally administered; blisters also should be placed on the nape of the neck; and the patient should be constantly chewing bits of ginger, or biting corns of black pepper. Warm tonics are also highly proper.

In case of repelled cuticular eruptions, sudorifics should be given, and the patient's drink should be warm. The liquor c. c. succinatus, or the vin. antimonii may be mixed with tinctura benzoës composita, or with the balsamum Peruv. and given, at proper distances, in the patient's drink, or on a lump of sugar. In general, however, the eruptions will not be brought back by these means, and the disease must be treated as nervous.

Sometimes the serum flows so rapidly to the fauces and adjacent parts, in a salivation, as to deprive the patient of all power to speak; in this case, diaphoretics and laxatives, with a forbearance of all mercurials, are the speediest remedies.

APHO'RISMUS, (from αφοριζω, *to separate*, or *distinguish*). A short sentence, briefly expressing the properties of a thing; or which serves as a maxim, or principle, especially in philosophy and physic.

APHO'RME, (of απο, *from*, and ὁρμη, *a motive*). Hippocrates expresses by this word whatever occasions a disease. It is used metaphorically, for the word relates to human actions, and their motives.

APHRÆ'NUS, (from α, neg. and φρονεω, *to be wise*). One who has lost the use of his reason.

APHRO'DES, (from αφρος, *froth*). SPUMOUS, or FROTHY. Hippocrates applies this word to the blood and excrements.

APHRODI'SIA, APHRODISIA'SMUS, (from Αφροδιτη, *Venus*). VENEREAL COMMERCE. Some express by this word the age of puberty, or the venereal age.

APHRODISIA'STICON CLI'DION, (from αφρος, *froth*). A TROCHE; so called by Galen, because it was given in dysenteries where the stools where frothy; it was used against spitting of blood and dysenteries: P. Ægineta describes it as made of balaustines, rhubarb, opium, and other astringents.

APHRODI'SIUS MO'RBUS, (from Αφροδιτη, *Venus*). See LUES VENEREA.

APHRODI'TARIUM. A dry powder which consisted of frankincense, scales of copper or brass, pomegranate, white lead, and starch, equal parts, according to Paulus of Ægina. Galen to a certain collyrium gave this name. Some suppose it a powder used for hollow or venereal ulcers; or to excite lust.

APHRO'GALA, (from αφρος, *froth*, and γαλα, *milk*). It is also called *capilacteum*, *lac spumosum; lactis flos*. It seems to be milk so agitated, that the whole is converted into froth. This was a remedy recommended by Galen against habitual heat of the stomach. It has been considered as similar to our cream, and by others as a SYLLABUB.

APHROLI'TRUM. See APHRONITRUM.

A'PHRON, (α, priv. and φρην, *mind*). From its intoxicating and narcotic quality. A wild POPPY. Also the name of a cephalic plaster described by Aetius in his Tetrabib. 4. serm. iii. cap. 13.

APHRONI'TRUM, (from αφρος, *spume*, and νιτρον, *nitre*, also *aphrolitrum*). SPUME of NITRE; salts formed of the vitriolic acid and calcareous earth. It is a name also of the NATRON. See ANATRON.

APHRO'SYNE, (from αφρων, *silly*,) FOLLY, or DOTAGE. See AMENTIA.

A'PHTHÆ, (from απτω, *to inflame*). Called also, by Celsus, *ulcera serpentia oris*, SPREADING ULCERS IN THE MOUTH; and in England *fustula oris*, THE THRUSH; named likewise *alcola*, *lactucimina; vesiculæ gingivarum; acacos*.

Dr. Cullen ranks this genus of disease in the class *pyrexia*, and order *exanthemata*. Gen. 35.

This disorder appears in white specks upon the tongue, and the back part of the palate in children; these specks gradually spread all over the inside of the mouth, and from thence through the stomach and intestines; the size of these specks increases as the violence of other symptoms is augmented; and they are then more yellow, or of other more unfavourable colours.

Dr. Hunter thinks these white specks inflammatory exudations, and not ulcers; which seems to be

confirmed by their successively falling off, and being as often succeeded by thicker ones. Sometimes no other symptoms attend, but more frequently they are accompanied with sour belchings, gripes, diarrhœas, fever, or soreness of the mouth.

Infants are the most frequent subjects of this disorder, and those fed by the hand are more often affected than those that have the breast. In adults, they are often accompanied with miliary eruptions.

Celsus observes that aphthæ are most dangerous in infants; and Boerhaave, that in adults they are frequent in acute diseases, and are then attended with inflammation of some of the viscera. The more they spread, the danger is the greater.

In adults, the aphthæ in the mouth are distinguished from the ulcerations in the angina maligna, by the whiteness of the sloughs, by the edges not being red and inflamed, and by there not being a shining redness or rather pink colour over the fauces, with other symptoms that usually attend this species of angina.

If the cure is not soon effected in children, the contents of the bowels become more acrid, and produce vomitings, sour and curdled stools, gripings, convulsions, and often death, from the extension of the eruptions, and mortification their frequent attendant.

The stomach and bowels must be first cleared with as much of the following mixture as will operate both upward and downward.

R. Mannæ ℥ ss. aq. puræ ℥ ij. f. solutio colaturæ adde vin. antim. tartaris. gutt. xx. m. detur. cochl. mediocr. pro re nata.

The best topical applications are as follow:

R. Boracis opt. subtilis. pulv. ʒ i. mel Britan. ℥ i. m. f. linctus.

In severer cases, double this quantity of the borax may be added in this linctus. Whichever is used, a small tea-spoonful should be rubbed well about the mouth, once in an hour or two, and gradually swallowed. GARGARISMA ALUMINIS, *alum gargle.* In two pints of barley water dissolve two drams of alum, and three ounces of honey of roses. GARGARISMA MYRRHÆ, *myrrh gargle.* To six ounces of lime water add one ounce and a half of honey of roses, and half an ounce of tincture of myrrh. MIXTURA MYRRHÆ COMPOSITA, *compound mixture of myrrh.* To two drams of tincture of myrrh, and the same quantity of honey of roses, add one ounce and a half of lime water. All these are very proper for ulcerations in the mouth, throat, and gums; but the *alum gargle* is also serviceable in relaxations of the uvula and other cases requiring topical astringents; and the *myrrh mixture* is considered as useful for scrofulous sores, where greasy applications are inadmissible.

If after the removal of the specks the mouth is very sore, let a thin solution of the gum tragac. in rose-water be frequently held in it.

As a purge in this disorder, the ol. ricini is strongly recommended; and at the intervals of purging, much relief is obtained by giving the ipecacuanha to promote perspiration.

That severe degree of the *thrush* which is so frequent in the West Indies requires the application of perpetual blisters, which should be kept open with the ung. cantharidis, and in this case much relief is given to the patient by a due use of a proper detergent.

R. Boracis opt. subtil. pulv. ʒ iij. mel rosar. ℥ ij. acidi vitriolici diluti, ʒ ij. m. f. litus ut supra utend.

Dr. Cullen considers this complaint as associated with a synochus, and says the tongue is slightly swelled: and, as well as the fauces, is of a purplish colour; the eschars appearing first in the fauces, and at the margins of the tongue, afterwards seizing the whole internal part of the mouth, are white; and, if abraded, soon return and continue an uncertain time. There is only one which he considered idiopathic, and that is the APHTHA INFANTUM, called *lactucimen* or *milk thrush.* The rest appear to be symptomatic, and are either called *febrile*, *malignant*, *syphilitic*, *scorbutic;* and are attendant on petechial fevers. Many disputes have arisen, particularly in Germany, whether the aphthæ are in any instance idiopathic. It is useless to enlarge on this almost forgotten subject, since the disease is now admitted to have been epidemic, and sometimes infectious. We have more than once known it to be both; and, in such cases, mortification was no very unfrequent termination among young children. The best method of cure, after the evacuations, was a warm tonic plan, with wine; and, at last, considerable doses of bark were required. A gentle perspiration was kept up by such remedies as would, at the same time, support the tone and strength.

The black thrush is rare, and always a putrid symptom.

Hippocrates speaks of aphthæ of the pudenda of pregnant women, and of aphthæ of the aspera arteria.

See Celsus, Aretæus, Oribasius, Actuarius, Hoffman, Med. Rat. Syst. Boerhaave, Blackrie's Disquisition on Solvents of the Stone, Canvane's Diss. on the Ol. Palm. Christi, Hillary on the Disorders of Barbadoes, Cullen's First Lines, edit. iv. vol. ii. p. 254.

A'PHTHÆ SERPENTES. See CANCRUM ORIS.

A'PHTHOSA, APHTHOUS; belonging to aphthæ.

A'PHYA. See APUA.

A'PIASTRUM, (from *apis*, *a bee*). See MELISSA.

A'PINEL. A root met with in some of the American islands; it is the *aristolochia anguicida* Lin. Sp. Pl. 1362. If, with a rod, a piece of this root is put into the mouth of a serpent, the reptile, it is said, is soon destroyed. If a person chew it, and rub his hands and feet with it, the serpents shun him; nay, if he take the serpent, it cannot hurt him. The leaves and branches have a similar power in a less degree. See Hist. de l'Acad. Roy. an 1724. Jacquin's *America.*

A'PIOS. The PEAR TREE. See PYRUS.

A'PITES, or A'PITES VINUM, (from ἀπιὸν, *the pear tree,*) called also *apiites.* The WINE OF PEARS, or PERRY. Its virtues are similar to those of cyder.

A'PIUM. It has different derivations: (from *apex*, *the top*, because it has a large head; from *apis*, *a bee*, because they use it; or from ἤπιος, or ἄπιος, *mild*). SMALLAGE. *Apium graveolens* Lin. Sp. Pl. 379.

The fresh roots of smallage, when produced in the native watery places, partake in some degree of the quality of hemlock; have an unpleasant smell, and bitterish acrid taste; but by drying they lose the greatest part of their ill flavour, and become sweetish; they are aperient and diuretic, but the seeds are to be preferred in all medical purposes, and are good carminatives. In distillation these seeds yield an essential oil, and they

give out their virtue to spiritus vini. rect. so completely, as, on evaporation, to leave an excellent extract.

The cicuta aquatica, growing naturally in the same places, may be mistaken for it; but the leaves of this cicuta are deeply divided down to the pedicle, into three long, narrow, sharp pointed segments; but those of smallage are only slightly cut into three roundish obtuse ones.

A variety of this species is called *apium dulce; palustre, eleoselinum, heleoselinum, paludapium*, and *celeri Italorum*. By culture this plant hath been improved, and is the CELERI of our gardens, called APIUM SATIVUM; in this state the roots have an agreeable warm sweetish taste, without any of the ill flavour of the original smallage: but Ray observes, that, if neglected, it degenerates into its first disagreeable state. However, as by culture and excluding the light, an operation styled blanching, or etiolation, this plant is improved for the table, it is rendered less powerful as a medicine.

The MARSH SMALLAGE is a larger sort, growing also in watery places, of the same nature as the celeri.

A'PIUM HORTE'NSE, called also *petroselinum vulg. apium selinum*, COMMON OR GARDEN PARSLEY. *Apium petroselinum* or *apium hortense* Lin. Sp. Pl. 379. It is too well known to need description. The roots are diuretic, and are employed in a decoction, which should be drunk plentifully. Distilled with water, a small portion of essential oil is obtained; spiritus vini rect. extracts the whole of their virtues, and after evaporation, leaves a good extract. The leaves are warmer than the roots, and afford more essential oil; but the seeds are the best part of the plant: they are warm, carminative, bitter, and diuretic. Three pounds of the seeds yield about ℥ i. of essential oil, the most of which sinks in water. The roots are said to be aperient and diuretic, and have been employed in apozems to relieve nephritic pains and obstructions of urine. The bruised leaves have been successfully used as a discutient poultice to many tumours. Though commonly eat at table, it has been supposed in some constitutions to occasion epileptic fits, or at least aggravate them in those subject to this disease. The virtues of this plant, and the injuries supposed to result from it, are alike inconsiderable.

A'PIUM MACEDO'NIUM. *Petræum, Petrosel. Macedon. daucus Macedon. patrapium.* MACEDONIAN PARSLEY. *Bubon Macedonicum* Lin. Sp. Pl. 364. We have only the seeds in the shops, which differ from the common sort in being dark coloured, and covered with a rough hoariness: their virtues are similar to, but weaker than, the common sort.

A'PIUM MONTANUM. See OREOSELINUM.

A'PIUM PALUSTRA. See SIUM ANGUSTIFOLIUM.

A'PIUM PEREGRINUM. See SELINUM MONTANUM.

A'PIUM SYLVESTRE. See BUNIUM.

A'PIUM SYLVESTRE LACTEO SUCCO TURGENS. See OELSNITIUM.

APLY'TOS, (from α, neg. and πλυνω, *to wash*). UNWASHED. An epithet of wool, called by the Latins LANA SUCCIDA; q. v.

APNŒ'A, (from α, non. and πνεω, *spiro*). A defect of respiration, such as happens in a cold, &c.

APOBA'MMA, (from αποβαπτω, *leniter intingo*). See EMBAMMA.

APOBRA'SMA, (from αποβραζω, *per æstum exspuo; απο*, and βραζω, *ferveo*). The bran of wheat, or the froth of the sea.

APOCAPNISMUS, (from απο, and καπνος, *smoke*). FUMIGATION.

APOCA'RSAMUM, a poisonous drug, sometimes called *carpasum;* and its wood, which is also poisonous, *opocarsamum*. It grows in Abyssinia, and resembles myrrh so much as to be occasionally, inadvertently, mixed with it.

APOCATA'STASIS, (from αποκαθιστημι, *to restore*). An amendment, a cessation, or subsiding. In the last sense it is applied to the urine, and sometimes to tumours.

APOCATHA'RSIS, (from απο, and καθαιρω, *purgo*). An EXPURGATION. A discharge downward; but sometimes employed with little discrimination to vomiting.

APOCEACAU'LISMENON, (from απο, and κιαζω, *to break*, and καυλος, *a stalk*). It is when a bone is broken after the manner of a stalk, near the joint.

APO'CENOS, (from απο, and κενουμαι, *evacuo*). See ABEVACUATIO.

APOCENO'SES, DISCHARGES. Applied by Dr. Cullen to discharges with blood; it is the appellation of the fourth order of the class *locales*, and implies what are styled passive hæmorrhages, in opposition to hæmorrhages with fever, included in his first class, the *pyrexiæ*.

APOCERI'GMA, (from απο, and κηριαζω, *to certify*). A DECLARATION; such declarations as are thought proper to be made to the patient respecting his danger.

APOCHRE'MMA, (from απχρεμπω, *to spit up*). The SPUTUM, or excretion from the bronchial glands.

APOCHRE'MPSIS, (from the same). Discharge of sputum,

APOCHYLI'SMA, (from απο, and χυλιζω, *to extract juice from*). See SAPA.

APOCLA'SMA, (from απο, and κλαω, *to break*). See ABDUCTIO.

APOCLEI'SIS. An EXCLUSION, (from αποκλειεσθαι, *aversari*). But Hippocrates uses the word, from whence it is derived, to express a loathing of food.

APO'COPE, (of απο, *from*, and κοπτω, *to cut*). See ABSCISSIO.

APO'CRISIS, (from απο and κρινω, *to secrete from*). See ECCRISIS.

APOCRU'STICON, (from αποκρουω, *to repel*). An epithet for a remedy of a repelling and astringent quality.

APOCYE'SIS, (from αποκυεω, *pario*). A BIRTH, or bringing forth of a child.

APO'CYMA, (from απο, and κυμα, *a wave*). The composition of wax and pitch used to preserve the ships' bottoms; and, after a long continuance in sea water, it was supposed to attain some peculiar virtue.

APO'CYNON, (from απο, and κυων, *a dog*,) so called, because it was formerly worn round the neck to keep off surly dogs. A little bone in the left side of a frog, formerly held in great esteem.

APO'CYNUM, (from απο, and κυων, *a dog*). DOG'S BANE, or poison for dogs. See HIPPOMANES, and PERIPLOCA.

APOCYRTU'ME'NA, (from απο, and κυρτος, *gib-*

δους). It is spoken of tumours forming into a kind of cone, when suppurated and ready to discharge.

APODACRY'TICA, (from απο, signifying *negatively*, and δακρυ, *a tear*). They are medicines which first excite, and then evacuate, the superfluous moisture of the eyes. Such are onions, celadine, hellebore, &c.

APODYTE'RIUM, (from αποδυομαι, *to unclothe*—απο, and δυω, *to put off*.) A private room before the entrance into the baths, where the bathers undressed themselves; or the chamber where patients unclothe themselves, previous to an operation. It is also called *conisterium* and *spoliarium*.

APŒ'UM (from α, neg. and ποιος, *of some quality*.) Void of all sensible qualities, possessing neither astringency, acrimony, nor any other remarkable faculty, as water amongst moist substances, and starch amongst dry. It is similar to substances, according to Galen, more nutritious than even acrimonious or bitter ones.

APOGALACTI'SMUS, (from απο, and γαλακτιζω, *to abound with milk*). See Ablactatio.

APOGEU'SIA, APOGEU'SIS, (from απο and γευω, *to taste*.) See Agheustia.

APOLE'PSIS, (from απολαμβανομαι, *to be suppressed, retained*, &c.); also *dialepsis interceptio*. A suppression or retention of urine, or any other natural evacuation. Hippocrates means by the term *dialepsis* the space left in a bandage for a fracture, in which the dressings are applied to wounds. The same term is applied to the extinction of the heat, and is sometimes used for catalepsy.

APOLE'XIS, (from απολεγω, *to cease* or *end*.) A decaying time of life, and opposed to the flower of age.

APOLINO'SIS, (from απο, and λινον, *flax*). See Omolinon.

APOLLINA'RIS, (from απολλυμι, *to destroy*). See Hyosciamus niger.

APO'LYSIS, (from απολυω, *to release*). A solution, or release. Such as the exclusion of a child, the solution of a disease, or untying of a bandage.

APOMA'GMA, (from αποματτω, *abstergo*). Any thing used to wipe away sordes or filth from sores, as a handkerchief, or a sponge, &c.

APOMATHE'MA, (from απο, neg. and μανθανω, *to learn*). Hippocrates expresses by it a forgetfulness of all that hath been learnt.

APOME'LI, (from απο, and μελι, *honey*). A sweet liquor made with honey combs, diluted and boiled with water. Galen says, that Hippocrates, and others, called apomeli by the names of *oxyglici*, and *oxyglicum*, and that some were made with and others without vinegar: some being sweet, and others sour and sweet. It is simple oxymel.

APONENŒ'MENOS, (from απονοιω, *to be negligent* or *averse*). An adjective importing an utter aversion to any particular thing.

APONEURO'SIS, (of απο, *from*, and νευρον, *a nerve*). The word νευρον, from whence comes the term nerve, used in its more extensive sense, means tendons and ligaments. Hippocrates, and other Greek writers, apply it in this way. The moderns use it to describe a very different substance. See Nervi. Any tendinous expansion. The tendon of a muscle, called by Hippocrates, τενων, *a tendon* or *cord*.

These expansions of tendons, called *aponeuroses*, or fasciæ, grow thinner till they are lost in the cellular membrane. Instances of aponeuroses are frequently met with: the outward muscles of the thigh are bound down by one of these expansions, viz. the Fascia lata, q. v. Dr. Hunter describes this *aponeurosis* as proceeding from the musculus fasciæ latæ, called *membranosus musculus*, on the external part of the thigh, and from the gluteus maximus on the posterior part.

The fasciæ of the legs, like those of the thighs, cover the muscles. The soles of the feet are strong fasciæ, which prevent the flexor muscles of the toes from being hurt, when we tread. The fasciæ on the thighs and legs bind down the muscles while in action, and also increase their strength by compressing them.

When matter is formed immediately under any of the fasciæ, it cannot point where it was first formed, but runs under them to some distance to gain an exit: to prevent inconveniences from this cause, as soon as matter can be felt under a fascia, it is right to give it vent immediately, and not to wait for its pointing, as in other situations; when this happens under the temporal muscle, great difficulties attend. See Temporalis musculus.

APOPALLE'SIS, APOPA'LSIS, (from αποπαλλω, *to throw off in a hasty manner*). An expulsion of the fœtus, as in abortions. See Abortus.

APOPHLEGMA'TICA, APOPHLEGMATIZA'NTIA, APOPHLEGMATIZO'NTA, (of απο, *from*, and φλεγμα, *phlegm*). Medicines suited to promote a discharge of mucus or phlegm from the mouth and nose. If from the mouth, they are called *masticatories*: if from the Schneiderian membrane of the nose, *errhines*. *Pellitory of the wall*, *horse-radish*, &c. are of the former kind; and snuff, with whatever occasions an excretion of mucus, or serum from the head and parts above the throat, comes under the latter denomination. See Errhinæ.

APO'PHRADES, (from the singular αποφρας, *unfortunate*). Those days in which an acute distemper comes to a fatal crisis, or on which there is no crisis at all, when expected.

APOPHTHA'RMA, (from απο, and φθειρω, *to corrupt*). A medicine to procure abortion.

APO'PHTHORA. An abortion. (From αποφθειρω, *to corrupt*.) See Abortus.

APOPHY'ADES. The ramification of the veins.

APO'PHYAS, (of απο, *from*, and φυω, *to grow*). An appendix, Any thing that proceeds from another.

APO'PHYSIS, (from αποφυω, *to produce*; or from απο, and πυω, *to grow*). Any thing attached to, or growing from another, as boughs and branches: in anatomy it mostly signifies the projection of a bone. It is also called *appendix*, *parobole*, *echphysis*, *processus*, *productio*, *projectura*, and *protuberantia*.

Apo'physis mastoidea, or manillaris. A process of the petrous part of the temporal bone.

Apo'physis gra'cilis. The apophysis of the neck of the malleus in the ear.

APOPLE'CTÆ, and APOPLE'CTICÆ, (from απο, and πλησσω, *to strike*). A name of the internal jugular veins, called from their appearing full and turgid in apoplexies. See Jugulares venæ.

APOPLE'CTICA. Medicines against the apoplexy, so called instead of *antiapoplectica*. Vogel gives this appellation to a continued fever coming on upon an apoplexy.

APOPLE'XIA, (from *αποπλησσω, to strike or knock down*, or *smite suddenly*). The APOPLEXY. It is called *sideratio, attonitus, stupor palsperia, palsezia, gutta;* when it is slight it is called *parapoplexia.*

Dr. Cullen ranks this genus of disease in the class *neuroses*, and the order *comata.* Gen. 42; which he defines a diminution commonly of all voluntary motion, attended with sleep, more or less sound, the motion of the heart and arteries still continuing; to which may be added an oppressed respiration, and frequently a snorting. Sauvages makes fifteen species. *Nosolog. Method. Vol.* II. *p.* 815. Dr. Cullen reduces them to nine; *Synopsis Nosol. Meth. Vol.* II. p. 183; viz.

1st. APOPLE'XIA SANGUINEA, with signs of an universal plethora, and chiefly fulness in the head. The varieties are the *carus à frigore* and *spontaneus; cataphora coma.*

2d. APOPLE'XIA SEROSA, which happens generally in aged and leucophlegmatic people; *carus ab hydrocephalo.*

3d. APOPLE'XIA HYDROCEPHALICA; see HYDROCEPHALOS.

4th. APOPLE'XIA ATRABILARIA, observed in persons disposed to melancholy.

5th. APOPLE'XIA TRAUMATICA; when the head is hurt by violent external force.

6th. APOPLE'XIA VENENATA, from strong sedatives, whether externally applied, or internally taken. *Carus ab insolatione, carus à frigore,* &c.

7th. APOPLE'XIA MENTALIS; *carus à pathemate,* from passions of the mind.

8th. APOPLE'XIA CATALEPTICA, in which the respiration is not stertorous; and though the limbs maintain any accidental position, yet they give way to external force applied to them.

9th. APOPLE'XIA SUFFOCATA, which happens from any external suffocating power; as in cases of hanging and drowning. See SUBMERSIO, and SUFFOCATIO.

Dr. Cullen considers the *carus, cataphora, coma, hæmorrhagia cerebri, catalepsis, cerebri affectio spasmodico-ecstatica,* and the *ecstasis,* as apoplexies; the *typhomania,* and *lethargus,* as symptomatic apoplexies. There is often also a symptomatic apoplexy from, 1. Intermittent fever. 2. Continued fever. 3. Inflammation. 4. Exanthema. 5. Hysteria. 6. Epilepsy. 7. Gout. 8. Worms. 9. Ischury. 10. Scurvy. There are also many species of asphyxy which come properly under this head. See ASPHYXIA.

To the definition of apoplexy, he adds, that the abolition of the powers of sense and motion is in some degree only; meaning, that under the title of *apoplexy* are comprehended those diseases which, as differing from it chiefly in degree, cannot, with a view either to pathology or practice, be properly distinguished from it. Such are the diseases named above. Lomnius observes, that this disorder is generally preceded by sudden and acute pains in the head, vertigo, dimness of sight, grinding the teeth during sleep, a coldness of the whole body, especially the extremities; then, as though thunder struck, the patient falls down sometimes with shrieks; immediately after the eyes are shut, a snorting comes on, the difficulty of breathing is great, endangering suffocation; the breast ceases to heave, just as if it were bound in cords; sense and voluntary motion are entirely lost.

The following species of apoplexy should be carefully distinguished, as the mode of treatment greatly differs.

The first is the SANGUINEOUS APOPLEXY, in which we find a strong full pulse, a red and bloated visage, the patient's neck swelled, an oppressed loud respiration, with a little hoarseness. This species prevails amongst the robust, who have much blood, loaded with crassamentum. The second is the SEROUS APOPLEXY, in which the symptoms are, in general, like those in the former species, except that the pulse is weaker, the countenance pale, or at least far less ruddy, and the breathing less oppressed. The third is the SPASMODIC APOPLEXY; the same signs attend this as are usual in the second species; only it is sooner removed, and rarely degenerates into a palsy. The fourth is the SYMPTOMATIC, such as from flatus in the stomach, the gout, &c.

Of the sanguinary apoplexy, the predisposing cause is a plethora, and this determined to the head by some remote cause, induces the proximate or immediate cause, a compression of the brain. Indeed the immediate cause may be brought on by different means; which, though differing in their nature, ultimately produce similar effects. The remote causes are, surfeits, indigestion, too long exposure to the sun, inordinate drinking, particularly about the age of sixty, hysteric affections, convulsions, serous collections in the brain, libidinous excess, particularly in old men, repulsion of acrid matter, suppression of urine, salivation suddenly interrupted by cold and other causes, blows and wounds of the head, poisons, noxious effluvia, or an hereditary disposition. If the causes be examined respecting their consequences, it will appear that they are either calculated to increase the volume of blood, or occasion a determination to the brain, or produce such effects there as will prevent the nerves from exercising their influence: of course they will produce apoplexy. The predisposing causes are, fulness of blood, short neck, indolence, and a lax fibre.

Dr. Cullen thinks that *the proximate cause is*, in general, whatever interrupts the motion of the nervous power, from the brain, or of the blood to it. In apoplexies *from internal causes*, he thinks the motion of the nervous power is interrupted by some compression on the origin of the nerves; and this compression is occasioned by an accumulation of blood in the vessels of the head. In apoplexies *from external causes*, the motion of the nervous power is interrupted by directly destroying its mobility; as when mephitic air, fumes from charcoal, &c. are admitted to the nerves. In reality, a compression of the brain from a fulness of the veins or arteries, or an immobility of the nervous power, will equally produce the disease.

From an attention to the symptoms of an apoplexy, and the appearances observed on dissecting those to whom it had proved fatal, the brain is very generally its seat. Wepfer, in his histories of those subjects, observes, that the vessels in their brains were often ruptured, or very turgid; at other times the ventricles of the brain were filled with a watery humour; or a portion of serum, or blood, was found between the brain and its membranes.

The danger seems to be chiefly proportioned to the difficulty of respiration;—if it be tolerably easy, and the patient can swallow, there are hopes; but if respiration

be very difficult, or intermittent, and what is given the patient to drink returns immediately by the nose, a recovery is hardly to be effected. Old people, worn out constitutions, and those who have been formerly attacked with apoplexy, seldom recover; but in moderately healthy persons, in the prime of life, recovery is not uncommon.

Those who have been attacked with any kind of *apoplexy* are subject to relapses, each of which is more dangerous than the preceding. Suppers, hot rooms, violent exercise, particularly in the sun, going to bed late, long sleep, continuing in the cold, especially if the feet are subject to be cold, and whatever is suspected to dispose to this disorder, must be carefully avoided.

Were the distinction of the kinds of apoplexy formerly noticed as easy in its application as it appears simple and comprehensive, the treatment of the disease might be clear and scientific. There is not a doubt of its real accuracy; but in an organ so tender as the brain, a slight compression soon destroys the minute and complicated functions for which it is designed. We thus find, and the facts will be more clear when we treat of the lesser degrees of apoplexy, particularly palsy, that the practice must soon become general and indiscriminate.

In sanguine apoplexies, in the young or robust, there can be no doubt of bleeding copiously; nor in such circumstances can any limit be offered if the remedy can be early applied, except a melioration of the symptoms. The patient should be kept in an upright position in free cold air. In fact, the disease in this state is an hæmorrhage of the brain: it however very seldom occurs except from blows on the head.

The shades between this and the serous apoplexy vary so imperceptibly, that, respecting bleeding, much must be left to the discretion of the physician. If the patient was previously of a full habit; if the remote causes have been such as very certainly to propel the blood from the extremities or surface to the head; bleeding may be admitted: yet we should hesitate in proportion to the age, the weakness, or the previous relaxed state of the patient. Topical bleeding by the cupping-glass, or by leeches, may be perhaps allowed; but in doubtful cases it is best to abstain. Bleeding in these more often injures than relieves.

The use of emetics in apoplexy has lately occasioned a warm, perhaps a disgraceful, acrimonious controversy, and it is a subject of no little difficulty. During the operation of vomiting, the vessels of the head are undoubtedly distended, and a very slight reflection would at once seemingly show that it must be injurious. On the other hand, nature appears in such circumstances anxious to excite vomiting; but the force of this argument is lessened by the reflection, that vomiting equally follows an affection of the head from external violence. It may indeed be doubted, whether, in every hæmorrhage, vomiting is not as useful by deriving to the surface, as injurious from any other effect. This consequence of vomiting we shall more fully examine in our treatment of hæmoptoe, and even mænorrhagia. We think it at least established, that no partial determination from the action of vomiting itself is so injurious as to counterbalance its other good effects. These are the heads of what might be easily expanded into an ample disquisition on the subject; and, in this contention of doubts and difficulties, let us attend to experience. Vomiting, in apoplexy, has been spontaneously excited without injury. This has been evinced by frequent observation, and we can add, that, when produced artificially, as we have often seen, it has never increased the alarming symptoms. Totally independent of theoretical considerations, we consider therefore emetics as useful. Let them however be cautiously administered, and let the practitioner be decided by what he sees. If emetics are however to be exhibited, we must avail ourselves of the first moment of the patient possessing the power to swallow.

The next step, equally necessary in apoplexies of every kind, is to procure a passage through the bowels. The more violent resinous cathartics act slowly; the others require to be given in doses, which are with difficulty swallowed. An active clyster is, therefore, the first method of emptying the bowels: those who recommend lenient ones certainly never saw the disease. The remedy most easily obtained is the black soft soap, of which a full table spoonful may be dissolved in a pint and half of water. A handful of common salt may be dissolved in the same quantity of water if the soap is not at hand; or two ounces of common soap may be combined with a pint and a half of fluid. Should these not succeed, three drams of the pulp of colocynth may be boiled in a quart of water to a pint, and two ounces of common salt, with as much oil, added. When the patient can swallow, the pulv. jalapii with its tincture, and the tincture of senna, may be given in such doses as are necessary, or the patient can take.

While these measures are operating, a blister should be applied to the nape of the neck, or to the vertex, if the head is usually shaved. It has been a custom to apply with these, blisters to the legs and sinapisms to the feet, as if remedies could not be too fast accumulated. Such practice is highly injurious, for the stimulus, before the evacuation can take place, increases the disease. When the apoplexy proceeds from retrocedent gout, sinapisms to the feet are useless or dangerous: for nothing more certainly prevents a return of gout to the joints, than inflammation excited on the integuments of the part.

When these medicines have produced their effects, the practitioner should carefully watch their influence on the disease. The patient should still be kept in free cool air, and the utmost quiet should prevail around. If with this plan the complaints increase, it must be soon fatal: if it continues stationary, we may yet hope: if the patient is relieved, our hopes are more alive. In general, we would advise, after a day or two, the opening of another drain; and, at all events, the discharge from the bowels should be kept up by clysters or cathartics. Light but generous food should be taken in small quantities, and the most strict tranquillity preserved. In this way the senses gradually revive, and the returning sense should be managed with address and caution. The patient should not be acquainted with the nature of the attack; it should be considered as a transient fainting; every symptom should be represented as trifling, and no anxiety should appear on the countenances of those around. Every thing should seem to follow the course the patient was accustomed to.

The means of prevention are to keep up a drain by

a blister, an issue, or a seton near the head, to keep the bowels free, and to prevent all agitation, or every cause of irregular action of the sanguiferous system. The diet should be light and easy, but nutritious and generous, except in the more acute, sanguine apoplexies; and the bark, with valerian, we have sometimes found useful in the more irritable or the more relaxed habit.

A *coup de soleil*, of which we have some slight instances in this climate, occasionally assumes the appearance of apoplexy, but it never bears evacuations; and requires tonics, rest, and tranquillity. If this kind even arises from inflammation, the inflammatory stage is so slight and transitory that there is no time for the operation of medicines adapted to it.

Those apoplexies which arise from the diminished mobility of the nervous fluid require only active stimulants, free air, and perhaps air of greater purity. There is little room for choice in the stimulants we employ, but perhaps the Galvanic fluid will be found preferable. It follows the course of the nerves, and appears the best exciter of their activity. See GALVANISM.

The consequences of apoplexy are sometimes singular; a weakness of the mental powers in general follows, with a degree of irritability that verges on the fretfulness of childhood. The patient laughs or cries, more frequently the latter, without any adequate cause, and is amused by trifles adapted only to the inhabitants of the nursery. A singular effect is a forgetfulness of former acquired ideas, and it has happened that for years the patient has not been able to count five. These facts may admit in future of some application: it is sufficient to point them out in this place.

Dr. Flemmyng recommends trepanning as a powerful assistant in the cure of apoplexies, by taking off a degree of pressure from the brain. See his observations on this subject, in the Med. Mus. vol. ii. page 300, &c. Some of the ASPHIXIÆ are considered as belonging to this disease. See ASPHYXIA.

Cœlius Aurelianus, Lommii Opusculum Aureum, Aretæus, Philumenus, Galen, Paulus Ægineta, Baglivi, Boerhaave, Hoffman, Stahl. Tissot's Practical Obs. on the Apoplexy. Wallis on Disease and Health. Cullen's First Lines, vol. iii. edit. iv.

APOPLE'XIA CATALE'PTICA. See CATALEPSIS.

APOPSY'CHIA, (from *απο*, and *ψυχη*, *the mind*). See LIPOTHYMIA.

APORE'XIS, (from *απο*, and *αρεγω*, *to stretch out*). A play with balls in the gymnastic exercises.

APO'RIA, (from *α*, priv. and *πορος*, *a duct*). RESTLESSNESS: uneasiness occasioned by obstructed perspiration, or any stoppage of the natural secretions. See ALYSMOS.

APORRHŒ'A, (*απορροια*, *defluxus*, from *απο*, and *ρεω*, *to flow from*). See CONTAGIO. It means also the falling off of hair. See ALOPECIA.

APOSCEPARNI'SMUS, (from *απο*, *from*, and *σκεπαρνιζω*, *to strike with a hatchet*). A species of fracture when part of a bone is chipped off; called also *deasciatio*.

APOSCHA'SIS, APOSCHA'SMUS, (from *απο*, and *χαζω*, to *scarify*). See SCARIFICATIO.

APOSI'TIA, APO'SITOI, (of *απο*, *from*, and *σιτος*, *food*). A LOATHING OF FOOD. Those who are averse to food. See ANOREXIA.

APOSPA'SMA, (from *αποσπαω*, *I tear off.*) denotes a violent irregular fracture of a tendon, ligament, &c.

APOSPHACE'LISIS, (from *απο*, *from*, and *σφακελος*, *a sphacelus*). A mortification of the flesh in wounds or fractures caused by too tight bandage.

APOSPHA'GMA, (from *απο*, and *σφαλλω*, *jugulo*). According to Galen's interpretation of the sense in which Hippocrates used the term, it means the fæces ready for straining, or after they have been strained: and, according to Pliny, it is applicable to an animal whose blood, when its throat is cut, flows into a vessel placed underneath, and by different processes is formed into food.

APOSPONGI'SMUS, (from *απο*, and *σπογγιζω*, *to cleanse with a sponge*). It is the using of a sponge either dry or moist for cleaning the skin, alleviating pains and itching, or for other purposes.

APOSTA'GMA, APOSTALA'GMA, (from *αποσταζω*, *to distil*). The sweet liquor that distils from grapes before they are pressed.

APO'STASIS, (from *αφιστημι*, *to abscede*). It is when a fragment of bone comes away by a fracture. It is the same as ABSCESSUS; which see. When a distemper passes off by some outlet, Hippocrates calls it an *apostasis* by-excretion; when the morbific matter by its own weight falls and settles on any part, an *apostasis* by settlement; and when one disease turns to another, an *apostasis metastasis*. So Pliny calls the *apostema*.

APOSTA'XIS, (from *αποσταζω*, *to distill from*,) also *staxis*. Hippocrates use the word to express a small and insufficient distillation of blood from the nose. It means any distillation or defluxion of humours.

APOSTE'MA, (from *αφιστημι*, *to disjoin*; or from *απο*, *ab*, and *ιστημι*, *sto*, *to stand*). See ABSCESSUS.

APOSTEMATI'AI. Those who, from an inward abscess, void pus downwards are thus called by Aretæus.

APOSTOLO'RUM, (from *αποστολος*, *an apostle*,) UNG. The APOSTLES' OINTMENT; because it is made with twelve ingredients, exclusive of the oil and vinegar; called also *dodecapharmacum*.

R. Tereb. Venet. resinæ flavæ ceræ. flav. gum. ammon. āā ʒ xiv. rad. aristol. L. gum. oliban. et bdelli āā. ʒ vi. gum. myrrh. et galban. āā. ℥ ss. gum. opoponac. ʒ iii. æruginis æris. ʒ ii. litharg. ʒ ix. ol. olivar. ℔ ii. acet. q. s. ad gummi solv.

APO'STROPHE, (from *αποστρεφω*, *to turn away*). Thus P. Ægineta expresses an aversion to food.

APO'SYRMA, (from *αποσυρω*, *to rub off*). See ABRASIO.

APOTHE'CA, (from *αποτιθημι*, *to lay aside*, or *deposit*). A shop where medicines are sold; also a GALLYPOT: whence APOTHECARIUS, a preparer of medicines; or, according to the present customs, the most frequent prescriber.

APOTHEG'MA, rather APOPHTHE'GMA, (from *αποφθεγγομαι*, *to speak eloquently*). See AXIOMA.

APOTHERAPEI'A, (from *απο*, and *θεραπευω*, *to cure*). A PERFECT CURE; also a particular sort of exercise used for health.

APOTHERAPEU'TICA. See THERAPEUTICS.

APOTHE'RMUM, (from *απο*, and *θερμη*, *heat*). It is an acrimonious pickle, with mustard, vinegar, &c.

APO'THESIS, (from *αποτιθημι*, *to reposit*, or from

απο, and τιθημι, *to place*). The reduction of a dislocated bone.

APOTHLI'MMA, (from απο, and θλιβω, *to press from*). The dregs, or the expressed juice of a plant.

APO'TOCOS, (from απο, and τικτω, *to bring forth*). ABORTIVE.

APOTROPŒ'A or APOTROPAI'A, (from αποτρεπω, *to avert*). See AMULETA.

APOZE'MA, (from αποζεω, *to boil*). A DECOCTION. See COCTIO.

APO'ZYMOS, (from απο, and ζυμη, *to ferment*). FERMENTED.

APPARA'TUS, (from *apparco*, *to appear*, or *be ready at hand*). In SURGERY it is the collection and regular disposition of all the instruments necessary for the exercise of the art, or of any particular operation. The word is applied also to CHEMISTRY, and to any art or science where a number of instruments are necessary to be made use of, either for explaining or performing any process by way of elucidation: more generally, any arrangement for a particular purpose. Murray's Materia Medica is thus called '*Apparatus Medicaminum*.'

APPARA'TUS, the greater or lesser. See LITHOTOMIA.

APPENDI'CULA VERMIFO'RMIS, or CŒCI, (from *appendo*, *to hang from*; *vermis*, *a worm*; and *forma*, *shape*). On one side of the bottom of the cœcum lies an appendix resembling a small intestine, nearly of the same length with the cœcum, but more slender. It is so called from its resemblance to an earthworm, and its common diameter is about a quarter of an inch. By one extremity it opens into the bottom of the cœcum, the other extremity is closed. Its structure is like that of the intestines in general; and the internal coat is folliculous and reticular, like that of the duodenum. Its use is not known; it is also called *additamentum coli*, and by some *ecphyas*.

APPENDICULATUS, (from *appendo*, *to hang from*). In botany, it means appended to, or hanging at, the extremity. In medicine it means any thing connected.

APPE'NDIX, (from *appendo*, *to hang by* or *to any thing*). See EPIPHYSIS and APOPHYSIS. In general, parts connected with others; as Fallopian tubes are appendices of the uterus.

APPE'NSIO, (from the same). The suspension of a broken arm in a scarf.

APPETE'NTIA, APPETI'TUS, (from *appeto*, *to desire*). APPETITE. In a general sense it is an inclination towards any particular object: but in the common acceptation it is a desire of food or drink. See HUNGER and THIRST.

APPETI'TUS CANI'NUS, (from *appeto*, and *canis*, *a dog*). See BOULIMUS.

APPETITUS ERRONEI, and DEFICIENTES. See DYSOREXIA.

APPLE. See MALUM and POMUM; but apple is applied to some English names, which we shall add.

APPLE, BITTER, the fruit of the COLOCYNTHIS, q. v.

APPLE, CUSTARD. See ANNONA.

APPLE, MAD and LOVE. See SOLANUM.

APPLE, OAK. An excrescence on oak trees; q. v.

APPLE, THORN. See DATURA.

APPLU'DA, (from *ab*, and *plaudo*, *to beat from*). The chaff of millet, panicum, and sesamum.

APPREHE'NSIO, (*ad*, and *prehendo*, *to take hold of*). A name of the *catalepsis*, also *antilepsis*.

APPREHENSO'RIUM. See ANTILEPSIS.

APPROPRIA'TIO, (from *approprio*, *to appropriate*). That action of the natural heat by which the fluids are so united with the solids of our bodies as to enable them to perform their functions. Medicines are said to be *appropriated* which are adapted for a particular purpose, or directed to a particular part.

APRO'NIA, (from απο, and πρων, *the top of a hill*,) so called, because it grows upon mountains and wild places. See BRYONIA NIGRA.

APPROXIMA'TIO, (from *approximo*, *to approach*). A superstitious method of cure, by transplanting a disease into an animal or vegetable by immediate contact. In surgery it is applied to a fractured bone of the skull forcing its way under the sound portion, and compressing the dura mater. The overlapping of the skull of the fœtus from pressure during delivery is distinguished by the same term.

APPRO'XIS, (from α, priv. and πρωξ, *a drop of water*). An herb, so called by Pythagoras, which is said to take fire at a distance, like the naphtha, from its want of moisture.

APSI'NTHATUM, (from αψινθιον, *wormwood*). A sort of drink accommodated to the stomach made of wormwood.

APSY'CHIA, (from α, priv. and ψυχη, *the mind*). See LIPOTHYMIA.

APSY'CHTOS. A name given to some stones, which, when heated, are said never to cool again. Some of the denser stones, particularly the dark lavas and granites, certainly retain their heat a long time, and are consequently applied, when warmed, in colic pains, and to the feet. We have seen them hollowed, so as to adapt them to the convexity of the abdomen.

APSYRTO'S. A name sometimes given to the common marubium or horehound.

APTY'STOS, (from α neg. and πτυω, *to spit*). A denomination for disorders in which spitting, though an usual symptom, is yet wanting: some species of asthma and pleurisy are thus called *dry*.

A'PUA; called also *aphya*. The fish called ANCHOVY. They are taken near Genoa and Provence. When pickled, they are said to warm the stomach and to promote an appetite.

APULO'TICA. See EPULOTICA.

APUTA'SY. A tree found on the coast of Guinea, used by the natives as an antiscorbutic, and applied to the teeth and gums.

APY'ETOS, (from α, neg. and πυον, *pus*). An epithet for a tumour that will not suppurate.

APYRE'XIA, (from α, priv. and πυρεξια, *a fever*). The absence of fever; generally the interval of an intermittent.

APYRI'NA, the CURRANT VINE.

APYROME'LE, (from α, non, πυρην, *nucleus*, and μηλη, *spiecillum*). A probe without a button; *a melotris*; called also *apyronomele*.

A'PYRON, (from α, neg. and πυρ, *fire*). A name of SULPHUR VIVUM, because it has not felt the fire; also of the ÆTHIOPS MINERALIS, which see.

APYRO'THIUM, (from the same). See SULPHUR VIVUM.

AQUA, WATER; called also *alma*. This word is variously derived; some say it is *quasi a qua vivimus*, because by it we exist, others *quasi æqua* from the smoothness of its surface; some, from ἀχὼ, for ἠχὴ, *sound*, from the noise it makes in running. Natural philosophers define water to be an *insipid*, *ponderous*, *transparent*, *colourless*, *uninflammable*, and *highly fluid* body, susceptible of the different states of aggregation from solidity to that of elastic vapour. It owes its fluidity to a certain degree of heat, since with a heat two-thirds less than that of our blood it congeals; and with somewhat more than twice the heat of our blood it boils, beyond which it cannot be made hotter.

Water is more compressible in winter than in summer, contrary to most, if not all other fluids; it is also elastic. See Philos. Trans. vol. iii. p. 640.

It is found in almost every natural body; and nature unites it with many bodies which art in vain attempts to imitate. It exists in the hardest and most compact calcareous stones, and forms the greater part of the fluids, and a considerable proportion of the solid parts, of animal bodies. It is contained in bodies either in a state of simple mixture or of combination; in the first case it renders bodies humid, is perceptible to the eye, and may be disengaged with the greatest facility; in the second its own characters disappear. In this form it exists in crystals, salts, plants, animals, &c.: water imparts to many forms of bodies hardness and transparency, particularly to salts and many stony crystals. Some bodies are indebted to water for their fixity: the acids, for instance, are supposed to acquire fixity only by combining with water. It is now however proved to be a compound body, formed by the union of oxygen and hydrogen. On this subject our readers may consult the works of modern chemists, particularly Cavendish, Lavoisier, Fourcroy, Thompson, and Chaptal, as we must consider it only in a *dietetic* and *medical* point of view.

Water, as it is the most ancient, so it is the best and most common fluid for drink, and ought to be esteemed the most commodious for the preservation of life and health; for not only all kinds of animals, but the greatest part of mankind, preserve life by drinking water alone. If moderately drunk it assists digestion, quenches thirst, cools the habit, dilutes the fluids, opens obstructions, dissolves viscidities, corrects acrimony, promotes the fluid secretions, and is an universal vehicle for solid food. It is superior to all other liquids, because it is purer, more simple, and more fluid than other drinks. The more pure the water the better; and that is certainly the best which falls in rain, collected from high situations in the country, then boiled a little, and afterwards distilled, the half which comes over first only to be used. This, from its purity, is also recommended to all chemists where water is to be employed; but, indeed, such as nature affords is a proper drink for mankind, if there is no impregnation to the taste or smell of a person of common sensibility. The softer and purer waters, however, are to be preferred for use; though the harder waters, or such at are impregnated with selenites, or rather earthy matters, have not been discovered by any decisive clear evidence to have produced the bad effects ascribed to them.

In the pharmaceutical use of water we must however be more cautious. Even the purest rain water was found by Margraaf to contain a small portion of a muriated salt, and in large cities it generally contains some vitriolated salt. Distilled water should therefore be particularly employed in dissolving the pure kali, the pure ammonia, sal acetosellæ, terra ponderosa salita, argentum nitratum, mercurius nitratus, mercurius sublimatus corrosivus, and acetatus, tartarum emeticum, hepar sulphuris, and antimonii.

Water dissolves salts; and an ounce of water at a mean temperature, that of 60 degrees of Fahrenheit, will dissolve of

	oz.	dr.	gr.
1. ALKALIS.			
Dry volatile alkali	0	5	0
Pure salt of tartar	0	6	0
Soda depurata	0	5	0
Lapis causticus	0	6	0
2. NEUTRALS.			
Phosphorated mineral alkali	0	3	0
Pure nitre	0	1	30
Rhomboidal	0	2	0
Sal ammoniac	0	2	0
— Glauberi	0	3	30
Muriated kali	0	2	0
Natron tartarisatum	0	3	0
Kali tartarisatum	0	3	0
—— vitriolatum	0	0	24
Borax	0	0	24
3. EARTHY SALTS.			
Crude alum	0	0	30
Epsom salt	0	5	0
Terra ponderosa salita	0	1	10
Calx salita	1	0	0
4. METALLIC.			
Mercurius acetatus	0	0	20
——— sublimatus corrosivus	0	0	30
——— nitrosus	0	2	0
——— tartarisatus	0	18	20
Sal martis	0	7	0
Saccharum saturni	0	4	0
Salis ammon. floris martiales	0	4	0
Tartarus emeticus	0	0	10
Vitriolum cæruleum and martis	0	2	0
——— zinci	0	2	30

Good water is known by readily mixing with soap without curdling, and by quickly boiling pease, and pulse, soft and tender; and it keeps best in large vessels, in cold places, and in earthen or glass jars.

Muddy water may be cleared by adding two or three grains of alum to each pint, and thus the water is not injured. If hard it may be rendered soft by adding a few grains of the salt of tartar to each pint, in proportion to its hardness, but it leaves a neutral scarcely less inconvenient.

River water is the best for short voyages; but the spring water is longer before it putrifies, and answers better for long ones.

Stagnant waters; water in which is much melted snow, ice, or dew; water from mines; such as rises in low flat lands, and particularly from springs which contain an unctuous or bituminous matter at the bottom; are bad: but good waters are obtained from springs which are on high lands consisting of gravel; from the clouds, by rain falling at a distance from great towns; from

rivers and rivulets: but the distilled is the most pure, and a regular drinking of it would perhaps in some cases be as beneficial as some of the most celebrated mineral waters. See Dr. F. Clifton's Translation of Hippocrates, on Air, Water, and Situation. Cullen's Materia Medica. Hoffman's Systema Rationale. Chaptal's Chemistry.

A'QUA MU'LSA. See HYDROMELI.

A'QUA SULPHURA'TA. See GAS SULPHURIS.

A'QUA SA'LIS. See CIRCULATUM.

AQUÆ MEDICINA'LES, vel MINERA'LES. MEDICINAL, or MINERAL WATERS.

Waters which contain minerals in solution are distinguished by the name mineral waters; but as there is no water found in nature, even among the purest, unimpregnated by some of these substances, the name of mineral waters ought to be confined to such as are sufficiently impregnated to produce a sensible effect on the animal economy, so as to cure or prevent the disorders to which it is liable; hence the term MEDICINAL is more applicable. They participate more or less of the matters over which they run in their subterraneous passages, and from some prevailing ingredient they receive their names.

The substances which are contained in waters are either held by SUSPENSION or SOLUTION; by the first are meant *clay*, *silex*, (quartzose, vitrifiable earth,) in a state of division; *calcareous earth;* and *magnesia*. By the second, *air* of different kinds; the *carbonic acid; pure*, or *compound alkalis; lime*, *magnesia*, the *sulphates*, *muriates*, the *extractive matters* of *plants*, *hepatic gas*, *&c.* Silex, however, is often contained in waters, apparently dissolved by means which we cannot understand or imitate. Though the most ancient, the most general, and the most simple division of mineral waters is into cold, hot, or thermal waters, accordingly as their temperature is the same with, or exceeds that of common water.

Modern chemists of allowed abilities have arranged all mineral waters into four classes; called GASEOUS, SALINE, SULPHUREOUS, and FERRUGINOUS WATERS.

The ACIDULOUS are the most common and best known of the gaseous waters, and are those in which the carbonic acid air abounds; known by their sharp penetrating taste, the facility with which they afford bubbles by simple agitation, or even by mere standing, the property of turning the tincture of turnsole red, and precipitating lime water and liver of sulphur. These are divisible into two orders, cold and hot; the *first* comprehending cold, acidulous, and alkaline waters, such as Seltzer, St. Myon, Bard, &c.; in England, Tilbury and Clifton. The *second*, hot or thermal, acidulous, alkaline waters, as those of Mount d'Or.

This ingredient in mineral waters was first discovered in the Pyrmont waters by Dr. Brownrigg. There are few waters without it; but unless at least six inches of this air are found in 100 of the water, it is scarcely medicinal. The Pyrmont water contains from about 150 to 187 inches in 100. In general, water at the temperature of 60° can take little more than its own bulk, unless when pure alkalis, with which it can combine, be present. It is incompatible only with alkaline air.

Azote was first discovered in the Buxton waters by Dr. Pearson, and it has been suspected in the Bath waters. Dr. Garnet found it in those of Harrowgate; and Mr. Lambe (Manchester Mem. vol. v.) in those of Lemington Priors.

Common air was discovered by Mr. Boyle in waters of every kind, but this does not render them medicinal. Oxygen air was first discovered in water by Scheele, but has not since been found in any other instance. Indeed the medicinal waters, whose obvious qualities force them on our notice, can scarcely ever contain oxygen, since it cannot unite with water containing hepatic air or ferruginous salts. We know not that this is ever medicinal, for oxygenous air in the stomach is injurious. Hydrogenous air seems never to exist alone in water, though it may be suspected in the waters of marshes; but it is a solvent of sulphur, and, with it, forms a common ingredient in sulphureous waters. When combined to saturation it is styled by Berthollet, the *sulphurated hydrogen;* and, when united to a basis, *hydrosulphuret*. When the sulphur is in excess, it is *hydrogenated sulphur* of Berthollet; and, with a basis, *hydrogenated sulphure;* more conveniently, the *supersulphurated hydrosulphuret*. Mr. Kirwan calls these combinations, respectively, hepatic air, or supersulphurated hydrogen, hepatules, and hepars. Of the hepatic air, water takes up about two-thirds or three-fourths of its bulk; by agitation, or heating the water, a greater quantity is absorbed. Heavy inflammable air, or carbonated hydrogen, exists seemingly in some volcanic waters, but has not been ascertained by direct experiment. Sulphureous, or vitriolic air, is also contained in the hot waters of Italy connected with volcanoes. It is apparently the excess of the vitriolic acid in the ferrugineous waters, and has been usually referred to that head.

The saline waters consist of a numerous group of the acid, alkaline, earthy, and neutral saline springs. As we have just seen the excess of vitriolic acid forming its peculiar air, so the excess of the acid itself is sometimes found in the vitriolated and aluminous waters. The muriatic acid has not yet been found except in a state of combination, unless Dr. Wethering's suspicion of its existing in the waters of Nevil Holt should be realized; (Translation of Bergman's Sciagraphia). The boracic acid has, as we shall show, been found in some Italian lakes: in a combined state we have always received it as a natural production from the lakes of Persia and Thibet, under the name of tinkal. The nitrous acid exists only in a combined state, and we recollect of this only one instance, viz. at Bihor in Hungary. See Annales de Chimie, vol. i. p. 224.

Of the alkalis, the natron is most abundant in mineral waters, and it is found in an aerated state. The quantity of this salt in almost every region of the earth is considerable; and it forms a striking and convincing proof, that the waters of the ocean once covered the face of the earth; for the natron is, in almost every situation, evidently the fixed residuum of decomposed sea salt. In the natron lakes of Egypt it is accompanied with the sea salt, and the same admixture occurs in many mineral waters. Sea water has not been usually reckoned among mineral waters; it is however highly deserving of this distinction: and we cannot avoid noticing in this place a curious fact lately

published, which, if confirmed, will greatly illustrate our subject, viz. that the Galvanic spark passed through water produces an impregnation of sea salt. In the progress of our publication we shall again advert to the fact, should further experiments either confirm or oppose it. In the interval between writing and printing this paragraph, it has received additional confirmation.

The vegetable alkali is rarely found in mineral waters; yet as it has been discovered in some granites we may expect to meet with it. The solitary instances in which it has yet occurred, scarcely however support the expectation. The water at Doway in France is the only uncontroverted one which occurs to us; for Monnet's discovery of it in the waters of Aix la Chapelle has not been supported by subsequent experiments. The volatile alkali, which we should with less reason expect to find, has been discovered by Mr. Cavendish in the waters of Rathbone place in London, and by M. Malouin in France. If the kali might occur from burnt woods, the ammonia would not be a less probable impregnation from decayed animal substances.

Lime is a very common ingredient, seldom however, if ever, uncombined. Aerated lime frequently occurs, and the air in these instances acts as a solvent, and is not combined with the earth. Bergman supposes, that about 100 cubic inches of water, saturated with its own bulk of fixed air at the temperature of 50°, will dissolve nearly 29 grains of aerated lime; and about 1504 parts of fully aerated water, dissolve about one of aerated lime. Mr. Cavendish however found that this proportion was too low, and that a quarter of a grain at least might be added (Phil. Transactions, for 1767); and Berthollet has even advanced the quantity of lime dissolved in water to nearly 3 to 1500. This question is rather a chemical than a medical one, and we need not pursue it further.

Magnesia, as an ingredient in sea water, will of course appear a frequent impregnation of mineral waters. Magnesia, fully aerated, is soluble in 900 parts of water; but fully aerated water takes up a larger proportion of this earth at the period of its precipitation by a mild alkali. Of common magnesia about $\frac{1}{300}$ is dissolved in aerated water, and by management a larger proportion. Even pure water, we are told, will dissolve $\frac{1}{577}$ of its weight of the common earth. It is remarkable, that the impregnation of water with vitriolated kali, common salt, and Epsom salt, will render it a better menstruum of magnesia.

Argil is rather suspended than dissolved in water; but if Westrumb found nine grains in five quarts of Pyrmont water, it must have been really dissolved. We are not now speaking of aluminous waters, but of argillaceous ones, where the earth is suspended by fixed air: with its assistance, magnesia is very much more soluble than argil.

Aerated iron is very common, and 100 cubic inches of fixed air may dissolve four of iron. If in the waters of Medevi, analysed by Bergman in the first volume of his Opuscula, four grains of iron are suspended with only six cubic inches of this air, we may suspect the intervention of some other solvent.

Of all the impregnations of mineral waters, the neutral salts are the most frequent: they occur in all their varieties, and in every possible combination. The selenite is a very common impregnation; and in Monro's system, compiled when chemistry had scarcely assumed a scientific form, it is called calcareous glauber. The Epsom and Glauber's salts are more rare, but frequent. Vitriolated ammonia, and vitriol of iron, are the production chiefly of volcanos. The latter occurs in the waters of Mulino near Latera (Lavoisier, Mem. de Paris, 1777); in those of Horsley Green (Garnet); and in Denmark (Bergman, vol. i. p. 176). Vitriol of copper is contained only in waters issuing from the copper mines.

We have mentioned the acid of nitre seldom occurring in a combined state; but Margraaf found some traces of nitre in the wells of Berlin, and Bergman in the waters of Nidda, near Altendorf. Nitrat of lime and magnesia occasionally occur, but these springs are not medicinal.

Of the muriats, we find muriated natron, lime, and magnesia, in many mineral springs. Muriated ammonia has occurred in some of the Italian lakes, and in Siberia (Herman, vol. ii. p. 346). Muriated barytes has been found in water by Bergman and Schoeffer; muriated argil by Withering (Translation of Bergman's Sciagraphia, p. 31); and muriated manganese by Bergman; and, in our own country, by Mr. Lambe in the water of Lemington Priors.

The sulphureous waters owe their peculiar properties to the union of alkalis or lime; but Mr. Kirwan remarks that the sulphur is never in the form of hepars, since these are always coloured, or, when diluted, become so on standing; then ceasing to have any effect on nitrated silver, lead, or any other test. Bituminated alkali occurs only in one or two solitary, perhaps doubtful instances.

Petroleum was found floating on the waters of Driburg, and in some of those of Pyrmont, by Westrumb. Vegetable and animal extractive matters are accidental, and never medicinal impregnations.

The ferruginous waters we have already mentioned: the iron is held by the sulphuric and the carbonic acid, or mechanically suspended. Of the first we have already spoken: the carbonate of iron occurs chiefly in the acidulous waters, and the mechanical suspension occurs in the forge waters sometimes used as topical astringents, to be afterwards noticed. The medicinal are, in some measure, ascertained by the *sensible qualities* of waters. To the *sight*, pure water is clear, like crystal: when less so, some heterogeneous matters are certainly present. Water that has run through a gravelly soil is generally very pure: that which has passed through argillaceous or muddy land much less so. Though good water is without colour, it does not follow that every colourless water is good. An obscure muddiness verging to yellow or red is found in stagnant waters, and may arise from the extractive vegetable matter found in marshes, or from fatty substances. A blue colour points out copper; a green, vitriol of iron. The aerial acid, when uncombined, becomes obvious by the bubbles separated on standing, or on agitation. The purest water, however, when standing *in the sun*, will discharge numerous air bubbles.

To the sense of *smelling*, good water is free from odour. When saturated with the aerial acid, it exhales a suffocating, subtile vapour. Hepatic waters resemble in smell a stale egg, or the scourings of a foul gun;

those impregnated with putrid extractive matter are distinguished by their fœtor.

Waters may be considered as pure, in proportion to their want of *taste:* even in the purest, however, the experienced water drinker will discover a difference. The aerial acid gives an agreeable pungency. Bitterness shows an impregnation of Glauber's salt, nitre, vitriolated, nitrated, or muriated magnesia, nitrated or muriated lime. Lime and selenite are distinguished by a slight austerity; alum by a little stypticity; common salt by its saline taste; alkali by its urinous flavour; copper and iron by tastes peculiarly their own, and sufficiently known.

The quantity of foreign matter in medicinal waters is ascertained by their specific gravity, compared with that of water at the same temperature. The comparison should be made with distilled water, not in small quantities, for the difference is not easily ascertained; nor in large ones, as the greater weights are not minutely exact. Vessels which hold a quart or three pints form the proper mean. The specific gravity is, however, only a test of the quantity of matter in waters without smell, for the hepatic waters are lighter than distilled. The water of Limmer and Rensdorf are instances of this kind, examined by Andria and Brockman. The lightest water is that of Envie, near Turin, eight pounds of which contain about half a grain of lime: the heaviest, that of the Dead Sea, which, according to Lavoisier, contains 44.4 per cent. of common salt, muriated lime, and magnesia, so that it is evidently a salt lake, whose fluid contents are decreasing. These extremes are 1.0000 and 1.2403. If waters abound with aerial acid, their specific gravities do not give the proportion of solid matter with any accuracy at a temperature above 50°. A convenient rule, sufficiently accurate, is given by Mr. Kirwan to ascertain the solid contents by the specific gravity, which we shall transcribe. It consists in subtracting 1000 from the given specific gravity expressed in whole numbers, and multiplying the product by 1.4. This gives the weight of the salts in their most desiccated state, but that of fixed air is also included. The fixed air should of course be previously separated, and the water of crystallisation allowed for. We shall therefore add at the end a very convenient table from Kirwan, to which we shall often have occasion to refer.

Another method of estimating the medicinal from the sensible qualities of waters, is, an examination of their *temperature.* For this purpose, it will be of use to enquire whether the temperature is the same at all seasons, whether it follows the variations of the atmosphere, or the water freezes in winter; if warm waters deposit any sediment in cooling; of what this sediment consists; and whether their sensible qualities are diminished or destroyed after the deposition.

The *situation of the waters* must not be neglected. The character and elevation of the neighbouring country; the quantity of the water, and the occasional variations in this respect; its current; the number of its springs, and the quantity they furnish; the quantity and nature of their depositions; what sublimations are observable in their channels; whether they flow tranquilly or with ebullition; what vegetables and animals they support; are circumstances of real importance in ascertaining the nature of mineral waters.

It cannot form a part of our present object to engage in details of the various methods employed in the analysis of mineral waters; yet, as the medical practitioner is sometimes called on to determine on the propriety of using any water which has not been hitherto analysed, a few short rules may not be improper or misplaced; they are not designed to obtain an accurate analysis, but to form a general idea of the nature of any water offered to observation. The description of the sensible properties of the different kinds of mineral waters will lead to a general knowledge of their contents. The acidulous waters will tinge the juice of litmus red, but the colour will disappear by exposure to the air: they will also precipitate lime from lime water, which will be again dissolved if a small quantity only is added, or if the air be in excess. If a flaccid bladder be tied round the mouth of a bottle containing the water, and heat applied, the quantity of uncombined air may be measured by the quantity in the bladder.

The hydrogenated sulphur will tarnish silver, or, more readily, lead. A mark made on paper with acetite of lead or tartrite of bismuth is instantly blackened, without producing any turbidness. A sulphuret of either fixed alkali will indeed produce the same effect, but a decomposition ensues. When the sulphur is combined with the water by means of an alkali, it may be precipitated by the sulphuric or muriatic acid, and weighed; but some sulphur will still remain suspended. Either the sulphureous acid, or the strong red nitric acid, will precipitate what is left. Oxides of lead, quicksilver, and arsenic, by uniting with the hydrogen of the gas which keeps the remaining sulphur suspended, will have the same effect. By these means we can also separate the sulphur, dissolved by means of hydrogenous gas in water.

Alkalis, when uncombined or aerated only, are discovered by changing the colour of syrup of violets green. To ascertain whether this change is owing to the fixed or volatile alkali, some muriat of quicksilver must be added. The volatile attracts a large portion of the acid, and the rest is precipitated with the metal in the form of mercurius dulcis.

Acids are more easily discovered. The muriated barytes is decomposed by the sulphuric acid, forming an almost insoluble compound, and all its salts are thus at once discovered: an almost imperceptible particle of either forming a precipitate. The muriatic acid can be as certainly discovered by a solution of nitrated silver with an excess of acid. Having ascertained the nature of the acid, if in the first instance an alkali is added, the lime, if the water contain a calcareous earth, is deposited; or argil, or magnesia, if these be its ingredients. If the precipitate be soluble in distilled vinegar, it is not argil; if, when dissolved, and sulphuric acid be added, no precipitation ensues, it is not calcareous, and consequently must be magnesia. The acid of sugar will at once show the existence of calcareous earth, for its attraction is very powerful and the compound insoluble.

If aerial acid be the means of the solution of the earth, it will separate in boiling; but more certainly by acetite of lead. The metal is precipitated, and the earth suspended by the acetous acid. As the lead would also be precipitated by a sulphat, a little more acid should be added, which will redissolve the lead if an

earth has occasioned the separation. The nature of the saline neutrals can only be with certainty ascertained by evaporation and the form of their crystals. If nitre be contained in water, after a considerable evaporation, the smell of the acid may be detected on the addition of some sulphuric acid.

As copper can be discovered by the taste, we need only notice the means of distinguishing iron; though this also shows strong marks of its presence by the ochery depositions on the banks of its streams and the astringency of its taste. A ready and convenient test is, however, the calcareous prussiat, prepared by boiling lime water a little while on Prussian blue: it must be kept in well stopped phials from the light. The tincture and infusion of galls are equally useful; but a little alkali must be previously added, as an excess of acid, should there be such, will prevent the change of colour. Mr. Kirwan, in his excellent treatise on mineral waters, has added a list of 'associated,' and another of 'incompatible' salts, chiefly, he remarks, for the assistance of geologists. We think a short abstract of this part of his work will be equally useful to the medical chemist. *Aerated lime* and selenite most frequently accompany each other; and *aerated magnesia* is always accompanied with aerated lime, but not *vice versa*. *Aerated soda* is generally accompanied with Glauber and common salt, but not *vice versa*. *Epsom salt* is commonly accompanied by Glauber or selenite, or both, but not *vice versa*. *Vitriol of alum and iron* are commonly associated. *Common salt*, unless with soda, is always attended with selenite; and the latter, very generally diffused, accompanies all salts except soda when in any remarkable proportion. *Muriated magnesia* is most commonly found with sea salt, but not *vice versa*, often with Epsom salt. *Muriated lime* is almost always accompanied with common salt. *Epsom* and *common salt* decompose each other when some degrees below the freezing point, producing Glauber and muriated magnesia; but in a higher temperature they react on each other.

Many salts found in mineral waters are *incompatible*, capable of decomposing each other; or, if simple, of decomposing some of the compound salts. This however appears to be prevented by the large proportion of the menstruum.

Aerated alkalis are incompatible with earthy or metallic salts; uncombined vitriolic acid with earthy nitrats, or muriats, or aerated earths; alkaline sulphats with earthy nitrats or muriats; Glauber with sylvian; vitriolated tartar with nitrated soda; vitriolated ammonia with nitre and sylvian; Epsom salt with nitrated or muriated lime; alum with nitrated or muriated lime, or magnesia; nitrated lime with sylvian, sal ammoniac, muriated barytes, or magnesia; nitrated magnesia with sylvian and muriated barytes; muriated magnesia with nitrated soda and lime.

From these few hints the nature of any mineral water may be ascertained with sufficient accuracy, and we shall now proceed with some account of the impregnations of mineral waters, and their medicinal powers. In this place it is unnecessary to be minute in giving the contents of each; it is the object of the chemist, rather than the physician. In a medical view we shall class the most noted mineral waters under their proper heads, and then consider the virtues of each class.

I. Waters with very *inconsiderable* or *no* impregnation.
   Cold. Malvern; Holywell; Plombieres.
   Warm. Bristol; Matlock; Buxton.
II. Aerial, acidulous, sparkling.
   1. United with alkali: Seltzer; Clifton and Tilbury in England; Carolina in Bohemia; Mont d'Or and Bourbon L'Archambault in France.
   2. United with steel: Tunbridge, Spa, Pyrmont, Boussan, and Pougue in France.
   3. ——— Steel, hot: Bath.
   4. ——— Steel and salts: Cheltenham and Scarborough.
   5. ——— Hot: Vichy, Carlsbad.
III. Saline, simply with one or more neutral salts.
   Sea-water; Sedlitz and Seidschutz in Bohemia; Epsom; Balaruc and Bagnere in France.
IV. Sulphureous.
   1. Cold: Harrowgate; Moffat.
   2. Hot: Aix; Borset; Bareges and Dax in France; Baden in Germany.
V. Bituminous: Driburg, and some of the springs of Pyrmont.
VI. Metallic.
   1. Vitriolated chalybeate: Hartfel.

It forms a problem of no little difficulty to explain, why waters with impregnations so slight and inconsiderable should ever have become famous as medicinal. It has furnished arguments for the sceptic, and refined considerations for the pathologist. If water so pure be ever useful, might we not attribute the whole to the element alone? and, having obtained this 'vantage ground,' may we not suppose that all the advantages of mineral waters are derived from dilution, added to changes of air and scene, absence from the distractions of business, or what would revive the recollection of distressing scenes or events? The argument has been drawn out with much care, decked with delusive colourings, and supported by facts, which might at least occasion hesitation. Those who have indulged in excess of every kind, in indulgences the most exhausting, would certainly be benefited by a water diet, accompanied with regular hours, with exercise in free air, with tranquillity and cheerful conversation: men, whose midnight hours have been irritated by study and anxiety, would find the surest balm in calm repose; those who have never sought rest, but in fevers from wine, and 'rude wasseling,' must feel peculiar comfort in the calm of temperance and cheerfulness: men who have burnt under the torrid zone, and whose fluids are highly animalized by scorching heat, will find the cooling streams soothing and salutary. These representations may be allowed, yet they will not prove all that they are designed to show. Crowds of hectic patients seek, and often seek in vain, relief in the pure springs of Bristol; yet, had they not been advantageous, crowds would never have resorted to them. Pathology steps in to our aid, and attempts to show that medicines in a form highly attenuated may produce effects to which in a grosser state they were unequal; that the peculiar appropriate effects of every medicine are attained only in a suitable dose; and that, beyond this, each is indiscriminately stimulant. To reasonings of this kind, on either side, we need no reply; but we must have recourse to experience, which

tells us, in language not to be misunderstood, that waters of a given class are highly efficacious in their appropriate diseases, let the immediate cause be what it may. If we were to give our own opinion, it would be limited and discriminated. We see striking effects of acidulous, of sulphurated, of saline, and chalybeate waters; but for this reason, must we deny them to the purer kinds? We know that the effects we perceive are not in proportion to the doses of the active ingredient swallowed; may we not then suppose, that ingredients apparently less active may have effect in the same form? In reality, we would not give them all the merit assigned, or deny wholly their powers. We believe the purest waters have been useful; and are convinced that those which possess the more active ingredients, have been highly salutary.

This disquisition we have been led into from the first class of waters; and we may now add, that chemistry may probably detect ingredients not yet suspected in some of these, as azotic gas appears to have been found in those of Buxton; and perhaps oxygen may occur in others, as it has been suspected in the waters of Plombieres. The second class, the *acidulous waters*, stimulate the stomach and improve the appetite. They are certainly refrigerant and antiseptic: refrigerants we shall find to be deobstruent, and, in some constitutions, diuretic. Perhaps the acidulous waters are adapted to those who have injured the stomach by excess in drinking: when joined with chalybeates, this advantage is more strikingly conspicuous. If ever these waters prove peculiarly useful as deobstruents, it is when they are united with neutral salts; but to follow this subject would be to anticipate what more naturally occurs under the next head.

The saline waters are certainly cathartic and diuretic: they have the credit of being alterants and deobstruents. Of the supposed acrimonies of the fluids we have already spoken, (see ALTERANTS,) and have remarked, that though what appears in excrementitious fluids must have existed in the blood, yet it never formally appears in that fluid. We may now add, that such is the connection between the secretory organs, that a derivation from one of these will prevent a deposition on some others. Thus the discharge of the more fluid secretions from the bowels will check similar ones of the saliva and of the skin; and to cure, or certainly to prevent, the recurrence of cutaneous eruptions, there is no more certain remedy than the saline mineral waters, particularly sea water. Obstructions of greater consequence occur in the chylopoietic viscera and the conglobate glands. Dissection shows us that the liver, the pancreas, and other organs of the abdomen, may be obstructed, enlarged, become scirrhous, or otherwise diseased. For these complaints the saline mineral waters are recommended with advantage. To explain their effects we must first notice the general principle previously alluded to, that the chief and first effect of all deobstruents is refrigerant or sedative. When obstruction exists, if the circulation is accelerated and the obstacle is not conquered, the matter must be more firmly impacted; and at a distance from the source of power, the action of the vessels must be comparatively weak and inconsiderable. To this we know but of one exception, viz. the action of mercurials, whose stimulant power is chiefly felt in the extreme vessels. Independent, however, of the refrigerant effect of saline medicinal waters, they generally increase the discharge from the excretory ducts of the obstructed part, and of course relieve the over distended vessels; not only preventing further impaction, but taking away the impediments to the action of arteries already obstructed.

The action of these waters on obstructions of the lymphatic glands we have also already glanced at. It was the language of Dr. Cullen that saline waters, particularly sea water, 'washed out' the lymphatic system. We know not, however, by what channels they could reach glands whose disease consisted in refusing a passage to every absorbed fluid; and when we before noticed this effect, and was willing to attribute it to the power which salts possess of rendering the gluten more fluid, we were obliged to allow that the matter of scrofulous glands was not gluten. Saline waters are, however, very valuable remedies in these complaints; and they seem useful by increasing the action of the lymphatic system, which is probably in this disease defective. Obstructions of the mesenteric glands are very often relieved by saline waters; and from what we have observed of their powers, it will be easy to see on what principle their good effects depend. In some late authors, the physconia abdominalis is mentioned among the diseases to which these waters are adapted. The complaint consists in hardened tumours in the abdomen, apparently not connected with glands of either system; and if the remedy is useful, we must confess our ignorance of its manner of acting.

Some of these saline waters are recommended in cases where we hesitate respecting their power, or the means, if their efficacy be admitted, by which they relieve. We allude to those cases of exhausted constitutions which are supposed to find relief from Cheltenham. It is said that the chalybeate impregnation obviates the debilitating power of the cathartic salts. In fact, we strongly suspect that in all such cases an obstruction of the liver has occasioned or coincided with the other complaints, and that the relief obtained has followed from the effects of the waters formerly mentioned. It is contended, however, that they are useful in other circumstances, and we cannot deny that they have appeared to be so; but with the little experience we at a distance can possess, it would be the height of arrogance to contend against the enlarged field of observation a residence on the spot affords.

Melancholy and dropsy, two diseases, for which the saline waters are recommended, need not detain us: in each there are generally obstructions in the viscera, and in each gentle laxatives are useful.

The aerated alkaline waters are now peculiarly fashionable, and the *artificial* soda water, which we shall mention in another article, is frequently drunk: it is recommended as a stimulant, a tonic, a solvent, and a stomachic. In weak digestions, in gouty apepsia, in stomachs abounding with acid, it is highly commended, and is not without its merit, though the *popularis aura* seem to have extolled it beyond its bearing. In nephritic and calculous complaints it is recommended as a solvent; but it is doubtful whether its power is obvious in any other organ except the stomach. The acid evolved in the urea, in the perspiration and calculi of arthritic patients, is apparently generated in the stomach, and is there counteracted by antacids. If, how-

ever the alkali can be conveyed without change to the bladder, it may certainly be useful as a solvent. In inflammatory fevers it acts as a cooling laxative, and in some cases of hectic appears beneficial; but, as a remedy in putrid fevers, this gas is too trifling as an antiseptic to detain us a moment.

The sulphureous waters are very powerful and active remedies; as the sulphur, in the attenuated form which it assumes in its combination with inflammable air, is conveyed to the smallest vessels. These waters have been long employed in diseases of the skin; and, as they are used both externally and internally, they produce very considerable effects. In gouty swellings and diseased joints from this and other causes, the warm sulphureous waters are highly useful; in the chronic pains from gout, rheumatism, contractions, or indeed any cause, they afford considerable relief. They are supposed particularly effectual in diseases produced by arsenic, lead, or mercury: but we suspect that this opinion rather arises from the power of sulphur on metals out of the body, than from actual observation. In such diseases, the metal seems to be soon discharged out of the system, and the effects only remain.

Modern refinement, perhaps modern theory, has added another group of complaints to those which are likely to be benefited by sulphureous waters, viz. the diseases arising from too great a proportion of oxygen in the system. Pathologists have not traced this cause very extensively; but it has been supposed to occasion the diabetes mellitus, and in hectics the florid blood seems to show that the fluids are highly oxygenated. In the former, Dr. Rollo advised the hepatised ammonia; and other authors have thought that the same object might be more conveniently attained by these waters. We know not that they have been employed in hectic, but air of a lower quality than that of the atmosphere seems occasionally useful; and we strongly suspect that the credit of the Bristol waters has been lessened, since it has been fashionable to reside nearer the summit of the hill.

Of the bituminous waters we have had little experience, and need not enlarge. We perceive in some authors, that water impregnated with what is called fossil oil occur in this kingdom and in different parts of the continent. In our own country the waters of Brosely, Pitchford, and Wigan, are enumerated; in France, those of Gabian and Plombieres; in Germany, that of Waldsborn. In fact, the accuracy of modern chemistry has not yet sufficiently illustrated the nature of several mineral springs; nor are the medical reports wholly free from suspicion of superstitious, prejudiced, or interested exaggeration. We have, consequently, preferred giving the general outlines of the analysis, with the knowledge to be drawn from the sensible qualities of the water respecting its ingredients, to the list of mineral waters, with which we had purposed to conclude the present article.

The metallic impregnations only remain, and under this head we purpose to speak more particularly of the Bath waters. These springs have been long and highly esteemed; but the chemist has been disappointed in finding so little foundation from his analysis for the character they have for so many centuries enjoyed. This water consequently furnishes a strong argument in favour of those who consider the attenuated form of the impregnation as the chief source of the benefit arising from it. Simple warm water has indeed been substituted, and many are the virtues attributed to it in assisting digestion. Such it may possess; but till it produces all the varied effects of the Bath waters, we shall have little confidence in the refinement. Every physician, who wishes to distinguish himself at Bath, writes on its waters, and endeavours to add to the stock; yet we are still little acquainted with the volatile ingredients which occasionally produce giddiness, and, when improperly used, fever. It is not very unreasonable to presume that it is inflammable or azotic gas. The iron is in a small proportion; and a late author, who has plumed himself on the discovery of silex in this water, has advanced very little in the discovery of the cause of its powerful effects. Bath waters are certainly warm and tonic: in the arthritic weakness of the stomach they are highly useful; in palsy, if the effects of the stimulating, inebriating principle be avoided, they are very serviceable; in topical weaknesses of the joints they excel almost every other remedy. In the relaxation of the hip joint, we perceive, from the records of the Bath hospital, they have given important relief: in chronic obstructions of the viscera they are equally valuable.

The waters impregnated with vitriolated iron only are more simply tonic; and the forge water, where the iron seems only mechanically mixed, is chiefly useful as a topical application.

The other metallic impregnations of water are copper, arsenic, and tin: of the two latter however we have no proofs, and we think they have never been discovered. Copper in water chiefly occurs near mines; but we perceive in Ireland the mineral waters at Ballemurtoch and Cronebaum accounted cupreous; and those of Altenburgh, Cement, Goslar, Herengrunde, Neusol, and Schmelnitze, in Germany, are supposed to be of a similar nature. They are used only as topical applications to old ulcers, and sometimes in chronic ophthalmy.

We may perhaps be accused of neglect, for not more particularly noticing the cretaceous waters and the sea water. Of the former, Bristol waters are a striking and an almost solitary example; nor are we ignorant of different effects supposed to result from its demulcent properties, particularly in hectics and diseases of the bladder. It is sufficient to mention them in this place for the use of those who have more credulity on these subjects than ourselves. We see no other effects from these waters than from a mild pure fluid, which is certainly useful, though not the only source of the advantages which mineral waters impart. The Bristol springs have been thought serviceable in diabetes: a fact that requires a more ample consideration of the disease than can be admitted in this place.

Sea water has been supposed to possess peculiar power; but if more eminently useful than other saline purgative waters, the advantages chiefly result from its being more easily procured and longer continued. Yet we must remark that common salt is a necessary condiment to many tribes of animals. To man it is equally of importance, since it furnishes the most common and salutary stimulus, so that we may suppose it peculiarly advantageous in diseases. In fact, we find it so; and, where the constitution can bear its action, which is not always mild, it is highly useful. Physicians have supposed that it owes some of its advantages to the bittern, the oily matter which it contains. This cannot

be denied, though it is not probable. Yet when we reflect that the salts of marine plants and of other marine productions are often particularly useful as deobstruents, more so than even the salt itself, we must not deny some peculiar advantages to their pabulum.

The administration of these remedies requires but little particular attention; the doses of the saline waters must be regulated by their effects. They should be drunk till they produce a slight evacuation from the bowels; and, of course, the weaker impregnations are of little importance. If a pint, or from a pint to a pint and half daily, does not produce some sensible effect, the quantity of fluid will be more injurious as a load, than useful as a medicine. The chalybeate waters, if also saline, should produce some sensible effect in the same way; and, it is said, that the tonic power of the metal prevents their debilitating effects as cathartics. The sulphureous waters have, in general, their appropriate doses regulated by their other impregnations. Those wholly chalybeate must never be drunk in large quantities at once, or without some preparation. The quantities of the Bath waters necessary for different diseases are taught on the spot: it is a sacred science which the uninitiated must not aspire to know: *juvat integros accedere fontes, atque haurire*. The others require no particular advice, except not to distend the stomach so far as to produce inconvenience. This caution is peculiarly necessary in the use of the acidulous waters. In general, it is better to begin with small quantities, and repeat them often. If sea water is too nauseous, or excites too much thirst, a portion of milk added to it will greatly diminish the inconveniences.

See Kirwan and Sanders on Mineral Waters, Monro on Mineral Waters, Falconer on Bath Waters, Monnett's Hydrologia, Annales de Chimie; Fourcroy's Connoissances Chimiques.

A'QUÆ MINERALES ARTIFICIALES. The preparation of artificial mineral waters has now almost become a science. Since the idea is in a great measure abandoned, that in the vast laboratory of nature they can be only with advantage prepared, many have attempted to imitate them by impregnating common water with their contents. We have just now admitted that the ingredients are of consequence as medicines, but have at the same time allowed that many of the effects are owing to a change of scene, of air, and of habits. We cannot therefore expect from these creatures of art what we find from the natural waters, assisted as they are by the other advantages; at the same time, it is of importance to consider the progress and state of this very useful art, which will supply in part the advantages derived from visiting the springs. It has been common to attribute the invention to Dr. Priestley. In fact, we are indebted for it to a French physician of Montpelier, who, in 1755, presented to the Academy of Sciences an account of his method of imitating the Seltzer waters. Bergman, in 1774, followed these steps; and, in his successive dissertations, published in 1774, 1775, and 1778, taught us to prepare the waters of Seidchutz, Seltzer, Spa, and Pyrmont; the cold and warm hepatic waters. In this interval, Dr. Priestley gave us the form of preparing the acidulous waters; and Mr. Lane taught us that water thus impregnated was a menstruum of iron. In 1779, M. Duchanoy, a French chemist, reduced the scattered facts to a systematic form, but added little to them. He was followed by numerous other instructors, till M. Paul of Geneva, and M. Schweppe in this country, have rendered the art an almost perfect imitation of nature. Imitation! it is more, for all the noted waters are prepared with an accuracy which prevents their being distinguished from those which nature offers in stronger or weaker states, and with additions adapted to the disease. M. Paul, it is said, has sold 40,000 bottles of artificial Seltzer water in one year. Of M. Schweppe's manufacture we have received no information, so that our account of this list must be collected from the report of the French academicians appointed to examine M. Paul's apparatus and management. The general doctrines we have anticipated in the article of MINERAL WATERS, and the impregnations are those which the most accurate analysis has detected in the natural mineral waters. When the acidulous waters are prepared by the separation of the carbonic acid gas from chalk or marble, some of the vitriolic acid escapes with the air, and gives a harshness not found in the natural acidulous waters. M. Paul prepares it with carbonic acid gas, separated by combustion, and all the airs are united to water by compression. His alkaline water is prepared with potash, in compliance with the directions of Mr. Home and others, who have recommended it in calculous cases. In the natural waters, however, the alkali is the soda; and this is the salt in the Vichy waters, and many of those of Puy de Dôme, and Mont d'Or. In many of his aerial waters, the quantity of air is greater than in the natural waters: experience must determine whether this is an advantage, for we know that we lose the peculiar qualities of a medicine by excess in the dose. It is evident, however, that the unavoidable loss in keeping, in uncorking, and pouring out the water, is thus compensated. The sulphureous waters contain half their bulk of pure hydrogenated gas, with $\frac{1}{3\frac{1}{2}}$, or, in the stronger kind, one-fourth of the sulphureous hydrogenated gas. According to Bergman, the proportion of the latter ingredient is larger. An alkali with an excess of carbone has been lately offered to sale, to prepare the aerial water extemporaneously. Air rapidly escapes in solution; but, to make the salt efficacious, it should be dissolved in a close vessel, or drunk during the solution.

The oxygenated water is a new remedy, yet it seems rather *pressed into* the water than united with it, and very readily escapes. It should certainly be drunk from a siphon, furnished with an accurately ground stop cock. Of this remedy we have no experience; yet, in the Bibliotheque Britannique, a work of character and credit, we find many facts in its favour. It seems from this work that the oxygenated water may supply the use of acids, and of various oxygenating remedies; but we would recommend its being used with caution, as oxygen in the stomach appears to be occasionally injurious. The oxygenated water has no taste, while the oxygenated wine, a quack medicine recommended in fevers, is slightly acid, and certainly consists only of wine with a small proportion of one of the mineral acids.

The hydrogenated and hydrocarbonated waters contain, respectively, half their bulk of air. Of these little use seems to have been made, and the trials hitherto have spoken little in their favour.

As the artificial mineral waters are becoming fashionable, we shall add a table of the solubility of the different gases in one hundred parts of water.

Muriatic acid	100
Alkaline air	34
Sulphureous acid gas	3.96
Nitrous oxide	0.27
Carbonic acid	0.17
Nitric oxide	0.16

AQUÆ THERMALES. The warm mineral waters distinguished by this title we have in general noticed in a preceding article; and it is now only necessary to consider the peculiar advantages derived from their heat. Were our present object chemistry in general, we might examine at some length the cause of this heat, which has been hastily and indiscriminately said to be subterraneous fire. The problem was thus quickly dismissed; and little enquiry into the probability of volcanic fires existing in the spot where these warm waters were found was thought necessary, and less investigation into the cause of these fires continuing to burn for ages with a temperature neither increased nor diminished. There is little doubt of the heat being derived from decomposition, and in general of martial pyrites. These contain a large proportion of caloric; are found in vast extensive beds; and, when decomposed, may for ages continue to give out and communicate heat of a steady temperature. In general, they add greatly to the effects of the sulphureous waters, and often to the chalybeate. For external use they are in general preferable; and when percussion is added by pumping or pouring the water from a height, their stimulant and tonic effects are greatly increased. In these ways the waters of Bath are so singularly useful. This subject must, however, be resumed, when we consider the importance of bathing in general; and we shall then add what seems to render the Bath waters in this form so frequently of peculiar value as a remedy. The heat of thermal waters differs from 92° to 212 of Fahrenheit. See BALNEUM, and BATHING. We shall add the table formerly alluded to.

Of the Proportion of Ingredients in the following Saline Compounds.

100 parts *Carbonic.*	Basis.	Acid.	Water.	State.
Aerated Tartarin	41,	43,	16,	Crystallized.
Common Salt of Tartarin or Pearl ash	60,	30,	6,	Dry.
Aerated Soda	21,58	14,42	64,	Fully crystallized.
Do.	59,86	40,05		Desiccated.
Aerated Barytes	78,	22,		Natural or ignited.
Aerated Strontian	69,5	30,		Natural or ignited.
Aerated Lime	55,	45,		Nat. if pure, or artificial ignited.
Aerated Magnesia	25,	50,	25,	Crystallized.
Common Magnesia	45,	34,	21,	Dried at 80°.
Aerated Vol-alkali	In the ratio of 6 of Salt to 13 fixed Air.			
Vitriolic.				
Vitriolated Tartarin	54,8	45,2		Dry.
Glauber	18,48	23,52	58,	Fully crystallized.
Do.	44,	56,		Desiccated at 700°.
Vitriolated Vol-alkali	14,24	54,66	31,1	
Baroselenite	66,66	23,33		Nat. and pure, artificial ignited.
Vitriolated Strontian	58,	42,		Nat. and pure, artificial ignited.
Selenite	32,	46,	22,	Dried at 66°.
Do.	35,23	50,39	14,38	Dried at 170°.
Do.	38,81	55,84	5,35	Ignited.
Do.	41,	59,		Incandescent.
Epsom	17,	29,35	53,65	Fully crystallized.
Do.	36,68	63,32		Desiccated.
Alum	12, ignited	17,66	51,of Crystal+19,24 in the Earth	Crystallized.
Do.	63,75	36,25		Desiccated at 700°.
Vitriols.				
Of Iron	28, ☿ of ♄ = 12, Metal	26,	38,+8 of Composition	Crystallized.
Do.	45,	41,93	13,07	Calcined to Redness.
Lead	75,Calx=71 Metal	23,37	1,63	
Copper	40,Calx=30 Metal	31,	29,	
Zinc	40,Calx=30 Metal	20,5	39,	

100 Parts *Nitrous.*	Basis.	Acid.	Water.	State.
Nitre	51,8	44,	4,2 of Composition	Dried at 70°.
Nitrated Soda	40,58	53,21	6,21 of Composition	Dried at 400°.
Do.	42,34	57,55		Ignited.
Nitrated Vol-alkali	23,	57,	20,	
Nitrated Barytes	57,	32,	11,	Crystallized.
Nitrated Strontian	36,21	31,07	32,72	Crystallized.
Nitrated Lime	32,	57,44	10,56	Well dried, that is in Air.
Nitrated Magnesia	22,	46,	22,	Crystallized.
Muriatic.				
Muriated Tartarin	64,	36,		Dried at 80°.
Common Salt	53,	47, aqueous, 38,88 real		Dried at 80°.
Sal Ammoniac				Crystallized.
Do.	25,	42,75	32,25	Sublimed.
Muriated Barytes	64,	20,	16,	Crystallized.
Do.	76,2	23,8		Desiccated.
Muriated Strontian	40,	18,	42,	Crystallized.
Do.	69,	31,		Desiccated.
Muriated Lime	50,	42,	8,	Red hot.
Muriated Magnesia	31,07	34,59	34,34	Sensibly dry.
Muriated Silver	75,	16,54	8,46 Oxygen	Dried at 130°.
Muriated Lead	81, 77 ☿ ♄	18,23	In the Calx	Crystallized.
Do.	83, ☿ of ♄	17,		Desiccated.

A'QUÆ PA'VOR, (from *paveo, to fear*). See HYDROPHOBIA.

A'QUÆ STILLATI'TIÆ SI'MPLICES. The SIMPLE DISTILLED WATERS, now called only *aquæ;* the word simplex is omitted.

Distilled waters are only water impregnated with the essential oil of the subjects distilled with them. When more oil is brought over than the water can take up, it swims at the top, or sinks to the bottom, and is to be separated by a funnel. Cohobating may answer for obtaining more essential oil, but it does not increase the strength of the water first distilled; and such plants as do not sufficiently impregnate the water at the first distilling are improper subjects for this operation: other methods are to be used to obtain their virtues. See DISTILLATIO.

Distilled waters are extemporaneously made with the oleo-sacchara, oils rendered miscible with water by rubbing them with sugar, or with the essential salts. See OLEO SACCHARUM.

When simple waters are used alone, or as the principal medicine, they are not disagreeable; but when used only as vehicles for other more powerful remedies, distilled water is by far more elegant; and as but few of the simple waters are of sufficient efficacy to be used alone, they are hardly worth the trouble of making.

A'QUÆ STILLATI'TIÆ SPIRITUO'SÆ. SPIRITUOUS DISTILLED WATERS, now called only spiritus, viz. *spiritus pulegii*, &c.

All the virtues of distilled waters are owing to the essential oil they take up. Spirit of wine differs from water in keeping all the oil that rises with it perfectly dissolved in a limpid state: but yet as spirit of wine boils in about one-fifth less heat than water, it is an improper vehicle for substances that require the heat of boiling water. Thus, in distilling cinnamon with a proof spirit, the spirit rises with very little flavour of the cinnamon; but when the water follows, it brings with it the oil of the spice. Various essential oils are in this way combined with spirit of wine, and sold as secret preparations, and under delusive titles. The *essence of peppermint* is of the former kind; and the *essence of mustard*, which consists almost wholly of oil of turpentine distilled with spirit of wine, is an instance of the latter.

Distilled spirituous waters are of the strength of proof spirit, and formerly were called compound waters, in contradistinction to those that consist only of simple or common water. The most agreeable spirituous waters are made by using a pure rectified spirit of wine, covered with a proper quantity of pure water.

When the distilled liquor is as strong as rectified spirit of wine, it is called distilled spirit. See CARMES, EAU DE.

The distilled waters formerly employed were very numerous, though attended with no real advantage: we still retain too many. The water of dill, that of *cinnamon*, fennel, *peppermint*, spearmint, *allspice*, pennyroyal, *rose leaves*, *lemon peel*, Seville orange peel, and cassia, still overload our Dispensatories; and those marked with italics afford a very ample supply.

The spirits of modern dispensatories were the spirituous waters of the former. We shall shortly mention them in this place, but return to them afterwards. Those retained by the London college are the spirits of carraway, of cinnamon, peppermint, spearmint, nutmeg, pimento, lavender, rosemary, compound spirit of aniseseed, juniper, and horse-radish.

Some spirituous waters have survived the rage of reformation, and still retain some credit. AQUA EPIDEMICA consists of the roots of imperatoria, with the seeds of angelica, and the flowers of elder, distilled from French brandy. HUNGARY WATER is the spirit of rosemary. AQUA ODORIFERA, honey water, is prepared from honey, coriander seeds, vanillos, cloves, nutmegs, lemon peel, storax, and benzoin, distilled from spirit of wine, previously adding spirit of roses and orange flower water. The AQUA VULNERATA, *arquebusade* water, is prepared from numerous aromatics, as thyme, balm, rosemary, &c. few preparing it exactly in the

same way. They are spirituous and stimulant; used often as perfumes; and too often, we fear, as medicinal drams.

Modern nomenclatures give also the name of waters to solutions of salts, saline earths, and metallic neutrals. Thus we have *aqua aluminis compositа*, formerly *bateana*, consisting of two drams of alum, with as much zinc, to a pint of water; *aqua cupri ammoniata*, which is a solution of a dram of muriated ammonia, in a pint of lime water, suffered to stand in a copper vessel till it assumes a blue colour; *aqua lithargyri compositа*, which contains a dram of aqua lithargyri, with as much spirit of wine, in a pint of *distilled* water, as will render common water turbid; *aqua zinci vitriolati cum camphora*, which consists of a quart of distilled water, with half an ounce of vitriolated zinc, and as much camphorated spirit of wine, but the camphor is precipitated, and its smell only remains.

The other solutions styled waters are, *aqua calcis*, *aq. kali puri* and *preparati*, *aq. ammoniæ*, *ammoniæ puræ* and *acetatæ*, and *aqua phagedenica*, which is a solution of half a dram of corrosive sublimate in a pint of lime water.

AQUÆDU'CUS, Fallopii, AQUÆDU'CTUS, (from *aqua*, *water*, and *duco*, *to draw*). See Tuba Eustachiana.

A'QUALA. See Arsenicum, and Sulphur.

AQUALI'CULUS, AQUALI'CUS, (from *aqualis*, *a water pot*). That part of the belly from the navel to the pubes, being considered as a cistern and container of the excrements. Sometimes it is used to express the stomach or the intestines. It is the same with Hypogastrium.

AQUA'RIUS. See Ferrum.

AQUA'TUM, (from *aqua*, *water*,) vel AQUE'UM, watery, diluted. Also the *chalaza* of an egg. See Chalaza.

A'QUETTA, a name of the famous secret Italian poison, called also *aqua tophania* and *aqua della toffana*. Its ingredients may be easily guessed at from the accounts which have been transmitted to us, but we think we should do little service to society or humanity by recording the means of committing such secret villanies.

AQUIDU'CUS, (from *aqua*, and *duco*, *to draw*). See Hydragogos.

AQUIFO'LIUM, (of ακις, *a prickle*, and *folium*, *a leaf*). It is also called *agrifolium*, *ilex aculeata baccifera*, hulver tree, holm, or common holly. *Ilex aquifolium* Lin. Sp. Pl. 181. It is a prickly bush, commonly known. Its bark is used for making birdlime, which is also made of *misleto* and several other vegetable matters. The berries of the holly are warm, ten or twelve of them discharge wind and slime by stool.

AQUI'LA, is a chemical name for *sal ammoniac*. Paracelsus uses this word for mercurius præcipitatus; and it is a name for arsenic, for sulphur, and for the philosopher's stone.

A'QUILA A'LBA, a name of calomel and sublimate, &c.

A'QUILA A'LBA PHILOSOPHO'RUM, et Ganyme'dis. See Ammoniaci salis flores.

A'QUILA CŒLESTIS. It is the panacea, or cure for all diseases. It is a preparation of mercury.

A'QUILA VE'NERIS. A preparation made with verdigrise and sublimed sal ammoniac.

A'QUILA hath many other epithets joined with it, as rubra, salutifera, volans, &c.

A'QUILÆ, (from *aquila*, *an eagle*). The veins which pass through the temples into the head, which are particularly prominent in the eagle.

A'QUILÆ LIGNUM. Eagle wood. It is generally sold for the agallochum. It is that part which is next to the bark.

AQUILO'NES, (from *aquila*, *an eagle*, from their rapid motion like that of an eagle). North-east winds. See Etesiæ.

AQUO'SUS HU'MOR O'CULI. The watery humour of the eye is a limpid water that fills all the space between the cornea of the eye, and the anterior part of the crystalline humour. This space is divided into the anterior and posterior chambers; the first and larger division is betwixt the cornea and the iris. The second is betwixt the iris and the crystalline humour. The vessels which furnish this fluid are too small to be described. If discharged by a wound, it is restored in two or three days. In old age it is not so limpid, and this is one cause of obscure sight. The chief uses of it seem to be to distend the cornea, so that the rays of light may be duly refracted in passing to the retina; and for the iris to float loosely in, whereby its actions may be easily performed. It has been supposed to be much lighter than distilled water; but M. Chevenix found its specific gravity to be 10053. In the eyes of sheep the aqueous humour is 10090, and it contains, in very minute proportions, albumen, gelatine, and muriat of soda. See Oculus.

A'QUULA. A small quantity of limpid water. The term is applied to the pellucid water which distends the capsule of the crystalline lens, and the lens itself; and to a disorder of the eye lids. P. Ægineta, in lib. vi. cap. xiv. says, that it is a pinguinous substance under the skin of the eye lid, also called *hydatis*. It is the *hordeolum hydatidosum* of Sauvages; *hydatidous*, or watery stian. In children it is sometimes so troublesome as to produce much uneasiness. The upper eye lid appears watery, and cannot be elevated; the eyes are very tender, distilling a fluid, especially in a morning, if exposed to the light. In order to the cure, an incision is made through the skin of the eye lid, and the cyst is to be dissected out, if it cannot be eradicated by gently pulling it.

Mr. St. Yves takes notice of a complaint on the edge of the eye lids, or on the tunica conjunctiva, which resembles the bladders that appear on the skin after a burn; he calls these also *hydatids*. The method of cure which he proposes, is to open the tumour with the point of a lancet. But if all the circumference of the globe is covered with water, the conjunctiva will be inflamed; and in this case bleeding, purging, and a collyrium of aq. calcis, will be necessary. See Wallis's Nos. Meth. Oculor. Bell's Surgery, vol. i. p. 264.

A'RA PA'RVA, (from αιρω, *to raise up*). A little altar. A neat way of applying a bandage, so as to resemble the corner of an *altar*.

ARA'BICUM, GUMMI. See Gummi Arabicum.

A'RAC. (Indian.) This is an Indian spirituous liquor, prepared in many ways, often from rice; (see Orysa;)

sometimes from sugar fermented with the juice of cacao nuts; frequently from toddy, the juice which flows from the cacao nut tree by incision. The Tungusi, a race of Tartars, prepare it from mare's milk. In general, arac is hot and heady, occasioning great uneasiness in the head and stomach: in other respects it resembles ardent spirits.

We find also that it has been prepared from the American maple juice.

A'RACALAN. See AMULETA.

A'RACA MI'RI. (Indian). A shrub growing in Brasil. It bears fruit in March and September, which tastes like a mixture of musk and strawberries; and when candied or made into a marmalade, is cooling and moderately astringent. The leaves and buds have the same qualities, and the root is diuretic and antidysenteric. Raii Hist. The plant has not been systematically ascertained.

ARA'CHNE, (from *arag*, Hebrew, *to weave*). See ARANEA.

ARACHNOI'DES, (from *αραχνη*, *a spider*, and *ειδος*, *a form*). See ARANEA, and PIA MATER.

A'RACON. See ÆSECAVUM, under ÆS.

A'RACUS AROMATICUS. See VANILLA.

A'RADOS, (from *αραδεω*, *to be turbulent*). Hippocrates means by it the perturbation excited in the stomach by digestion. It also signifies any perturbation in the body.

ARÆ'ON, (from *αραιος*, *rare*). Thin, rare, slow. It is applied to breathing, as when we say the breathing is not frequent nor thick. The air is also said to be rare, when not too much condensed.

ARÆO'TICA, (from *αραιοω*, *to rarify*). Things or medicines which rarify.

ARA'LDA. See DIGITALIS.

ARA'LIA, (from *ara*, *a bank in the sea*; so called because it grows upon banks near the sea). BERRY-BEARING ANGELICA, or ANGELICA TREE. The flowers consist of many leaves, which expand like a rose and are naked, growing on the top of an ovary. These flowers are succeeded by a globular fruit, which is succulent and full of oblong seeds. It is the *aralia racemosa* Lin. Sp. Pl. 393. In its natural order it has been usually arranged among the *umbelliferæ*, but Ventenat has separated it, and formed a new order from this genus, the *araliaceæ*. The *a. undicaulis* grows in Canada, and is there called *sarsaparilla*, because its roots and virtues are nearly the same. See Miller's Dict. and Philos. Trans. Ab. vol. v. The *a. octophylla* and *palmeta* grow in China, and their bark is supposed to be useful in dropsies.

ARA'LIA HU'MILIS. See GENSING.

ARA'NEA, (from *αραω*, *to knit together*,) called also *arachne araneus*, the CATCHER, the WOLF, and SPIDER.

Spiders are absurdly said to abound with volatile salt, in consequence of which they are sometimes useful in agues, if taken inwardly. A scruple of the spider's web, it has been said, in many instances hath proved successful, given an hour before the fit of an ague, and an hour after it. They may perhaps contain an acrid oil, but their effect in agues is from the horror excited: they never cured, when the nature of the medicine was concealed. By this name are also called the coat and capsula of the crystalline humour of the eyes, named also *speculum crystalloides tunica*. It is furnished with vessels from the ciliary processes, and from an artery which enters the bottom of the retina and runs through the vitreous humour.

ARA'NEA is also the appellation of the coat of the vitreous humour of the eye, from resembling a spider's web; called also *arachnoides*, a name added to it by Herophilus, according to Celsus. It is now called *vitrea tunica*. Dr. Nicholls, and Albinus, on injecting it, say that the vessels run on it like rays from a centre.

ARANEO'SA URI'NA. URINE, in which is something like spider webs, with an oiliness on the top. It indicates a colliquation.

ARANEO'SUS PU'LSUS. A SPIDER LIKE PULSE. According to Galen, a small pulse that moves as if shaken by short puffs of air.

ARANEUS. See ARANEA; also ASTCHACHILOS.

ARA'NGIA, ARA'NTIA. See AURANTIA HISPALENSIS.

ARA'RA FRU'CTUS SECU'NDUS, or A'RARA FRU'CTUS AMERICA'NUS. (*Ararah*, Arab). It is a tree of the juniper kind, growing in Cayenne; and when bruised is applied to ulcers. Raii Hist. Its genus has not been ascertained.

ARA'SCON. See FUROR UTERINUS.

ARA'XOS. See FULIGO.

A'RBOR. A TREE; defined to be a plant of the largest growth, whose trunk is perennial and single, divided into many large branches, which are again subdivided into small twigs, on which the leaves, flowers, and fruit are produced. A'RBOR AQUA'TICA BRASILIE'NSIS, see ANINGA; ARBOR CAMPHORIFERA, see LAURUS.

A'RBOR FARINI'FERA. See PA'LMA JAPO'NICA.

A'RBOR FEBRI'FUGA PERUVIA'NA. See CO'RTEX PERUVIA'NUS.

A'RBOR INCA'NA SILIQUIS TORO'SIS. See CA'JAN.

A'RBOR I'NDICA FRU'CTU CONOI'DE, &c. See ANACA'RDIUM.

A'RBOR JUCADI'CE. See CA'SSIA LI'GNEA; CANE'LLA A'LBA.

A'RBOR LANI'GERA SPINOSA. See BO'MBAX.

A'RBOR MALA'BARICA LACTE'SCENS, &c. See CONE'SSI.

A'RBOR MEXICA'NA. See ORLEA'NA.

A'RBOR NUCI'FERA. See ANDI'RA.

A'RBOR ST. THO'MÆ. See MANDA'RA.

A'RBOR SPINO'SA. See LY'CIUM.

A'RBOR SPINO'SA I'NDICA, &c. See BO'NDUCH INDO'RUM.

A'RBOR POMI'FERA, and PRUNIFE'RA I'NDICA. See ACAJAI'BA.

A'RBOR VINIFERA COUTON JUGLANDI SIMILIS. See COU'TON.

ARBOR DIANÆ. Silver precipitated by the superior affinity of some other metal in an arborescent form. Lead and tin produce similar appearances, and are styled ARBOR PLUMBI, and ARBOR STANNI; but the method of forming these trees has no relation to medicine.

ARBORE'SCENS, ARBORESCENT, (from *arbor*, *a tree*). See DENDROIDES.

ARBU'SCULA CORA'LLII, or CORALLOI'DES, (a dim. of *arbor*). See CORALLODENDRON.

ARBU'SCULA GUMMIFERA BRASILIENSIS. See CAAIOPIA.

ARBU'STIVA, (from *arbor, a tree*). An order of plants of the shrubby kind.

ARBU'TUS PAPYRA'CEA, called also *papyracea, fragaroides, ferentis, fragaria.* The STRAWBERRY TREE. The fruit of this tree, called *unedo, comarus*, and *mæmacylon*, is slightly cooling and relaxing, aperient, and a promoter of the urinary and alvine secretions: mixed with watery liquors the juice forms an useful drink in fevers. The jellies and inspissated juices are less flatulent than the raw fruit. See FRAGA.

This strawberry is like a quince tree, and is common in the south of Europe.

ARBU'TUS U'VA U'RSI. See UVA URSI.

ARCÆ'I, BALS. vel LINIM. vel UNG. See ELEMI.

ARCA'NNE. See OCHRA.

ARCA'NUM, (from *arca, a chest*). A secret, or a medicine whose preparation is kept from the world to enhance its value.

ARCA'NUM CORALLI'NUM. See MERCURIUS CORALLINUS.

ARCA'NUM DU'PLEX, or DUPLICA'TUM. See NITRUM.

ARCA'NUM JOVIA'LE, is a preparation of tin and quicksilver amalgamated and digested in spirit of nitre, but now disused.

ARCA'NUM MATERIA'LE. Among the chemists it is a specific extract, supposed to be allied to the matter of our bodies.

ARCA'NUM TA'RTARI. TE'RRA FOLIA'TA TARTARI. See DIURETICUS SAL.

ARCEUTHOS, (from *αρα, evil*, and *κινθω, to drive away*). So called, because the smell of its leaves keeps off noxious animals. See JUNIPERUS.

ARCHE'US, (from *αρχη, the principal, chief*, or *first mover*). The supposed primum mobile of Helmont, which, in his opinion, superintended the animal economy, and preserved it. It resembles Plato's *anima mundi*. Hippocrates uses the words *αρχαιη φυσις*, to signify the former healthy state before the attack of the disease. It is also a term coined by Paracelsus; by it he would express the sole active principle in the material world.

But however language has diversified the nature and operation of this principle, the existence of a power in the animal system, to correct accidental deviations from health, and to preserve the body in a sound state, is undeniable. When NATURE is said to act, such a principle must be intended. Van Helmont, who, among numerous fancies, possessed in many instances a sound judgment and extensive knowledge, placed his archæus in the stomach, and supposed it the grand regulator of the animal machine. Stahl adopted the principle, and extended its influence, without however fixing its throne in any one part. The system of Stahl was widely diffused in Germany, and for a long time obscured the humbler, but scarcely less industrious, labours of Hoffman; and to Stahl, Dr. Cullen has been more indebted than is generally supposed, or he was himself willing to acknowledge. The great point at issue between the disciples of Van Helmont and Stahl, and the more modern physiologists, is the action of this principle. Stahl contended, that nature acted from wide extensive views, consulting with consummate wisdom the good of the machine entrusted to her care. Dr. Cullen, while he admitted the benefits produced by the operations of nature, considered her action as the necessary consequence of immutable laws; and denied that we in *any* instance possessed a power of acting, directed by means; chiefly since these means were beyond our knowledge; nor were we in many instances conscious even of the end or object. We need not expand this article by the arguments on either side. In the works of Stahl, particularly in his 'Theoria Medica Vera,' and in the theses, published by his pupils, the whole doctrine is expanded with singular ingenuity, and supported with a logical precision, of which, in the annals of medicine, there is no example or imitation. It is more clearly explained in the works of Junker; for the language and the laboured precision of Stahl place him beyond the reach of many readers. As the principle is acknowledged, we ought to look to physiologists for its explanation: none has, however, been offered, except that hinted at above by Dr. Cullen. The power evidently does not reside in the immaterial principle, but is the result of changes more purely material; and such is the constitution of the animal machine, that, by being repeated, it obtains greater facility of action. Nature, then, often urged to supply deficiencies and correct deviations, acts more readily, and performs her office more successfully. In a future part of this work we shall resume the subject; and when the articles to which we must refer are before the reader, we may make some advances in the explanation. See VIRES NATURÆ.

ARCHANGE'LICA. See ANGELICA, and LAMIUM ALBUM.

A'RCHE, *αρχη*. The first attack of a disease; its first stage; or that time of the disorder in which the patient first takes to his bed, or in which help might be effectual.

ARCHE'GENUS MO'RBUS, (from *αρχη, the beginning*, and *γινομαι, to be*). Holding the first rank in diseases. See ACU'TUS MO'RBUS.

ARCHE'NDA. Corrupted from the Arabic *alkenda, the ligustrum*, or *privet*. A powder prepared of the Egyptian privet, to be applied to the feet to check their fetid odour.

ARCHEZO'STIS, (from *αρχη, extremity*, and *ζωννω, to bind*). Because its tops or tendrils are apt to bind round whatever is in its reach. See BRYONIA ALBA.

ARCHIA'TER, (from *αρχη, chief*, and *ιατρος, a physician*). The principal physician at a court.

ARCHI'MIA, (from *αρχη, chief*, and *χυμια, chemistry*). The art of changing imperfect into perfect metals.

ARCHI'THOLUS, (from *αρχη*, and *θολος, a chamber*). See ARCHICOLUM.

A'RCHOS, the ANUS. Also the INTESTINUM RECTUM.

ARCHOPTO'MA, (from *αρχος, anus*, and *πιπτω, to fall down*). A bearing down of the rectum. Vogel.

A'RCION. A'RCIUM. See BARDANA.

A'RCOS. See ÆS USTUM.

ARCTA'TA PARS. So Scribonius Largus calls a part compressed or closed by a fibula.

ARCTA'TIO, vel ARCTI'TUDO, (from *arcto, to make narrow*). It is when the intestines are constipated from an inflammation or spasm. Also a preternatural straitness of the *pudendum muliebre*.

A'RCTION, (from *αρκτος, a bear*,) so called from its roughness. See BARDANA ARCTICUM.

A'RCTICUM LAPPA, vel A'RCTIUM MA'JOR. See BARDANA MAJOR.

ARCTOSCO'RDON, (from *αρκτος, a bear*, and *σκορδον, garlic*). BEAR GARLIC.

ARCTOSTAPHYLOS, (from *αρκτος, a bear*, and *σταφυλη, a berry*, because wild bears feed upon them). SPANISH WORTLES.

ARCTURA, (from *arcto, to straiten*). Inflammation of the finger or the toe from a curvature of the nail. Linnæus.

ARCUA'LIA; vel NERVA'LIA OSSA, (from *arcus, a bow*, and *nervus, a nerve*,) because they have the form of a bow, and afford a passage for the nerves. The SINCIPUT; according to others the TEMPLE BONES.

ARCUA'LIS SUTURA. See CORONALIS SUTURA.

ARCUA'TIO. A gibbosity of the fore parts, with a curvation of the bone of the sternum, of the tibia, or dorsal vertebræ.

ARCUA'TUS MO'RBUS. So called, (from *arcus, a bow*,) either because the colour of the eyes is like a rainbow, or because of the rainbow like arch which is under the eye lids in the jaundice. See ICTERUS.

A'RCULÆ, (a dim. of *arca, a chest*). The orbits of the eyes.

A'RDAS, (from *αρδενω, to defile*). SORDES, FILTH.

A'RDENS FE'BRIS. The ARDENT FEVER, (from *ardeo, to burn*). It is also called *febris deurens, causodes*, and *cholerica*; a BURNING, or HIGHLY ARDENT FEVER: by the Greeks called CAUSUS, (from *καιω, uro, to burn*,) because it was attended with a burning heat. The ancients considered the extreme heat and unextinguishable thirst as characteristic symptoms of the disease. Hippocrates succinctly describes it, a fever attended with extreme heat, strong thirst, a rough and black tongue, complexion rather yellowish, and the sputum bilious. It is also elegantly described by Aretæus and Lommius. Sauvages arranges it under *tritæophya*, the second species; and Dr. Cullen places it among his examples of *tertian remittents*. At the beginning of this fever the heat to the touch is fiery, though unequal in different places; internally it is violent, though often the heat in the extremities is much less severe: sometimes indeed they are cold. The whole surface of the body, nose, mouth, and tongue, are dry; the breathing is short and quick; the tongue dry, yellow, sometimes black, rough, and chapped; the thirst is inextinguishable, and often goes off suddenly; there is a loathing of all solid food, nausea, accompanied often with a gnawing pain at the stomach, and heat of the precordia; vomiting, great anxiety, restlessness, and extreme lassitude; a slight cough also attends, with a hoarse voice, and, occasionally, delirium; to which succeed coma or convulsions: the exacerbations are not always on regular days. This fever, as it is very violent, is seldom of long continuance: if from the beginning the symptoms are favourable, it generally terminates on the fourth day; seldom exceeds the seventh; and either a vomiting, diarrhœa, sweat, or nasal hæmorrhage, proves critical. Young subjects are seized oftener, but bear it with more ease and safety, than older persons. The remote causes are debilitating ones of every kind, particularly when combined with hot weather; and the biliary system seems particularly affected; but the more immediate cause of this and all other remittent fevers is marsh effluvia. It is sometimes attended with an inflammation of the aorta and vena cava.

CURE.—We are first advised to bleed freely from a large orifice; and if the patient is robust, and the heat excessive, to support him on his feet until the operation is ended, that he may faint, if possible; as the heat is always less after fainting than when the same quantity of blood is discharged without this accident happening. If the pulse and the heat do not contraindicate it, the bleeding must be repeated at proper intervals.

Immediately after bleeding, let a brisk but cooling purgative be administered. Sydenham observes, that purging immediately after bleeding cools to a great degree; and that the method of curing fevers by perspiration is not only less certain, but more troublesome and tedious, nay, that it prolongs the disease, and endangers the patient. By this observation, however, he means that such inconveniences arise by the heating sudorifics, then employed, previous to evacuations. The proper purges are the saline, quickened, if necessary, by an infusion of senna. Glauber's salt, largely diluted in water gruel, with a small proportion of emetic tartar, should be frequently drunk till it operates either or both ways.

During the intervals of purging, frequent small draughts of acidulated, subtepid, liquors should be taken, and nitre, kali acetatum, and sal ammon. crud. may be properly given: and if to each dose of these as much antimonium tatarisatum, or vin. antim. is added as the stomach will easily retain, their advantages will be increased. Barley and oatmeal gruels are the properest kinds of aliment, and all such as contribute to keep the habit cool, and dilute the fluids. After four or five days, if no assistance has been obtained, the above method is improper; yet if the heat be great and the pulse strong, a moderate bleeding may be of use. A gentle laxative that is cooling may also be given by the mouth; and, until the crisis, let gentle diaphoretics and light broths be continued: for after the fifth or sixth day of an ardent fever, there is generally some difficulty to keep up the vital heat to that degree which is necessary to health, or the continuance of the necessary secretions.

If a nausea continues after the emetic is worked off, the common saline draughts may be given at proper intervals.

A diarrhœa may be critical, so should be attended to with care; and until the patient's strength is affected by it, nothing is required. If excessive, the cretaceous mixture, with the tinctura catechu, or the pulv. ipecacuanhæ c. cum opio, will restrain it. If delirium come on early, with a strong pulse, the bleeding must be repeated and cooling laxatives continued: if, at a later period, with spasms, and a low pulse, warm cordials must be given, blisters applied to the neck, and sinapisms to the feet. Sydenham asserts, that garlic bruised and applied to the feet quiets the delirium more effectually and speedier than blisters. For the general management, see FEBRIS. Hoffman's Syst. Rat. Med. Boerhaav. Aphorism. § 738. Sauvages' Nosol. Method. Cullen's Pract. of Phys. on Remittents. Lommii Opusculum Aureum.

ARDE'NTE'S PA'PULÆ. See ECBRASMATA.

ARDE'SIA HIBE'RNICA. See HIBERNICUS LAPIS.

A'RDOR. A very intense acute heat raised in our bodies.

A'RDOR URINÆ. See DYSURIA.

A'RDOR VENTRICULI. See CARDIALGIA.

A'REA. See ALOPECIA.

ARE'CA. Ray takes the *bahei coyolli* to be this nut. Also called *faufel*, *avellana Indiana versicolor*. *Caunga*. The INDIAN, and the MALABAR NUT.

It is the fruit of a species of palm tree which is met with in the East Indies, though reckoned among the species of cacao-nuts. The whole is about the size of a pullet's egg; under the outward coat is a succulent fruit, which, when fresh, the Indians masticate with the betel: it is brown on the outside, shaped like a nutmeg at one end, and flat at the other; within, white and marbled with purplish veins; rather insipid to the taste. Within we find the almond, which is more commonly employed: it is astringent and harsh like an acorn; but the lime usually added takes off the unpleasant taste. It is supposed to strengthen the stomach. The taste is indeed astringent, but in fact it is merely, like snuff, an expedient to avoid ennui. Linnæus called this palm by the trivial name of *catechu*, because he erroneously supposed it to yield this drug.

A'RECA AME'RICANA, *oleracea* Lin. This is the cabbage tree; and what is styled the cabbage is a conical bud in the middle of the central leaves, consisting of the long leaves not yet expanded. It is found in the former species, but has not the delicate flavour of the present, which resembles the artichoke, and is not less wholesome than pleasant. The fæcula of these trees certainly resembles the *terra Japonica* in appearance, and approaches it in properties.

ARE'CA I'NDICA. See NUX MOSCHATA.

AREMA'ROS. See CINNABARIS.

ARE'NA. SAND OF GRAVEL in the KIDNEYS.

ARE'NA LITORA'LIS, ARE'NA MA'RIS MARI'NA. SEA SAND.

It is heated in bags, and applied to parts that are pained. Hydropic people are also sweated by being covered with hot sand; and sailors cured of the scurvy by burying them to the neck in the sand of hot countries. See BALNEUM.

ARENA'MEN, (from *arena*, *sand*,) so called, because it is procured from sandy places. See BOLUS ARMENA.

ARENA'TIO, or SABURRA'TIO. It is the casting of hot sand on the bodies of patients.

ARE'NTES, (from *areo*, *to dry up*.) A sort of cupping glasses used by the ancients.

ARE'OLA, (a dim. of *area*, *a void place*,) called also *halo*, is a circle which surrounds the nipple on the breasts: in virgins, it is little and red; in pregnant women it is larger and more brown.

ARE'STA BO'VIS. See ANONIS.

ARETÆ'NOI'DES. See ARYTÆNOIDES.

ARE'US. The title of a pessary mentioned by P. Ægineta.

A'RFAR. See ARSENICUM ALBUM.

A'RGAL. See TARTARUM.

ARGASYLLIS, (from ἀργας, *a serpent*, which it is said to resemble). See AMMONIACUM, GUM.

A'RGEMA, or A'RGEMON, (from ἀργος, *white*). See ALBUGO OCULORUM. Vogel defines it, an ulceration of the cornea. It appears red on the outside of the iris, and white within it.

ARGEMO'NE MEXICA'NA. See PAPAVER SPINOSUM.

ARGENTINE FLOWERS. See ANTIMONY.

ARGE'NTUM, (from ἀργος, *white*,) also called *argyrus*, *cames*, *Diana*, *brumazer*, LUNA, SILVER. Haüy, vol. iii. p. 383.

The more obvious properties of silver are well known. Its specific gravity is 10.4743, nor can it be calcined, or raised in vapour by any heat hitherto tried. It yields only to the nitrous acid and hepatic preparations, whether fluid or in the form of gas. When dissolved, its salts are peculiarly acrid; and coloured, or in some degree reduced by light. Silver itself is so little affected by any chemical agents, that it was preferred as the material of vessels, in which the nicest and minutest chemical experiments were usually made; but as we have now learnt to render platina malleable, the latter is preferred, since copper, the almost necessary alloy of silver, is affected by many bodies which do not act on the metal itself. Van Swieten tells us, that wine kept in a silver vessel in this way, became deleterious.

Nitrous acid or aqua fortis is almost its only solvent; and we thus prepare what is styled the *lunar caustic* for external use. *Pure* silver is dissolved in four times its weight of diluted nitrous acid, and the water evaporated. The salt is melted at first with a moderate fire, till the ebullition ceases, then with a stronger, till the matter runs like oil, in which state it is cast in moulds. The caustic thus formed deliquesces in the air, and is inflammable; the silver, during the combustion, separating in a pure state. For its mode of application see CAUTERIA under ESCHAROTICA.

The nitrated solution of silver, previous to the evaporation, should be transparent. It has been used, under the appellation of aqua græca, to blacken the hair; but must be greatly diluted, and employed with caution.

The lapis infernalis, under the name of nitrated silver, has been given internally by Boyle and Boerhaave. The latter thought highly of its virtues in dropsy when mixed with an equal quantity of nitre, and has told us that it occasioned the discharge of water in large quantities. Modern practice has recommended it in epilepsies, and angina pectoris. We have already had occasion to remark that all metals are apparently tonics or antispasmodics, and silver is probably of this number From its acrimony it may also prove cathartic, as has been said, but our own experience has been too inconsiderable with this medicine to enable us to recommend it from observation. The dose should not exceed $\frac{1}{4}$ of a grain: it is perhaps best to begin with $\frac{1}{8}$ or $\frac{1}{6}$.

Angelus Sala recommended for similar diseases the CATHARTICUM LUNÆ, MAGISTERIUM HYDRAGOGUM, or DEJECTORIUM. This was a filtrated solution of nitrated silver crystallized. Of this salt he gave from six to eight grains, but found it so rough and uncertain that he soon disused it. Of his LUNA POTABILIS, recommended in delirium, he has given no formula: but his BEZOARDICUM LUNARE consisted of equal parts of glass of antimony and calx of silver. Lemery's TINCTURA LUNÆ was made with the impure metal, and owed

its chief virtue to the copper with which the silver was alloyed.

Arge'ntum vi'vum; called also *hydrargyrus;* a term now used by the college of London, *mercurius, liquor metallicus, metallum fluidum, argentum fusum, et mobile, mercurius, chemicorum, vomica liquoris æterni; aludit; anatris; alambic; alborca anterit; dædalus; alcarith, alecarith, alkaut, ebesmech; fons chemiæ; geryon; guma; ignis; almarkasita; alohar; alohoc; mussalis; massariam; mater metallorum; ziback; alosat; altaris;* quicksilver. Haüy, vol. iii. p. 423.

Its chemical character is ☿, which denotes that the inside is pure gold, but the outer part is of the colour of silver, with a corrosive underneath.

Its being a metal has been disputed; but it is now found that at about 40° below 0 of Fahrenheit it becomes solid and malleable. In the Venetian territories are the greatest quantity of mines producing quicksilver; the East Indies, Spain, and Hungary, afford great quantities of it; in China, Japan, and about Montpelier in France, there are mines in which it is found.

It is found in the earth in a fluid form, sometimes so pure as not to require refining, when it is called virgin quicksilver; but most frequently it is mixed with other substances. The most general state in which it is met with in the mines is in sulphureous ores of a red colour, called *cinnabar*, whose colour is deeper in proportion to its richness.

From the ore it is separated by washing in water, grinding with vinegar and a little salt, which dissolves the metalline impurities; and by distillation, either alone or with the addition of lime, potash, or iron filings.

The people who work in the quicksilver mines soon die: when first affected they are seized with tremors, after which a salivation comes on, their teeth drop out, and pains of the whole body, particularly of the bones, seize them.

Hippocrates does not seem to have been acquainted with this mineral; Aristotle and Dioscorides rank it amongst poisons; Galen says that it is corrosive; Mesue, the Arabian, was the first who used it medicinally, and he only applied it in the form of an ointment in cutaneous distempers. Avicenna observes that it may be swallowed crude, and that it passes through the body. About the end of the thirteenth century it was introduced into Europe as a medicine, but not esteemed a safe one until the venereal disease was found to yield to its efficacy. The first internal mercurial medicine which gained real credit was the pilul. Barbarossæ, which was composed of quicksilver, rhubarb, and musk. The term quack, originally quacksalber, was a name of this metal, and applied to the irregular indiscriminate use of it.

It is the heaviest of all bodies except gold. Mercury is to gold nearly as 3 to 4; and to water as 13.5681 to 1.0000.

It is totally volatile in the fire by heat not much greater than that of boiling water, and by a far less heat it is calcined into a red powder. The fumes raised by fire are scarcely visible; and yet, by being received into cold water, may be reduced to the state of pure quicksilver. It rises also in vapour, in the vacuum of the Toricellian tube.

It amalgamates most readily with gold, and in succession with lead, silver, and tin; scarcely at all with iron or copper. By the assistance of trituration, or of heat, it dissolves all metallic bodies except iron.

The vitriolic acid hath no effect upon it until concentrated by heat; the nitrous acid acts quickly upon it; and the muriatic scarcely at all until it is oxidated: fixed salts, vegetable acids, and neutral salts, scarcely alter it in any way. It is allowed to be pure when a little held over a fire, in an iron ladle, totally evaporates.

It is often adulterated with lead; a large quantity of which may be incorporated with it by the intervention of bismuth in a moderate heat; and in this case the lead cannot be separated by pressure through leather. This abuse may be discovered by the mercury staining paper blackish; by its not running into round globules; by its leaving a powdery matter or a coloured spot on the bottom of the vessel; and by its producing a turbid milkiness during its solution in aqua fortis.

As a medicine, it is used to promote the secretions in general, particularly the saliva. The more perfectly it is divided, the more powerful and penetrating is its action, which is chiefly exerted in the small vessels. Whether used internally or externally it affects all the vessels in our bodies, and may be so managed as to promote excretions through all the emunctories. If not restrained, it is determined to the mouth, and causes inflammation, tumours, ulcerations, and constantly an increased discharge of saliva.

Mercury, like antimony, has been tortured in many different ways, but the result of the chemists' and alchemists' labours has been fortunate. We have obtained by their means a considerable variety of active preparations, which are of the greatest importance in the healing art. We shall, as in the article of Antimony, first examine the preparations retained by the colleges of these kingdoms, and then notice some of the more important formulæ formerly recommended, or still valued. The mind will not in this way be distracted by a multitude of objects, and what the enquirer chiefly wants he will readily find.

Mercury is employed

I. Purified by distillation.
   Hydrargyrum purificatum (Dublin. London).

II. Slightly oxidated
   α By precipitation of nitrated mercury by means of ammonia.
      Oxidum hydrargyri cinereum (Ed.).
      Pulvis hydrargyri cinereus (Dublin).
   β By trituration.
      1. With unctuous substances.
         Unguentum hydrargyri (Ed.).
         ——————— fortius (Lond. Dublin).
         ——————— mitius, ibid.
         Emplastrum ammoniaci cum hydrargyro.
         ——————— lithargyri cum hydrargyro.
         ——————— hydrargyri (Ed.).
      2. With saccharine substances.
         Pilulæ hydrargyri (Lond. Dub. Ed.).
      3. With aerated lime.
         Pulvis hydrargyri cum cretâ (Lond.).

III. Considerably oxidated
   α By heat and air.
      Hydrargyrum calcinatum (Lond. Dublin).

β By nitrous acid.
Oxidium hydrargyri rubrum per oxidum nitricum (Edin.).
Hydrargyrum subnitratum (Dublin).
Hydrargyrus nitratus ruber (Lond.).
Unguentum oxidi hydrargyri rubri (Edin.).

IV. Oxidated and combined with acids.
1. More slightly.
α With the nitrous acid.
Unguentum hydrargyri nitrati (Lond. Dub. Edin.).
β With sulphuric acid.
Subsulphas hydrargyri (Edin.).
Hydrargyrum subvitriolatum (Dub.).
Hydrargyrus vitriolatus (London).
γ With muriatic acid.
1. Sublimation.
Submurias hydrargyri (Edin.).
Hydrargyrum muriatum mite sublimatum (Dublin).
Calomelas (London).
2. By precipitation.
Submurias hydrargyri præcipitatus (Edin.).
Hydrargyrum muriatum mite præcipitatum (Dublin).
Hydrargyrus muriatus mitis (London).
δ With acetous acid.
Acetis hydrargyri (Edin.).
Hydrargyrum acetatum (Lond. Dub.).
2. More completely.
Muriats.
Murias hydrargyri (Edin.).
Hydrargyrum muriatus (London).
Hydrargyrum muriatum corrosivum (Dub.).
With ammonia.
Calx hydrargyri alba (London).

V. Combined with sulphur.
1. By trituration.
Sulphuretum hydrargyri nigrum (Edin.).
Hydrargyrum sulphuratum nigrum (London. Dublin).
2. By sublimation.
Hydrargyrum sulphuratum rubrum (London. Dublin).

Mercury differs from antimony in one important respect, viz. that its calces are not inert in proportion to their degree of oxidation: in fact, the more highly oxidated metallic salts and calces are among its more active preparations. In the first stage of oxidation we find mercury assume a grey colour; and in this state, as appears by the table, it exists in plasters and ointments, and formerly existed in some other preparations now chiefly confined to private practice. The only remaining preparations of this kind are, the *pulvis hydrargyri cum cretâ*, and the *pillulæ hydrargyri*, of the three colleges. The latter differ only in the proportions; for one grain of mercury is contained in four grains of the Edinburgh pill, three in that of London, and two and a half in the Dublin form. It has occasioned some anxiety to learn in these preparations the source of the acid, for an acid was thought necessary. We now find that oxygen is chiefly required; yet it has been discovered that electricity has, or possibly the Galvanic fluid, some share, since the preparation differs according to the nature of the vessels employed. A similar powder is the result of agitating pure quicksilver in water, but the source of the oxygen is there sufficiently obvious.

The difficulty of obtaining a complete extinction of the quicksilver by trituration, induced the Edinburgh and Dublin colleges to precipitate the mercury from its solution in the nitrous acid by means of ammonia. The *oxidum hydrargyri cinereum*, and *pulvis hydrargyri cinereus*, are the results of this plan. The oxide is, however, not pure, for it contains the oxide of mercury with ammonia not saturated with nitric acid. Fourcroy has remarked, that a part of this salt is soluble in the acetous acid; and the remainder, a pure subnitrate of mercury and ammonia, crystallizes in brilliant polyhedral crystals, extremely styptic, and scarcely soluble in water; consisting of 68.2 of oxide, 16 of ammonia, and 15.8 of nitric acid. Though this be different from the grey oxide, yet we think it deserves a trial. The *black oxide* may be prepared also by triturating the calomel (in modern language the sublimed submuriate of mercury) in lime water. The decomposition is said to be more complete if the precipitated submuriate is employed; the preparation generally known by the name of calomel in the humid way.

A pure oxide of mercury with a larger proportion of oxygen occurs in the *hydrargyrum calcinatum* of the London and Dublin Dispensatories. The process is slow and tedious; but the preparation, if carefully levigated, highly useful. Its acrimony must, however, be guarded by opium, or it will prove emetic and purgative. In a long practice, it is not uncommon to feel at different periods a predilection for different preparations of mercury; and, perhaps, at this time we may be peculiarly fond of the present preparation. It seems, however, to perform every thing which the most celebrated mercurials have effected, and not to be more inconvenient. Yet, perhaps, in every instance, calomel will do as much.

Mercury, oxidated by nitrous acid, has been much employed; *hydrargyrus nitratus ruber* of the London Dispensatory; *oxidum hydrargyri rubrum per oxidum nitricum* of the Edinburgh; and *hydrargyrum subnitratum* of the Dublin: yet it scarcely differs from the mercurius calcinatus, except in the convenience and the facility of the preparation. The metal is first united with the acid; then the latter decomposed and separated by heat. In general, the acid exceeds in a small proportion the weight of the quicksilver; but the London college renders the proportions equal, adding a little muriatic acid, which it is supposed increases the size and beauty of the red scales. This advantage is, however, equivocal; and the little difference in the proportion of the acid of scarcely any importance except in an economical view. If too small, the continued heat compensates the inconvenience. The *ointment* contains one part of the oxide to eight of hogs' lard.

The oxides of mercury, combined with acids, are preparations of great importance. In the old *unguentum citrinum*, *unguentum hydrargyri nitrati*, we find the only instance of its combination with the nitrous acid. With the vitriolic acid it forms the *hydrargyrus vitrio-*

latus of the London, and the *subsulphas hydrargyri flavus* of the Edinburgh. The very singular process by which this medicine is prepared, M. Fourcroy has very industriously and ingeniously analysed. When the acid is added to the metal, no action takes place; but when heat is applied, a part of the acid is decomposed and the metal oxidated, uniting with the remainder of the acid. The salt thus formed is white, but the acid is in excess. When the seperfluous acid is separated, this salt crystallizes in fine prismatic needles; is soluble in about five hundred parts of cold water, and in half that proportion of warm, without decomposition. A little sulphuric acid increases its solubility. In this state Fourcroy found that it contained seventy-five of the metal, twelve of the acid, eight of oxygen, and five of water, in one hundred parts.

In the processes of the colleges, the saline solution is boiled to dryness, so that more of the acid is decomposed, and a larger proportion of sulphureous acid gas evolved. If then, as directed, it is thrown into boiling water, a yellow powder, the *hydrargyrus vitriolatus*, is formed. What is effected by this part of the process M. Fourcroy discovered by examining the different portions. The water contained a salt with more than its proportion of acid: of course, the powder had a diminished proportion, and the affusion of the hot water dissolving as much of the salt as it could take up with its acid, left the powder deprived of it. It consisted, on analysis, of seventy-six parts of mercury, and eleven of oxygen. The taste is acrid; it is soluble in two thousand parts of cold water, decomposed by the nitrous and muriatic acids, oxidizes quicksilver, and is converted by trituration with it into a black powder. Such is the outline of this author's labour; and chemistry does not furnish an analysis at once so accurate, so elegant, and satisfactory.

The muriatic acid furnishes preparations of the greatest use and importance in medicine. In the *calomel* of the London Pharmacopœia, the *submurias hydrargyri* of the London, and the *hydrargyrum muriatum mite sublimatum* of the Dublin, prepared by sublimation, the metal is oxidated more slightly. But before we can notice these we must step forward in the table to the muriats, and the three different titles express only the combination of the metal with the muriatic acid, generally known by the appellation of corrosive sublimate. In all the preparations the mercury is oxidated by sulphuric acid, and then combined with the muriatic, by subliming it with a mixture of common salt. The taste is peculiarly acrid and styptic: it is soluble in twenty parts of cold, and in about two of boiling water; in nearly four parts of alcohol at 70°, and in an equal weight of alcohol in a boiling state. It is unaltered in the air, in sublimation, or by either of the mineral acids. Its solubility is increased by the addition of a small proportion of crude sal ammoniac. It is precipitated by all alkalis and earths; those not carbonated form a yellow precipitate; the others an orange yellow, changing to a brick red. It consists of oxide of mercury 0.82, and of acid 0.18. The oxide itself containing 0.15 of oxygen.

The calomel, and the synonymous formulæ which precede, are prepared from this muriat of mercury. The principle of the preparation is obvious, when it is recollected that earths and metals, unlike alkalis, may be combined with different portions of acid, and still be in appearance neutral. In the muriat of mercury there is no apparent excess of acid; yet nearly an equal proportion of the metal may be combined with it, and partake not only of its acid but its oxygen. About nine ounces of the metal are added to a pound of the muriat, and united by trituration. The newly added metal shows immediately appearances of oxygenation, but the combination is effected only by repeated sublimation and trituration. The London college orders this process to be repeated four times; an extraordinary precaution, certainly not necessary. Generally twice is sufficient; but we have sometimes found the union not perfectly complete, and a third sublimation is occasionally necessary. From Mr. Chevenix's experiments also there seems to be an unnecessary waste of quicksilver, a less proportion, 0.54, for instance, appearing sufficient. He considers the excess, however, a necessary precaution. The utility of calomel, which may be perhaps considered as an *instar omnium* with respect to the other mercurial preparations, for it is in every instance equally useful with any other, and in many cases greatly superior, has induced chemists to attempt with great diligence an easier and more certain mode of preparing it. The great object is to avoid the necessity of very long and careful trituration; for the calomel forming by sublimation a very hard solid mass, consisting of a confused aggegration of tetraedral prisms, terminated by pyramids, the most careful attention is necessary lest any spiculæ should remain. Calomel has, consequently, been prepared in the humid way; first, if we recollect rightly, by Scheele, and afterwards more accurately by Gottling. It is now found in the Dublin and Edinburgh Dispensatories with the epithet *præcipitatum*; and in that of London, under the title of *hydrargyrus muriatus mitis*. The principle of the process consists in forming a nitrated solution of mercury with an excess of oxide, to which a dilute solution of common salt is added. It was supposed that the decomposition of the nitrated mercury immediately took place, and that the powder deposited was calomel. Mr. Chevenix, however, has given us some reason to doubt the justness of this conclusion; and as water, the menstruum of the salt, will decompose nitrated quicksilver, the precipitate is probably a subnitrate of quicksilver, together with the submuriate. He consequently proposes adding to the water a little muriatic acid, or to employ a nitrated quicksilver without heat. To either proposal no reasonable objection can be made: yet it has been suggested by good authority, that the quicksilver in the nitrated salt is too highly oxidated—for, if the preparation be made by boiling, the proportion of oxygen is greater—and that the solution has been found to contain muriated quicksilver. We have repeated the process with this view without finding the same result; yet we think it should teach us to render our solution of common salt more concentrated, and the two fluids should be added at once, that the moment a particle of water touches the metallic solution, the latter should be met also by a portion of the common salt. In the usual preparations there is always a little of the nitrated mercury; for on rubbing the precipitates with lime water, the powder is *grey* and not *black*. When again sublimed, this nitrated mercury is decomposed, and a sublimation is consequently recommended. We find in our minutes a pro-

posal of again repeating the addition of a solution of common salt, and edulcorating the powder by washing; but do not recollect that the experiment was tried.

Hermstædt recommends a process of preparing calomel from the sulphat of mercury, to which nearly the original quantity of mercury is to be united by trituration. The muriat of soda is then added, the whole mass sublimed, the trituration and sublimation a second time repeated. This preparation has not been chemically examined, and we do not know its peculiar advantages. On the whole, perhaps, the old method of preparing the calomel forms the most certain and best preparation, if the subordinate agents can be depended on in the trituration; and as their error can be detected by a nice eye, inconveniences will not often occur: indeed, in the shops of the greater number of apothecaries no such are found. Calomel, according to Mr. Chevenix, contains 88.5 of oxide of quicksilver, and 11.5 of muriatic acid: the oxide amounts to 0.107, while the muriate contains 0.15 of oxygen. Fourcroy estimates the oxides differently: he makes three species, the black, the red, and one other still higher, not to be obtained separately; the black and red containing, respectively, 0.04 and 0.08 of oxygen. These different results have not been reconciled, and as the disquisition would be purely chemical we shall not attempt it.

Chemists expected to form milder and more convenient preparations of mercury with the acetous acid; and the reputation of Keyser's pills, which were found to be a combination of this kind, seemed to confirm the opinion. In the preparations of the three colleges nitrate of mercury is first formed with a *gentle* heat, which neither occasions it to take up an excess of acid, nor, as in case of boiling, to absorb and oxidate a larger proportion of the metal. A solution of acetated potash is then added, and the acetite of mercury crystallises, leaving the nitrate of potash, formed, in the preparation on account of its greater solubility in the fluid. It dries slowly, and should be compressed in bibulous paper. We have not found it to possess any advantages above the other mercurial preparations.

Combined with sulphur, mercury is seldom employed internally. Of the medical effects of the Æthiops mineral we have already spoken; but we must now consider shortly the chemical relations of this union, to complete the chemical history of the metal before us.

The black sulphurated quicksilver is not merely a combination of the sulphur and the metal, as authors have supposed. Quicksilver never assumes the form a black powder, without having absorbed some portion of oxygen. Others have suspected that hydrogen is also united, and think that the process is expedited by adding a little water, whose decomposition supplies both. It is dissolved by the aqua kali, but unaffected by nitrous acid. From the solution of kali it is recovered unchanged by acids, and in the fire it suffers no alteration. When hot quicksilver is thrown into melted sulphur, and the whole stirred till cold, the same preparation in appearance results: the union is not however so complete; it is not soluble in the solution of kali, and is changed by the air. Berthollet supports the idea of its containing hydrogen by this remark, that the Æthiops mineral may be prepared by agitating mercury with sulphurated, hydrogenated ammonia. This preparation also admits of change from the air.

The *hydrargyrum sulphuratum rubrum* is the *factitious cinnabar*, a medicine formerly used as a tonic, a stimulant, and a deobstruent; in short, for every object of which the prescriber had no distinct idea. It is now only employed as a fumigation in venereal complaints. It is not soluble in any acid; but the *nitro-muriatic* takes up the metal and leaves the sulphur. Alkalis, in a boiling heat, will not affect it; but, when melted, these and many of the metals decompose it. M. Proust supposes, that the quicksilver which it contains is not oxidated, but that it is in the proportion of 85 to 100, and that the remainder is sulphur.

The variety of other preparations of mercury, employed by physicians and surgeons of different countries, at different periods, would fill a volume. As we cannot enumerate every remedy of this kind, so preparations often celebrated must not be wholly overlooked. We shall not immediately follow the same order; but first divide the preparations according to their pharmaceutical forms, viz. ointments, plasters, pills, syrups, troches, drops.

The MERCURIAL OINTMENTS have been varied in every possible way according to the objects for which they were designed. Turpentine was formerly the general intermede to divide the crude mercury, and the additions were adapted to the disease for which it was employed. In the various *unguenta ad pediculos* we find the seeds of stavisacre, extract of tobacco, the roots of white hellebore, and oleum laurinum added. In Mynsicht's formula, the quicksilver is divided by the saliva of a person fasting. When to cure the itch, sulphur, alum, and white hellebore, are united with the metal; against worms, the gall of an ox, and oil of bitter almonds; in cutaneous diseases, by Stahl, preparations of lead and a portion of camphor; and, in the unguentum ophthalmicum of Hecker, nitrated mercury is united with camphor.

The MERCURIAL PLASTERS and CERATES have not been greatly varied from those directed in the different British Pharmacopœias. *Plenck's cerate* is made with mercury, divided by mucilage, as in his other preparations. It has been doubted, whether in this form the mercury is absorbed. Mercurial plasters have often no effect; but after their application we sometimes have found pains in the stomach and bowels, which are relieved by removing the plaster; and, in one or two instances, salivation has followed.

The MERCURIAL PILLS have been very various. *Barbarossa's* pills, named from the celebrated Algerine who gave the process to Francis I. consisted of mercury, with a small proportion of rhubarb and scammony, formed into a mass with lemon juice. Plenck's *pilulæ ex mercurio gummoso*, consisted each of a grain of mercury, extinguished by starch and gum arabic, with sometimes a small proportion of rhubarb; and, indeed, some of the forms used in this country contain a mixture of some active cathartics. It were endless to follow all the varieties directed in different Dispensatories, varying only by the mode of extinguishing the quicksilver, and the peculiar additions. The magnetic pills of Ostius are prepared with the mercurius calcinatus, with a large proportion of some vegetable ex-

tract, which has not been accurately ascertained; and Keyser's pills, with the acetite of mercury. These last are now disused; and, whatever was once their credit, the testimony of Murray, Girtanner, Quarin, and Columbier, seems to have destroyed it.

Of the SYRUPS *Plenck's mercurial syrup* is well known. Bellet asserts that *his* syrup contains no mineral acid. Girtanner, however, and Swediaur, have ascertained that the mercury has been dissolved in the nitrous acid precipitated by the vegetable alkali, then dissolved in vitriolic æther, and sweetened. The precipitate of which it is formed was found to retain no inconsiderable proportion of the acid. Girtanner also informs us, that Velno's syrup does not differ from Bellet's. The *rob antisyphiliticum* of L'Affecteur is nearly similar; but some authors contend that a small portion of corrosive sublimate is added.

The various TROCHES, particularly the *anthelmintic rotulæ* and *tabellæ* of Morelli, Zwelfer, and Le Mort, as well as the *rotulæ infantiles laxativæ* of Schroeder, owe their virtue to calomel and some active cathartic. In these we may find the source of the various worm-cakes and lozenges, celebrated by names of high respectability in this country, who do not, however, rank among medical authorities. The *secret remedy of Nicole* is formed into little cakes, and supposed to contain corrosive sublimate, though denied by the author. The *trochisci tonici mercuriales* of Bru, are formed by an operose process which we need not particularly describe, as the medicine is no longer employed: they consist of a mixture of turpeth mineral with white precipitate, and are made into lozenges with honey, sugar, and meal. Each lozenge contains about two grains of mercury.

The DROPS contain mercury so much concentrated as to be given in very small doses. Of *Ward's drops* we now know the form. They consist of mercury precipitated from its solution in aqua fortis by the volatile alkali, and again dissolved in rose water. The *anti-venereal tincture*, or *quintessence of Mollet*, contains mercury united with the muriated ammonia, a subject on which we shall soon again speak. The *liquor mercurii secretus* of Gmelin is given in drops, but it contains little or no mercury. Four ounces of the muriated mercury are dissolved in twelve ounces of vinegar: the fluid is drawn off, and the residuum infused, repeatedly, in spirit of wine, which is drawn off by distillation after being for many days digested in a gentle heat. Libavius' *tincture of quicksilver* contains as little of the mercury. Nitrated quicksilver is digested with the brown oil of vitriol, which is repeatedly drawn off till the residuum becomes red. From this, spirit of wine is also repeatedly distilled and somewhat inspissated.

The *Thibet remedy*, described by Mr. Saunders in the 79th volume of the Philosophical Transactions, merits also some notice. It consists of a portion of alum, nitre, vermilion, and quicksilver sublimed, and appears to be a nitrated mercury of a mild operation.

The *drops* of General La Motte are of a beautiful red colour, and supposed to be preparations of red precipitate or cinnabar in an acrid fluid, of which a few drops are taken in tea. The *elixir antisyphiliticum* of Bouez de Sigogne is, in the opinion of Astruc, similar; and the dose, as well as the mode of exhibition, the same.

We shall next follow the less common preparations of mercury in a chemical order. In speaking of the *sulphurated preparations* of mercury we need not enlarge on the Æthiops mineral, though its formula has been infinitely varied, and numerous discussions on its virtues and preparations lie before us. The Æthiops mineral forms the basis of the *pilulæ Æthiopicæ* of the Wirtemburg Dispensatory, in which this preparation supplies the place of calomel, in a formula not unlike Plummer's. The *Æthiops narcoticus* of Jacobi, described in the Acta Naturæ Curiosorum, is more curious. Two ounces of quicksilver are dissolved in four ounces of smoking nitrous acid, and boiled with two pounds of a caustic lixivium, two ounces of potash, and four ounces of sulphur. The sediment is well washed, and is the *pulvis narcoticus*. This powder, triturated for three days with the Æthiops mineral, becomes, it is said, an active antisyphilitic, without producing salivation. *Navier's mercurial*, said to be particularly useful in scrofulous and cutaneous complaints, is prepared by precipitating mercury dissolved in hepar sulphuris by any *chalybeate* neutral. The *panacea mercurialis nigra*, the *panacea* of Schroeder, consists of mercury, sulphur, and sal ammoniac, united by sublimation. It differs little from cinnabar except in its darker colour. The *panacea Anwaldina* is chiefly cinnabar, with some saffron and oyster shells. The *cinnabaris cærulea* of Wallerius, *mercurius violaceus Parisiensium* of Triller, and the *mercurius violaceus diaphoreticus* of Astruc, differ only in colour from cinnabar; a change occasioned by a combination of sal ammoniac. The *mercurius diaphoreticus* of Sir Kenelm Digby is prepared by subliming a pound of mercury with four ounces of sulphur auratum antimonii.

The union of mercury with other metals has been often attempted, and the compound supposed to be highly useful. With lead it has been employed in the iliac passion; with tin against worms; and with iron in chronic disorders. Corrosive sublimate dissolved in water, mixed with a solution of iron in vinegar, we are told by Navier, is void of acrimony, and useful in many chronic diseases. The *mercurius dulcis martiatus* of Hartmann, is a similar union of a martial calx with mercury.

The *mercurius diaphoreticus* consists of the calces of mercury and antimony with a calx of gold; for gold has been always considered as a cordial and a diaphoretic. It is celebrated even by Hoffman, under the name of the *solar precipitate*, *Hercules bovii*, and *auri vitæ Clossæi*. The *panacea de la vigne* contains mercury with gold and silver; the *præcipitatus solaris*, with gold only; and many similar ridiculous preparations are described by Zwelfer, Hercules Saxonia, Schroeder, Hartmann, Jungken, and Lemery, under the titles *mercurius dulcis solaris*, *manna mercurii*, and *arcanum corallinum*. The *mercurius præcipitatus viridis*, or *lacerta viridis*, contains copper united with mercury.

The CALCES of MERCURY next claim our attention. Dr. Priestley informed us, that mercury triturated with water might be changed into a black powder; but the fact was published by Homberg in the Memoirs of the Academy of Sciences for 1700. This preparation, if it may be so called, has been highly celebrated under the name of *Æthiops mineralis per se*; more properly, *mercurius oxidatus niger*: but its chief use has been to unite with the vegetable acid in

making Keyser's pills; and, triturated with axunge, to prepare extemporaneously the mercurial ointment. The *pulvis vigonis* is only the *mercurius calcinatus;* and Schroeder's *præcipitatus dulcis* is prepared by calcining quicksilver with the red precipitate which has been deflagrated with spirit of wine. The red precipitate itself is the preparation which distinguishes Girtanner's unguentum rubrum; and forms, with burnt alum, euphorbium, dry leaves of savine, the roots of iris, and aristolochia rotunda, the *pulvis catheriticus*, for carious bones, of Schroeder. With minium and ceruse it forms the *unguentum piacentinum* of the hospital at Padua; and with tutty, nitre, and camphor, the celebrated ointment of Mursinna for restoring the transparency of the cornea. The *præcipitatum nobile* of Angelus Sala is only the red precipitate with a small portion of the muriatic acid; since it is prepared by calcining a solution of a calx of mercury in aqua regia. It is highly commended by its author in a malignant itch. The *arcanum corallinum* and *mercurius corallinus* are preparations of Crollius, described in Lewis's Dispensatory; and the *laudanum minerale* of Hartmann is the former, first digested with vinegar, which is again separated by distillation, and afterwards with spirit of wine. It is supposed to be a gentle laxative, and then an anodyne and sudorific. The *rosa vitæ mineralis* is the red precipitate, digested four times with spirit of wine. The *panacea mercurialis rubra*, *præcipitatus diaphoreticus excellens*, *turbith minerale rubrum Zwelferi; pulvis principis*, and *mercurius antivenereus* of Hartmann, are similar preparations, in which the red precipitate is rendered milder by digesting it with spirit of wine. In the two last it is previously elutriated with water, to which an alkali is added in some of the latter washings. Various similar preparations of mercury are found in chemical authors; but we shall only notice Hahnemann's *mercurius solubilus*, which, in his Chemical Annals for 1790, he mentions with the warmest commendations, as producing no inconvenience in the stomach or bowels, being soluble in vinegar and in the animal fluids, and easily absorbed when applied externally. It seems to be a calx of mercury, precipitated from a solution of the metal in pure aqua fortis by the *caustic* spirit of sal ammoniac. This preparation has been also called *turbith nigrum*.

The greater number of the calces of mercury have some remaining saline matter, and this is particularly the case with the *mercurius præcipitatus albus*, the *calx hydrargyri alba*, which we again mention to introduce its numerous singular synonims. These are *mercurius cosmeticus; lac mercuriale; calcinatum majus poterii; panacea mercurii albi; catharticum mercuriale;* and, when washed, *manna mercurii*. It is chiefly used on the continent as an external application, and is highly commended in the itch. Authors of credit have, however, we perceive, given it internally, and speak highly in its favour: when sublimed, dissolved in water, and again sublimed, it is styled *aquila celestis*.

A modern preparation of mercury similar to Hahnemann's mercurius solubilis, is the *hydrargyrum nitratum cinereum* of Swediaur; *pulvis mercurii cinereus* of Girtanner; called, for a reason that we cannot develop, *mercurius cinereus* of Black. It is mercury, precipitated from its solution in aqua fortis by a mild volatile alkali, and is of a lighter colour than the turbith nigrum. The *præcipitatus luteus* of Hartmann is not greatly different, as it is precipitated by a mild fixed alkali, and acquires its yellow colour by washing. The *præcipitatus luteus diaphoreticus* of the same author is a solution of the corrosive sublimate, precipitated by the same alkali, and carefully washed. *Mercurius dejectorius*, or the *flores argenti*, is the *præcipitatus luteus* of Hartmann, digested in the acetous acid, and then washed. The *præcipitatus correctus* of Schroeder is prepared by dissolving the white precipitate in vinegar, and again separating it by a fixed vegetable alkali.

The improved chemistry has introduced some new preparations of mercury. The first that occurs to us is the *mercurius phosphoratus*, *sal phosphoricum mercuriale*, and *phosphoras mercurii*, with some similar appellations. It is a white salt, unchanged in the air, and scarcely soluble in water, prepared by precipitating mercury from its solution in aqua fortis by the phosphoric acid. This preparation is slightly mentioned by Girtanner and Swediaur, but chiefly introduced by a French quack, M. Mittie, followed by a German, J. Fr. Schmidt. It is highly praised in the worst stages of syphilis, particularly in the most inveterate kinds when the bones are affected, and is given with aromatics to prevent its exciting nausea, in the dose of half a grain, or a grain. We own that these assertions are to us suspicious: we know that the use of phosphorus is dangerous, and have no reason, from the facts adduced by the admirers of the phosphorated mercury, to suppose that this is a safe or manageable preparation. We can add, that it is by no means new; for we observe in Angelus Sala a preparation styled *pulvis rosæ vitæ*, copied by Hartmann, who calls it *mercurius incarnatus præcipitatus*, in which the nitrated mercury is precipitated by urine. We know that this fluid contains the muriated ammonia and the oxalic acid, which may alter in some measure the nature of the precipitate. It is certainly milder, since these authors admit that it may be given from six to ten grains, and is then a cathartic.

The *sal sedativus mercurialis* is another modern preparation; not, we suspect, of superior value, since its authors wish to confine it to external use. The nitrated mercury is precipitated by a solution of borax; and the salt, which is at first yellow, by the access of air becomes greenish. It is scarcely soluble in watery fluids, and when sublimed is of an orange colour. Journal de Physique, ix. 343. x. 411.

The union of mercury with the benzoic acid (*mercurius benzoinus*) was first mentioned, we believe, by Tromsdorf in his Chemical Annals for 1790. The flowers of Benjamin, dissolved in water, are employed to precipitate nitrated mercury. The salt is of a brown colour; but, carefully washed and dried, is white and shining, unchanged in the air, with difficulty dissolved in water, somewhat more readily in spirit of wine. It is with some regret we add, that, except its author, the only authority we can find for its having been advantageously employed is the suspicious one of M. Mittie.

The MERCURIAL SALTS offer some facts and preparations of curiosity, if not of importance. Lavoisier and Cornette, in the Memoirs of Medicine, have informed us that the mild alkalis will dissolve the calces of mercury; and Quercetanus long since de-

scribed the preparation of a *spiritus mercurialis*, which consisted of an alkaline solution of mercury; and Ritter speaks with commendation of an *essentia mercurii*, which contained the metal, joined with a caustic alkali. The neutral salts, however, have a greater power, and the most active of these is the muriated ammonia. The *mercurial tincture of Garaye* is prepared by triturating the dry sal ammoniac with mercury, suffering it to deliquesce, then again drying, and repeatedly triturating, deliquescing, and drying it. The process is shortened by triturating the brown or the red precipitate with the salt, and then subliming it.

Monnet and Paecken long since informed us, that mercury triturated with cream of tartar would be completely united with it; and if some syrup was added, the union would be so complete, that the addition of powders capable of absorbing the moisture would not affect it. Cream of tartar, though it does not dissolve the metal in its shining state, will dissolve its calces; and we once saw salivation induced, by digesting in cold water Æthiops mineral, sulphur, and cream of tartar, and giving the solution. If a little borax or sedative salt is added, the union will be more complete. This preparation, called *mercurius*, and sometimes *Æthiops tartarisatus*, and dissolved in water, the *eau vegetable mercurielle*, is considered as a very useful medicine, but it seems to have no claim to any extraordinary powers. The pure acid of tartar, as we are informed by Meyer and De Morveau, dissolves the mercury more readily, and in a larger proportion.

Rhenish wine, cyder, verjuice, and vinegar, have been employed as solvents of mercury. The *liqueur fondante* of Diennert, the *hydrargyrum acetatum*, and the *terra foliata mercurialis* of De Fourcy, are preparations of this kind; but the acid dissolves only the calces of mercury, and the preparations differ in activity according to the calx employed.

We find, in the works of foreign surgeons, very caustic topical remedies resulting from the union of mercury with the nitrous acid. Of this kind are the *liquor exfoliatus Bellostii*, *liquor mercurii vivi* of Mynsicht, and the *aqua grisea* of the Wirtemburg Pharmacopœia. The *mercurius nitrosus* of Selle forms white crystals, prepared by dissolving mercury in the nitrous acid. These are dissolved in four times their weight of water, and two drops of the solution are given morning and evening.

The muriated mercury is the foundation of the different mercurial waters employed externally. Horstius's *aqua mercurialis pro scabiosis* contains equal parts of corrosive sublimate and euphorbium, with a larger proportion of arsenic than his menstruum will dissolve. Grunlingius's *linimentum ad serpiginem* consists of sublimate and alum, of each half a dram, and an ounce of gum tragacanth, dissolved in plantain water. We may here remark that alum is often useful in itch, and is an active ingredient in many of the secret remedies which profess to cure it in a very short time. Zwelfer adds to his *aqua mercurialis* a portion of aloes for venereal ulcers and cutaneous eruptions; and Jungken, in a similar *water*, adds ceruse, alum, nitre, sal ammoniac, vinegar of litharge, &c. A preparation nearly of the same kind occurs in the Wirtemburg Pharmacopœia, which was, for many years, the standard pharmaceutical work of Germany; but, more scientifically combined, Vogler's *liquor mundificans* contains the sublimate, with dock root, brown flowers, the leaves of juniper and savine, and the root of the acorus calamus. The most singular external preparation of this is the *oil of mercury*, for warts and corns, of Fausius; an equal quantity of candied sugar and of sublimate, with a very small proportion of filings of iron, are exposed first to a gentle and then a violent heat in close vessels. The iron, however, in part, decomposes the muriated mercury.

Such are the most curious or important preparations of mercury, not admitted into our pharmacopœias; but we cannot conclude this account of external mercurial applications, without guarding the more inexperienced practitioner from too free and indiscriminate employment of them. The records of medicine are full of the most dreadful instances of death, in its most painful shape, following their use; and, though the subject led us to enumerate and explain the principles of their several combinations, we have carefully avoided those particulars which would lead, on the one hand, to rash empiricism, or add to the already too numerous list of quack medicines.

As a medicine, there is scarcely an indication that mercury cannot supply. There is no more certain and active emetic than the mercurius vitriolatus; a more powerful laxative than the calomel; a more effectual and steady diaphoretic and stimulant than the mercurius muriatus; a more certain emmenagogue than calomel; a more effective errhine than the turpeth mineral; a more infallible sialogogue than either of its preparations. If we look at the principle by which these different changes are effected, we shall find it to be a steady and permanent stimulus. When applied to the extremities of the excretory ducts, it excites the action of the various glands; when, on the contrary, it is determined from the mass of blood to the first branches of the glandular system, it is equally powerful. When no glandular system intervenes, it excites the action of the extreme vessels over the whole body.

We have had frequent occasion to remark, that all the metals possess a tonic power. We shall find that in this class of medicines there are many which seem to act chiefly by lessening irritability: there are some that produce tonic effects by their stimulus on the arterial system: others that more imperceptibly increase the general powers of the whole body. In the second class mercury must be arranged, and iron seems to unite the second and third: copper, arsenic, and probably silver, belong exclusively to the third.

While, then, mercury acts as a general stimulus, it seems to unite the tonic power of the other metals; and, from these considerations, all its powers may be explained. We mean not to prejudge the question of its anti-venereal influence: when we consider this subject we shall find some arguments in favour of its specific power. Yet we may now remark, that the effects just mentioned will in a great measure explain the changes it produces; and, though a specific power appears probable, it is scarcely necessary. We shall begin, however, with cutaneous diseases, as these are most nearly connected with the principle we are endeavouring to lay down.

We took an early opportunity of observing, that we can seldom, in any instance, demonstrate any taint in

the general mass; yet we added, that what appears in the secreted fluids must have been virtually, and perhaps formally, contained in it. The powers of nature separate these impure portions, and determine them to the most ready and extensive outlets, the urine and the skin; generally the latter. The constitutions most subject to chronic, cutaneous diseases, are distinguished by a general languor in the circulation: those subject to the acute kind, by an irregular determination to the surface. The former are our present subject; and we may add, that the obstructions appear on the skin, in the glandular system, or in the parts where, from the distance from the heart, its action has less power in consequence of this languor. If the circulation is properly supported, the matter is carried through the extreme vessels; if irregularly hurried, the depositions are more frequent and numerous. This position we shall have frequent opportunities of illustrating, particularly in considering the eruptions of variola. By the steady, uniform, increased action, excited by mercurials, the vessels obstructed in lepra and some similar diseases, regain their powers and throw off the accumulated masses: the same increased action prevents their recurring. Nor is this merely hypothetical; for one of the first effects of mercurials in these cases is to increase the eruption; in fact, to determine more copiously to the skin to throw off the offending matter. One difficulty indeed remains. If these humours possessed an assimilating power, the cause of their increase would continue, *perhaps*, in proportion to their evacuation. The general causes of cutaneous eruptions are not, however, of this kind; and the subject of syphilitic eruptions we reserve. When mercury has removed the more common species, a return must be guarded against. The matter seems to accumulate in spite of the powers of nature; and, as the continuance of mercurials would be inconvenient, less active medicines prevent a disease which they would not cure; and the saline or sulphureous mineral waters, sea water, or even laxative doses of salts, with a mild diet, will succeed. We need only add, that, though mercurials are alone sufficient, the addition of antimonials to assist their determination to the skin is eminently useful.

This enquiry, though it has detained us, will facilitate our future progress. Scrofula unites the cutaneous complaints with the common obstructions; and, in this case also, mercurials joined with, or followed, by neutral salts, are particularly useful; and in our account of the effects of remedies, see Scrofula, we have hinted at the origin of the disease: a languor and want of irritability in the vessels. In gutta serena, indolent tumours of the viscera, particularly of the liver, in jaundice, constipation, and many obstructions, it is obvious that mercury must be useful on the same principle. In chronic inflammations of the liver, its action is particularly elucidated by a singular fact, the disease seldom yielding till the gums are affected by the mercurial; in other words, till the irritability of the vascular system is excited. Its use in old quartans seems owing to its influence on infarctions of the viscera; and in various dropsies independent of its evacuating powers, it is probably salutary by the same effects. In amenorrhœa this action is peculiarly striking, since it is useful only in those languid inirritable habits which we have been used to call phlegmatic and cachectic. In melancholy, the viscera are commonly affected, and support a disease which other causes originally produced; and mercury is sometimes a very useful remedy. In chronic rheumatisms the inactive state of the vessels is sufficiently obvious, and mercurials are singularly useful.

One other class of diseases remains, *viz.* the spasmodic, as trismus, tetanus, and hydrophobia. On these subjects we can scarcely at present speak, but must refer to what we have said on the subject of '*irregular action*,' as the effect of debility. The whole will be illustrated under the articles Convulsions and Fevers, *q. v.* But, if this idea be for a time admitted, the utility of mercury will be obvious, and experience has already established the fact. If useful in the croup, it is on the same principle; and the proof is the same as that adduced in speaking of its advantages in infarcted liver: the complaint does not yield till we find proofs of the irritability of the vascular system being restored.

As an errhine and a sialogogue, (we now allude to the topical application of calomel,) it seems to act as a local stimulus only. As a sudorific and diuretic, it seldom acts without some assisting medicine more directly pointing to the different organs, and seems only to support the general action while the peculiar stimulus is supplied by the other ingredient of the formula. In general, its action in every disease is assisted by the medicines more peculiarly appropriated to it.

It is improper in weak exhausted patients, and in erysipelatous ulcers, cancers, and some similar complaints. Among its bad effects may be mentioned, excessive debility and irritability, decayed teeth, weakened stomach and intestines; but, above all, what is styled by Mr. Pearson, erythismus. It is a state of debility, with the powers of circulation exhausted, perhaps, by too long or constant exercise; a slight exertion proves fatal, seemingly from a defect of circulation in the brain.

Of the choice of the preparations we have little to add. The most useful errhine and emetic is the mercurius vitriolatus: the most effectual laxative, calomel: the most serviceable alterative, muriat of mercury. It is this preparation that gives efficacy to the popular alteratives styled vegetable; and the contrivers hope to elude detection by the density and the colour of the preparation. The metal may, however, be discovered by inspissating a large quantity, and adding ammonia. In this state the mercury will, by rubbing, whiten bright copper: in the minute proportion employed it eludes every other test.

In venereal complaints, the mercurius calcinatus or calomel are the most effectual preparations; but perhaps the mercurial ointment, rubbed in externally, is still better. In internal visceral obstructions; and in external indolent tumours, (scrofulous ones excepted,) the ointment is the best remedy: in chronic rheumatisms the calomel has been preferred: in enlargements of the prostatæ, and similar indurations internally, the corrosive sublimate.

It hath been swallowed crude, as an universal remedy.

Dr. Dover and Dr. Cheney commend it in the following disorders:

"1. Joined with the gum guaiacum and a little aloes,

it hath been successfully used in the erysipelas, gout, and defœdations of the skin.

"2. In hysteric complaints its advantages are considerable, if joined with the bark, valerian, aloetic, or the gum pills, as circumstances may require.

"3. In conjunction with preparations of iron, it succeeds in suppression of the menses.

"4. In intermittents it avails when joined with the bark and iron.

"5. In ophthalmies it hath been effectual when accompanied with millepedes and laxatives.

"6. The hydrargyrus cum cretâ, joined with gum guaiacum and the antimonial wine, does wonders in chronical rheumatisms.

"7. In the jaundice, sciatica, and anasarcous dropsy, the hydrargyrus cum cretâ is successful to admiration."

And to these of Dr. Cheney may be added, that old foul ulcers are sometimes brought to digest by its use.

"The hard bellies of children are relieved by it, if accompanied with such other medicaments as the particular case may require.

"By boiling two or three ounces of quicksilver in four pints of water to two pints, and using the clear liquor for common drink, it destroys worms.

"And in the venereal disease it is by many considered as a specific.

"The true secret of curing diseases with mercury is to cause it to circulate with the blood as long as possible, without producing any evacuation at all.

"A long use of quicksilver weakens the habit, and so should be accompanied with mild antimonials, the bark, or sarsaparilla, &c. as circumstances seem most to require."

Quicksilver is divided by earthy powders, balsams, mucilages, &c.; but with nothing more advantageously than the mucilage of gum arabic. Mr. Pleuck, of Vienna, directs a drachm of it to be mixed with two drachms of gum arabic in powder, by degrees to add a little water, and to continue the trituration of them together until the globules totally disappear. This is called MERCURIAL MUCILAGE; to which half an ounce of any syrup, and half a pint of water may be added, and two common spoonfuls of the mixture may be taken every night and morning in such cases as require its use.

Gum arabic is supposed to powerfully restrain the mercury from running off by the salivary glands; and if a salivation is already excited, it may assist, like any other mucilaginous substance, in checking it.

Crude quicksilver in general is of equal advantage with any of its preparations; yet, in particular constitutions, one or other of them may demand a preference.

ARGE'NTUM MO'BILE, et FUSUM. See ARGENTUM VIVUM.

ARGE'NTUM NI'TRATUM. See ARGENTUM.

ARGILLA, one of the earths, the basis of alum; and, in the modern nomenclature, styled ALUMINE. It is soft, mild, and insoluble; and is considered as possessing no medicinal powers; but the various earths, the TERRÆ SIGILLATÆ of older authors, so called because they were impressed with a seal, seem to be only pure clay, and owe their demulcent, and apparently astringent, powers to this earth alone. See BOLUS.

ARGI'LLA A'LBA, ARGI'LLA CAN'DIDA, (from *αργος, white*). See CIMOLIA ALBA TERRA.

ARGISTA'TA, (from *αργος, white*). Incorporated with wax.

A'RGOL. See TARTARUM.

A'RGUS. The name of a sort of pheasant. PHASIANUS.

ARGYRI'TIS, (from *αργυρος, silver*). See LYTHARGYRUM and LYTHARGYRUS ARGENTEUS.

ARGYROPŒIA, (from *αργυρος, silver*, and *ποιεω, facio*). The art of making silver out of more imperfect metals.

ARGY'RUS, (from *αργος, white*). See ARGENTUM.

ARGYROLIBA'NUS, the WHITE OLIBANUM, *q. v.*

ARGYROTROPHE'MA, (from *αργος, white*, and *τροφημα, food*). A cooling food made with milk.

ARHEUMATI'STOS, (from *α*, neg. and *ῥευματιζομαι, to be afflicted with rheums*). An epithet given to the external parts, particularly the joints, while free from gouty depositions.

A'RI. See MONOPIA.

A'RIA, (from *αριω, to knit together,*) so called, because its branches interweave with each other. The WHITE BOAM, or WILD SERVICE TREE. Called also, *chamæmespilus, cratægus aria* Lin. Sp. Pl. 681. It grows in woods upon rocky mountains, and flowers in April. The fruit mitigates coughs and promotes expectoration. Dale.

A'RIA-BEPOU. See AZEDARACH.

ARICY'MON, (from *αρι, quickly*, and *κυω, to impregnate,*) also ENARICY'MON, (from the same, adding the *εν*). These are terms applied to a fertile woman, who soon conceives, and is quickly impregnated.

A'RIDA MEDICAME'NTA, (from *areo, to dry up*). DRY MEDICINES, such as powders.

ARI'DITAS CO'RPORIS, (from *aridus, dry*). See MARASMUS.

ARI'DULLAM, a substance used in the East Indies as a remedy in intermittent fevers; seemingly containing ARSENIC. *q. v.*

ARI'DURA, (from the same). A WASTING OR LEANNESS with an apparent want of moisture, as in hectic or consumptive habits; or the withering of a particular part, as a limb.

ARI'LLA, (from *arum, a grape*). A GRAPE STONE.

ARILLA'TUS, (from *arillus, the outward coat of a seed*). In botany it means covered with an arillus or outward coat of a seed.

ARIMA'SPES. See MONOPIA.

A'RIS. The name of an instrument used by the ancients, and also of an herb.

ARISTALTHÆ'A, (from *αριστος, good*, and *αλθαια, althæa*). See ALTHÆA.

ARISTIO'NIS MACHINAME'NTUM. A machine for restoring luxations, invented by Aristion.

ARISTOLOCHI'A, (from *αριστος, optimus*, and *λοχια, purgamenta post partum in utero relicta*). BIRTHWORT. It is so called, because esteemed for promoting the lochia in child-bed women. Also called *adra riza*.

There are several species of this plant, natives of the southern parts of Europe, whence we are supplied with the dry roots. Most of them bear the cold of this climate. The roots of all the kinds are acrid and bitter,

and their smell nauseous: they give out their virtues both to water and to spirit; but to the latter most perfectly. They hurt, however, the appetite and produce a languor in weakly constitutions. The virtues are nearly similar, except the a. serpentaria; though Dr. Alston of Edinburgh thinks that the roots of the creeping sort are the best. The doses are from gr. v. to ʒ i.

ARISTOLOCHI'A TE'NUIS, vel CLEMATI'TIS. CREEPING BIRTH-WORT. Also called BUSHY-ROOTED or SLENDER BIRTH-WORT. *Aristolochia clematitis* Lin. Sp. Pl. 1364.

This root has been considered as a powerful deobstruent, particularly of the uterine system, and a warm stimulant. Dr. Alston thinks it equal to the Virginian snake root for all the purposes in which it is used. Dr. Cullen says it has been esteemed for its emmenagogue virtues; and in some cases of retention and chlorosis, as a warm and stimulating medicine, he has found it useful; but never in cases of suppression. It has been long commended as a cure for the gout, making a considerable part of the Portland powder, and has often been employed by itself in the same manner as that powder, to be taken every day for a great length of time. It has the same power of preventing fits of the gout, and commonly with the same consequences. Cullen's Mat. Med.

ARISTOLOCHI'A LO'NGA, et ROTUNDA, Lin. Sp. Pl. 1364. ROUND and LONG ROOTED BIRTH-WORT; called also *aristolochia mascula*.

ARISTOLOCHI'A ANGUICI'DA, Lin. Sp. Pl. 1362. The taste of this species is highly nauseous, and is employed against the bites of serpents by pouring the juice into the wound.

ARISTOLOCHI'A ODORATISSI'MA, Lin. Sp. Pl. 1362. The smell of this species is more pleasing, but it scarcely possesses any virtues.

ARISTOLOCHI'A SERPENTA'RIA, Lin. Sp. Pl. 1363. See SERPENTARIA.

ARISTOLOCHI'A ROTU'NDA CONCA'VA. See MOSCHATELLINA.

ARI'STON, (from *αρισταω, to dine*). Also *prandium*, DINNER.

ARI'STON MA'GNUM et PA'RVUM. Avicenna says they are remedies against a phthisis, when attended with a fever.

A'RLADA, or ARLADAR. See REALGAR.

ARM, the part of the upper extremity between the shoulder and the wrist.

ARM PRESENTATION; in labours when this part of the child comes foremost. In this case it is very generally necessary to turn the children. See LABOURS.

A'RMALA. See RUTA.

ARMA'LGOL. See CORALLIUM.

ARMARUM UNGUENTUM, an ointment employed to anoint the weapon with which a wound was made. A mode, according to the doctrines of *sympathetic medicine*, which would cure the wound. Dryden, in his alteration of the Tempest, has gravely introduced this ridiculous fancy; but Dryden believed also in astrology.

ARMATU'RA. See AMNION.

A'RME, (from *αρω, to adopt*). A coalition of wounds, also the joining of the sutures of the head.

A'RMENA, (from *armor, to be furnished*). An instrument with all the apparatus for any work in which we are engaged.

A'RMENI'ACA MA'LA, (brought from Armenia,) called also *præcocia*. The APRICOT TREE. Theophrastus calls it *persea* to distinguish it from the peach; it was afterwards called *persea-præcox*. The Latins called it *præcoqua*, from which the latter Greeks formed their *bericocca*, and the French the wood *abricots*. See ALIMENT.

This fruit is rather dietetic than medicinal: of the kernels in the stones is made ratafia; they resemble bitter almonds, and contain probably the Prussic acid.

AR'MENUS LAPIS; also called *lapis Armenius, azutum cæruleum fossile*. The ARMENIAN STONE.

It is a copper ore of a pale blue colour. It operates instantly as an emetic in a dose of four grains, and is not essentially different from the lapis lazuli.

ARMI'LLA, a BRACELET. The round ligament that confines the tendons of the carpus.

ARMONI'ACUM. See AMMONIACUM.

ARMORA'CIA, (Armorica, the place from whence it was brought). WATER RADISH. See SISYMBRIUM. Also WILD RADISH and HORSE RADISH. See RAPHANUS RUSTICAN.

A'RNABO. See ZEDOARIA.

ARNA'LDIA, (from *αρς, a lamb*, and *αλδος*, for *αλγος, pain*). It is so called because lambs are subject to it. A malignant slow disease of the chronical kind, attended with an alopecia; it was formerly very common in England.

A'RNICA MONTA'NA, (from *αρς, a lamb,*) so called from the likeness of its leaves to the coat of a lamb. GERMAN LEOPARD'S BANE; called also *doronicum, alisma, doronicum plantaginis folio, caltha alpina, acyrus; panacea lapsorum*. It is the *arnica montana* Lin. Sp. Pl. 1245. Nat. ord. *Compositæ discoideæ Corymbyferæ* of Jussieu. Roots and flowers. This plant grows particularly in Germany, and flowers throughout the summer. The leaves and flowers have a sharp, aromatic, bitterish, taste; and, when bruised, their odour provokes sneezing. Water and rectified spirit extract their virtues by infusion, and retain them in distillation. The roots are more aromatic, though their active matter is somewhat less volatile. Bergius considers this plant as emetic, errhine, diuretic, diaphoretic, and emmenagogue. From its supposed power of attenuating the blood, it has been esteemed peculiarly efficacious in obviating the bad consequences occasioned by falls and bruises, and hence acquired the title of PANACEA LAPSORUM. Dr. Colin has written a work on this subject, De Arnicâ in Febribus, et allis Morbis Putridis; in which he highly extols its febrifuge and antiseptic virtue. Dr. Bruckner recommends a decoction of the arnica in fevers attended with hæmorrhages, efflorescences, &c. Lewis and Neuman speak highly of its power. In fevers of the putrid and intermittent kind, both the flowers made into an electuary and their watery extract have been successful. In putridity and debility, malignant dysenteries, rheumatism, gangrene, palsy, and gutta serena, it is said to have manifested considerable efficacy. Nine drachms of the flowers powdered and mixed with a proper quantity of honey into an electuary, is the dose to be taken in two days. Or one ounce of the flowers infused in a sufficient quantity of

boiling water for half an hour, and afterwards, in a vessel closely stopped, boiled for a quarter of an hour. Of this decoction two ounces were taken every two hours. Or, two ounces of the root in powder were digested with thirty ounces of water in a phial closely stopped, and placed deep in a sand bath, for twelve hours, and this sweetened with syrup of marshmallows, of which two or three ounces were taken every two or three hours. The root, given from five to ten grains, is said to be useful in diarrhœas and dysenteries, in gangrenes, quartans, and typhi. Externally it is applied to foul ulcers and gangrenes. It is much extolled in Germany, though not much used in England; however, it certainly merits attention. The flowers of the inula dysenterica, anthemis tinctoria, hypocæris radicata, and other flosculous flowers, greatly resemble, and may be mistaken for those of the arnica.

ARNOGLO'SSUM, (from *αρς, a lamb*, and *γλωσσα, a tongue*,) from the likeness of its leaf to a lamb's tongue. See PLANTAGO LATIFOLIA.

ARNO'TTO, (Spanish). See ORLEANA.

A'RNOTTS, the roots of a plant, frequently turned up in plowing. They are farinaceous, and resemble a chesnut when roasted. They seem to be the roots of a species of *bunium*.

A'ROHOT. See ARGENTUM VIVUM.

ARO'MA, (from *αρι, intensely*, and *οζω, to smell*). Any thing fragrant or odorous; sometimes it is taken for myrrh. The aroma of plants is probably an essential oil, highly volatile, and with the greatest difficulty preserved by distillation. The exquisite perfume styled the attar (oil) of roses, we are taught how to prepare in one of the early volumes of the Asiatic Researches: other delicate perfumes, united with inodorous oils, are in that state preserved by combining them with alcohol by a very gentle heat. The ancient chemists, however, designated by this title the peculiar discriminated odour which belongs to each individual, and perhaps to every body in the universe; and they applied this to medicine by endeavouring to extract the odour, which they styled the quintessence: we need not say with little real advantage.

ARO'MA GERMANICUM. See ENULA.

ARO'MA PHILOSOPHO'RUM. See CROCUS. This term also implies a preparation of Paracelsus, styled AROPH, consisting of flowers from lapis hæmatites and sal ammoniac sublimed together. It forms a medicine recommended in quartans, and in the plica Polonica.

AROMA'TICA, (from *αρωμα, an odour*). *Aromatics*, or *spicy* drugs, are of a warm pungent taste, with more or less of a fragrant smell; some are purely *aromatic*, as cinnamon, nutmegs, &c.; others have a sweetness mixed with them, as in the angelica root, aniseseed, &c.: some have an astringency, as cinnamon; others a mucilage, as the cassia lignea, &c.; some a bitterness, as orange peel; and others are also bitter and astringent, as the bark.

The several medicinal virtues of these mixed *aromatics* are extracted by the same means as from those which are less compounded; thus the *aromatic* part of lemon peel rises in distillation with water, whilst the bitter remains behind in the extract. The *aromatic* matters contained in different subjects differ much in their pharmaceutic properties. The virtues of all *aromatics* are extracted by sp. vini rect.; water extracts a portion from some, but from many none.

In distillation they rise with water more perfectly than with spirit, though in some few instances the *aromatic* matter wholly rises in distillation, both with spirit and with water, as that of lemon peel, whilst pepper still retains part of its *aromatic* matter, though distilled with water. In the essential oil and resinous part of *aromatics* all their peculiar qualities reside. The more essential oil any vegetable affords, the weaker the oil is, and *vice versa*.

Aromatics warm the stomach, and by degrees the whole body, hence are useful where the vital heat is below the standard of health; they promote the natural secretions, they resist putrefaction, and are almost essential to the health in hot climates, where they are so plentifully produced.

AROMA'TICA AQUA. See PIPER JAMAICE'NSE.

AROMA'TICA NUX. See NUX, MOSCHATA.

AROMA'TICA PUL'VIS. See AROMATICÆ SPECIES.

AROMA'TICA TI'NCTURA COMPO'SITA. See CINNAMOMUM.

AROMA'TICA. CONFE'CTIO AROMA'TICA. See CONFECTIO.

AROMA'TICÆ PI'LULÆ. AROMATIC PILLS. These consisted of aromatics with guaiacum and aloes. In small doses, of fifteen or twenty grains, they warm the stomach, by degrees the whole habit, and are also gently aperient. They were formerly called *diambræ pilulæ*.

The College of Physicians of London have substituted a composition, called PULVIS ALOETICUS CUM GUAIACO—*aloetic powder with guaiacum*. In this, three parts of aloes are added to two of guaiacum and one of aromatics.

AROMA'TICÆ SPECIES, now PULVIS AROMATICUS. The AROMATIC POWDER consists of cinnamon two ounces, the lesser cardamoms freed from their husks, ginger, and long pepper, of each one ounce. It is an improvement of the *diambræ sine odoratis species*.

AROMA'TICUM LI'GNUM. See CANELLA ALBA.

AROMATICUM ROSA'TUM. ROSE SPICE. An aromatic powder, formerly kept in the shops, in which roses were a part of the composition.

AROMA'TICUS, CO'RTEX. See CANELLA ALBA.

AROMATOPO'LA, (from *αρωμα*, and *πωλεω, vendo*,) a druggist, a vender of drugs and spiceries.

A'RON. See ARUM.

A'ROPH. See CROCUS. Also a name which Paracelsus gave to the flowers raised by sublimation from lapis hæmat. and often used by him as a *lithontriptic*.

ARQUA'TUS MO'RBUS. The same as ASCERATUS MORBUS. See ICTERUS.

ARQUEBUSA'DE, (from *arquebuse, a hand gun*,) so called because it is used as a vulnerary in gun shot wounds. It is the name of a water which is also called *aqua vulneraria*, *aqua sclopetaria*, and *aqua catapultarum*. See AQUA.

A'RRAC. (Indian.) See ORYSA, and PALMA COCCIFERA.

A'RRACHE. See ATRIPLEX.

A'RRAPHON, (from *α*, priv. and *ραφη, sutura*.)

WITHOUT SUTURE. The word is applied to the cranium when apparently without sutures.

ARRHŒ'A, (from *α*, priv. and *ῥεω*, *to flow*). The stoppage of a flux: and by Hippocrates appropriated to the suppression of the menses.

ARRHO'STIA, (from *α*, priv. and *ῥωννυω*, to *strengthen*). INFIRMITY, ILL HEALTH.

ARSAL'TOS. See BITUMEN.

ARSA'TUM. See FUROR UTERINUS.

ARSE'NIAS ARSE'NIATE. ARSENICAL SALT, formed by the union of the arsenical acid with certain bases.

ARSE'NICUM A'LBUM, (from the Arabic term, ARSANEK; or from *αρσην* for *αρρην*, *masculus fortis*, because of its strong and deadly powers,) called *crystallinum*, *risagallum*, *aquala*, *arfar*, *aquila*, *zarnick*, *artaneck*, WHITE ARSENIC, and RAT'S BANE.

Arsenic is a semi-metal contained in almost every ore, particularly those of tin, bismuth, the white pyrites, and *cobalt*, see COBALTUM; from the last the greatest quantity is obtained: the ore of the cobalt being broken in pieces is placed over a fire, and the arsenic sublimed from it; which, resting on the sides of long chimneys designed for its reception, is swept off into proper vessels to be re-sublimed, or at least melted, by which it is formed into the shining masses which are met with in the shops: those of the greatest solidity and brilliancy should be preferred.

To England it is chiefly brought from the mines in Transylvania, Saxony, Hesse, and Bohemia. Some small quantities are sublimed in Cornwall from the cobalt that is found there. Large portions of sulphur render it inert. It is soluble in eighty parts of water at 60°, and in 15 at 212. When treated with nitrous acid it becomes the arsenical acid, which is reduced immediately if heated in a glass tube with any fatty or carbonaceous matter.

The pure white arsenic hath a penetrating corrosive taste, sublimes at 283° of Fahrenheit, and taken into the body is a violent poison; it produces speedy dryness in the throat, and inflammation, dejection, fainting, stupor, delirium, tremors, convulsions, palsy, thirst, burning in the stomach, gripes, vomiting, cold sweats, hiccoughing, and at last death. Besides the effects which it hath in common with other poisons, it quickly destroys the coats of the stomach, and perforates the intestines, occasioning a swelling and sphacelation of the whole body, and a sudden putrefaction after death.

When the quantity taken is not fatal, it occasions tremors, palsies, or lingering hectics.

Though there is but little hope after this poison is swallowed in any considerable quantity, yet, if assistance is to be had, a scruple of the white vitriol will excite a vomiting very quickly, and the metal may be evacuated, though imperfectly, from its weight; and so deleterious is its nature, that a very small remaining portion will soon be fatal. It is proper, therefore, to inviscate what remains; and, for this purpose, warm water, with a large proportion of sweet oil, or milk with sweet oil, should be given to support the vomiting: after sufficient vomiting, mucilages and demulcents, particularly gum arabic, in large quantities, new milk and oil, with fat broth, should be continued some time, and the bowels must be kept lax.

We have not much reason to triumph in our success from these remedies. The arsenic is seldom wholly discharged; and if the patient's life is preserved, he drags on a miserable existence, weak, emaciated, and irritable. For these reasons counterpoisons have been industriously sought; and when it was found that sulphur blunted the activity of metals, particularly of arsenic, hepatic alkalis have been freely exhibited, both to neutralize the acid and to check the activity of the metal. The records of medicine do not, however, allow us to boast of the success of this refinement, and we shall soon investigate the reason.

The acids of lemons and apples have been highly recommended by a modern author of credit, Sage, but his plans have been followed with little success. Alkalis, though a more probable remedy, have been equally unsuccessful; but perhaps the advice of Hahneman may be more useful: he gives two quarts of warm water, in which a pound of common soap is previously dissolved, within the space of two hours.

We have no reason to think that arsenic taken into the stomach ever passes into the mass of blood; all the effects are those exclusively on the primæ viæ. Yet equally fatal effects have been found when this semi-metal has been breathed in smelting-houses, when sprinkled on wounds, when even worn as an amulet; and for its baleful influence in the form of vapour, we have the testimony of our own countrymen. Fothergill Medical Observations, vol. v. and Sherwin Memoirs of the Medical Society, vol. ii.

Fortunately we can ascertain the cause of the complaints induced by arsenic; for when the contents of the stomach, if given as a poison, are thrown on live coals, a garlic smell is immediately obvious. On polished copper, if heated between its plates, a white spot is impressed; or in close vessels, the arsenic itself will be found sublimed in the upper parts.

In the stomach, however, there are many substances which may resemble or disguise the smell of garlic, especially if the arsenic be in small quantities. We are therefore advised by Hahneman to boil the contents of the stomach of the person supposed to be destroyed by this poison in a large quantity of river water; to add to one-third of the filtered liquor, hot and limpid lime water; to another third, water saturated with hepatic gas; and to the remainder, a solution of copper in pure aqua ammoniæ. Each fluid is rendered turbid if the suspected contents contain arsenic, and the sediment thrown on live coals emits the odour of garlic. The sediment from the lime water is again dissolved by a recent solution of arsenic; the orange coloured sediment from the hepatic gas thrown on the coals takes fire, and the smell of sulphur is observed previous to that of the garlic; while the yellow green sediment of the copper is soluble in pure ammonia, and acids of every kind.

In reading ancient authors on the yellow and red arsenics it should be observed, that their arsenics are not the same as ours. Among the Greeks two kinds were in use, viz. the *yellow*, which we now call ORPIMENT, and AURIPIGMENT; and the *red*, which they call SAN-

DARACA. The Arabians had also two kinds, viz. the *yellow*, which they call SCANDARACA; and the *red*, which they call REALGAR. It was the fossil sulphurated arsenics that the ancients used medicinally, and only those which were *yellow* and *flaky*, like talc, and which alone they call ARSENICON. The white arsenic is a discovery of later times. The auripigment we meet with is of the yellow sort, its taste is not very acrimonious. The best mineral orpiment is brought from Turkey: it is very little, if at all, poisonous.

Our yellow and red arsenics are artificial, being no other than the white, mixed with different proportions of sulphur. The white is the strongest, the yellow weaker, and the red weakest. See AURIPIGMENTUM and REALGAR.

By the use of arsenic in these forms, the ancient physicians were not aware of its destructively stimulant powers. Yet so early as the 13th century, Theodore, a Venetian surgeon, applied it to scrofulous tumours; and, in the next century, Guido used it as a caustic to produce an eschar in scrofula; and, moistened with vinegar, it was applied afterwards not only to scrofulous tumours, but to the spinæ pedum (corns). It was afterwards used as an application to cancers; and, with additions of the most singular and ridiculous nature, of qualities the most opposite, it has formed the basis of many remedies for cancer and scrofula. Arum nitre, salt of soot, quick lime, opium, aqua fortis, vinegar, ceruse, blue vitriol, the ashes of burnt (old) shoes, pulp of carrots, hemlock, and bark, are a few only of the remedies united with arsenic, either to correct its acrimony or add to its virtues. Had we room to follow this part of the subject minutely, we could trace the source of some popular remedies in authors now seldom read or known.

In the early part of the present century, when the rage for finding medicines of peculiar activity among the poisons was prevalent, arsenic began to be employed. We have not been able to trace its use in any work earlier than that of Friccius, published at Vienna in 1710; yet we suspect it was used earlier, since we are dissuaded from its use by Sparling, whose dissertation on arsenic was published at Wirtemberg, in 1685. Since, however, the time of Friccius, though Stahl, Wedel, Boerhaave, and Storch, have violently opposed its use; though various authors have found it dangerous, inefficacious, or hurtful, the practice has continued.

It seems to have been first externally recommended in cancers, generally accompanied with opium; and it certainly produces at times a salutary change in the appearance of the sore. We have had reason to regret that this change is not permanent. Various forms have been employed for the external use of arsenic. Hahneman proposes to give it dissolved only in water, and this probably is the best method; but the dose should not exceed one-sixteenth of a grain, or rather at first it may be one-eighteenth or one-twentieth, for different constitutions are variously affected with this metal.

Mr. *Justamond's applications* to cancer, originally derived from the information of a receipt preserved in the Earl of Arundel's family, were little varied: they are generally combinations of arsenic and sulphur. The Earl of Arundel's receipt directs an ounce of yellow arsenic, with half that quantity of Armenian bole, and sometimes as much red precipitate. He employed also a sulphuret of arsenic, and a combination of this sulphuret with crude antimony. The arsenical preparation which he preferred was scraped and laid on the middle of the sore, while the edges of the wound were moistened with a combination of muriated iron and sal ammoniac. The effects were to correct the stench, to meliorate the appearance of the sore, and to promote the separation of the entire gland.

Miss Plunkenet's receipt is said to consist of the leaves of the ranunculus acris, the greater crow foot, and the flammula vulgaris, the lesser crow foot, a species also of ranunculus: an ounce of each is to be bruised, and added to a drachm of arsenic and five scruples of sulphur. The whole is to be beaten into a paste, formed into balls and dried in the sun. When used, they are beaten up with the yolk of an egg, and applied on a piece of pig's bladder. The use of the ranunculus is to destroy the cuticle on which the arsenic does not act.

The *arsenicum citrinum* is one of the most active preparations of arsenic, and has often produced fatal effects. *Ten* parts of arsenic are sublimed with *one* of sulphur; and this preparation was used by Friccius, as well as white arsenic, in intermittents. To this article we may also refer the preparation recommended by Dr. Adair in the Medical Commentaries for the yaws, and other obstinate cutaneous eruptions, viz. one-eighth of a grain of arsenic triturated with sulphur.

M. Febure's remedy consisted of ten grains of arsenic dissolved in a pint of water, with an ounce of the extract of cicuta, three ounces of Goulard's extract, and a drachm of liquid laudanum. With this fluid the cancer is to be washed every morning. He joined arsenic internally, and directs two grains to be dissolved in a pint of water, to which must be added syrup of chicory, with rhubarb, half an ounce. A table spoonful is to be given morning and night with half a drachm of syrup of poppies. It may be remarked, that the dose of the arsenic in this preparation is one-twelfth of a grain.

The *aqua arsenici* is a deliquescing solution of the *arsenicum fixum*, formed by deflagrating the metal with nitre. This last preparation was recommended by Müller; and, disguised with the wood of red sanders and the terra sigillata, was used by quacks in Germany, and found highly deleterious. The solution is recommended by Hartmann, in a cancer of the nose.

The *liquor arsenici albi* is formed by deflagrating two parts of nitre, as much arsenic, and sometimes one part of sulphur. This also has been recommended in cancers; while a solution of arsenic in the muriatic acid, the *butyrum arsenici*, is only employed as a caustic.

It is unnecessary to follow the use of orpiment, the arsenic of the Greeks, the Romans, and Arabians, through the numerous authors who have spoken of it, and who have used it in a variety of diseases, assisted or directed by the medicines peculiarly adapted to them. In fact, the additional remedies were successful, for little was obtained from the metal, especially if loaded with sulphur.

Arsenic is, however, a valuable internal remedy in its appropriate dose, viz. about one-eighteenth part of a grain. We have often mentioned the tonic power of metals, and amongst these have instanced arsenic. We find a strong proof of this power when given to horses. From ten grains to half a dram given daily will bring

a horse into excellent condition, render him healthy and active, improve his appetite and the gloss of his coat. It was not, however, by such observations that quacks and mountebanks were first led to employ it. The practice was earlier than the commencement of the last century, for it is mentioned by some of the earliest authors of that era. It was not, however, exhibited alone, but with a variety of other medicines which were supposed to correct its virulence. Among these the mountain crystal, crystalline quartz, was thought most effectual in destroying its virulence; but pepper, crabs' claws, and vinegar, were also added. Fourcroy mentions its being repeatedly boiled with crystals of tartar, and afterwards crystallized; Dr. Willan and Dr. Fowler boil it with salt of tartar, Monro with pearl ashes, and Gmelin with antimonial nitre. The salt of tartar, supposed to form the arsenicated potash, we suspect does not unite with the arsenical acid; for Caels, in the Brussels Memoirs, vol. iv. found it equally fatal to rabbits, cats, and dogs; nor do we find that the stomach will bear a larger dose of this supposed metallic neutral, than of the arsenic uncombined. Macquer combines the metallic acid more effectually with potash, by melting and subliming them together.

The use of arsenic as an internal remedy for *intermittents* was first known, in consequence of the credit Edward's ague tincture obtained for their cure. This was said to be a saturated solution of the arsenic in water; but it cannot be true, as the dose then would be little less than an eighth of a grain; on the contrary, it is less than what is usually given. We used Edward's ague tincture, in 1780, in some obstinate intermittents brought from Coxheath camp, with complete success; and imitated it very soon afterwards by a solution of arsenic in common water. We can truly add, that from very long and frequent experience we never found the slightest reason to suspect it of any bad effects. We are certain that neither dropsy nor hectic was its consequence.

Dr. Fowler recommends it in intermittent pains in the head: for these the bark is often an insufficient remedy. We were led to employ it from finding it the basis of an old woman's remedy, but have not had sufficient experience of its efficacy to speak of it decisively. There are several instances in the Medical Commentaries of its utility in epilepsy.

The plasters which have arsenic for their principal ingredient are numerous: Angelus Sala has given a recipe for an *emplastrum magneticum in peste;* Crollius, an *emplastrum ex magnete arsenicali;* and the Wirtemburg college, in their Pharmacopœia in 1763, an *emplastrum magneticum arsenicale*. These were chiefly employed to bring pestilential buboes to suppuration; in obstinate putrid ulcers; as a remedy for cancers; incarcerated herniæ, and prolapsed uterus; or to cure obstinate quartans when laid on the region of the spleen. In these instances they are said to have been successful, but Feldman has recorded some fatal consequences from their application.

ARSE'NICUM FLA'VUM. ARSE'NICON. CITIRINUM, vel CROCEUM. See AURIPIGMENTUM.

ARSE'NICUM RU'BRUM FACTI'TIUM. See REALGAR.

White arsenic, sublimed with one-tenth its weight of sulphur, is yellow; and with one-fifth it is red.

Both the yellow and the red fossil arsenics, when of a smooth texture, are called ZARNICHS; but when composed of small scales or leaves, they are called auripigmenta.

A'RTABA. An Egyptian measure containing about five of our pecks.

A'RTANECH, or A'RTANECK. See ARSENICUM ALBUM.

ARTEMISI'A; (from Αρτεμις, *Diana*, because it was used in the secret disorders of women, over which she presided;) called also, *mater herbarum*, *absinthium alpinum*, *berens secum*, *parthenicum*, *cingulum sancti Johannis*, *herba regia toxitesia*, *bubastecordium;* the HEART of BUBASTUS, and COMMON MUGWORT, named by the Gauls *bricumum*. The species used by the direction of the Edinburgh college is the *artemisia* vulgaris, Lin. Sp. Plant. 1188. Nat. order *compositæ discoideæ*.

The artemisia has an aromatic smell, and a bitterish taste. It hath been highly spoken of by Hippocrates and Dioscorides as promoting the uterine evacuations; and on this account called *charistolochia*. Galen used it in form of fomentation, and it has been supposed to moderate hysteric spasms, used in infusion for common drink and in baths. The flowers and tops are the strongest; but at present this medicine is rejected by the London college.

It is a name of the BOTRYS, and ABROTANUM; which see.

ARTEMISI'A PO'NTICA, Lin. Sp. Pl. 1187. ARTEMISI'A MARITI'MA, Lin. Sp. 1186. See ABSYNTHIUM.

ARTEMISI'A ABROTANUM, Lin. Sp. 1185. ARTEMISI'A CAMPESTRI'S, Lin. Sp. Pl. 1185. ARTEMISI'A DRACUNCU'LUS, Lin. Sp. Pl. 1189. ARTEMISI'A GLACIALI'S, Lin. Sp. Pl. 1187. These species possess the virtues of the ABROTAMUM, q. v.

ARTEMISI'A CHINE'NSIS, Lin. Sp. Pl. 1190. See MOXA.

ARTEMI'SIA SANTO'NICA, Lin. Sp. Pl. 1185. See SANTONICUM.

ARTEMI'SIA RUPESTRIS, Lin. Sp. Pl. 1186. This species does not greatly differ from the former, but has been thought useful in intermittents. It is the *genipi herba* of the pharmaceutists, q. v.

ARTEMO'NIUM, (from Αρτεμων, its inventor). The name of a collyrium described by Galen.

ARTE'RIA, αρτηρια. AN ARTERY, (from αηρ, *air*, and τηρεω, *to keep*,) because the ancients supposed that only air was contained in the arterial system; but by the word *artery*, Hippocrates meant what is now known by the name of aspera arteria; nor were the veins distinguished from the arteries in the oldest times: for φλεψ, among the ancients, was applied both to arteries and veins; and, indeed, some of our more modern writers use the term *vena* when speaking of the pulse.

An artery is a strong elastic ramifying tube, arising from the heart. The arteries are properly but two; they rise from the two ventricles of the heart; one of them is called AORTA, which see: the other is named the PULMONARY ARTERY, for it springs from the right ventricle of the heart, and is wholly confined to the lungs. See PULMONES.

The figure of an artery somewhat resembles a tree; the smaller ramifications of the arteries frequently ana-

stomose with each other, as may be observed in the coats of an intestine when they are injected. The largest appearance of this kind is in the vertebral arteries, which unite in the skull. The use of the anastomosis is to keep up an equal circulation, and to prevent the bad effects of partial obstruction.

It is generally said that the arteries are of three kinds, viz. the sanguine, which circulate red blood; the serous, through which serum only is naturally conveyed; and the lymphatic, whose contents are lymph: it is also said, that if the blood is pushed into serous vessels, it is there obstructed, and produces inflammation. In reality, however, they are all the same tube continued, which gradually divides into branches, and these branches grow smaller the further they are from the heart. Near to the heart the thicker blood circulates; the force of the circulation is there stronger; and far from the heart the circulation lessens in its vigour, so the thinner fluids are only conveyed in the smaller branches. But if by exercise, or other means, the heat of our bodies is increased, the circulation is pushed forward, the red blood and other orders of thinner fluids can proceed to where still thinner fluids only circulated before; for the smaller vessels can descend to the capacity required by a more active circulation, and contract again to their former dimensions when the distending force is removed.

Arteries terminate three ways; the most common is into veins. Harvey discovered, or demonstrated, the circulation of the blood; but Malpighius first observed, that the last branches of an artery, running into minute divisions, dispose themselves on a membrane as on a firm base, and there open into one another by the mutual intercourse of small canals; he first traced out these canals, through numerous mazes and windings, through which they convey the blood; but here the small branches, disposed with great nicety, extend over equal spaces, and destitute of lateral shoots, as being no longer subdivided, constitute the origins of the veins and lymphæducts, with their sinuses. There are, however, many reasons to believe that the arteries and veins do not form continuous canals, but that some minute follicles are interposed. When the action of the minuter arteries is increased, as in blushing, the veins do not swell, and the pulsation of the former is lost before the vein commences; nor, in any injection, is the wax continued unbroken, from the extremity of the artery to the commencement of the vein.

The next termination of arteries is into little cavities or sinuses, as in the corpora cavernosa penis; the last is into excretory ducts.

The arteries generally lie deep, and always run on the inflected side of the limb, as in the axilla, and the inner part of the cubit: this situation prevents their being either too much stretched or compressed in the various motions of the body.

In the beginning of each of the large arteries before mentioned, there are three valves, which appear like purses, and prevent the return of the blood to the heart (see Cor); the other parts of the arteries are free from valves.

The coats of the arteries are three. 1. The EXTERNAL, containing a great number of blood vessels: many nerves run through it; it is elastic; and its fibres run in every direction.

2. The MIDDLE is composed of fibres which are disposed circularly, and nearly parallel to each other.

3. The INTERNAL is a thin membrane, whose surface is very smooth, to give an easy passage to the blood.

Notwithstanding the disputes which have occurred among anatomists relative to the substance of these coats, it is pretty well understood that they are formed of muscular fibres and elastic ligaments, the inner being membranous and remarkably strong; and that the muscular fibres themselves are probably possessed of elasticity, as well as the ligament. The muscular fibres of the smaller arteries are in proportion more numerous than of the larger; since in Dr. Hunter's experiment of bleeding a horse to death, the aorta was contracted only one-twentieth of its natural area, and the radial one-half. The experiment is not indeed conclusive, because in the article of death, the blood is not propelled to the small ramifications. In a certain degree, however, the fact is true; and the object of this structure is, to support the circulation at a distance from the original source of motion.

The cellular membrane is improperly numbered among the coats of the arteries, for it only connects the real ones.

The nearer to the origin, the weaker are the arterial coats; whence the frequency of aneurisms in the beginning of the aorta.

Arteries are sometimes found of a serpentine form; but they are not so in a natural state of health, except during particular actions, and then they recover their original state as soon as the temporary cause is removed. This cause is the dilatation: the coats are elastic, therefore, whatever distends them must at the same time lengthen them, and thereby produce serpentine turns. This frequently happens in injecting the arteries of dead bodies: in the viper it is very apparent in an artery which runs along the outside of its lungs; every time that the heart beats, this artery is seen in a serpentine form. The arteries of the uterus are more convoluted in the last months of pregnancy than they were before conception; so far is the common observation from being true, that the uterine arteries have naturally a serpentine course to admit of the enlargement of that organ in pregnancy, without stretching the arteries.

The arteries are liable to ossification, particularly the iliac and crural; this happens where an amputation is performed: a caustic is necessary. The ossification begins in the internal membrane, which first thickens, then ossifies in distinct centres till these, enlarging, unite, and the whole becomes bone. This disorder afterwards extends to the outer coats, and a mortification is generally the consequence. See Mortificatio.

The particular arteries may be seen under their respective names, but we shall here describe their general course. From the right ventricle of the heart arises the PULMONARY ARTERY, which is wholly distributed in the lungs.

The AORTA arises from the left ventricle of the heart, and immediately sends off the CORONARY ARTERIES into the heart and its auricles. From the upper part of the arch of the aorta rise the CAROTIDS, which supply the head.

Near the carotids rise the SUBCLAVIAN ARTERIES, which send off the internal MAMMARY, the UPPER

DIAPHRAGMATIC, and others, which are dispersed in the breast: when the subclavian hath passed out of the thorax, it receives the name of the AXILLARY ARTERY; and when in the arm the HUMERAL, and in the fore arm the CUBITAL.

The upper portion of the aorta descendens sends off the BRONCHIALES, ŒSOPHAGEÆ, INTERCOSTALES, &c.

The inferior portion of the aorta sends off the inferior, DIAPHRAGMATIC, CŒLIAC, MESENTERIC, SPERMATIC, EMULGENTS, &c.; then dividing into two, forms the ILIAC ARTERY, which sends off branches about the lower part of the belly; then descending into the thighs, legs, and feet, form the CRURAL, TIBIAL, &c.

Wounds of the large blood vessels require amputation too frequently; the great quantity of blood which would be lost, if the usual methods to restrain hæmorrhages should fail, would endanger, if not destroy, the patient. After a ligature is formed, the circulation may be duly carried on by the anastomosing vessels; if it should not, the operation will be indispensable, to prevent mortification. The intercostal artery, when wounded, is fatal. Wounds of the arteries in the hands are dangerous. The POPLITEAL ARTERY in the ham, if injured, absolutely demands amputation, unless the operation recommended by Mr. Hunter, in case of the popliteal aneurism, should succeed. See ANEURISM. The HUMERAL ARTERY, if injured high up, requires the amputation of the arm. Bell's Surgery, i. 97, &c. White's Surgery, 173.

ARTE'RIA A'SPERA. See ASPERA ARTERIA.

ARTE'RIA VENO'SA. The pulmonary artery was so called by the ancients, from a mistaken notion that the veins came solely from the right, and the arteries from the left, ventricle.

ARTERI'ACA, (from *arteria, an artery*). See AMUC'TICA.

ARTERIO'SUS, DU'CTUS, a passage conveying the blood from one artery to another; also called *canalis*, and *canaliculus arteriosus*. This, in the fœtus, arises from the extremity of the arteria pulmonalis, just where it is going to give off the two branches, and opens by its other end into the beginning of the descending aorta, just below the great curvature. In the adult it is obliterated; but in the fœtus it is open, and conveys the blood, which hath no passage, or a very slight one, through the lungs in this state, from the pulmonary artery to the aorta.

ARTERIOTO'MIA, (from ἀρτηρια, *an artery*, and τεμνω, *to cut*). It is the opening of an artery for the discharge of blood.

Galen, Antyllus, Oribasius, P. Ægineta, and several others, highly extol this practice in invererate headachs which resist all other means; and as a remedy against violent inflammations of the eyes, the epilepsy, &c. The operation is generally confined to the head, because of the bone being immediately under, and giving the advantage of a proper compress. When the temporal artery is opened, a small knife, such as is used for the fistula lachrymalis, is better than a lancet, and the incision must be so as to divide the artery transversely; then the inconvenience of an aneurism is avoided. Modern authors are greatly divided respecting the utility of arteriotomy. It certainly takes away a large proportion of the blood at once, but relieves only remotely the internal vessels; nor is it certain that its effects are in any instance more considerable than those of bleeding from the arm, if the blood be taken from a large orifice. An inconvenience arises from the mode of the operation, as the artery is cut through, and, consequently, the other vessels are afterwards filled beyond their due proportion. Dr. Butter attempted to remove this inconvenience by opening the artery longitudinally, and contriving an instrument to prevent the troublesome suppurations which are often the consequence. Yet this instrument was only effectual by compressing and obliterating the artery, so that little was gained by the attempt.

Heister condemns arteriotomy, especially before every other method hath been tried. See Bell's Surgery, i. 146. White's Surgery, 178.

ARTETI'SCIUS, or ARTETI'SCOS. One who suffers the loss of any member, or who hath a very defective one.

ARTHANI'TA, (from ἀρτος, *bread*, because it is the food of swine,) the name of an ointment prepared from *cyclamen; panis porcinus*, called in Myrepsus, *casamum*, SOW BREAD. It is the *cyclamen Europæum* Lin. Sp. Pl. 207.

The root when fresh has an extremely acrimonious biting taste, which it loses almost entirely on being dried; it is recommended chiefly in cataplasms, for scirrhous and scrofulous tumours, and chilblains, though internally it proves cathartic and emmenagogue. It operates slowly, and with great virulence, inflaming the fauces and intestines: one drachm of the powder purges, and often destroys worms.

ARTHE'TICA, or ARTHRE'TIÇA, (from ἀρθρον, *a joint*). The herb GROUND PINE; useful in gout and all disorders of the joints. See CHAMÆPITYS.

ARTHOI'CUM, or ARTOI'CUM, or PANNO'NIUM, (from ἀρτος, *bread*). A red oil formerly made by digesting several roots with bread.

ARTHRE'MBOLUS, (from ἀρθρον, *a joint*, and ἐμβαλλω, *to impel*). An instrument for reducing luxated bones.

ARTHRI'TICA, belonging to the gout.

ARTHRI'TIS, the GOUT, (from ἀρθρον, *a joint*, because it is commonly confined to the joint).

Dr. Cullen, in his Nosology, gives it the name of *podagra*, (from πους, *pes, the foot*,) because he considers the foot as the seat of the idiopathic gout. The disease is placed in his twenty-fourth genus of diseases of the class of *febrile complaints*, in the order of *phlegmasiæ*, and he divides it into four species.

1. PODAGRA REGULARIS, REGULAR GOUT, when the inflammation appears in the joints to a due degree, and, after continuing a while, gradually disappears, and the patient recovers his usual, or a more improved health.

2. PODAGRA ATONICA, ATONIC GOUT, when there is manifestly the gouty diathesis; but from some cause it does not produce the inflammatory affections of the joints, but digestion is disturbed, and the general health variously affected.

3. PODAGRA RETROGRADA, RETROGRADE OR RECEDENT GOUT, when inflammation hath as usual attacked the joints, but not either in its usual degree, or with the usual pain, and then suddenly abates, with an equally sudden affection of an internal part.

4. PODAGRA ABERRANS, MISPLACED GOUT, when the gouty diathesis produces inflammation in some internal part, instead of the joints of the extremities. It is generally and concisely defined 'an hereditary disease,

arising without any external evident cause, but preceded for the most part by an unusual affection of the stomach; febrile symptoms; pain in the joints, particularly of the great toe, but certainly in those of the feet and hands; returning at intervals, and often alternating with affections of the stomach, and internal parts.' The gout is called *nodosa*, knotted, when it forms small tumours at the joints.

The ancients called all kinds of pain, when seated in the joints or the external parts, by the common name of *arthritis*. The word rheumatism was not known amongst them; but, in the sixteenth and seventeenth centuries, some celebrated French physicians have called the pains which afflict the intermediate spaces between the joints and muscles of the neck, or of either arm, or of the anterior or posterior part of the thorax, the shoulders, scapulæ, thighs, and hands, by the name of rheumatism. Those they style arthritic which affect the joints: it was called *podagra* in the feet, *chiragra* in the hands, *onagra* and *pechyagra* in the elbow, *genagra* in the knee, *dentagra* in the teeth, *cleisagra* in the articulations of the clavicles with the sternum, *omagra* in the articulation of the humerus with the scapula, *rachisagra* in the spine of the back; if it seizes the larger tendons, *tenontagra*. Cœl. Aurelianus, lib. v. cap. 2. But the difference betwixt the gout and the rheumatism is considered as very great, both in their cause, seat, symptoms, and cure.

The gout is divided into REGULAR and IRREGULAR. The first chiefly affects the membranes and ligaments of the joints, particularly the small joints of the feet. The last afflicts the patient variously, and seizes the internal parts, chiefly the viscera, the lungs, and the head.

The first approaches of the gout are generally sudden, and happen very early in the spring or in the beginning of winter. The regular fit is usually preceded by indigestion, flatulency, drowsiness, headach and sickness; a weariness; dejection of spirits; pain and coldness in the limb, with a sensation as if wind or cold water were passing down the thigh; swelled veins, and frequent cramps. The appetite is sometimes very keen a little before the fit approaches, and the other symptoms sometimes disappear; a slight pain is however felt in passing the urine. Soon after midnight, or rather about two or three in the morning, a pain attacks the great toe, or some other part of the foot or ancle, though now and then it is fixed in the calf of the leg; this pain is accompanied with a sensation as if cold water was poured on the part, and soon followed by a shivering, with some degree of fever: after this the pain increases, and fixing in the small bones of the foot, the patient feels a torturing pain for about twelve or twenty-four hours, which then abates, the part becomes inflamed and swelled; towards the morning the patient falls asleep, a perspiration comes on, which terminates the fit. But what is commonly called a fit of the gout consists of several similar attacks; the pain frequently shifting from one foot to another, or from the feet to the hands; and though a recovery should follow the first remission, some uneasiness returns every night, and goes off the following morning. The first fit may continue two or three weeks; but a tenderness, where the pain was seated, remains much longer. The patient may remain free from any return during the succeeding, or a second year; but the succeeding fits are then often still more painful; and soon after this the returns grow more and more frequent, increasing until the strength fails, and sensation is diminished. Though the patient is then seldom free, he is not violently afflicted. At this period chalky concretions occur, which, accumulating, destroy the motion of the joint: when large they burst through the skin, forming painful and troublesome ulcers. After this event the constitution has often remained free from gout many years; and we have often seen, about the period of seventy or seventy-five, a very violent and in a great measure an irregular fit of gout, which has left the patient for the remainder of his life free from any further attack, in tolerable health.

Much has been said by different authors concerning the cause of the gout. Boerhaave considers it to be a vitiated disposition of the very minute vessels and nerves in the body, from their too great straitness and rigidity; and, also, of the liquid which nourishes the nerves, from its acrimony, and greater tenacity. Hoffman says it is a saline tartarous substance, while some consider it a corrosive bilious salt, others as an acid, an earth, an alkali, or an austere styptic principle. In general, it is thought that the gout depends upon a certain morbific matter always present in the body; and that this matter, by certain causes, thrown upon the joints and other parts, produces the several phenomena of the disease. Dr. Kirkland thinks the *predisposing* cause a largeness of the lacteals and straitness of the small vessels, particularly those of perspiration; and the *immediate*, the acrimony of earthy particles undissolved.

That gout is caused by a morbid matter of some kind is a consequence apparently so clear and obvious, that it is not surprising to find it made the basis of every theory. Indeed, nothing but the strong mind and intuitive sagacity of Dr. Cullen, could have led us from this beaten track. It is indeed an argument against the existence of morbid matter, that authors have differed so widely respecting its nature; yet we have depositions of chalk stones in the joints, and the observation of Berthollet, that previous to the fit there is a less proportion of phosphoric acid in the urine. If however the chalk stones were the morbid matter, we should see the deposition most copious after a regular fit: they do not however appear until the constitution is weakened, and the fit irregular; and the retention of the phosphorated salt is not peculiar to gout, but generally attends irregular fevers, which chiefly affect the nerves, as we have often seen. Morbid or acrid matter in the blood will undoubtedly produce fever; but there is no instance where this effect follows, but from some previous change in the state of the constitution, as we shall in a future article show; and, in the instance of hectics only, does this morbid matter produce such regularly formed remittents. Indeed, whether in the access or the decline, the degree of the paroxysm of gout is determined soon after its attack; with the force of its invasion it continues for twelve or twenty-four hours. The kind of inflammation also is peculiar; and it is surprising, that though we have had so many medical arthritics, this has not yet been pointed out. The pain though violent, and the part though brightly ruddy, feels numbed, heavy, and incapable of action. If the pain could be for a moment forgot, the foot would be found to feel like a paralytic one; and, though the muscles

which raise the leg are not affected, they drag it along with great difficulty.

Again, supposing morbid matter a cause of gout, the most violent and regular fit should discharge it by depositions on the ligaments, by perspiration, or by urine; but every arthritic knows, that at the moment the most regular fit has ceased, it may be again produced by a variety of causes, and run the same course as before; nor after this second deposition are many constitutions secure. Besides, if there is a period of time when the arthritic is more than at any other free, it is the day or two before the attack. Where then is the matter?

The predisposing and the exciting causes are equally inconsistent with morbid matter. The former are causes of debility, and the latter cold irregularities of diet, particularly an indulgence in acescents, violent vexation, or fits of passion. In short, however probable the doctrine, however plausible the arguments, the system is untenable.

Dr. Cullen, in his Pathology of the Gout, says, in some persons there is a certain vigorous and plethoric state of the system, which, at a period of life, is liable to a loss of tone in the extremities. This is in some measure communicated to the whole system, but appears more especially in the functions of the stomach. When the loss of tone occurs, while the energy of the brain retains its vigour, the *vis medicatrix naturæ* is excited to restore the tone of the parts, and accomplishes it by exciting an inflammatory affection in some part of the extremities: when this has subsisted for some days, the tone of the extremities, and of the whole system, is restored, and the patient returns to his ordinary state of health; and it is owing to a deviation in some of these principles that he accounts for the difference in the species. Dr. Cullen, and indeed several others, consider the gouty matter as an effect, and not a cause, of the disease.

To this theory there may be numerous objections; yet the principle is clear, that gout is a disease of the constitution; that it is produced by debilitating causes; and that the inflammation excited in the ligaments, seems to restore the tone. In an impending fit of gout, an emetic, with aromatics and bark given freely, has suspended or prevented it. The kind of inflammation, and the means by which this change is effected, we cannot yet understand. The boasted *vires medicatrices naturæ* will, we suspect, be ultimately found only accumulated irritability in consequence of its suspension; and we must at last refer to a principle already stated, which we shall often recur to, that debility occasions irregular action only. Thus, in gout, while the extreme vessels are powerfully excited, the muscular system is apparently more torpid; and this torpor of the nerves and muscles of the extremities is, on the other hand, compensated by increased tone of the stomach. If it were the object of this work to build systems, this might be easily expanded: it is our wish rather to establish principles.

As the gout is allowed to be constitutional, so it is undoubtedly hereditary: and the predisposition is often from hence so strong, that avoiding most strictly the remote causes will not prevent it. We must, however, admit, that the disease is most often the effect of the accumulated consequences of the remote causes. These are excesses of every kind; long continued anxiety, deep study, late hours, inactivity, &c.: each a cause of exhausted irritability.

The distinction of gout is a subject of considerable importance. Its relation to rheumatism often occasions much difficulty; and, though we consider the two diseases as perfectly distinct, yet they are sometimes so combined and blended, as to prevent our seeing which is the principal complaint. In general, rheumatism occurs in consequence of an evident cause, as cold; the gout without any such cause. Rheumatism has no preceding complaints; gout is preceded by languor, flatulency, and indigestion; rheumatism is the disease of the strong and active; gout of those advanced in life; rheumatism attacks the larger, gout the smaller joints; rheumatic limbs, though swollen, are not red like gouty; and rheumatism is not attended with fever so decidedly remitting. These circumstances will contribute to the distinction; but the cases so often run into each other, differ by shades so transient and minute, that the greatest difficulty is found in the distinction of particular complaints.

Another disease has occasioned us some little trouble, viz. a *gutta rosea;* an erysipelas affecting the joints, sometimes attended with pain. The distinction, though not easy, is on the whole sufficiently clear. The *gutta rosea*, though of a bright red, has not the peculiar colour, nor the shining appearance, of gouty inflammation: it does not exacerbate with the regular exacerbations of fever: it is not preceded by languor, which is removed by the pain; but often attended through its whole course with the particular low fever which attends erysipelas. The pain is rather in the *skin* than the *ligaments*, and the tumour bears pressure without greatly increasing it.

Some irregular pains in the joints have been styled gouty, but they are sometimes found in gouty habits without partaking in the nature of the disorder. The only requisite object of attention is, to be cautious in the use of cold applications.

The *prevention* of gout has employed the attention of the ablest physicians; and we shall first consider the mode of prevention in those who have a strong predisposition to the disease, as well as in those who have experienced one or two gouty paroxysms. We shall afterwards consider the means of relieving or preventing the fit in those who have for a longer time experienced the disease.

If a person is strongly predisposed to gout, abstinence and exercise are absolutely necessary. In the works of an old experienced physician, a mode of diet is directed, consisting of different vegetables in each month. In fact, a milk and vegetable diet is in a great degree necessary, and these directions imply no more. The exercise should be constant and steady, not to fatigue, but to keep all the secretions in their due course. Walking is the only proper exercise; and if to this be joined a dry free air, frequent washing the feet in *cold* water, and daily friction with a flannel and a flesh brush, we shall obtain all the necessary advantages. Where the predisposition is not so strong, the severity of these rules may be relaxed: a little animal food of a mild nature may be allowed once a day, and cyder may form a portion of the drink. Above all, however, temperance, cheerfulness, early hours, and moderate study, only are requisite: the mind must be occasionally employed as

well as the body, for idleness may lead to excess, to uneasiness, and its train of consequences.

If fits regular and painful have occurred, the general plan must be the same. Such, however, is the excruciating nature of this frequent disease, that men have gladly caught at every confident promise. On the first appearance of a fit an emetic has been recommended, to be followed by large doses of bark during the first remission. This it is said has succeeded, and it seems a probable measure, but we confess that we have had no experience of it. The Duke of Portland's powder has certainly prevented the return: it is said, however, by the first authorities, that the most fatal diseases, as apoplexy, dropsy, asthma, and infarcted viscera, have been the consequence. Indeed the circumstance of the remedy, though a very old one, having never maintained its credit for any long continued period, is a strong presumptive evidence of its injurious tendency.

Another remedy employed to prevent gout is a warm cordial eccoprotic. Boerhaave's gout cordial is the prototype of all the secret formulæ handed about with much mystery and confident pretensions. It consists of an ounce of rhubarb and two drachms of senna, with a drachm of cardamoms, and as much coriander seed digested in a pint of brandy. We omit the raisins, the saffron, and the cochineal, as useless additions. It has been our fortune to see this often tried with success, *it is said:* indeed the gout has been prevented, but in every instance apoplexy has terminated the scene at no very distant period. Alkaline aerated water and slight antimonials have been also recommended; but, as they have had no effect on the disease, they have done no injury to the constitutions. Costiveness should be undoubtedly avoided, and for this purpose the *pil. rufi.* with a few grains of the *pulvis antimonialis* given occasionally, or every other night, in constitutions liable to costiveness, has completely succeeded in our hands, and been equally effectual with the analeptic pills of Dr. James.

When the fits have appeared, other methods have been resorted to. Dr. Stevenson recommended blisters to the part, and spoke highly of their effects; but he, unfortunately, fell himself an early victim to the gout. Leeches have been recommended by others, it is said, with advantage. A new plan has been lately urged with some violence by Dr. Kinglake of Taunton, viz. immersing the affected part in cold water, and treating the disease as a common inflammation. It is not easy to speak, *flagrante bello*, without giving offence to one party, but we are impelled by considerations much more powerful than a desire of popular applause. We need therefore only observe, that the plan is wholly inconsistent with every thing we have seen or *felt* of the disease; and though we doubt not but constitutions have been found so robust as to prevent any injurious consequences from the trial, as some may lie in damp sheets, or take the Portland powder with impunity, yet to the generality it would, we fear, be fatal.

When the fit of gout is formed, it should perhaps be permitted, if regular, to pursue its course without interruption. It has been usual to lay it in soft flannel to '*keep it out*' by a warm regimen, and keep the bowels open by the warmest tinctures: the true gout purgative, says an author of credit, is equal parts of the tinctura sacra and senna. The whole of this system we suspect to be erroneous. The pain of the fit is a remedy produced by nature; and as we in no instance understand, and cannot in any imitate it, we think the whole process should be her own. We can throw out more gout by hot cordials, but we seem not to render the system freer; we can increase pain, but we do not by this means increase the tone of the stomach. It seems to us more rational, neither to clothe the part warmer nor colder than usual; not to change the diet or the drinks, unless languor or faintness makes cordials necessary. The burning heat of the part will prevent any bad effects from a common degree of cold, and we have generally found the swelling go on sufficiently and effectually without urging or repressing it. We now speak, however, of a regular inflammatory gout. Many discussions occur in authors respecting the propriety of giving opiates in gout; our decision must depend on their general effects. If they relieve pain, without producing languor, sickness, or faintness, in other situations, they are of service in gout; and, joined with antimonials or ipecacuanha, they have often, we think, shortened and mitigated the fit without apparent injury. It is recommended not to give them in the beginning of a fit; indeed at that time they are of the least service. We see no room for choice among the different preparations, though Dr. Warner prefers his own formula. A tincture of opium in Madeira wine we have some reason to think an useful form; and the Dover's powder, with the acetated ammonia, we have known highly serviceable. Gradually and gently moving the foot, as soon as motion can be borne without much pain, seems to prevent stiffness and weakness in the joint; and to wipe over the part with lukewarm water when the pain is abated, gradually substituting cold, contributes greatly to strengthen it, and remove stiffness and the more troublesome feelings. It often seems, however, to bring back a little soreness. Purging must be avoided at the end of a fit, as it often brings on a return: a circumstance not easily reconciled with the doctrine of morbid matter.

We have not mentioned some of the less common and less useful remedies. Bleeding has been recommended in strong and inflammatory habits; but it is, we believe, always injurious, even in misplaced gout. The moxa, the woolly part of the leaves of the Chinese artemisia, has been formed into a cone, the top of which is set on fire, and gradually consuming, an eschar is formed on the part, which in a few days suppurates. It is commonly used in the East, and said to lessen the pain without danger. It has been safely employed in this country; and, if we recollect rightly, Sir William Temple speaks of it in his own case with commendation: this method of relieving the fit is however disused, and we cannot recommend it from experience. Emollient poultices and warm bathing have been employed for similar purposes, but they are certainly injurious. We have often known a pediluvium too warm bring back a paroxysm, and even wiping the foot with a cloth wetted with water a little warm, has brought back some soreness. Camphor, dissolved in aromatic oils, has been applied to the pained part, but we cannot say with advantage. Any inconvenient symptoms which arise during the fit, should be opposed with the appropriate remedies. Sickness is removed by a gentle emetic; and the vomiting should be supported by mustard whey, the seeds of the cardus in infusion, or camomile tea with hartshorn. The bowels should be kept regular with a mild aloetic pill;

and a little anxiety, restlessness, or sighing, is relieved by camphor and æther, with sometimes a slight opiate. To regain the strength after a fit, bark has been recommended, but we are told that it should not be given till the urine has deposited the lateritious sediment. In the intervals of regular inflammatory gout it is unnecessary; cold bathing and Bath waters, though admissible, are equally so.

Repelled or misplaced gout is most nearly connected with the inflammatory, and we now speak of those internal inflammations decidedly from this disease, whose proper seat is the joints of the extremities. Gout is thus *misplaced* in consequence of debility of the constitution, or different causes which have contributed to repel it from the extremities; and the disease scarcely differs from similar inflammations of the same parts from other causes. We find a great difficulty in giving general directions on this subject, as it is so greatly varied by the degree of the complaint, and the different habits of patients; and might perhaps safely rest the whole on this general advice, that *such inflammations should be treated according to the usual plans, adverting however to the danger of producing atonic gout by excess of evacuations, particularly* of purging. The difficulty and danger, however, of these attacks render some further consideration necessary.

It has been the chief object of practitioners to bring back the gout to the extremities; and for this purpose they bathed the feet in warm water, wrapped them in the most stimulating cataplasms, and even applied blisters; wondering that they did not bring back gout by means, which, had it been in the extremities, would have driven it away. They have at the same time given the strongest cordials internally to excite the stomach, and thus produce the natural reaction; and have seen with admiration, that, while they have been intent on gout, their patient has died from inflammation. The most common species of misplaced gout are, gout in the *head*, *lungs*, *stomach*, *intestines*, and *kidneys*, or *bladder*. These we shall consider in their order.

Gouty phrenitis differs in no respect from this disease, arising from other causes. Topical blistering is, if possible, still more necessary, and purgatives must be employed with caution and reserve. If any remedy is peculiarly applicable in this case it is the camphor, and a small proportion of nitre may be cautiously added. Towards the conclusion, when a wandering delirium alone remains, æther, with a slight opiate, is highly useful.

Gouty peripneumony in young strong habits sometimes requires bleeding; but it should be employed from necessity only, and the blood taken in no greater quantity than is necessary to remove the most urgent symptoms. Blisters, as usual, are peculiarly advantageous; with antimonials, guarded in their purgative powers by opium. In this case, too, camphor has been of the greatest service; and the squills, with the gum ammoniac, may be given freely as in the more common cases. A bastard peripneumony is very often gouty: the spitting is copious, but the complaint is not relieved by it, and the whole tribe of expectorants appears to be useless. In this case a brisk warm purgative will occasionally bring on gout in the extremities, though it will more often fail, and in such instances we have found the bark with aromatics the best remedy. The balsam peruvianum in large doses promises to be successful, but we have not had sufficient experience of it, as the bark has so generally succeeded. The lac ammoniac, also, with a large dose of salt of hartshorn, or perhaps the sal succini, might be useful.

Gouty gastritis is sometimes peculiarly painful and troublesome, but fortunately very uncommon; and yields easily to a blister, with slight opiates, and warm, mild, diluting liquors. The necessary stools must be procured by clysters.

Gouty enteritis requires minute attention, for purging is its only remedy. It might appear probable, that, as purging contributes to bring on regular fits, its effects might be salutary in this way. It must, however, be recollected, that active purging, if it fails in this respect, brings on atonic gout; and this coincidence would render the disease more unmanageable. Motions must, however, be procured; and it fortunately happens that after the application of a blister, this is no very difficult task.

Gouty nephritis is very uncommon. Dr. Cullen seems unwilling to admit this inflammation as in any case arising from gout. The question is of very little importance, since, if we avoid the more active antiphlogistic remedies, the cure of this disease is by no means peculiar. In the *bladder*, gout sometimes produces very peculiar effects: an inflammation from this cause occasions violent pain, an obstinate strangury, and with the urine discharged there is a considerable quantity of a light mucus, resembling purulent matter. It is a species of a disease which we shall afterwards notice under the appellation of a catarrhus vesicæ. In this case warm diluting liquors, with the most stimulating applications to the perinæum, are absolutely necessary; and we have even been obliged to apply a blister to this part, carefully removing it early to prevent absorption. The complaint, however, is not obstinate.

Atonic gout is a disease peculiarly obstinate and distressing: it is the prelude of misplaced gout, and appears often in the interval between the repulsion of the active inflammation in the feet, and the attack on the viscera. It is known by the various forms of debility and irregular action in gouty habits. Low spirits, giddiness, headach, fainting, melancholy, wandering delirium, palsy, and apoplexy, are occasioned by its affecting the head; bastard peripneumony, asthma, and, it is said, consumption, when it attacks the lungs; anorexia, dyspepsia, eructations, and hiccough, when in the stomach; diarrhœa, dysentery, irregular pains, and obstinate costiveness, when in the bowels; in the bladder, stone; in the intestinum rectum, piles, terminating often in fistula. In all these complaints we are directed to bring on gout. We may indeed 'call spirits from the vasty deep,' but they will not obey. The direction is easily given, but it cannot be executed. In such cases we may remove the present complaints, strengthen the constitution, lay the foundation for future gout, but we can do no more. Bark and aromatic cordials are in such cases proper; the bowels must be kept free by aloetic pills, occasionally interposing the warmer tinctures, encouraging exercise and cheerfulness, keeping the stomach in a proper state by occasional emetics and a moderately warm generous diet, changing the scene, and diversifying the objects. These are the cases chiefly benefited by mineral waters, where all these means are

combined, and those of Bath are unrivalled for their powers in this state of the disease. In many such instances sea bathing may be allowed, especially when young people, either from the violence of the hereditary disposition to gout, or their own early imprudence, have become premature martyrs to the disease. In cases where stone is combined, the Pyrmont waters, which contain the fixed air with steel, are highly useful; and the aerated alkaline waters are often found serviceable. If the Cheltenham waters do not prove too purgative, they may be also useful. Steel itself is often employed, and probably with advantage: there is little choice in its preparations; but if the stomach is much disordered with flatulence, the flores martiales with the gum pill will probably be most useful, washed down with a warm cordial.

In all violent attacks of the head and stomach, the warmest cordials must be immediately employed, and the Irish usquebaugh, as peculiarly warm and active, has been a favourite. If there is time for choice and preparation, the æther is preferable, or the union of the volatile alkali with aromatics in the spiritus ammoniæ compositus; and the efficacy of these remedies is increased by the addition of a warm opiate. The doses must be measured only by the exigency; and the quantity of spirit sometimes swallowed in such instances, not only with impunity but advantage, is astonishing.

In the other complaints from gouty atony, a more regular and steady stimulus is required. To the common cordials, Cayenne pepper in pills has been added; and the arum, in large doses, has been often useful. The serpentaria, particularly its tincture, we have often seen employed by former practitioners with advantage, and have perhaps from that cause contracted a predilection for it. No medicine, as a permanent and powerful stimulus, seems to exceed it in these cases. When fistula, stone, or other diseases, come on, which require peculiar treatment, the relief must be conducted in the usual way.

Retrocedent gout is in reality the atonic, but it is generally distinguished by authors; and we notice it just to mention, that on the sudden recession of gout a variety of nervous medicines, as æther, musk, and castor, have been employed. Except as stimulants, they seem to possess no peculiar advantage; and perhaps, as superseding the full use of stimulating medicines, they may be injurious.

The warm bath has been employed at the end of a fit, to restore flexibility to the joints; and the warm waters of Bath are, on many accounts, preferable. A muriatic bath has been lately advised; that is, water slightly impregnated with the muriatic acid; and, like all novelties, highly commended. When we speak of warm bathing, we shall show that the water does not penetrate beyond the cuticle, and of course that the acid cannot reach the calcareous depositions; but it will be obvious to any one who observes the skin of gouty patients, that the same calcareous phosphat penetrates every part of the cuticle, and fills its rugæ. The muriatic acid will dissolve the salt; and this effect, with the influence of the heat and moisture, will restore in a great degree the pliability of the joint, and add to the comfort of the arthritic. Cold bathing also in the intervals of gout, when the system is wholly free, is an excellent remedy for supporting the activity and energy of the consitution.

There are various other complaints that alternate with gout, viz. wandering pains, erysipelas, inflammations of the eye, pains of the back, resembling nephritic pains. These must be treated in the usual way, taking care, when the cause is suspected, not to lower the patient by too great evacuation.

This disease generally attacks men of robust and large bodies, men of large heads, plethoric habits, and whose skins are covered with a thicker rete mucosum, which gives a coarser surface; particularly if the earlier period of their life has been spent in indolence and luxury, or if their minds have been much harassed with vexation and painful reflection. It seldom attacks persons employed in constant bodily labour, or those who live much upon vegetable aliment; and it is less frequent among people who make no use of wine, or other fermented liquors. It seldom seizes men before the age of thirty-five; oftener at a later period. Neither children nor youths are exempt from it; and the females who are liable to it are those of the more robust and full habits; though it seldom attacks that sex, or eunuchs, unless they are strong, lead indolent lives, and live very full.

See Sydenham's Works, who admirably describes the regular gout, with notes by Dr. Wallis: Musgrave on the Gout; he excels in his description of the irregular gout. See Warner's full and plain Account of the Gout; he includes the chief of what his predecessors have written on this subject. Cullen's First Lines, vol. ii. edit. 4. Kirkland's Inquiry, vol. i. Dr. Cadogan's Dissertation on the Gout. Hoffman De Dolore Podagrico. Boerhaave De Podagrâ. Dr. Kirkland and Cheyne on the Gout.

ARTHROCA'CE, (from *αρθρον, a joint*, and *κακον, malum*). An ulcer of the cavity of the bone, generally near the extremity, with caries. See Spina ventosa. When in children it is styled *pædarthrocace*.

ARTHRO'DIA, (from *αρθρον, a joint*, and *δεχομαι, to receive;* or from *αρθρωω, articulum fingo, to articulate*). See Diarthrosis.

ARTHRODY'NIA, (from *αρθρον, a joint*, and *οδυνη, pain*). See Rheumatismus.

A'RTHRON, (from *αρω, to fit together*). A joint. See Articulus.

ARTHROPYO'SIS, (from *αρθρον, articulus*, and *πυον, pus*). This word is variously used. Dr. Aitkin, in his Elements of Surgery, calls inflammation of a joint *phlegmone articuli*. By this name, in another part of the same work, he means an abscess in a joint; and, in a third place, uses it as synonymous with inflammation in the loins, particularly in the cellular membrane lying under the psoas muscle.

In Dr. Cullen's System it is a genus of *pyrexiæ*, of the order *phlegmasiæ;* and its synonyms are the *lumbago psoadica*, *lumbago apostematosa*, *lumbago ab arthrocace*, *ischias ex abscessu*, and *morbus coxarius*. In this disease, he says, there are pains in the joint or the muscular parts, which happen often after bruises; they are deep, dull, of long continuance; the swelling is either slight, or but little diffused; no inflammation; the fever at first is gentle, but at last hectic; and the part at length suppurates. See Abscessus dorsi

et LUMBORUM, and ISCHIATICUS, under ABSCESSUS; also PSOAS. Bell's Surgery, vol. v. 419. Kirkland's Med. Surgery, vol. i. p. 427.

ARTHRO'SIS, (from *αρθροω, articulo*). See ARTICULATIO.

A'RTIA. According to some it is the same as *arteria;* to others, as the *aspera arteria.*

ARTICO'CA, or ARTICOCA'LUS, (from *αρτιος, perfect*, and *κοκαλος, the cone of the pine tree*). ARTICHOKE. So called from its likeness. See CINARA.

ARTICULA'RIS MO'RBUS, (from *articulus, a joint*). When the ancles and knees swell and inflame from gout, it is thus named.

ARTICULA'RIS VE'NA. Called also *sub-humeralis.* Under the head of the os humeri, the basilica vena sends off this branch. It passes almost transversely round the neck of that bone from within backwards, and from behind outwards, and runs upon the scapula, where it communicates with the venæ scapulares externæ.

ARTICULA'TIO, (from *articulus, a joint*). ARTICULATION; *arthrosis; coarcticulatio; aparthrosis; prosarthrotis; assarthrosis; campe; junctura; commissura;* is the joining of bones together, and is of two kinds, viz. *articulation* and *connection. Articulation* is of two kinds; 1st, DIARTHRO'SIS. 2dly, SYNARTHRO'SIS. There is a species composed of these two, which some call AMPHIARTHRO'SIS. See each under their separate terms. CONNECTION is of three kinds. See SYMPHYSIS.

ARTI'CULUS, (a dim. of *artus*). A JOINT; also *arthron.* The diseases of the joints are, LUXATIO, SUBLUXATIO, and ANCHYLOSIS, which see. The insertion of a number of tendons into the ligament serves not only to strengthen it, but, by their action, to hinder it from being pinched in the motion of the limb, which is a mechanism observed in every joint of the body. Wounds in the joint often require amputation. See VULNUS.

ARTI'CULUS MORTIS. The last pang of expiring life. At this period many changes occur, which have been attributed to previous disease: polypi are formed in the heart and larger vessels; extravasation in different cavities sometimes takes place; the veins are emptied, and the larger vessels unusually filled.

ARTIFICIA'LE, (from *ars, art*, and *facio, to make*). Whatever is made or prepared either of the native cinnabar itself, or from the vein of cinnabar; or any thing made or substituted by art.

ARTIFICIA'LIS SAL. See MARINUS SAL.

ARTISCO'CUS LÆ'VIS. See CINARA.

ARTI'SCUS, (from *αρτ-ος, bread*). Troches are thus called that are formed like a loaf. An ingredient in the famed theriaca was distinguished by this name, as it consisted of viper's flesh made into a troche by means of bread. Viper's powder was afterwards substituted.

ARTIYPO'CHROS COLOR, (from *αρτι-υπο*, and *ωχρος, pale*). A palish yellow colour which attends a disorder of the spleen, or chlorosis.

ARTIZO'A, (from *αρτι*, and *ζοη, life*). SHORT-LIVED.

ARTOCARPUS, the BREAD-FRUIT TREE. *A. incisa* Lin. filii supplem. p. 61. Nat. order *urticæ*. The leaves exude a milky juice when broken: the fruit about the size of a child's head, and the skin reticulated. The eatable part between the skin and the core is white, farinaceous, and not unlike new bread. The taste is insipid, with a slight sweetness. See ALIMENT.

ARTOCARPUS, *integrifolia, sititodium macrocarpum.* Thumberg's Philosophical Transactions, lxix. This is a native of Malabar, but inferior to the former, as more difficult of digestion. It contains a great number of nuts much larger than almonds, which are roasted like chesnuts, and in some measure resemble them.

ARTOME'LI, (from *αρτ-ος, bread*, and *μελι, honey*). A sort of cataplasm prepared of bread and honey.

ARTOPTI'CIUS PANIS, (from *αρτος, bread*, and *οπτ-αω, to toast*). TOASTED BREAD.

A'RTOS, (from *αρτος, bread*). See PANIS.

A'RTUS, (from *αρθρον*; perhaps from *arto*, for *arcto*, because the limbs are joined one to another). A LIMB, A JOINT.

A'RTYMA, (from *αρτυω, to prepare*). See CONDIMENTUM.

A'RUBUS ARVINA, BUTTER. See ADEPS.

A'RUM. It is derived from the Arabic term JARON, *a dart*, which it exactly represents. Called also *arum maculatum, aron, jarus, isaros, pes vituli, barba aronis, serpentaria min. dracontia minor, alimum.* LORDS and LADIES, CUCKOO PINT, WAKE ROBIN. *Arum maculatum* Lin. Sp. Pl. 1370. Nat. order *piperitæ.*

The root is irregularly round, tuberous, about an inch thick, sending off many long simple fibres; and in the medicinal part of this plant it is brown on the outside, and white within. It is acrid and pungent to the taste; the sensation continuing for some hours, but it may soon be relieved with a little milk. The firm, hard roots should be chosen. They lose their acrimony by drying, and by heat they become a bland farinaceous aliment; but a syrup made with them would probably keep as well as the syrup made of garlic. They afford nothing by distillation nor infusion; yet if buried in fresh sand, and kept just moist only, their virtue is preserved unimpaired. Bergius considers this root as stimulant, aperient, and diuretic; and indeed the more ancient writers speak highly of it, both as an internal and external remedy. Bergius considers it as useful in a pituitous colluvies, loss of appetite, sympathetic headach, humoral asthma, and intermittent fever. Arum is certainly a very powerful and permanent stimulus; and by promoting the secretions may be advantageously employed in cachectic, chlorotic, paralytic, and rheumatic affections, and in various other complaints of phlegmatic and torpid constitutions; but more especially in a weakened relaxed state of the stomach. That it contributes to dissolve the viscid mucus, we have no reason to think, though, as an active stimulant, it may prevent its accumulation. Its greatest utility seems to be in palsies, in chronic rheumatisms, and in atonic gout, where a permanent stimulus is wanted. In such cases, it has proved a remedy of particular value. The conserve of arum, however, with three parts of sugar to one of the root, is too much inviscated. We have found equal parts sufficient to cover the acrimony; and sometimes one almond rubbed down with each five grains has been sufficient. The dose is from ten grains to a scruple.

A'RUM MOSCHA'TUM. See PIPER.

A'RUM POLYPHY'LLUM, DRACU'NCULUS. See DRACONTIUM.

ARU'NDO, (from *aresco, to grow dry*). The reed.

ARU'NDO FA'RCTA I'NDIÆ ORIENTA'LIS. The DRAGON'S BLOOD CANE. It grows in the East Indies. The juice of its fruit is called dragon's blood, in drops.

ARU'NDO I'NDICA. See SAGITTARIA ALEXIPHARMICA.

ARU'NDO MAJOR and MINOR. Names of the tibia and fibula.

ARU'NDO SACCHARI'FERA, and VIVA BRASILIENSIBUS. See SACCHARUM.

ARU'NDO SYRI'ACA. See CALAMUS AROMATICUS.

ARU'NDO PHRAGMITES, Lin. Sp. Pl. 120, has been recommended as an antisyphilitic.

ARU'NDO BAMBOS. LOUREIRO. COCHINCHINENS. 56. This reed is used for many medicinal purposes, though of little importance. The flint found in its cavities, styled tabashir, is a singular curiosity, to which we may have occasion, for purposes more strictly medicinal, to allude.

ARVI'SIUM, so called from Arvisia, the promontory of the isle of Chios, where it was made. See MALVASIA.

ARYTÆ'NO-EPIGLO'TTICI. These are small fleshy fasciculi, each of which is fixed by one end in the head of one of the arytænoid cartilages, and the other in the nearest edge of the epiglottis.

ARYTENOIDE'Æ CARTILAGINES. See ASPERA ARTERIA.

ARYTÆNOI'DES, vel ARETÆNOI'DES, (from αρυταινα, *a funnel*, and ειδος, *shape*). Hence from the shape it takes the name. The *arytænoid*, or EWER-LIKE CARTILAGE; called also *guttalis*, and *gutturiformis*. An epithet of two cartilages, which, together with others, constitute the head of the larynx.

ARYTÆNOI'DEI MUSCUL. MINOR, vel OBLIQUUS, vel TRANSVERSA'LIS. They are situated on the back part of the arytænoid cartilage. They are very small muscles which run upon the surface of the greater arytænoid muscles: they arise from that part of each of the cartilagines arytænoideæ, next the cricoides on the other sides, and terminating in that part of the other or adjoining the arytænoidal cartilage that is furthest from the cricoides on the other sides. Their use is to assist the arytænoidei majores in their action, which is much strengthened by the manifest decussation of their fibres. Douglas.

ARYTÆNOI'DEI MAJO'RES. They are under the arytænoidei minores. They have an insertion into the annular cartilage, and help to close the glottis. They arise fleshy from the arytænoid cartilages near their junction with the cricoid cartilages, and running transversely of an equal breadth, with straight fibres, they are inserted into the same side of the other cartilage. Their use is to shut the rimula, or chink called glottis, by bringing these two cartilages nearer one another.

ARY'THMUS, ENRY'THMUS, (from α, neg. and ρυθμος, *a modulation*, or modification of time and sound in music, but used to express order and harmony in general). Galen applies it to the pulse not modulating according to nature.

Every age hath its natural pulse, which, as long as it keeps in its due RY'THMUS, or modulation of time and force, is called EU'RYTHMUS; but if it deviates, it is a pulsus arythmus. If it runs into a modulation proper to the next age, it is pulsus PARARY'THMUS. If it changes to a pulse proper for any other age, it is called pulsus HETERO-RY'THMUS. If it passes into a modulation not proper to any age, it is then a pulsus ECRY'THMUS, disorderly or irregular.

AS, was a weight and a measure amongst the Romans, each of twelve ounces. See CYATHUS.

A'SA, (from the Hebrew word *asa*, *to heal*, or perhaps *lasar*, the old name of *asafœtida*).

A'SADU'LCIS, A'SADU'LCIS ODORA'TA. See BENZOINUM.

A'SAFŒ'TIDA, vel A'SSAFŒ'TIDA. *Andsjudæn*. The STINKING HEALER. Also called *hingisch*, *laser*, *laser-pitium*, *silphium*, *hing*, *cyrenaicus succus*, *hindisch*, DEVIL'S DUNG. It is the fetid concrete juice of a plant which grows in Persia, and other parts of the eastern countries. Kempfer says, that the plant resembles lovage, and that it is the root which yields the gummy juice. See Kempfer's Amœnitates Exoticæ. It is the juice of the *ferula asafœtida* Lin. Sp. Plant. 356. Wildenow 539, Sp. 11. Nat. order *umbellatæ*. Philosophical Transactions, vol. lxxv. The plant, however, greatly differs from that described by Kempfer. This juice is whitish at first, but it gradually becomes browner and harder. The best pieces that are brought into Europe are of a pale and yellow red colour, variegated with white masses or tears. This gum hath a strong fetid smell, like that of garlic, and a nauseous bitter biting taste, which it loses by keeping. Its smell and taste reside in the resinous part, which is $\frac{1}{3}$ of the whole; spirit is therefore its best menstruum, though water extracts the greatest part of it by the aid of the gummy matter, consisting of $\frac{2}{3}$. In distillation with water the impregnation is strong, and a pale coloured essential oil is received; the remaining decoction affords a bitter extract. In the East, as by the ancients, it was used as a condiment, and has been thought an aphrodisiac.

As a medicine it is the strongest of all the deobstruent, fetid, warm gums; some suppose it more diaphoretic and expectorant than the gum ammoniacum, and more useful as a carminative and an emmenagogue than any other of the fetid gums. When it disagrees, the milder gums of similar efficacy should be used in its stead. The next to it is the gum galbanum; which, if too strong, must give way to the gum sagapenum, or to the still milder gum ammoniacum, or to myrrh, or to the wild valerian root, which is still milder. In flatulencies, and all the symptoms called nervous, it acts as an anodyne and antispasmodic; though sometimes the addition of opium greatly improves its efficacy. It is by far more quick in its effects than any other of the fetid gums; and it is the speediest in relieving the anxieties and oppressions of the precordia, which frequently attend nervous disorders, and nervous fevers: but in such cases its efficacy is also increased by joining it with opium, and sometimes, if not too nauseous, with valerian: one part of the first to two parts of the last may be a general proportion. Large doses of asafœtida, with a blister on the back, have relieved in epilepsies, and in palsies that succeed epilepsies. In the nervous asthma, joined with an equal quantity of the gum ammoniacum, it greatly relieves; but it sometimes fails, and then the bark is to be tried.

In hysteric complaints, fetids are only palliatives; in hysteric suffocations, a plaster of asafœtida ʒ vi. and camphor ʒ ss. mixed, by far excels those made of the gum galbanum; for camphor softens all the resins, and renders them more soluble. In hooping-cough it has been highly commended; and may probably be very useful, for its expectorant powers are considerable, and it is an excellent antispasmodic. In croup it has been also employed. When it cannot be given by the mouth, it may be safely and advantageously administered in clysters, from a scruple to the youngest children, to three drachms to adults, in from two to four ounces of water, and in this state it is an effectual destroyer of ascarides. We cannot find that it has been in any other respect useful as an anthelmintic. Externally it has been reckoned an useful application in bubo and paronychia. In nervous cases it acts as an anodyne sometimes where opium fails, and without leaving any lowness on the spirits: and where neither succeeds separately, they often answer if joined. Cullen's Mat. Med. The dose of the powder is from ten to thirty grains.

The officinal preparations are, the pil. è gummi, consisting of two parts of galbanum, opoponax, myrrh, and sagapenum (each), and one part of asafœtida. We have found however the asafœtida, with soap and a small portion of aloes, a better form. Dissolved in spirits, it is more useful and quick in its operations. Of the fixed alkaline salt, a pound and a half is employed in disengaging the alkali of a pound of sal ammoniac, and this mixture is distilled with four ounces of asafœtida from three quarts of proof spirits. This is the volatile, fetid spirit of the dispensatories. The tincture consists of four ounces of the gum to a quart of spirit of wine.

A'SAB. See Borozail.

A'SABA HE'RMES, (an Arabic term). It receives its name from Hermes, its inventor. But azaba meaning tinctured with yellow, as well as a finger, it may have been named from its colour. See Hermodactylus.

A'SABON, (*asaphon*, Arab). See Sapo.

A'SAGAR. See Ærugo æris.

A'SAGEN. See Sanguis draconis.

A'SAGI and A'SAMAZ. See Vitriolum.

A'SAMAR. See Ærugo æris.

A'SONON. Prepared sal ammoniac. See Alkali.

ASA'PHATUM, (from α, neg. and σαφης, *clear*,). minute eruptions, hardly visible. A species of serpigo, or impetigo, seemingly generated in the pores like worms. When the skin is pressed, they come out like long threads, with black heads. It consists in a retention of the sebaceous substance, and forms threads by hardening in the ducts.

ASA'PHEIS, (from the same). Patients who do not utter their words distinctly.

A'SAPHIA, ASAPHO'DES. It is the *paraphonia palatina* of Cullen. See Paraphonia. (It is derived from the same roots). Hippocrates uses this word to express a muffled hesitating tongue that hath no plain utterance; such a confused voice as proceeds from an indisposition of the organs of speech. Sometimes this word signifies a dubious kind of delirium not easy to be discovered.

ASARABA'CCA. See Asarum.

ASA'RCON, (from α, non. and σαρξ, *caro*). Void of flesh.

A'SARI PU'LVIS COMP. See Asarum.

ASARI'TES. The wine of asarum, made with must, or sweet strong wine, ℔ vi. and asarum three ounces.

A'SARON, A'SARUM, (from α, non. and σαιρω, *to adorn*). So called because it was not admitted into the ancient coronal wreath: called also *nardus rustica*, *nardus montana*, wild nard, and common assarabacca. The species in use is the *asarum Europæum* Lin. Sp. Pl. 633. Nat. order *sarmentaceæ: aristolochiæ* of Jussieu. It is a native of the southern parts of Europe and the warmer climes, and raised in our gardens. The dried roots are brought from the Levant, but those of our own growth are nearly as good.

The roots and leaves have a somewhat strong but not unpleasant smell, somewhat like that of nard; and a nauseous, bitter, acrid taste, like arum. They have the same effect as a medicine; but when dry, three times the quantity should be given that is required of the fresh root: from thirty to sixty grains prove emetic and cathartic. In small doses this herb promotes the menses, is diuretic, and sudorific. Spirit of wine extracts all its virtues, and water a considerable portion of them. Boiled in water its virtues are destroyed, but it is still said to be a deobstruent.

Its operation is harsh, and its use in practice confined to that of an errhine; amongst which class it is found the most useful and convenient. A grain or two of the powdered root snuffed up the nose, procures a considerable evacuation for a long time, without causing the patient to sneeze; and, on this account, it has been found useful in diseases of the head, particularly in the more languid and phlegmatic constitutions. The leaves, though as strong as the roots in all other respects, as an errhine, are milder. The herb snuffs have this plant for their basis. Cullen's Mat. Med.

An ounce of juice expressed from the fresh leaves operates as an emetic in maniacs, when antimonials fail; and it is said to be useful in dropsy and intermittents.

The London college directs the following as a sternutatory: Pulvis asari compositus. Compound powder of assarabacca. It consists of equal parts of the dried leaves of assarabacca, marjoram, Syrian mastich, thyme, and dried lavender flowers.

This powder was called pulv. cephalicus.

A'sarum Virginicum, called also *serpentaria nigra*. Black snake weed.

This hath leaves like those of *pistolochia*, and are spotted like *arthanita* or sow bread. The roots are brought from Virginia, mixed with the radix serpentum Virginian, and are used as being the same.

ASA'SI, a tree which grows on the coast of Guinea, the infusion of whose leaves cures the tooth-ach. Phil. Transactions, N° 232.

ASBE'STINUM. ASBE'STOS, or ASBE'STUS. When the term is applied to the amianthus or earth-flax, it is derived from α, non. and σβεννυμι, *to extinguish*, because it is uninjured by fire; when to calx viva, or quick lime, it is on account of its unquenchable properties. See Amianthus. Also a name for *calx viva*.

ASCALO'NIA. So called from Ascalon, a city of Judæa, where they abound. A species of ONIONS.

ASCALONITI'DES. ESCHALOTS, BARREN ONIONS, or SCALLIONS.

ASCARDAMY'CTES, (from α, non, and σκαρδαμυτω, *to wink*). One who keeps his eyes long fixed and immoveable without twinkling.

ASCA'RIDES, (from ασκιω, *to move about*). So called from their continual troublesome motion. See VERMES.

ASCE'NSUS MORBI, (from *ascenso*, *to increase*). The ascent or increase of a disease.

A'SCETÆ, (from ασκιω, *to move about*). WRESTLERS.

A'SCIA. See DELIGATIO.

ASCI'TES, (from ασκος, *uter*, *a water bottle*). So called from the protuberance of the belly resembling that of a bottle. It is the DROPSY of the BELLY; termed also *hydrocele peritonæi*. When water is accumulated in the cavity of the belly betwixt the peritonæum and the viscera, or rather in the duplicature of the peritonæum, it constitutes this disease. See Kirkland's Med. Surgery for an instance of an encysted ascites, vol. ii. p. 105.

Dr. Cullen ranks this genus of disease in the class *cachexiæ*, and order *intumescentiæ;* and he defines it a tensive, slightly elastic, but fluctuating, intumescence of the abdomen, of which he enumerates two species.

1st, ASCITES ABDOMINALIS, *abdominal ascites:* when there are a regular and equal intumescence of the abdomen, and a perceptible fluctuation; the varieties of which arise either FROM OBSTRUCTION OF THE VISCERA, FROM DEBILITY, OR THINNESS OF THE BLOOD; or from the nature of the liquid effused, whether *pus*, *urine*, *chyle*, or *oily fluid*.

2d, ASCITES SACCATUS, ENCYSTED ASCITES; when the ovaries, &c. are the seat of the disease, wherein the tumour of the abdomen, at least in the beginning, is partial, and the fluctuation less evident than in the former species.

Sauvages forms a different division, and by no means an useless one; he arranges the ascites into—1st, *The serous abdominal*, of which he forms thirteen varieties; 2d, *Serous not abdominal*, of which are six varieties; 3d, *Abdominal not serous*, of which there are five; 4th, *Neither serous nor abdominal*, of which he forms six varieties. See Nosologia Methodica, vol. ii. p. 498.

We, however, in this place consider such species only where a preternatural accumulation of water is the cause, from which no age or sex is exempt, though it generally occurs in old men, and women after child bearing.

The causes are various; viz. jaundice, great evacuations of blood or serum, long continued intermittents, asthma, a rupture of some lymphatic vessel, obstructions in any of the viscera, most frequently a scirrhous liver, repelled eruptions, atonic gout, polypi of the heart, steatoms of the omentum, or any thing that obstructs the return of the venous blood, large quantities of diluting liquors, or, in general, whatever can lessen the quantity of crassamentum in the blood, and weaken the system. But the immediate causes are either a rupture of the lymphatics, in which case the fluid appears whitish when tapping is performed, increased exhalation, or diminished absorption.

This kind of *dropsy* is sometimes very rapid in its approach and advances, then continues many years without making any progress; at others its advances are very slow, and a number of years elapse before it manifests itself in a confirmed state. One of the first signs is a languor and an aversion to motion, with pitting of the ankles towards the evening, and a shortness of breath; though it should be observed that the pitting of the ankles is not conclusive, since it often attends pregnant women, as well as old men with gross habits, when suddenly freed from an asthma under which they have laboured many years. If, after the swelling of the feet, the legs and thighs swell also, the case is plain, and these anasarcous swellings usually precede *ascites*. The palms of the hands are dry and hard; perspiration is greatly diminished; the urine is less and less in quantity, appears turbid, high coloured, and deposits a large quantity of a lateritious sediment; the belly gradually swells; and, in proportion, the breathing becomes short, the appetite for solid food fails, and thirst increases; a slow fever sometimes attends; the face and arms are emaciated; a paleness at first, and afterwards a yellowish colour, is seen in the skin. These symptoms grow worse, and a dry cough comes on; the belly is greatly distended; and, *except the water is contained in cysts, or hath rendered the integuments too tense*, it may be felt to fluctuate by gently tapping one side of the belly with one hand, while the other is placed on the opposite side. At length little watery vesicles arise on the feet, which burst, and from them a quantity of water is discharged, which greatly relieves for a time, and has been known to remove the complaint. A mortification, however, frequently comes on; or, the strength gradually failing, the patient sinks from weakness, or is suffocated from accumulation of water.

If a scirrhus in any of the viscera is the cause, a cure is scarcely to be expected; since the swelling presses on the lymphatics and retards absorption. If an *ascites* succeeds other diseases, in which the viscera were injured, if the thirst is great, and other symptoms violent, there are but little hopes of recovery. An hæmorrhage, or an erysipelas coming on, with an increase of the fever, is highly dangerous. It is a bad sign when diuretics in every form, and of every different kind, fail. If the fluctuation, when the hand is laid on one side of the belly and struck with the other on the opposite side, can be felt only partially, tapping will afford a temporary relief; though, in such a case, we cannot expect to empty the belly totally; for this can only be the case when the fluctuation is felt by very distinctly striking on any point of the belly. But, on the other hand, if perspiration increases, or the discharge of urine becomes plentiful, these afford favourable prognostics. Indeed, without the urine continues to flow with tolerable freedom, or is compensated by other watery evacuations, there remains very little hope of a perfect recovery.

The distinction of ascites is of great importance, especially the distinction between the disease and the pregnant state. In an unmarried person, there is no disease which will so effectually conceal the real situa-

tion as dropsy; and, in a married woman, where there is no pretence or wish for concealment, dropsy will sometimes be considered as the cause, while the swelling arises from pregnancy, or is combined with it. Dreadful to relate! the trocar has, more than once, within our own observation, happily not by our direction, been plunged into a pregnant uterus.

When the unmarried libertine disguises her fault under the pretence of dropsy, we cannot expect to gain any information from enquiry into the state of the menses; for she can invent circumstances, as well as the principal fact. We must draw our conclusion, therefore, from the first appearance, the progress, and the state of the tumour. If a person of a phlegmatic, cachectic habit, finds a tumour gradually coming on, without beginning at the bottom of the abdomen, and a fluctuation is observable in this tumour; if, at the same time, the urine is scanty and the legs swell; we may conclude it to be dropsy. If, on the contrary, the tumour began to rise above the symphysis of the pubes; if there is no fluctuation; if the general health and appetite be good; we may suspect pregnancy. Yet, in the pregnant state, it sometimes happens that the uterus will rise on one side rather than the other; and in encysted dropsies the swelling is not general. Such circumstances occasion much doubt and uneasiness; for, in one case, the physician's character, in the other, the woman's, is at stake. In such situations we must rest in suspense, carefully watching the progress, and attending to the state of the breasts, and other symptoms of pregnancy. When the swelling has reached near the umbilicus, the round circumscribed tumour of the uterus can be distinctly felt, and can rarely be mistaken. We have, however, a recent instance before us, to show that mistake is not impossible. If there is still any room for hesitation, we should wait longer, nor proceed to active measures till the tumour has continued so long as to prevent any further doubt of its nature.

It happens also, as we have said, that married women who have no wish for concealment, or women of decidedly bad characters who cannot be injured by an illegal pregnancy, have sometimes equivocal complaints of this kind. Such doubtful cases chiefly occur at the change of life, when the cessation of the courses gives a colourable appearance to the suspicions of pregnancy. In this case, the general health, and the state or progress of the tumour, will enable us to decide; but we would deprecate any hasty decision of its being dropsy, and any violent remedies, till a sufficient period has elapsed to destroy the slightest suspicion of a pregnant state.

There is one other disagreeable situation for the practitioner; we mean, when dropsy and pregnancy are combined. If a married or an abandoned woman has dropsy, it is not impossible but that she may be also with child. The menstrual discharge will sometimes continue during the whole of pregnancy; and, in such circumstances, all suspicion sleeps. Yet the state of the breasts, an areola round the nipple, the capricious appetite, or the morning sickness, will give the alarm. These circumstances should be always attended to, and will suggest the necessity of caution. Every caution, however, has failed; and, in one instance, within our own knowledge, during the operation of a drastic purgative, a premature delivery came on, though every possible attention had been paid to the diagnostic symptoms.

Yet, again, a married couple anxiously wish for a child, and the lady begins to swell. Woe to the practitioner who shall announce that she is in a dropsy! Whatever the circumstances or his opinion be, he must be cautious of opposing openly the wish; he must watch with care till the continuation of the complaint will assist the discovery of the unpleasing truth; while, by safe but sufficiently active medicines, he can prevent the dropsy, should it be so, from gaining ground; and he will reflect that she may *still* be pregnant. In the worst circumstances of general health, also, a woman is sometimes with child; and, when dropsy would naturally occur, it is not an unpardonable error to consider any tumour in the abdomen as such. The physician, however, in every case of supposed ascites, should be guarded with the most unremitting caution.

Tumours of the abdomen may sometimes be mistaken for dropsy, but the hardness and irregularity will soon discover the nature of the complaint. Wind, either in the cavity of the peritonæum or in the intestines, is distinguished by the elasticity of the tumour, the want of fluctuation, and, in the last instance, by its variable state, and the relief felt from the occasional discharge of flatus.

The CURE of ASCITES is a difficult task; and indeed the best concerted plans generally fail, as the disease is often a symptom of a decayed constitution, of the vis vitæ no longer able to support the requisite equilibrium of discharges and absorptions. When dropsy follows frequently occurring paroxysms of asthma, it is generally found to arise from obstructions to the returning blood, in consequence of ossifications on the right side of the heart: where shall we find the solvents of these bony substances? When the disease proceeds from obstructed liver, we must reflect, that the veins from almost all the chylopoietic viscera center there, and that the whole venous system of the abdomen is consequently obstructed: where shall we find aperients and deobstruents of sufficient power to remove the obstacle? When, from long continued excess, the whole system is weakened, where shall we find the restorative to renew youth, to give fresh vigour, and new powers to the whole machine, to approach the art of conferring immortality? Yet medical authors draw their indications, and speak with confidence of their remedies: the inexperienced student believes, and is disappointed; is credulous, and soon becomes sceptical. It is our business to guard against each extreme; and to add, that, though the cure of dropsy is difficult, and often hopeless, yet that we can almost always alleviate, and sometimes cure.

If the indications to diminish exhalation and increase absorption could be followed, we might be more sanguine. The most frequent part of our duty, however, is to *increase other evacuations, that nature may supply the defect, from the accumulated fluid of the cavities.*

If, however, we would diminish exhalation, we should employ cordials and tonics to support the action of the extreme vessels which convey the blood back to the heart. In this way we may suppose mercurials of use; and, it has certainly happened, that, in cases where

there was no suspicion of obstructed liver, calomel and mercurial frictions have been of great service. Where such obstructions do occur, the use of mercurials is less equivocal. The employment of warm tonics is referable also to this head; and perhaps the oleum terebinthinæ and the mustard, may produce, in part, their effect from their stimulus. The more modern French physicians usually combine tonics with their evacuants, perhaps with propriety, except in cases of hydrothorax. Dr. Magennis has published in our own language an account of his practice, which induces us to mention his name; but various observations occur in the Memoires de Médecine of the same tendency. Dr. Magennis gave the myrrh and ferrum vitriolatum with the squills; and Cornette and others give with the evacuants, bark and cordials. Bacher's tonic pills are referable to this head. The basis was black hellebore, whose acrimony he attempted to correct by repeated affusions of spirit of wine, and afterwards by Rhenish wine. The latter was supplied in proportion as it was imbibed by the roots, so as to continue covered, nearly six fingers breadth above them, for forty-eight hours. The whole was then boiled for half an hour, and the wine pressed out. The process was repeated, and the fluids added, inspissated to the consistence of a syrup. One part of the extract is then mixed with two parts of boiling water, and the whole again inspissated. This preparation of the pills is, he thinks of great importance, as the substances combined to form a mass must be both inviscating and soluble in the stomach. For this purpose an ounce of the extract is united with an equal quantity of an inspissated solution of myrrh, and the whole made into a mass with three drachms and a scruple of powdered carduus benedictus. The pills contain a grain and a half each of this mass. He calls them evacuant and tonic; but they seem to act chiefly as evacuants. In his hands, and in those of Dr. Daignan, they succeeded: with almost every other practitioner they have failed; and are now little used in this country, though they maintain their credit on some parts of the continent.

In fact, therefore, as we have said, our chief object is to increase the serous evacuations, in order to assist absorption. This is most successfully performed by increasing the evacuations from the mouth and salivary glands; from the skin; from the stomach; from the intestines, and the kidneys.

Some few solitary instances of spontaneous salivation proving a remedy for dropsy, have led to the use of mercury for this purpose. Yet as mercurial salivation is not only a severe remedy, but a frequent cause of dropsy, it has not been followed. When obstructed perspiration is a cause, sudorifics have been employed; yet these weaken the system, in general, too much, if persisted in for the time required in this disease. We have, however, before us a man who laboured under a dropsy twenty-five years since, from working in a river: all the remedies failed till he took Dover's sudorific powder, which succeeded, and he has had no return. In this long interval it is, however, a solitary case, though the same plan has been often tried.

Some instances also of water having been evacuated from the stomach, have led to the use of emetics. These are indeed remedies of importance for promoting absorption, independent of the evacuation they produce. In the general cases of dropsy, they are inadmissible from the debility of the patient, and from their preventing a proper supply of nourishment or cordials. We find few instances of their use, and fewer of their efficacy.

The discharge from the intestines we consider as of the greatest service in dropsy; and, indeed, we cannot say that the cure has in any case properly succeeded where this discharge has not accompanied the others. Sydenham advised purgatives every day, unless too great weakness prevented their use. In the operation of purgatives, however, this distinction must be made. If accompanied by violent colics, and an inconsiderable or a disproportioned discharge, weakness is the consequence, and the remedy must be discontinued; but if they operate without pain and inconvenience, and if the stools are watery, whatever the number may be, weakness does not follow. It should be the physician's business, then, to attain this end by his choice of the medicine. The saline purgatives are the most obvious ones; but in general the quantity necessary, and the large proportion of fluid to convey them, prevent their exhibition. The sal diureticus, the salt most generally employed, has been perhaps preferred from its name, and indeed seldom acts without assistance as a purgative. The cremor tartari is more common, and has been highly commended; yet, alone, the necessary dose is too large, and we have been induced to join with it a proportion of jalap, a medicine preferred as, in small doses, sufficiently mild, and as supposed to combine diuretic powers. Yet, with many persons, this medicine must be still further quickened; and a convenient addition is the gutta gamba.

In the list of cathartics, we find the more acrid kinds distinguished by the name of *hydragogues*, expellers of water. This is, indeed, the characteristic of many of the resinous purgatives; so that what we have said of the milder kinds is rather cautionary than strictly necessary. Of those hydragogues, the elaterium (the inspissated juice of the wild cucumber), the colocynth, the gutta gamba, are the chief; and next in order are the scammony, the jalap, and the seneka. A formula of Dr. Dover is powerfully hydragogue; it consists of four parts of scammony; crude antimony, and sulphurated steel, of each one part: and from a scruple to half a drachm is a powerful dose. Of these, the elaterium and the colocynth alone appear too stimulant. They have seldom succeeded in procuring watery stools without greatly irritating and weakening the patient. Gutta gamba succeeds better; but this beyond a grain or two produces sickness, languor, and faintness: and it seems more useful in rendering other purgatives active than given alone. Scammony holds its rank as an ingredient in Dover's formula, and is not often employed alone. The seneka is highly recommended by Dr. Milman; but he proposes only half an ounce or six drachms of the root to a pint of the decoction, instead of an ounce formerly directed by the Edinburgh college; and his proportion is, in the late edition, adopted. It is an active purgative, and said also to be diuretic. The jalap is the remedy most commonly employed. It is remarked by Lewis that the watery infusion is diuretic, and the spirituous tincture cathartic; and this has been repeated by every author, without having tried the experiment. On trial we have found no such effect from the infu-

sion; and the tincture of jallap, or its resin; has appeared to us the best preparattion. Combined with soap, in pills, the resin has not appeared too virulent.

One observation arises on an examination of the effects of purgatives, viz. that the more active ones, which excite languor and nausea, are the most useful; apparently the relaxation thus produced, assists their purgative power, as a small proportion of emetic tartar greatly increases the action of the resinous purgatives in general. The diuretics also, which are most useful, possess a similar effect; and the squills seldom succeed in increasing the discharge of urine to any degree, till raised to a nauseating dose. Another remark, which we may suggest is, that, during the action of hydragogues, the secretion by the kidneys is scarcely in any instance increased; yet the patient recovers strength, appetite, and spirits: and indeed we have found, in the happiest recoveries, that the urinary discharge is not increased, till the load of water is in a great degree removed. A similar observation will recur when we speak of the operation of the paracentesis. Amidst these numerous advantages, it is with some surprise that we find a man of judgment and experience, Dr. Fordyce, so adverse to cathartics; and we suspect, that a little prejudice prevented him from using them with so much freedom as would show their utility. When we reflect also, that one of the most frequent causes of dropsy, obstructed liver, is greatly benefited by purgatives, our temptation to employ them will be increased.

As we pretend not to have enumerated all the purgatives employed at different times, but only to appreciate the value of the more useful ones, so, in the enumeration of *diuretics*, we shall follow a similar plan. Of these, the principal is the squill, with the rest of the onion tribe. It is, alone, a host: and could we render it a purgative as often as we find it injuriously so, viz. in pneumonia, we should perhaps want no other medicine for all curable dropsies. In every form, dry or fresh, in vinegar or tincture, it succeeds in the greater number of cases; but its nauseous taste renders pills the most convenient mode of exhibiting it; and the dry powder, which retains all its activity in a moderate bulk, best adapted for the purpose. With cream of tartar, and a small portion of jalap, it is highly useful, as combining a diuretic and purgative effect; and, with the resin of jalap and gutta gamba, in pills, its utility is almost unrivalled. Of the other vegetables of the onion tribe we use only the juice of leeks, which, though nauseous, is said to be often successful. The colchicum autumnale is apparently the next in power: we have sometimes thought superior, for it has succeeded where squills seem to have failed. The broom is a very useful diuretic; and the broom ashes, as combining the alkaline salt with the essential oil of the vegetable, have been highly commended. The alkaline salts themselves are useful in this way, though of weaker power. The broom seeds formed the secret remedy of Lemery; but these are acrid, and in general unmanageable.

The other diuretics are, the lactuca virosa, the juniper berries, the taraxacum, the nicotiana, and the fox glove. The first rests on the authority of Dr. Colin of Vienna, for the medicine has been rarely given in this country. The juniper berries are well known, and the diuretic effects of gin (from Giunipero in Italian) sufficiently understood. The taraxacum is still more powerful; and the tobacco, especially when its alkaline salt is employed, appears, from Dr. Fowler, to be a very active, useful medicine, meriting much more attention than it has received. The fox glove requires a longer discussion. It is arranged in a poisonous and suspicious order with the nicotiana, &c.; and in many instances it seemingly shows a deleterious power. In dropsy, death often suddenly seizes the patient; but we have thought this sudden termination still more frequent when the fox glove has been taken. It is, however, a remedy of considerable power and utility. The weakness, the nausea, and the affection of the head, which often follows its exhibition, would point it out as chiefly useful to the strong and active. On the contrary, however, the weak, languid, worn out constitution is chiefly benefited by the fox glove; and the discharge of urine, which it occasionally produces, is astonishing. Every part of the plant is equally effectual; but the leaves are generally employed, and the dry powder is the most useful and certain preparation. We fear, however, that the injuries resulting from it have greatly overbalanced the benefits.

Diuretics from other sources have been numerous. From the animal kingdom we have received the cantharides, which, with some physicians, have been a favourite remedy. We own, however, that in our hands they have not produced any diuretic effect, nor have we recognized their activity till they have reached the neck of the bladder. Some other species of the meloe have been supposed also diuretic, but experience has not decided on their virtues.

The chief remedy of the mineral kingdom is nitre, whose powers are not considerable; and chemistry has furnished us with the sweet spirit of nitre, an ætherial fluid, which in slight cases is often successful. The turpentine also, formerly mentioned, is a preparation frequently and generally useful as a diuretic.

Some other modes of relief remain. A powerful one is friction; and friction, with olive oil, has been employed since the time of Celsus, though the oil, by general consent, is considered as useful only to prevent excoriation. Perhaps the friction with camphorated oil has no very different effect; and when the external application of mercurial ointment has been found useful, friction may have had some share in the success. Mustard and horse radish have been ordered without any determinate view, and have been attended with no very striking success. The mustard seed unbruised, often swallowed in dropsical and paralytic complaints, acts only as a gentle laxative.

Two important subjects remain: the first is the propriety of indulging diluted liquors, and the second the operation of the paracentesis. For nearly two hundred years it has been common to prohibit the use of fluids in dropsy; and the reason probably was, that as an excess of diluents sometimes brought it on, so they might continue or increase it. We recollect a case in the Medical and Physical Essays of Edinburgh, where a salt herring was ordered without any liquid: the thirst was burning and intolerable; but after a time it ceased, and a flow of urine came on. In such a violent agitation, nature might have exerted her powers to supply dilution; and the absorption, once commenced, might have continued. The experiment is, however, too

violent to be repeated; and, in a less degree, the abstaining from drink would probably be useless. In fact, the prohibition is of a modern date: it was not the practice of the ancients; it is not of the most experienced physicians of the present day. If a regular course of evacuants is pursued, the fluid taken in will not at least be injurious: it may be beneficial; for watery liquors verging to the kidneys may excite their action, and thus contribute to the absorption. It generally happens, that, during a course of purgatives and diuretics in dropsy, occasionally refusing or supplying drinks, occasions little alteration in the progress of the complaint: if there is any change, the cure is accelerated; and we think we have seen, that cathartics and diuretics have not had their proper and appropriate effects till diluent drinks have been allowed. The prejudices of patients have sometimes occasioned their rigorously abstaining from drink, but we have never found the cure advance more rapidly. Dr. Milman has considered the subject at length, and is of this opinion; and we formerly examined in a chronological series the opinions of the ancient physicians on this subject, and found them speaking the same language; but this historical research would be too extensive for the present work.

The operation of the paracentesis has been in general too long delayed. If there is a considerable accumulation of fluid in the abdomen, and the different evacuants have no decided or powerful effects, it should be attempted early. When the load is removed, medicines, which were unequal to the discharge of so large a quantity, may prevent its again accumulating; and, at all events, the removing the pressure from the kidneys appears to facilitate the action of their vessels: even a spontaneous discharge of urine has been the result; and diuretics certainly answer with greater certainty and effect after the former burden is taken off. Dr. Fothergill recommends the operation so soon as the degree of distention removes all fear of wounding the intestines. Dr. Hunter leans to the same opinion; and Dr. Baker urges it more confidently.

Yet, in directing the operation, we should examine several questions with great care; and the neglect of this enquiry has contributed to its disrepute. The general contents of dropsical swellings are serum, not essentially different from the serum of the blood; but we sometimes find it lymph from a rupture of a lacteal; sometimes purulent matter from a supposed previous inflammation; sometimes the peculiar serosity of hydatids. The two former may perhaps be distinguished by a want of freedom in the fluctuation; yet this criterion is necessarily uncertain; and, in some of the less sensible viscera, suppuration proceeds with so little fever, that we have no reason for suspecting the existence of purulent matter. Added to this, it is by no means certain that this peculiar fluid may not be secreted from a surface not previously inflamed. De Haen was of this opinion; and we have, we think, seen two instances of purulent matter in the abdomen, apparently secreted from its parietes without previous fever. When the fluid is the lymph effused, in consequence of a rupture of a lymphatic, there is no particular danger from the operation; but should the accumulation recur, perhaps some delay may be necessary, as the pressure of the effused fluid may contribute to prevent further effusion, and heal the wound. Where the fluid is purulent, the worst consequences result from the operation, as the access of air soon occasions putrefaction; and, though some present relief is obtained, we have seldom seen such patients long survive the operation. It would be an object of importance, therefore, to be able to ascertain its existence; but there are no discriminating symptoms, except the fluctuation and the apparent causes.

When the accumulation is from hydatids, there is no peculiarity in the symptoms, and indeed no danger from the operation. These may be suspected in dropsies which attack the young, whose viscera are sound; and these are cases which often recur for a time, and then the disease disappears for long intervals, perhaps wholly. The cause is ascertained by some small pieces of apparent membrane passing through the trocar. See Hydatids.

One other kind of dropsy, the *encysted*, requires peculiar attention with respect to the propriety of performing the operation. It is distinguished by the tumour appearing first locally; by the fluctuation feeling distinct only in some particular directions, or parts of the abdomen; and in the early stages, by some irregular hardness on deep pressure. These accumulations of water generally begin in the ovaria, and we suspect are always occasioned by hydatids. We know not, however, that if the sac is pierced by the trocar that there is any peculiar danger; but in all these instances the relief is temporary only: a dropsy originating in the ovarium is seldom cured. After the operation, the existence of a cyst is ascertained by the abdomen not being completely emptied; for some water is always at the same time accumulated in the abdomen; and if the instrument has penetrated the cyst, the other water remains; if not, the cyst is still unemptied. In either case it may be felt on pressing the abdomen. In passing the trocar, if there is a cyst, the resistance is unusual, and the pain violent; but we have known a cyst penetrated, in repeated operations, without danger. See Paracentesis.

When the duplicature of the peritonæum is the seat of the *ascites*, tapping is alone the remedy. For the relief of occasional symptoms see Hydrops. See Milman on the Dropsy. Leake's Medical Instructions, edit. 5. Cullen's First Lines, vol. iv. and White's Surgery, 304.

Asci'tes uteri'nus. See Hydrops uteri.

ASCI'TICUS, (from *ascites*). One who labours under an *ascites*.

ASCLE'PIAS, (from Asclepius, its inventor; called also *hirundinaria*, *contrayerva Germanorum*, *vincetoxicum*). tame poison, silken cicily, and white swallow wort. *A. vincetoxicum* Lin. Sp. Pl. 314.

It resembles the apocynum, or dog's bane; and like it yields a milky juice.

The roots, when fresh gathered, smell like the root of valerian, but lose their odour by drying: chewed, they are sweetish at the first, then bitterish. In doses from ℈ i. to ʒ i. it is sudorific and diuretic. In these characters it hath been so commonly used by the Germans as to have obtained the name of *contrayerva Germanorum*.

It is said to be useful as an emmenagogue; and has been employed, though with little success, in dropsy:

from its connection with many poisonous plants, it is, however, suspicious, and to be used with caution.

Ascle'pias asthmatica, Lin. Supplem. 171. Wildenow, Sp. Pl. v. i. p. 1270. This is a plant from the island of Ceylon, and is slightly emetic and cathartic. Its chief use, as the name indicates, is in pituitous asthmas, and is given in decoction or syrup.

ASCLE'PIOS, (from the same). The name of a dried smegma described by P. Ægineta; of a troche in the writings of Ætius; and a collyrium in Galen; called Atheniphium, from its author Athenippus.

ASCLI'TES. See Ascites.

ASCO'MA, (from *ασκος, a bottle*). The eminence of the pubes at the years of maturity.

A'SCOS, (from *ασκυτος, leather*). A bottle. They were formerly made of *leather*, and Hippocrates used to apply them, when filled with hot water, to pained parts.

ASCYROI'DES, (from *ασκυρον*, and *ειδος, forma*). A species of the ascyrum.

A'scyros, A'scyrum, A'scyrus; probably from Σκυρον, the city Scyrum, where it abounds. See Androsæmum.

ASDE'NIGI. See Hæmatites.

A'SE, or As'se, (from *αδω, nauseo*). Hippocrates by these words means a loathing of food, from accumulations in the stomach.

A'SEB. See Alumen.

A'SEF. See Hydroa.

A'SEGEN. See Sang. draconis.

ASE'LLI; also called *millepedes, polypedes, cutio, cyamus; multipedæ; cubaris; centipedes:* slaters, hog lice, church bugs, sow bugs, and wood lice.

These are insects, according to Linnæus, of the class *aptera*, and genus *oniscus*. It comprehendeth fifteen species. One species is the *wood louse*, and *the variety employed is of a bluish colour, which, if touched, rolls itself up in a rounded form.* They are found under stones and logs of wood, in cold, moist places; and the pale brown, and the bluish black sorts are indiscriminately used. Those found in vaults are said to contain the largest proportion of salts, and most esteemed.

The London college directs them to be dried by suspending them in a thin canvas bag, placed within a covered vessel, and over the steam of hot proof spirits, that, being killed by the vapour, they may become friable.

The taste of these insects is sharp and pungent, and they are supposed to possess an alkaline quality, and to be diuretic.

They are prescribed, both fresh and dry, in hepatic, and other visceral obstructions; in pituitous diseases of the chest, and suppression of urine; the dose in powder, from ℈ i. to ʒ i.; in an expressed vinous infusion, ʒ ij. repeatedly. They have been swallowed alive in great numbers daily; and though reckoned diuretic, the effects usually attributed to them are doubtful. From fifty to one hundred are eaten alive; or infused in wine and pressed, half an ounce is taken for a dose.

ASE'LLUS. The cod fish; it is called also *cabeliau, morhua, molva*, and the keeling. This belongs to the genus *gadus* Lin. and includes the whiting, the haddock, the whiting pout, the sea pike, and some similar fish. See Aliment.

A'SEMOS, from *α*, neg. and *σημα, a sign*). An epithet applied to events that fall out contrary to all appearance, and without any manifest cause. A crisis happening beyond hope.

A'SEPTA, (from *α*, neg. and *σηπω, to putrify*). Unconcocted or undigested.

ASH. See Fraxinus.

Ash, mountain. See Sorbus.

Ash, poisonous. See Rhus.

Ash, bitter. See Quassia.

ASHES. A term generally applied to the residue of combustion; generally limited to *vegetable ashes*, though sometimes applied to mineral calces. Vegetable ashes differ according to the degree of heat to which they have been exposed. With a moderate heat they contain much charcoal; but with a stronger, a white light earth, with some alkaline salts, and perhaps a little oil, only remain. In this state we find them in commerce, under the name of *potashes, pearlashes*, &c.

In these ashes the minuter modern chemistry will discover a small portion of magnesia, a little iron, and perhaps some phosphoric salts, with a small quantity of lime; but these have little reference to medicine. They must all be separated before the ashes can be employed as a remedy.

Ashes, animal. These are more refractory than the vegetable ashes, as containing a larger portion of phosphoric salts, but the only substance of this kind used in medicine is the *cornu cervi calcinatum*, which owes all its virtue to a little remaining mucilage. The lixiviated salts of bones are used in chemistry to form *cupels for assaying metals*, as they resist vitrification from the calces of lead.

ASIA'TICUM bals. The balm of Gilead. See Balsamum.

A'SIGI. See Ærugo æris.

ASI'MION. An ingredient mentioned by Myrepsus, but not known.

ASI'NGAR. See Ærugo æris.

A'SINUS, (from *α*, neg. and *σινης, hurtful*). The ass. Its milk is in much esteem as a medicine. See Lac.

ASITI, ASI'TIA, (from *α*, non. and *σιτος, food*). Those are so called who take no food for want of an appetite. See Anorexia.

A'SJOGAM, (Indian). A tree growing in Malabar and the East Indies, whose juice is used against the colic. Raii Hist.

A'SMIAR. See Ærugo æris.

ASPADIA'LIS, *Ischuria*. A suppression of urine from the urethra being imperforated. See Ischuria.

ASPA'LATHUM, (from *α*, priv. and *σπαω, to draw out,*) called also *agallochum*. Calambac wood. It is brought from the East Indies; it is of a bituminous and fatty kind, or resinous, and of a bitter taste. It is sold very often for the agallochum, having similar virtues, and is probably the same. See Agallochum.

ASPALATHUS, (from *α*, priv. and *σπαω, to draw out*, because its thorns are not easily drawn out when they have entered,) called also *Rhodium lignum, difisacon, lignum rosæ odoræ, lign. thuris, erysisceptrum, Rhodina radix, Rhodium*, or rose wood. Genista

Canariensis Lin. Sp. Pl. 997. Nat. order *papilionaceæ*.

Rose wood is the root or the wood of a thorny shrub, brought from the Canary islands in long crooked pieces, externally of a whitish colour, internally of a deep yellow, with a reddish cast. The heaviest and the deepest coloured is the best.

When rubbed or scraped, it smells like roses. To spirit of wine it gives out all its virtue; but of this tincture nothing rises in distillation except the spirit, hardly affected with the smell or taste of the wood; water also extracts its virtues, and carries them with it in distillation; resembling the smell from damask roses. Fifty pounds weight of good wood afford one pound of essential oil, which is used as a perfume; it is weaker than the oil of roses, but of the same odour.

An agreeable cordial tincture is made by macerating ℥ iv. of this wood with a pint of rectified spirit of wine: from ten drops to a tea spoonful is a dose.

ASPA'RAGI. The young shoots, or first tender sprouts of an herb from the ground, before any leaves unfold themselves.

ASPA'RAGUS, SPARAGUS; SPERAGE, and SPARROW GRASS. *Asparagus officinalis* Lin. Sp. Pl. 448.

It is a perennial plant, chiefly used as aliment; in the spring a number of shoots appear, the tops of which are named *turiones*, and these only are eaten. It grows wild in Cornwall and some other parts of England.

Though confined to the kitchen, it affords very little nourishment; a decoction of the roots is diuretic, but a strong infusion of them is preferred. It imparts a fetid smell to the urine, which is corrected by an acid.

ASPASIA. The name of a constrictive medicine for the pudenda muliebria, consisting of wool moistened with an infusion of galls.

ASPER. A small river fish found in the Rhône. *Perca asper* Lin. It is so named from the roughness of its scales and jaws. It is good food, and very nutritious.

The oil of *asper* is commonly enquired for as a means of catching fish with ease and certainty. It is probably the oil of ospray which is meant, for there is a fable, that this bird, as it flies, drops something on the surface of the water, by which the fish is allured. There is, however, no such oil, and the oil of box is usually sold for it.

A'SPERA ARTE'RIA, (from *asper*, *rough*, and *trachea arteria*, from τραχυς, *rough*,) so called from the inequality of its cartilages. The WINDPIPE. It is formed of the LARYNX, the BRONCHIÆ, and the VESICULÆ MALPIGHIANÆ. The LARYNX hath five cartilages, forming the upper part of the aspera arteria: the *first* is the THYROIDEA PELTATA, or CLYPEALIS; resembling a shield, placed just under the basis of the os hyoides, of a quadrangular figure, and stands in the anterior part of the neck, where the pomum Adami is seen; the lateral portion runs back, and ends in two processes; one of which runs up, the other down, and are connected to the os hyoides: the *second* is the CRYCOID; called also *cymbolaris cartilago;* it stands beneath the preceding, is of an annular figure; the back part stands between the two processes of the thyroid cartilage, to which it is articulated. It is narrow before, thick behind, and serves as a base to all the other cartilages; being, as it were, let into the thyroides. By its means the other cartilages are joined to the trachea, on which account it is immoveable. The *third* and *fourth* are the two ARYTÆNOID cartilages, joined to the superior and posterior parts of the crycoid by peculiar articulations, that the glottis may the more readily be opened and contracted; each of these has a protuberance for the insertion of the muscles which stands over the crycoid cartilage, and each has a process where the ligament of the epiglottis is fixed; they are small at their base, and large at their upper part. The *fifth* is the EPIGLOTTIS, shaped like the leaf of a plant; Winslow says *that* of the purslane. It is joined to the anterior and superior part of the thyroid cartilage, over which it appears erected behind the root of the tongue, to which it is connected by ligaments fixed to the cornua of the os hyoides; it is also connected with the arytænoid cartilages. It covers the glottis whilst we swallow, to prevent any thing getting into it. These form the beginning of the aspera arteria, which, passing down from behind the tongue into the lungs, is situated before the œsophagus, and surrounded, laterally and before, by the thyroid gland. It enters the cavity of the thorax behind the upper part of the sternum, where it is crossed by large vessels which run up to the head. At about the fourth vertebra of the back it divides into two branches; that which goes into the left is divided into two; these branches are called BRONCHIÆ, and are divided again into numberless other ramifications, which are distributed through the substance of the lungs, and which consist of cartilaginous segments and contractile membranes; then they are expanded into oblong vesicles, after having lost their cartilaginous nature, called VESICULÆ MALPIGHIANÆ. They are supposed to terminate in vesicles like clusters, which adhere to the small bronchial ramifications, constituting the chief part of the lungs. The use of the bronchiæ is to afford a passage for the air into the lungs, and a free return from them, with such superfluous matter as is capable of combining with it. The aspera arteria is cartilaginous forward, and membranous behind.

When any small substance falls into the trachea, it occasions much uneasiness until it is thrown up. To assist its discharge, Ætius commends sternutatories; others, expectorants and emetics; but the cough, which nature excites, is the only effectual mode of relief.

ASPERA'TA. See ASPERUM.

ASPERA'TUM SPECI'LLUM, (from *asper*, *rough*, and *specio*, *to examine*). See BLEPHARÓXYSTUM.

ASPE'RGULA, (from *asper*, *rough*). See ASPERULA.

ASPE'RSIO, (from *aspergo*, *to sprinkle*). SPRINKLING. See CATAPLASMA.

ASPERU'GO, ASPE'RULA; called also *aspergula*, *aparine latifolia*, *hepatica stellata*, *matrisylva Germanica*, *rubeola montana odora;* WOODROW, and WOODROOF. *Asperula odorata* Lin. Sp. Pl. 150.

It is a low umbelliferous plant, whose taste is a little austere. It imparts its flavour to vinous liquors, and is commended as a cordial and deobstruent. It is also a a name for ASPERINE; RUBIA SYNANCHICA.

A'SPERUM, ASPRUM, *asperatum*, *aspretudo*, (from

asper). Rough. An epithet applied to bodies with uneven surfaces. Galen observes, that every rough body is uneven, but every uneven body is not rough; and that roughness is occasioned by too great dryness, or from acrimony.

ASPHALTI'TIS. A name of the first vertebra of the loins. See Castelli Lexicon.

ASPHA'LTOS, ASPHA'LTUM, (from *Ασφαλτιτις*, a lake in Judea where it is produced). See Bitumen.

ASPHODE'LUS, (from *σποδιλος*, *ashes*, from the ashes of the dead, because the herb was formerly sown upon the graves of the dead). The asphodel.

Asphode'lus a'lbus. *A. ramosus* Lin. Sp. Pl. 444. White asphodel. Also called *hasta regia*, *Bernhardi testiculus*, *anthericum*, *affodilus*, *iphion*, *erizamba*, king's spear, and yellow asphodel.

The asphodel roots resemble an acorn; are acrid, heating, and diuretic, when fresh, and mucilaginous when dry.

These plants are natives of Italy, France, and other warm parts of Europe. The fresh roots are commended in the form of a cataplasm, to be applied to scrofulous swellings.

ASPHY'XIA, (from *α*, neg. and *σφυξις*, *a pulse*, from *σφυζω*, *to leap*, or *beat*, like an artery). It is so named, because the pulse is not perceptible to the touch; but the characteristic signs of this disease are, the symptoms of apparent death, for the most part, suddenly coming on. If a patient, gradually growing worse, at length dies, that state is not an asphyxy, for this term must be confined to a disease from which a patient may recover. All the causes of death which do not wholly destroy the irritability of the muscular system, may be considered as the sources of asphyxia. Syncope for a time assumes its form, though the characteristic appearances of death are seldom observed in any great degree. See Lipothymia, Apoplexia, Syncope, Submersio, Suspensio, and Congelatio.

It is however necessary to remark, that those who appear to die suddenly should be kept till they begin to grow putrid and offensive; but if signs of an aneurism being burst, or of an apoplexy, or of an inveterate vomica, have preceded this sudden death, we can certainly judge whether it is in reality death, or only an asphyxy. See Lancisius, Winslow, and Bruhier, on this subject.

A'SPIC. See Lavandula.

ASPIDI'SCOS, (from *ασπις*, *a buckler*). By metaphor it was applied to the sphincter muscle of the anus, as we are informed by Cœlius Aurelianus, which was so called from its shape. See Sphincter ani.

A'SPIS. The asp. A venomous kind of serpent, of which Galen reckons three species. Paulus Ægineta, in lib. v. cap. xviii. says, that amputation is the only remedy when a limb is bit; and cutting away the whole of the wounded flesh, where amputation cannot be performed.

ASPLE'NIUM, (from *α*, neg. and *σπλην*, *the spleen*,) because it was said to remove disorders of the spleen; also called *splenium ceterach*; milt-waste, and spleen-wort. It is the *asplenium ceterach* Lin. Sp. Pl. 1538. Spleen-wort.

The leaves are similar to maiden-hair, as a pectoral; they are diuretic; and used in infusion, are supposed to clear away sabulous matter from the urinary passage. The taste is somewhat austere, and it has been thought useful as a tonic in cachexies.

Asple'nium tricho'manes, Lin. Sp. Pl. 1540. See Adianthum nigrum.

Asple'nium scolope'ndrium, Lin. Sp. Pl. 1538. See Lingua cervina.

ASSABA, a shrub found on the coast of Guinea. Its leaves are boiled in water and supposed to cure buboes.

A'SSAC, (Arabic word a'ssak). See Gum ammoniacum.

A'SSALA. See Nux moschata.

ASSANE'GI. The powder that falls off from the walls of salt in the salt mines.

A'SSANUS. A weight consisting of two drachms.

ASSARABA'CCA. See Asarum.

ASSARTHRO'SIS. See Articulatio.

ASSA'TIO, assation, or roasting, (from *assare*, *to roast with fire*). Frying, toasting, broiling.

ASSATU'RA. A species of any thing just removed from the fire after roasting.

A'SSE. See Ase.

A'SSERAC. See Assis.

ASSERVA'TIO, (from *asservo*, *to keep carefully*). See Conservatio.

ASSI'DENS SI'GNUM, (from *assido*, *to attend*). An attendant sign, usually accompanying a disease; but not, as the *pathognomonic*, inseparable from it.

ASSI'DUUS, (from *assideo*, *to attend*). See Continua febris.

ASSI'MILO, to assimilate, (from *ad*, and *similis*, *to make like to*,) as when what we eat is converted into juices similar to those of the animal body. It is also used in another sense, when the morbid matter of any disease converts the whole or part of our juices to their specific nature; our juices are then said to be assimilated to the nature of those morbid materials. See Digestion.

A'SSIS. A'SSERAC. The Ægyptian name for bang, which see, and also cannabis.

ASSISTE'NTES, (from *ad*, and *sisto*, *to stand near*). A name for the prostate glands, because they lie near the bladder. See Parastatæ.

ASSI'TRA. See Mandaru.

A'SSIUS LAPIS; called also *asius* and *azius lapis*, Assian stone. These stones receive their name from *Ασσος*, a city of Troas, in the Lesser Asia, where they are found. They are of a tophous, soft, friable, and loose substance, with a powdery matter growing on them like meal, such as is seen on the walls of mills; it is called the flour of the Assian rock, and is seemingly an aluminous efflorescence. This flour consumes loose spongy flesh; hence called *sarcophagus carnivorous*: the stone possesseth the same virtue in a less degree.

ASSO'DES, ASO'DES, (from *assare*, *to burn*). A continual fever, with a moderate heat externally, but inwardly much greater, insatiable thirst; perpetual tossing, nausea, loathing of food, watching, and raving. It is called by Sauvages *tritæophya assodes*; and is also arranged by Cullen under *tertian remittents*. An account of fevers of this kind may be found in Huxham de Aëre, lib. i. p. 97. Lancisius de Noxiis Paludum Effluviis; and Morgagni Epist. 49. 14. See Fever.

A'SSOS. See ALUMEN.

ASSUMINA. The name of a shrub which at once destroys the vena medinensis, and saves the trouble of drawing it out. It is found and used on the coast of Guinea. See Phil. Transactions, N° 232.

A'STACUS, or A'STACUS MARI'NUS, (from α, neg. and σταζω, *to distil*,) so called from the hardness and dryness of its shell. The LOBSTER and CRAB hardly differ in any quality one from the other. They seem to contain a less proportion of azote than the flesh of quadrupeds, birds, and even of the amphibia, from the small quantity of volatile alkali obtainable from their substance. Notwithstanding which, they are supposed to neutralise acidity in the primæ viæ more perfectly than any other animal food of quadrupeds and birds. They afford, as we have said, (see ALIMENT,) a light easy food; but a small portion will sometimes occasion violent colic, and nettle rash, as occurs from eating muscles, attributed to idiosyncrasy of particular persons, perhaps to the food of the animal. Their flesh is best in summer. The black tips of the claws of the sea crab, and those stony concretions in the heads of the *astacus fluviatilis*, called *crabs' eyes*, form some of the absorbent preparations of the shops. See CANCER FLUVIA'TILIS, and OCULI CANCRORUM.

A'STACUS FLUVIA'TILIS. The CREVIS or CRAY-FISH. A mild insipid food, with few qualities to recommend it, or dissuade from its use.

A'STAPHIS. From α, pleonasm, and σταφις, UVA PASSA; which see.

ASTA'RZOF. The name of an ointment, and of a mixture, which were used by Paracelsus. The first consisted of litharge, house leek juice, &c. The second, of camphor and rose water.

ASTCHA'CHILOS. So Paracelsus names a malignant gangrenous ulcer, which spreads from the feet upwards. Some call it *araneus*.

ASTER. An ancient medicine against defluxions or rheumatic pains.

A'STER, (from αστηρ, *a star*, from the likeness of its flower). STARWORT.

A'STER. OMNIUM MAXIMUM. See ENULA.

A'STER A'TTICUS. HYOPHTHA'LMOS. See ERYNGIUM.

A'STER PALU'STRIS PA'RVO FLO'RE GLOBO'SO. SMALL FLEABANE. See CONYZA.

A'STER PERUA'NUS. POTATOES. See BATTATAS CANADENSIS.

A'STER THALA'SSIUS, is named *Stella marina*. SEA STAR. A certain zoophyte or insect of the family of the *vermes echinodermes*. Hippocrates hath recommended it with brassica and sweet scented wine, against what is called the ascent of the uterus and hysteric pains; but it is wholly useless.

ASTE'RIAS, (from αστηρ, *a star*). STAR STONE. *Telesia asterias* of Hauy. Is a fossil gem, very hard, resembling half a globe, extremely full of black radiated appearances, resembling stars; from whence its name. In medicine it was considered as a charm against marks of the mother.

ASTE'RIAS. See GENTIANA.

ASTHENI'A, (from α, non. and σθενος, *robur*). EXTREME DEBILITY.

ASTHENI'A ab HYDROCE'PHALO. APOPLE'XIA HYDROCEPHA'LICA. See APOPLEXIA.

ASTHENI'A PANONICA. See AMPHIMERINA HUNGARICA.

ASTHENI'A. General weakness, sometimes from excessive evacuations, but generally connected with visceral obstructions. In these cases it is attended with fever. If without fever, bark and other tonics are useful.

A'STHMA, (from αω, or αημι, *spiro*, or rather ααζω, *anhelo*, *to breathe short*). This is an impeded and very laborious respiration, joined with inexpressible anxiety and straitness of the precordia, preventing a free circulation of blood through the lungs, arising from various causes, and threatening suffocation. The characteristic symptom of this disease is a *chronical*, and sometimes a *periodical*, difficulty of breathing; hence it differs from ORTHOPNŒA, which is acute; from DYSPNŒA, because that is continued.

This disease has generally been considered to be of two kinds; the *humoral*, *pituitous*, or *moist;* the *spasmodic*, *dry*, *nervous*, or *convulsive*. Both which are properly included in the subsequent definition. 'A difficulty of breathing, coming on at intervals, with a sense of straitness in the breast, and sibilating respiration; at the beginning of the paroxysm, attended with an uneasy cough, or no cough at all; towards the conclusion, a free cough, often attended with a copious expectoration of mucus. Dr. Cullen ranks this genus of disease in the class *Neuroses*, and order *Spasmi*, dividing it into three species.

1st. ASTHMA SPONTANEUM; to which belong the *orthopnæa spasmodica*, and *hysterica*, when there is no manifest cause, or any other disease attending.

2d. ASTHMA EXANTHEMATICUM, when it arises from the retropulsion of some acrid humours from the surface of the body.

3d. ASTHMA PLETHORICUM, when it is the consequence of some accustomed sanguinary evacuation suppressed, or a spontaneous plethora.—The *hypochondriac*, *arthritic*, and *venereal* species, are symptomatic only.

The attack of the *convulsive asthma* is sudden, and at its first appearance the fit is short. The symptoms which usually precede it are languor, flatulency, headach, sickness, pale urine, disturbed sleep, a sense of straitness and fulness about the pit of the stomach. In some cases there is an uncommon stupor, drowsiness, and heaviness. The fit is frequently observed to come on about one or two o'clock in the morning, or at any hour after the first sleep. The patient wakes suddenly, and feels a great tightness and constriction around the chest, with a difficulty of breathing, and an impediment to the free admission of air into the lungs. Both inspiration and expiration are slow, laborious, and accompanied with constant wheezing, particularly the latter. Great bodily anxiety always attends this disorder. As the lungs cannot be sufficiently dilated with air, the passage of the blood through the pulmonary vessels is not free. Hence the face, in full and plethoric habits, appears red and bloated, and the vessels of the eyes are unnaturally turgid. The action of the heart is greatly disturbed, as is evident by the weakness, irregularity, and increased quickness of the pulse. Dur-

ing the fit, the patient has generally a longing instinctive desire for cool fresh air, which always revives him. A small close room, with a fire in it, is extremely offensive, and all warm things, given internally, increase the flatulency in the stomach and bowels, which is always the most troublesome after a full meal. When the fit has continued a few minutes, half an hour, or an hour, it leaves the patient; his respiration becomes free and natural, his pulse slow and regular, his complexion puts on its usual appearance, and the bodily anxiety goes off. The urine is generally pale, and the skin somewhat dry before the fit, and during its progress; but at the termination of it, the urine for a day or two is high coloured, and deposits a sediment, and the skin feels soft and moist. This is the description of a first and moderate attack of the disorder. In some cases it appears in a more violent form, even at its commencement, and continues for several days before the fit terminates. Sometimes the patient will have one fit, and then remain free for many months. At other times fits come on for several nights together, the patient appearing almost perfectly well during the day, with his appetite and pulse natural. When the asthma once attacks, it seldom or never fails to recur, though the intervals between the fits are very uncertain; when rooted in the constitution, it often makes its attack in the spring and autumn. In many cases it attacks periodically once in ten days or a fortnight. Sometimes it occurs regularly at the full and change of the moon. Floyer mentions a case where the fits occurred for seven weeks together, and the patient was obliged to sleep in a chair; and from the strictest observations it is found, that there is no certainty nor regularity observable in the attacks of the asthma. The reason why the fits so often occur first in the night, is thought to be owing to the heat of the bed, and the horizontal posture in which the patient lies.

Relapses are commonly attended with an increase of the symptoms, and the vigour of the constitution is gradually impaired, till, by length of time, general or chronic weakness is induced. The difficulty of breathing in the fit arises to a much higher degree in these relapses, and the sensation of tightness over the breast is so great and distressing, that the patient feels as if he were bound with cords. His anxiety at this period is inexpressible, and he labours in respiration as if every moment would be his last. Severe vomiting frequently occurs, and the matter discharged is slimy and frothy, or of a greenish or yellow colour. The hands and feet are cold, and the patient is subject to palpitations and faintings. Cool fresh air becomes absolutely necessary. The eyes are prominent, the face is sometimes pale and sometimes high coloured, bloated, or livid; the pulse extremely weak, irregular, and even intermitting; there is a difficulty of swallowing, the patient can scarcely speak, cough, or expectorate during the fit, and the stomach and bowels are violently distended with wind. While thus labouring for breath, he is obliged to rise from his bed, he cannot bear even the weight of the bed clothes upon him. His shoulders are constantly elevated, to give the muscles of the chest their greatest power of action in raising the ribs in inspiration. At this time, too, the patient, though before costive, will frequently have a loose stood. When the violence of the fit abates, and respiration becomes free, the cough returns, and the patient begins to expectorate phlegm, which is sometimes intermixed with blood. As soon as an easy copious expectoration takes place, it affords great relief, for the evacuation is made immediately from the parts affected, from the vessels which have been obstructed. This expectoration is one of the most certain signs of the abatement of the complaint, as it denotes the solution of the contraction of the bronchial air vessels; particularly if a moisture and softness of the skin, and a sediment in the urine, make their appearance. The blood which is spit up in this complaint proceeds generally from a rupture or dilatation of blood vessels in the lungs. In some cases, indeed, the quantity of blood which is spit up is in full habits very considerable, and at the same time accompanied with an abatement of the symptoms. But all free discharges of blood from the lungs, though they afford relief, are unfavourable signs, as they denote greater violence of the disease; during the course of which, the very efforts of nature to relieve are in themselves so alarming. The nose, too, will sometimes gush out with blood during the severity of the fit, from the obstruction given to the return of the blood through the pulmonary vessels into the left auricle of the heart. Thus in a short time the fit of the convulsive asthma goes off. In a course of years one fit succeeds another, and the disorder increases in the violence and duration of the fits, as well as in the frequency of their returns. The expectoration from the mucous glands of the lungs, which still continues to relieve at the termination of the fits, becomes itself a very troublesome symptom. These glands are relaxed, and the discharge of mucus greater than natural. Hence the bronchial or air vessels are frequently obstructed with phlegm, and from this cause the freedom of respiration is disturbed: the patient breathes with unusual difficulty, although his convulsive fits be absent. When he first wakes in the morning he has generally a severe fit of coughing, which continues till he has discharged the phlegm that provoked the cough, by preventing the free admission of air into the air vessels. Through the day, at different times, the cough still recurs, but with less violence; and in the evening it is often very teasing and distressing, especially on any sudden motion of the body, or in cold, damp, foggy weather, which obstructs the exhalation of the perspirable matter from the lungs. Thus the humoral asthma is united with the convulsive, and both together exist in the same patient.

The HUMORAL ASTHMA is a disorder of the mucous glands of the lungs, in consequence of which they are relaxed, and the discharge of mucus, being unnaturally copious, obstructs the freedom of respiration. This kind of asthma is more constant; the convulsive more violent, and of shorter duration. The humoral asthma is more severe both with respect to the cough and difficulty of breathing in winter; but in summer, when the weather is warm, and perspiration free, it often disappears totally between the intervals of the fits of the convulsive asthma. The convulsive asthma, too, is sometimes severer in winter than in summer, especially when combined with the humoral, or with a catarrh. But it often happens that the warm weather affords little or no relief; nay, even in many cases it is observed, that the

irritability of the constitution and the rarefaction of the blood are so much increased by the warmth of the weather, that the frequency and severity of the fits are greater in the warm and sultry, than in the cold seasons of the year. In this case the humoral asthma is continued on during the summer months by the convulsive asthma, as a symptom of the natural and critical solution of the fits. After the convulsive asthmas there is often a great soreness in the breast, partly from the violent muscular exertion, and partly from the frequency and severity of the cough. Sometimes, too, there are shooting pains in the sides, which are extremely painful and alarming to the patient; but the judicious practitioner will easily distinguish them from internal affections of the breast, by the external soreness, and the acuteness of the pain in consequence of motion. The frequent returns of fits sometimes cause obstructions in the lungs, which, as the dissection of dead bodies clearly ascertains, appear full of knots or tubercles. These tubercles are most liable to occur in those who have naturally a narrow contracted chest, in which the lungs have not a free and easy motion; these render the disorder very obstinate, occasioning a long continuance of the cough after the asthmatic fit, frequently ending in small inflammations of the lungs, attended with internal pains, difficulty of breathing, and hectic fever. We have already observed, that the humoral asthma often supervenes on the convulsive. It is necessary also to observe, that the convulsive sometimes attacks those who have long been previously afflicted with the humoral asthma. Patients subject to catarrhs and winter coughs, during which they expectorate a considerable quantity of thick or frothy phlegm, are sometimes suddenly seized with violent difficulty of breathing, and great tightness over the breast, so as to dread even instant suffocation. This new complaint, after having tormented them for some hours, or perhaps a day or two, also leaves them suddenly, and they look back with surprise at their happy deliverance from so formidable and unexpected an enemy. Their old habitual cough and asthma, with soreness and stuffing in the breast, still remain; but they bear it without repining. In this manner they continue for some time, till the convulsive asthma returns, perhaps, with additional violence. Thus, the convulsive asthma becomes habitual to the patient, and he has the misfortune to find himself labouring under a complication of two diseases; the one aggravating the other, and both growing worse.

The convulsive asthma sometimes attacks persons of a thin spare habit, whose constitutions have been greatly emaciated by a long exposure to causes of general or chronic weakness. In some cases it seizes patients who are robust and full of blood, particularly if they have small vessels and strait chests. At other times it occurs in those who are gross, phlegmatic, corpulent, and in such habits it is often very distressing. In general, the indolent and luxurious suffer in a very considerable degree, and the disease seems to be conveyed to the children. It is frequently connected likewise with hysterical and hypochondriacal complaints, in irritable and relaxed constitutions. The convulsive asthma, recurring for many years, is capable of reducing the strongest constitutions, and of bringing on the symptoms of general debility; but if it attacks a constitution already weakened and exhausted, it is obvious that it will necessarily weaken and exhaust it more. The stomach and bowels are more particularly liable to be affected in the convulsive asthma; they are often seized with colic pains, distended with wind, tormented with burning heats, and agitated with tremulous motions, which give a sensation to the patient of something moving and fluttering within him. Floyer, too, has observed, that slight fits of the asthma often affect the stomach and bowels, not the lungs. The appetite is greatly impaired, sleep is often prevented, or it is disturbed and unrefreshing. The menses are sometimes obstructed, and sometimes they are brought on before the usual period; and when plethora prevails, that discharge is accompanied with relief. The patient is generally costive, though sometimes he will have loose stools. The extremities, particularly the arms, shoulders, and upper parts of the body, are often affected with great uneasiness. Symptoms of fever are not essential to the disease, though they frequently occur, especially when the humoral asthma or a catarrh is complicated with the convulsive. A hectic fever, with a colliquative diarrhœa, faintings, palpitations, violent vomitings, coldness of the extremities, swelled legs, and other dropsical symptoms, arising from weakness, relaxation, and obstruction to the circulation of the blood through the lungs, is common in the last stage of the disease. Asthma may attack at any age, but its general approach is after the prime of life.

From the preceding account of the symptoms of the convulsive asthma, it will appear obvious that the *distinction* of it from every other disease cannot be difficult. The sudden attack of the fits, the short time of their duration, the violence of their symptoms, the state of ease and good health between them and their returning at intervals, will sufficiently characterise the complaint. The convulsive asthma is sometimes combined with the humoral asthma, pleurisy, peripneumony, dropsy of the breast, catarrhal and consumptive disorders; but the distinctions will require an accurate study of the respective histories of the different complaints which bear any resemblance to it. In many instances in the practice of medicine, words can never convey those minute distinctions which are very obvious to the eye and other senses.

When this disorder is recent, and produced by a decided occasional cause, there may be hopes of a lasting recovery; otherwise it is rarely, if ever, cured. An eruption of the menses, or of the hæmorrhoids, during a paroxysm, alleviates it; improper management causes an asthma more readily to end in a dropsy; paroxysms of convulsive asthmas greatly endanger the life at every return, yet seldom prove fatal. If frequent and long continued, should the patient escape with his life, a dropsy is the result, which is his destruction. If a slow fever comes on, an unequal intermittent pulse, a palsy of the arms, a continual palpitation of the heart, a preternatural small discharge by urine, or a syncope, death is at hand; as these symptoms show, that the heart or its connected vessels are organically injured. An asthma affecting old people usually attends them to the grave.

Dr. Cullen observes, "That the asthma depends upon a particular constitution of the lungs: that the *proximate cause* is a preternatural, and, in some measure, a spasmodic constriction of the muscular fibres of the bronchiæ, which not only prevents the dilatation of the

bronchiæ necessary to a free and full inspiration, but gives also a rigidity, which prevents a full and free expiration. This preternatural constriction," he adds, "like many other spasmodic and convulsive affections, is readily excited by a turgescence of the blood, and other causes of any unusual fulness and distention of the vessels of the lungs."

When this spasm is removed, the patient, after the expectoration of a little phlegm, feels himself almost restored to perfect health; for the cause being obviated, and there being no fixed obstruction in the lungs, the symptoms totally disappear. The proximate cause of the convulsive asthma, when complicated with the humoral, is a *spasmodic contraction* of the air vessels of the lungs, occasioned by an increased secretion of mucus, from a relaxation of the mucous glands.

The CHIEF PREDISPOSING CAUSES of the convulsive asthma are, a narrow contracted chest, morbid irritability of the lungs, and pulmonary obstructions in consequence of tubercles, either scrofulous or formed by repeated catarrhs, winter coughs, pleurisies, and peripneumonies.

The OCCASIONAL CAUSES of the convulsive asthma are, cold, moisture, sudden changes of weather, dust, metallic fumes, smoke and other particular smells, mephitic vapours, evacuations, great fatigue, neglect of exercise, shouting, and all strong exertions of the voice, certain disorders in the constitution, anger, joy, surprise, fear, grief, and other depressing passions, excess in venery, and intemperance in diet.

When, however, we compare the action of these remote causes with the spasm supposed to occasion the disease, the connection is not very clear; and, indeed, while anatomy has not ascertained the existence of muscular fibres in the bronchial cells, or the branches of the trachea ultimately terminating in them, it is not easy to admit this cause. There are, indeed, some reasons for supposing the diaphragm alone affected, since respiration is chiefly carried on by its means, and the convulsive asthma is intimately connected with the state of the stomach and bowels. When the diaphragm is affected, by consent of parts usually acting together, the intercostal muscles are also spasmodically contracted. This idea is in some degree supported by the symptoms of pleurisy, where the diaphragm gives little assistance in respiration, as the ribs cannot be raised without pain.

It cannot have escaped the attentive observer, that the remote causes and threatening symptoms of convulsive asthma and gout, are not very dissimilar; the period of attack, the firm health in the intervals, and the subjects most liable to these diseases, are still stronger marks of the connection; but our pathology is in too imperfect a state to explain the reason why a previous debility of the system, followed by irregular action, should, in one case, produce inflammation in the extremities; and in the other, spasm on the organs of respiration. We indeed see, in general, that those subject to asthma have some imperfect conformation of the chest, or some obstruction in the organs which it contains; and we see, also, that an accumulation of mucus in the bronchial glands, or a suppression of the usual discharge, will often bring on fits of true convulsive asthma.

A late author, Dr. Bree, who is himself an asthmatic, has endeavoured to bring us back to the humoral pathology, and to connect more intimately the convulsive and humoral asthma, though not with signal success. His chief argument consists in the appearances after death: but we have already remarked, that these are effects only; and in general the quantity discharged at the termination of a fit is so inconsiderable, the relief is so often obtained previous to the discharge, and the marks of accumulation even when present are so trifling, that this opinion cannot be supported.

The hopes of relief are to be estimated from the violence and duration of the symptoms, the age of the patient, the condition of his constitution, the nature of the predisposition, and the power of the exciting causes. If the symptoms of the spasmodic affection in the lungs run high; if the disorder be of long standing, and, when once excited, continues for several days; if the returns of it be frequent; if the lungs be greatly obstructed with phlegm at the termination of the convulsive fits, and an obstinate cough remains during the intervals, with a laborious respiration, and a copious expectoration of mucous matter; the cure is difficult, tedious, and uncertain. Tubercles and obstruction in the lungs are symptoms too unfavourable to admit of hope. If, on the contrary, the disorder be recent; if the patient's constitution be not greatly impaired; if there be no natural deformity in the chest; if respiration after the termination of the fit be free, and the cough, with expectoration of phlegm, not violent nor obstinate in its duration; if the occupation of the person be not injurious to the lungs, or, if so, can be easily relinquished; and if the lungs be not obstructed with tubercles, either in consequence of a scrofulous habit, or repeated inflammatory affections, the case bears a favourable aspect, and may, in all human probability, be frequently treated with success. When infants are seized with the asthma, it often ends fatally, especially if powerful means for the removal of it be not applied at its commencement.

The CURE of ASTHMA must differ according to its nature, and the periods in which the remedies are employed. The only disease properly distinguished by this appellation is the convulsive asthma; but the humoral asthma is so often connected with it, at least as an exciting cause, that we shall consider it in this place.

The treatment of *convulsive asthma* must differ, when considered with a view of removing the fit, or of preventing its recurrence. It was formerly a constant practice, in every case of difficult breathing, to bleed; and bleeding has been repeatedly employed to mitigate the urgent symptoms of the moment. We have great reason to think that this practice has been highly injurious; and repeated bleedings in repeated fits have undoubtedly hastened the common termination of asthma, the dropsy. Yet so sudden is frequently the relief, that patients once accustomed to it are displeased if so ready a remedy is omitted, and it is often necessary to take a small quantity of blood to satisfy their minds: indeed it frequently happens that a slight bleeding will be equally useful with a large one. Such is the connection established in the human system by concomitant effects, that we are told by Dr. Whytt, that a nervous paroxysm has been removed by the momentary puncture of the arm.

Vomits are considered by Dr. Akenside as highly useful in shortening the paroxysm, and he recommends them to be given early, indeed almost in the moment of

the attack. We own that we have followed this practice with some hesitation, yet we have never found it inconvenient or dangerous. Physicians have usually waited till some expectoration has come on, but the remedy is then unnecessary. Dr. Akenside gave very small doses of ipecacuanha only; and remarks, that it is equally useful when it nauseates, as when it vomits. The more rapid effects of the white vitriol have not, we believe, been tried, though they may probably unite a tonic power with the usual effects of vomiting.

Blisters require too long a period for their operation to be of great service during the fit; but, when the paroxysm is unusually protracted, they may be of service.

The chief benefit to be expected during the attack is from the volatile antispasmodics; and, as no inconvenience is likely to follow, expectorants have been combined with them. With the *mixtura camphorata*, have been united æther, aqua ammoniæ, tinctura fœtida, lac ammoniac, and even opium. The quickest and most diffusive stimulants are undoubtedly the best; and these mentioned may be combined in any proportion the physician may prefer. Opium is however a medicine of equivocal utility. It is mentioned because it has been recommended; but in our hands it has been rather injurious than useful. Mixing the opium with squills, or any active expectorant, or with gentle laxatives, to avoid its constipating effects, are proper precautions.

Bathing the feet in warm water has been sometimes useful; and in the very violent attacks, cataplasms, with garlic applied to the feet, have been of service. When a fit of true convulsive asthma is apparently connected with water in the chest, an active laxative has given great relief. In such cases, ten grains of jalap, with as much calomel, have been given with advantage.

The *intervals between the fits* are the periods when medicine may be most usefully employed; for though we lessen debility, and prevent in some degree any organic derangement by shortening and mitigating the fit, yet it scarcely ever happens that a paroxysm proves fatal.

The diet should, in general, be light and digestible; and every thing acescent and flatulent should be avoided. As life advances it should be more generous; and Madeira, or Port, if it does not produce acidity, may be taken with freedom, regulated by former habits. The less perfectly fermented ale is injurious, but porter is an excellent liquor with the meals; and, if not too flatulent or too strong, agrees well with asthmatics. In some cases of asthma however these liquors are too stimulant; and water, or a solution of cream of tartar in water, is found more useful. Though acescents are injurious, the acids less susceptible of further change, as vinegar, or the pure acid of tartar, are supposed to be very beneficial. Tea should be avoided; but coffee is supposed to be highly useful: and the warmer plants of our own country, as peppermint, rosemary, and pennyroyal, may with advantage supersede those of foreign growth. Supper should always be light of digestion, and not flatulent or acescent. The ship biscuits, with porter, or brandy and water not sweetened, or some beef tea, will fully supply this meal.

The situation of asthmatic patients is of great importance. In general, they cannot breathe with ease in an elevated spot; and too great a proportion of oxygen in the air, irritates their weak and susceptible lungs. In what the lower quality of the air consistent with their case, consists, we know not. It has been suspected to be azote or hydrogen; but, from a fact mentioned by Dr. Percival, that the asthmatics who have been disordered by the fumes of lead, find relief from working in the lime kilns, it may be fixed air, which, from its greater specific gravity, falls into the lower strata of the atmosphere. Whatever may be the cause, the fact is well established. Asthmatics do not always find great advantage from a warmer climate. Such however is the variable nature of this disease, that some cannot breathe but in a less inclement atmosphere than this country affords.

The other physical qualities of the air are probably of importance. A due degree of elasticity is apparently necessary; but this, too, may be in excess, and produce inconvenience. An easterly wind is always injurious; but to what all the disadvantages of this peculiar state of the air may be attributed, we are yet ignorant.

The exercise should be steady and regular. Walking, for the reasons formerly assigned, is the most salutary; and sailing, for a similar reason, has been found very advantageous. If exercise on horseback or in a carriage is necessary, the feet must be well covered to keep up an equable, steady perspiration. Moisture should be carefully avoided; and, if accidentally wetted, the clothes should be immediately changed. The cold damp air of the night should be shunned with equal anxiety. Flannel should be usually worn next the skin in winter, and a moderately thick calico in summer.

Vomits frequently repeated have been found of considerable utility, and their advantages have been variously explained. Those who consider the source of the disease to be in the stomach, think the frequent evacuation useful; while others consider them chiefly as expectorants, or as determining very powerfully to the skin. All, however, confess their utility, and we have known them given every other morning for a considerable length of time, without appearing in the slightest degree to injure the stomach: on the contrary, they seemed to restore its action. The emetic has generally in these cases been assisted by mustard whey, and sometimes by the volatile alkali added to camomile tea, and occasionally by the infusion of the seeds *carduus benedictus*.

The steady action of the *warmer purgatives* is also of great importance in this disease. The connection of asthmatic paroxysms with flatulence and costiveness has been already pointed out; and obviating these has greatly contributed to extend the intervals of ease. The rhubarb and aloes appear to be the most useful; nor have we found any distinction in their merits, except that the former seems more applicable when the skin is dark and yellow, indicating an affection of the liver; and the latter, when these appearances are absent. Those subject to piles find aloes inconvenient; but in asthma, hæmorrhoidal inflammations are said to be advantageous. We know no subject in medicine less understood than the nature of hæmorrhoids, and their connection with the general health; nor can we promise to elucidate, though we shall notice, the more important facts relative to it. In the case before us, if the asthmatic feels advantage from these swellings, or the discharges of blood which sometimes accompany them, such is the distressing nature of this complaint, that he may assist both by aloetic purgatives; yet so painful and disagreeable is the disease, that in scarcely any other,

apoplexy and palsy perhaps excepted, would the change be considered as advantageous. Some authors have preferred the saline and the acid purgatives. In the earlier and more robust periods of life they may perhaps be more useful; but asthma is seldom the disease of youth and activity. The predisposition is, however, in some constitutions, so strong, that we have known its attacks commence so early as sixteen years of age.

There is another circumstance which renders the more cooling purgatives sometimes proper, which is the alternation of mania with asthma. We have seen some cases of this kind, and suspect that they are more common than authors have supposed; and in these, unless the maniacal affection be of the melancholy kind, salts and acid purgatives are better adapted to the complaint.

A remedy of peculiar importance is said to be a perpetual blister, or an issue; and we think that we have found a perpetual blister on the back, or on the breast, highly useful in preventing the return of fits. Of issues we have less experience; nor can we confirm by our observation the remark, that this discharge is as useful from the arm or thigh, as from parts nearer the chest. In affections of the chest, it has not been uncommon to employ blisters on the thighs and legs; or, in the more chronic complaints of these organs, issues. This remaining scion of the old doctrine of revulsion is now decaying, yet the practice has been very lately recommended by physicians of eminence; and, with all our theoretical prejudices alive, we cannot help adding, that we have seen these applications apparently useful.

Diuretics have been sometimes recommended; but as the principal remedy of this kind is the squill, it may be of service as an expectorant. If the nitre and sal ammoniac be ever useful, they must chiefly act by preventing the accumulations of those salts, which, previous to a paroxysm, appear to be retained by the urine becoming colourless.

Expectorants might be supposed a very useful class of medicines; yet, if the view we have taken of the disease be correct, we shall find it not occasioned by any accumulation of mucus, and we shall soon perceive on what foundation they have been advantageous.

The great object, in the interval, is to restore the tone of the system, and to support it. With occasional vomits, the steady and continued use of eccoprotics, sea bathing has been found highly useful, and it is strongly recommended by Dr. Ryan. The bark has been found of equal service; and, with the same view, Dr. Withers has recommended the flowers of zinc; and other authors, a mild alterative course of mercurials. Perhaps all the metallic tonics will be found useful, except perhaps the iron, which seems to combine too great a share of inflammatory stimulus. This idea may appear probably too hypothetical, and it is hinted only to suggest a little caution in its use.

These are the principal remedies of convulsive asthma; and we shall next consider the HUMORAL ASTHMA, as the accumulation in the bronchial glands acts often as an exciting cause of a convulsive fit, and in the old asthmatic, they are often united. The symptoms are the usual ones of a laborious and oppressive breathing, but accompanied with a wheezing noise in the respiration, which indicates an accumulation of mucus in the bronchiæ. The fit also, instead of lasting a few hours, is kept up many days, and at length terminates imperfectly, leaving the patient for a long time weak and languid; and, after various attacks, usually occasioning hydrothorax.

In this form of the disease the sputum is at first frothy, or of a gluey consistence, admitting of being drawn out in threads; and little or no relief is obtained till it is expectorated in rounder masses, is of a yellowish white, less tenacious, and more soft. Bleeding is here also employed to relieve symptoms, as suffocation is more frequent than in the true asthma, yet its repetition soon produces all the bad effects attributed to it in the convulsive species; and if the necessary quantity is at all exceeded, the weakness occasioned will render it difficult to bring on the proper expectoration. Vomits are more useful, and the squills given in such doses as to vomit or nauseate, produce the best effects. If there is much fever, they are assisted by antimonials, particularly the kermes mineral; if little or none, by the volatile alkali. In general, except in the very early stage, there is little fever; and the quickness and hardness of the pulse are the effects of the laborious breathing.

Blisters are in this complaint singularly useful, and there is no doubt of the propriety of applying them very near the back. They must often be repeated, and as soon as one has begun to discharge, another may be applied, as the stimulus of the cantharides appears to be chiefly useful. Cataplasms of garlic to the feet have been considered as very valuable assistants.

Expectorants are also of great importance, and the chief of these are the squill, the gum ammoniac, and the volatile alkali. Equal parts of the oily emulsion and lac ammoniac, to which is added as much of the tincture of squills as the stomach can bear, is a medicine of peculiar utility, and often will bring on expectoration in cases apparently desperate. The other expectorants are not of equal power; the inula will sometimes be useful when continued, and is adapted rather for the intervals than the urgent emergency of a paroxysm; and the asafœtida, whose powers as a carminative and antispasmodic have eclipsed its numerous other virtues, merits considerable commendation in the same view. Even in the convulsive kind it becomes an excellent vehicle for the constant laxative. The olibanum, in many of its effects resembling the asafœtida, is highly useful, and seems to combine a tonic with its expectorant power.

Respecting the propriety of purges in the humoral asthma, authors have differed. If given in any considerable dose, they induce debility, and retard the expectoration; but we have generally found, that to procure about two motions daily, has been highly salutary. These must, however, be produced by the mildest laxatives.

There are some cases where humoral asthma is combined with hydrothorax, or indeed where the latter puts on the appearances of the former. In these circumstances we have fortunately an active medicine, adapted to both diseases; viz. the squills. The distinction is, however, necessary, as the hydrothorax requires more active laxatives. In this disease, the hydropic diathesis is more conspicuous. The urine is scanty; the breathing, though oppressed, is not so violently obstructed as in asthma; the dyspnœa continues with less change; the lips are livid, and the

whole face more dark and swollen. The sleep is interrupted by sense of suffocation, and fainting recurs on the slightest motion. In such circumstances, diuretics and active laxatives are the only remedies.

Of the diuretics, the squill is the most powerful; but some of the more stimulating kinds are frequently useful; and great advantages are often obtained by the oil of juniper, or the oil of turpentine. These seem also to act as expectorants; and the balsam Peru, both as an expectorant, a stimulant, and a tonic, when the more violent urgent symptoms have disappeared, is an excellent medicine. In the intervals of this disease there is no room for the bark, as it is too astringent, except where the asthma is of the gouty kind. In other species, the cascarilla, the quassia, the cortex salicis latifoliæ, the oak, or the angustura bark, may be given as a tonic. But, above all, it is necessary to keep up the determination to the surface, to avoid cold and damps of every kind, night air, and every cause of debility.

The asthma, in some instances, ends in a partial palsy; in others, in some species of dropsy; sometimes, though not often, the patient is suddenly suffocated. This accident, when it happens, hath for its cause a polypus in the lungs; and instances have occurred of its ending in an inflammation of those organs.

See Aretæus. Dr. Dover. Sir John Floyer on the Asthma. Cullen's First Lines, edit. iv. vol. iii. Withers on the Asthma. Dr. Ryan on the History and Cure of Asthma. Hoffman on Convulsive Asthma. Bree on Disordered Respiration. Akenside in the London Medical Transactions, vol. i.

ASTHMA SPASMODICUM INFANTUM. The difficulty of breathing, which so often attacks during the period of infancy, is a disease of peculiar danger, and its different kinds are not easily discriminated. The suffocations from cold and teething are generally known by the fever attending, and the period of life, as well as the swelling of the gums. The difficulty of distinction chiefly lies between the spasmodic asthma, and cynanche stridula. The inconvenience has been greater, since, from the resemblance of the symptoms, remedies have been celebrated as successful in croup, which were never used in the disease; and the less experienced practitioner, trusting to them, has felt the severest disappointment. The distinction indeed is not easy, nor does it admit of explanation. The peculiar sound of the croupy breathing, which is known only from experience, decides the question. The sound of the asthmatic breathing is less shrill, and generally accompanied with some wheezing.

The remedies for the spasmodic asthma of children require the utmost activity in their administration. A blister must be immediately applied to the breast or back; an active emetic of tartarised antimony quickly given, in a dose that will secure its effects, and probably occasion also some discharge by stool. A warm bath will often prove advantageous; and the asafœtida, given with tinctura opii in a clyster, after some motions have been procured, either by the emetic tartar, an active clyster, or a dose of calomel, will relieve very effectually the spasm. To a child of two years old, two scruples of asafœtida may be given in a clyster, dissolved in two ounces of warm water, with thirty or forty drops of the tincture of opium; and this may be repeated in four or six hours, according to the exigency of the complaint.

Dr. Millar, in the spasmodic asthma of children and the hooping cough, advises the asafœtida internally; and adds, that children are soon reconciled to the taste, and even grow fond of it. This may be true, but we have not been so fortunate as to meet with such admirers of the garlic flavour. Cataplasms of garlic, however, applied to the feet, have been often advantageous.

A'STITES GLANDULO'SI, (from *ad*, and *sto*, *to stand near*). A name of the prostate glands, because they are situated near the bladder. See PARASTATÆ.

ASTRA'GALO, ASTRAGALOI'DES, (from ἀστράγαλος, and εἶδος, *likeness*). See OROBUS.

ASTRA'GALUS, (from ἀστράγαλος, *a cockal* or *die*. So called because it is shaped like the die used in ancient games). ANKLE BONE. Also called the SLING BONE; *ballistæ os; aristrios; talus; quatrio; tetroros; cavicula; cavilla; diabebos; peza*, or first bone of the foot.

It is the upper bone of the foot, the tibia rests upon it; its upper and under side are covered with cartilage, and on its under side it articulates with the os calcis; the fore part of this bone is cartilaginous, and there it articulates with the os scaphoides. Some apply the term to the vertebræ of the neck. Homer, in his Odyssey, uses it in this sense.

ASTRA'GALUS EXCAPUS, is a species of astragalus found in Hungary, said to be useful in syphilis. Two ounces of the dry root are boiled in three pints of water to a quart, which is to be taken daily.

ASTRA'GALUS. Also a name for the LIQUORICE VETCH. See OROBUS, and GLAUX VULGARIS LEGUMINOSA.

ASTRA'GALUS ACULEA'TUS, ASTRA'GALUS MASSILIE'NSIS, ASTRA'GALUS TRAGA'CANTHA ALBUS. See GUMMI TRAGACANTHA.

ASTRA'NTIA VULG. et NI'GER, (from ἀστήρ, *a star*, so called from the star-like shape of its flowers). See IMPERATORIA.

A'STRAPE, (from ἀστράπτω, *corusco*). LIGHTNING. Galen reckons it among the remote causes of an epilepsy; and it is doubtless a cause of disease in lesser degrees of its influence, as well as of death in greater. In the Phil. Trans. art. xlii. ann. 1766, Dr. Laurence gives an instance of a singular effect of lightning.

ASTRI'CTA, (from *astringo*, *to bind*). When applied to the belly it signifies COSTIVENESS.

ASTRINGE'NTIA, ASTRICTO'RIA. ASTRINGENTS, (from *astringo*, *to bind*). ADSTRINGENTIA; called also *anastaltica; constringentia*.

The solid parts of the human machine, from various causes, are often so relaxed that they are unfit to perform properly their different functions. It seems necessary, therefore, that there should be such remedies as can correct debility, and bring back our solids to their former healthy state. Remedies of this sort among physicians are called ASTRINGENTS. That many substances have the power of condensing and strengthening the solid parts of animal bodies, is proved from that well known art of tanning and preparing leather by oak bark, and other similar bodies, until it acquires a remarkable hardness and firmness; chemistry has lately taught us that this change is produced by a principle called from its effects tannin, whose immediate action is to precipitate the gelatine. The application, however, of this principle to the human machine is not

easy. Tannin cannot be introduced between every minute fibre of which the human body consists, nor could it precipitate the gelatine without its consequences being obvious, perhaps dangerous. We see no gelatine in the mass of blood; and the albumen, which does not greatly differ, forms that portion of the blood which is connected with the strength of the system; for in proportion to the density of the crassamentum, which is formed from the albumen, the strength is estimated. As the beneficial effects of astringents are first felt in the stomach, it is probable that the tannin acts on its fibres, with which those of the whole nervous and muscular systems seem to sympathize, unless we suppose that it produces such a chemical change on the chyle as to obtain a more dense and nutritious blood. In either way the change may perhaps be explained, and though not clearly and satisfactorily, yet as perfectly as many of the medical effects produced in our systems. The former of these ideas is not very different from the opinion of Dr. Cullen, who says, "That by the corrugation and constriction of the whole mouth and fauces, from a small portion of astringents being applied to a small part of the tongue, astringents act upon the sentient nerves; and that, taken into the stomach, they show their effects in other parts of the body so quickly, that they can hardly be supposed to have passed the stomach itself: therefore, their sudden effects in distant parts must be ascribed to an astringent power communicated from the stomach to those distant parts." The discovery of tannin is, however, of a later date, and its chemical effects seem to change the state of the question.

These considerations, however, assist us but little in explaining all the effects of astringents. While they render the simple solids more dense, they add also to the tone of the system, and give energy and activity to the vital. Muscular action is, at least, attended with increased density, and a stronger cohesion of the muscular fibres; and we can therefore perceive how astringents can increase *their* energy. But the tone of the nervous system is apparently connected with a fluid confined to the nervous fibrils; and the little we know of its nature shows no very striking connexion between increased density and increased nervous power. To avoid this difficulty, it has been supposed that astringents unite a tonic power; and, as we certainly possess tonics that are not astringent, so, on the contrary, some astringents may not be tonics, or the latter power may be combined without altering the sensible qualities of the former. The flowers of zinc and arsenic are certainly tonics without astringency; and catechu, the most powerful astringent, is not a tonic. It is not, therefore, improbable, that the two qualities may be combined; yet they are so often united in a body, that we are anxious to find a closer connexion. We may reflect, then, that though the astringents can have no effect on any fluid in the nerves, yet it seems probable that the state of this fluid, or power, differs according to the state of the simple solid, and to that of the nerves as such. In a warm climate, and from warm confined air, which relaxes the simple solid, the nervous energy is more mobile, but less strong. From cold, and in cold climates, the contrary takes place; and, in general, astringency and relaxation seem respectively to attend tone and irritability. Thus it happens that astringents lessen irritability; and it is not improbable that the whole of their apparent tonic power is merely the diminution of irritability, by the condensation of the simple solid and the nervous system, so far as it is such.

Astringents are of very different kinds; or rather medicines of different powers produce their effects. Those which strictly deserve that title, make the impression of astringency or acerbity on the tongue, for the latter is the effect of astringency joined with acidity. To these only the explanations we have already entered into apply. The principle on which their power depends, we have said, is the tannin, in itself bitter, but probably uniting in the vegetable something which adds to its power. The property of striking a black with chalybeates, supposed to be the distinguishing quality of astringents, is now found to be characteristic of the gallic acid, which sometimes accompanies the tannin. The catechu, which we have styled the strongest astringent, produces no change of colour with vitriolated iron.

The natural orders, *stellatæ*, *senticosæ*, and *vaginales oleraceæ*, afford astringents of moderate power; and among the *cryptogamiæ* we may mention the filix florida, trichomanes, equisetum, and muscus pyxidatus. The ash, the hæmatoxylum campechianum (logwood), the pomegranate, and the oak, are more powerful: and the *contortæ*, including the bark and the mahogany tree, perhaps equally so. The *acerb fruits*, particularly the sloes, are active astringents; but the inspissated juices, the acacia and catechu, from two species of mimosa, and the kino, are the most certain astringents of the vegetable kingdom. The dragon's blood has obtained its credit, from having been an ingredient in an active formula with other medicines of this class.

The mineral kingdom affords powerful astringents; but we do not certainly know on what principle this depends. Yet, as we find among minerals combinations not very different from those of the vegetable kingdom, we may conclude that a similar principle exists in them. This idea is strengthened, by finding that alum may, in many instances, be substituted with effect for some of the substances already enumerated. Vinegar and vitriolic acid possess an astringent power, and it is of course found in their salts: thus, the acetites of lead and copper, and the sulphats of clay and copper, are employed with singularly good effects.

External astringents are styled *styptics*, and we can more readily understand their action; but some of these act mechanically, as meal, lint, puff ball, and spider's webs. By inviscating the blood and assisting its coagulation, they form a thrombus, which fills the wound of the artery. The other external astringents are some of the substances already mentioned, particularly the earthy and metallic salts; but there is a third kind which act by coagulating the blood more directly: these are ardent spirits.

Astringents are employed externally, in hæmorrhages, in bruises, strains, and inflammations. In the three last the vessels are distended and weakened, and their effects are sufficiently obvious, but will be fully explained under the article INFLAMMATION, q. v.

Internally, they are used also for checking hæmorrhages, and immoderate evacuations of every kind; but the hæmorrhages to which they are adapted are the

passive, for when the action of the vessels is strong, and blood abounds, by lessening the area of the canals, they increase the disease. Their effect is probably produced by their action on the stomach, with which the extreme vessels sympathise; and as these are more irritable than the larger arteries, the astringent power is more conspicuous in them. In general, we have said that they lessen irritability; and they seem in many instances to correct acidity. From each effect they appear to be useful in calculous and nephritic cases. General debility is obviated rather by tonics than by astringents.

There is no great choice in the astringents employed. In moderate complaints it may not be necessary to use at once the strongest; and, in general, if we want a rapid change, sedatives and inirritants, particularly cold, nitre, and opium, are preferable to astringents, which always operate slowly. The acetite of lead is of an equivocal nature; but we have been unreasonably terrified on this subject, and if we interpose oily laxatives, it may be given with some continuance very safely.

Astringent vegetables yield their virtue to water, less perfectly to spirit. The astringency does not rise in distillation, nor is it dissolved by oils.

Medicines which imitate astringents in their effects have been arranged in this class. We have already alluded to sedatives and inirritants. The *solanaceæ* and the *rhœades*, including the fox glove and the poppies, have been for this reason accounted astringents. Abstinence and evacuations have been considered of the same kind.

Demulcents and antacids appear more decidedly astringent, by checking discharges from the bowels. The various boles, for ages commended and employed, may derive some virtue from the iron they contain, if iron be in reality an astringent. The argillaceous earth, of which they chiefly consist, acts as a demulcent in sheathing the abraded bowels. The gum arabic, as its parent plant, the mimosa nilotica, affords the acacia, may perhaps be supposed to possess a real astringency: it is, however, only a demulcent, and the calcined hartshorn is no more.

Chalk, oyster shells, and lime water, seem to act by absorbing redundant acids, which may prove a source of irritation; and, it is said, the earthly salts thus produced are astringent. Of this quality there is indeed no proof; and their combinations with the acetous acid are not found to be so, though of this kind is the acid which abounds in the stomach. If calcareous earth be so useful in leucorrhœa as some have supposed, it will show a degree of astringency at least in the combinations formed within the body. Strontian earth is an active absorbent, and has been, on this account, also recommended as an astringent. But of the virtues, or indeed the safety of this medicine, we know nothing.

See Fordyce. Gregory Conspectus Med. Wallis on Health and Disease. Cullen's Materia Medica.

ASTRI'OLISM, (from *ἀστὴρ, a star*). Blasting, or planet striking.

A'STRIOS. See Astragalus.

ASTROBOLI'SMOS, A'STROBLES, (from *ἀστρον, a star*, and *βαλλω, to strike upon*; i. e. planet struck). The blasting of trees, or mortification by a blast; but when applied to the human body, it signifies an apoplexy or a sphacelus. The first term is brought into our lexicons, but is used only by Theophrastus in his work on plants.

ASTROCYNOLO'GIA, (from *ἀστρον, a star*, *κυνη, a dog*, and *λογος, a dissertation*). The name of a treatise on the dog days.

ASTRONO'MIA, Astronomy, (from *ἀστρον, a star*, and *νομος, law*). It is the science which teaches the knowledge of the heavenly bodies, showing their magnitudes, distances, order, and motion. Hippocrates says, that one ignorant of astronomy cannot be well qualified for a physician. Others, since his days, have greatly extolled the utility of this science in the study and practice of medicine; some styling anatomy the right eye of physic, and astronomy its left: for, they say, such is the influence of the sun, moon, and stars, especially the planets, upon terrestrial bodies, by the intervention of the ether and atmosphere, that they induce very sensible changes in them; but admitting some influence in the planets, it is in a degree too trifling to affect the practice of medicine. The planets may influence our atmosphere, and perhaps in some slight degree our bodies; but meteorology, and those branches of science by which we are taught the nature and properties of the air, seem more directly proper to medical enquiries.

It is pleaded, that the aspects of the stars influence the human body, because in the vernal equinox, or the summer solstice, the force of intermitting fevers is destroyed, though obstinate in all other seasons; and because that the equinoxes are peculiarly hurtful to some patients; but these circumstances are better accounted for on principles less remote than those derived from astronomy. The late Dr. Mead was a great advocate for this branch of science; and Dr. Balfour has more lately endeavoured to show the connection of the access or crisis of fevers with the solar and lunar conjunctions. This connection is not observable in these climates, but its existence cannot be wholly denied in the tropical regions.

A'STRUM, (from the Hebrew term, *aes, fire*). A star. With the chemists this word signifies that virtue and power which result from the preparation: thus the astrum of salt is its resolution into a fluid state, by which it can exert itself more powerfully. Astrum is a name given to many medicines.

A'SUAR. See Myrobalani India.

A'SUGAR. See Ærugo æris.

ASU'OLI. See Fuligo.

A'TAC. See Nitrum.

ATA'XIA. Ataxy, (from *α*, priv. and *τασσω, to order*). Some particular irregularity or disorder.

ATA'XMIR. An Arabic word expressing the method of treating an eye, when preternatural hairs grow under the natural ones.

ATE'CHNIA, *ἀτεχνια*, (from *α*, neg. and *τεχνη, an art, a want of art*). See Anaphrodisia.

A'TER SU'CCUS. See Atra bilis.

A'TERAMNIA, (from *α*, priv. and *τειρω, to break in pieces*). This word occurs in Hippocrates de Aëre, Locis, et Aquis, and is expounded by Galen as signifying difficulty of concoction, and hard. He observes, that the ancients gave this appellation to bad waters, and that, when joined with other words, it hath other significations.

ATHAMA'NTIA CRETE'NSIS. See Daucus creticus.

ATHANA'SIA, (from *α*, neg. and *θανατος*, *death*). So called because its flowers do not wither easily. The immortal plant. A name given to tansey, because, when stuffed up the nose of a dead corpse, it is said to prevent putrefaction: see Tanacetum. It means also *immortality*. The name of an antidote of Galen, and another of Oribasius: it is the name also of a collyrium described by Ætius, and of many other compositions.

ATHA'NOR, ATHO'NOR, (from an Arabic word, *athan*). Among the chemists it is a sort of digesting furnace, contrived to maintain its heat a long time, communicating with its chimney by a lateral canal, as the furnace for a sand bath. It is carried to a considerable height above the part where this canal enters, filled with fuel to the top, and closely covered: as the lower part of the fuel consumes, it is supplied by what is above, which falls down into its place: thus a constant and equal heat is maintained a long time without any attendance. See Fornax.

A'THENA. A plaster in much repute among the ancients.

ATHENATO'RIUM. A thick glass cover, directed in the Theatrum Chimicum, vol. iii. p. 33, to be luted to a cucurbit, when the alembic is taken off in a particular process.

ATHENIO'NIS CATAPO'TIUM. The name of a pill in Celsus's writings.

ATHENI'PPON. The name of a collyrium, also called *diasmyrnes*; and of many other collyria.

ATHENI'PPIUM. See Asclepios.

ATHE'RA, and A'THARA, (from *αθηρ*, *corn*). A sort of food made with wheat flour, like the pap-meat which is given to children. Pliny says it is an Egyptian invention.

ATHERO'MA, (from *αθηρα*, *pulse*, or *παπη*). It is a kind of tumour, thus named from the consistence of its contents, and may be safely extirpated. See Nævus.

ATHLE'TICUS, athletic, (from *αθλεω*, *to contend*). A robust constitution fit for wrestling.

A'THRIX, (from *α*, neg. and *θριξ*, *hair*). See Alopecia.

A'THROON, A'THROUS, (from *αθροιζω*, *to collect*). In medical authors it imports copious, accumulated, or sudden, and is the reverse of by degrees: similar to *confertus*.

ATHY'MIA, (from *α*, neg. and *θυμος*, *courage*). Pusillanimity. In medical authors it usually signifies that dejectedness, despondence, anxiety, and despair, which frequently occur in the course of distempers. In some authors it is synonymous with *melancholia*.

ATI'NCAR, or ATI'NKAR, (from *atin chama*, Arab.). See Borax.

ATITA'RA. See Palma minor.

A'TLAS, (from *ατλαω*, *to sustain*, or *ετλημι*, *to carry*). The name of the first vertebra of the neck; so called because it sustains the head, as Atlas was supposed to sustain the earth. It is a bony ring, and in its back part it receives the processus dentatus of the second vertebra; it hath no spinal process; its transverse processes are very thick; instead of the two superior oblique processes, which the other vertebræ have, there are two oblong holes, which receive the condyles of the os occipitis, and the inferior oblique processes are horizontal to admit of rotation.

ATMOSPHÆ'RA, (from *ατμος*, *vapour*, and *σφειρα*, *a circle*). The atmosphere. See Aer.

ATO'CHIA, (from *α*, priv. and *τικτω*, *pario*). Preternatural labour.

ATO'CIUM, (from the same, so called because some of the flowers bear no seed). See Antirrhinum.

ATOLLI, (Indian). A sort of pap, made of the meal of maize and water, which the Indians mix with their chocolate.

A'TOMUS, (from *α*, neg. and *τεμνω*, *to cut or divide*). An atom. It is a particle of matter exceedingly small; indeed the elementary particles of which bodies consist. Asclepiades taught that atoms were the primordia of all things, and that they were not perceptible to our senses, but only to our understandings; that they had no qualities, for the qualities of bodies which they compose, depend on the order, figure, and number, of many atoms joined together; and this last circumstance he proves by observing, that a lump of silver is white, but if filed down it is black; and horns of goats are black when whole, but white if filed down. Galen says, that Asclepiades, adhering to the sentiments of Democritus and Epicurus with regard to the principles of bodies, had only changed the former names of things, calling *atoms* molecules, and a vacuum, pores. Molecules were, however, divisible, but *atoms* not. This doctrine has been generally admitted as sufficiently probable, though incapable of demonstration, and with greater facility, as no important consequence is derived from it. Kant has, however, endeavoured to subvert it, by substituting what he calls the dynamic philosophy, changing the word *atoms* to *powers*, and real objects to their effects. Mr. Mitchell and Dr. Priestley, many years since, endeavoured to produce a similar change in the fundamental principles of philosophy, by transferring the sensation of resistance from matter, to a medium surrounding it, rather than to the ultimate atoms of the corpuscularian philosophers. Kant's system is very popular in Germany.

ATO'NIA, (from *α*, neg. and *τεινω*, *to stretch*). Atony; defect of muscular power. Relaxation, or debility. This word was much in use among the methodic sect, who ascribed the causes of all distempers to relaxation, stricture, or a mixture of both. It is generally synonymous with palsy, and applied to every instance of debility, particularly in the muscular fibres.

ATOYA'XACOTL, ATOYA'XACOTL CHICHILTIC. See Macaxocotlifera.

A'TRA BI'LIS. *Ater succus; bilis atra;* black bile. According to the ancients it arises, 1st, From the grosser parts of the blood, and this they called the melancholy humour. 2dly, From yellow bile being highly concocted. Dr. Percival in his Essays suggests, that it is the gall rendered acrid by stagnation in the gall bladder, and viscid by the absorption of its fluid parts. *Bile* in this state discharged into the duodenum, occasions universal disturbance until it is evacuated; violent vomiting, or purging, or both; and previously the pulse is quick, the head achs, a delirium, a hiccough, intense thirst, inward heat, and a fetid breath, come on. Some describe this kind of bile as being acid, harsh, corroding, and, when poured on the

ground, bubbling up like a ferment. Dr. Percival says, that, by the use of the infus. sennæ limoniatum warmed with the tinctura columbæ, he has checked the vomitings occasioned by this matter. In many instances this bile resembles blood, and has been considered as such. The distinction is easy when the matter is diluted, as the blood has a reddish, and the bile a yellowish hue. See MELÆMA and MORBUS NIGER.

ATRACHE'LUS, (from α, neg. and τραχηλος, *the neck*). SHORT NECKED.

ATRA'CTYLIS, called *cnicus*, *carduus luteus*, *carduocnicus*, DISTAFF THISTLE, (from ατρακτος, *a spindle*).

It is a plant which grows in Italy, Greece, and other warm countries. Its leaves are of the same nature as those of the carduus benedictus, but the stalk is the part that is chiefly used. The women keep them for distaffs.

ATRAGE'NE, *flammula Jovis*, *clematis recta* Lin. Sp. Pl. 767, and TRAVELLER'S JOY. The whole plant is of a caustic quality, and laid on the skin quickly raises a blister. It has been used as a diuretic; and the infusion or extract has been given in the worst states of syphilis. Externally it has been applied to syphilitic sores and cancers. The infusion has been used in the form of a lotion. From two to three drachms of the dried leaves are infused in a pint of water; and of the extract of the leaves, from one to three grains are a dose. Some species of the clematis have been separated under this generic name, but it contains none of the medicinal kinds. Dale.

ATRAME'NTUM SUTO'RIUM. A name of the GREEN VITRIOL, and *melantoria*. See VITRIOLUM VIRIDE.

ATRAPHA'XIS, or ATRAPHRA'XIS, (from παρα το αρθρως αυξειν; so called from its quick growth). See ATRIPLEX.

ATRE'SIA, (from α, neg. and τραω, or τριω, *to perforate*). IMPERFORATION. See ATRETI.

ATRETA'RUM ISCHU'RIA, (from α, non, and τραω, *to perforate*). A SUPPRESSION OF URINE, from the menses being retained in the vagina. See ISCHURIA VESICALIS.

ATRE'TI, IMPERFORATE, (from α, priv. and τρητος, *to perforate*). Those of either sex are thus called, when their anus, or any other natural aperture, is closed.

A'TRICES, (from α, non, and θριξ, *hair*). Small tubercles near the anus, about which hairs will not grow; and which recede and return, especially at the first. Valesius de Taranta reckoned them among condylomata et fici.

A'TRICI. Small sinuses in the intestinum rectum, which do not reach so far as to perforate into its cavity.

ATRI'PLEX. The Greek term is ATRAPHAXIS, from whence some say the word is derived; q. v. O'RACH, or O'RACHE; also called *atriplex alba* or *rubra hortensis*, *arrache*, *atraphraxis*, *chrysolachanon*; WHITE, RED, or GARDEN ORACH.

It is an annual plant rising from seeds, and chiefly employed in the kitchen.

ATRI'PLEX FŒ'TIDA. Called also *garosmum*, *andraphex*, *vulvaria*, *chenopodium fœtidum*, *chenopodium vulvarium*, *atriplex olida*, *blitum fœtidum*; STINKING ORACH: is the *chenopodium vulvaria* Lin. Sp. Pl. 321.

It hath a strong disagreeable smell, somewhat like that of salt fish. That found growing amongst old rubbish is weaker than that in moister ground. Water takes up all its virtue by infusion; but it loses its strength by keeping. It is a fetid anti-hysteric, antispasmodic, and acts without irritation. It can only be used in its recent state, as when dry it loses its sensible qualities. Therefore the best form is a conserve, of which two or three drachms may be taken in a day. Dr. Cullen wishes it was more often employed, Mat. Med.

ATRI'PLEX. MARI'TIMA, and PORTULA'CA. See HALIMUS.

ATRI'PLEX ODO'RA SUAVE'OLENS. See BOTRYS.

ATRI'PLEX SYLVE'STRIS, WILD ORACH. See CHENOPODIUM, AMBROSOIDES, and RUBRUM.

A'TROPA, BELLADONA, (from Ατροπος, *the goddess of destiny*). See SOLANUM LETHALE.

A'TROPA MANDRAGORA. See MANDRAGORA.

ATROPHI'A, (from α, and τριφω, *to nourish*). *Contabescentia*; *inutritio*; *marasmus*; *ariditas corporis*; an ATROPHY. It is a wasting, with loss of strength; but without hectic fever. Dr. Cullen remarks, that an atrophy perhaps is never without fever, at least the pulse is quicker than usual; but the absence of the *true hectic fever* distinguishes this disease from the tabes. It is also called a nervous consumption. Dr. Cullen places atrophy in the class CACHEXIÆ, and order MARCORES. He enumerates four species.

1. ATROPHIA INANITORUM, from too great evacuations; *tabes nutricum*, *sudatoria*, and a *sangui-fluxu*.

2. ATROPHIA FAMELICORUM, from deficient nourishment.

3. ATROPHIA CACOCHYMICA, from bad nourishment, depraved digestion, or acrimony: *tabes syphilitica*, and *ab hydrope*.

4. ATROPHIA DEBILIUM, where the powers of digestion are weakened or destroyed. The atrophy of children is called *paidotrophia*, and the tabes dorsalis belongs to the fourth species.

An atrophy, from whatever it may proceed, arises from a defective exertion of the assimilating powers of the constitution, an impediment to the application of the nourishment obtained; by which even the functions of the machine, ordained for the support, becomes its destruction; or from a preternatural discharge of the healthy fluids: acrimony, requiring excessive absorption for its attenuation or sheathing, is scarcely an object of the present article, as it is most commonly connected with hectic fever.

The signs in the beginning are, a decrease of strength, loss of appetite without fever, cough, or short breath, though in the progress, when atrophy has induced great weakness, there is some degree of difficulty in the breathing; the urine is inconstant in its colour, though generally high, and small in quantity; sometimes it is pale and profuse; in time the blood seems to grow hot and acrid for want of its due supplies, a febrile heat increases, as well as a cough, and difficulty of breathing. In children this disease frequently happens; and, besides the above mentioned causes, they are subject to it from a sudden change from the breast to more solid food; in which case their legs become pendulous, the habit flaccid, their skin corrugated, and, in many instances, their appetite for food is almost insatiable. As a weakness in their chylopoietic organs

is the cause, so, on dissecting those patients after death, their mesenteric glands are tumefied, their livers much disordered, their intestines filled with black fetid sordes, and the muscles of their bellies extenuated almost to a membrane. It is, however, doubtful whether this disease is not rather referable to scrofula. See TABES MESENTERICA.

Atrophy should be distinguished from leanness, the rickets, and that weakness and leanness in some children, who pine only for want of a due supply from the breast.

The cure will be regulated by the cause.

If this disorder depends on any other, as on a diarrhœa, fluor albus, diabetes, gonorrhœa, or hæmorrhages, the relief will depend on the cure of the original disease.

If the cause is indigestion, with a viscid obstruction of the mesentery, which is the case in children, and sometimes in old people, gentle occasional doses of rhubarb with calomel, or sal polychrest, and in the intervals, stomachics, with warm tonics, are useful. Irritating purges weaken the patient too much. Ferrugineous medicines, and the bark, contribute to the cure; though in this complaint the best plans often fail.

The scrofulous and cancerous cases only admit of palliation, by keeping the circulation as low as the general health will admit. A thin light diet is the most proper, such as jellies of vegetable and animal substances, and broths; supporting the strength by the bark, and dilute vitriolic acid.

When excessive evacuations have been the cause, the decoction of sarsaparilla, salep, chalybeate waters, bark, cold bathing, and gentle riding, are proper. A species is mentioned by authors, arising from a compression of the thoracic duct by a tumour; but this is evidently beyond the reach of medicine, as atrophy from a rupture of this duct would be.

A venereal taint is often an unsuspected cause; in which case mild mercurials, with sarsaparilla, and a milk diet, are the cure. See Sauvages' Nosologia Methodica. Hoffman, Syst. Rat. Medicinæ. Morton. Willis.

A'TTA, (from *ατ]ω, to leap*). Festus says, it is one who, by reason of the tenderness or other defect in his feet, touches the ground lightly rather than treads on it.

A'TTAGEN, ATTAGE'NA PHRYGIA. The name of an Asiatic partridge, so called from its skipping motion; it is commonly known by the name of FRANCOLIN. The Greeks call it *lagopus, hare's foot*, because its feet are downy. It is of a dusky red colour on its back, and seems to be the same as our *red cock*, which Aldrovandus calls *attagen*. Ray names it *francolino Italorum;* and in Gmelin's Linnæus, it is a variety of the *tetrao legopus*. Pliny describes it under the name of *lagopus altera*, and with us it is called the RED COCK, GOR COCK, MOOR COCK, or RED GAME. They are most highly flavoured in autumn, are not remarkable in medicine, though the gizzard, on its inside, is very fragrant just after the bird is killed.

ATTA'LICUS. The name of some compound medicine mentioned by Galen.

ATTENTION, is a voluntary, though sometimes an involuntary exertion of mind, either in expectation, or watching the progress of any successive events. Attention to sounds is regulated by the tension of the membrana tympani; and attention exerted in general, has sometimes obviated nervous paroxysms, or lessened the shock of a smart short pain, as from drawing a tooth. The attention required in some skilful games, as that of chess, has even drawn the mind from the thought of a speedy certain death.

ATTENUA'NTIA, (from *attenuo, to make thin*). ATTENUATING MEDICINES act, it is supposed, by diminishing the consistence of the blood, or secreted fluids, and almost exclusively of the fluids. Those which operate by immediate contact are few, and are water, or such as abound with water, as on this they depend for their action only. Yet water alone will not readily mix with the animal fluids, and it is often thrown out by the kidneys as an injurious substance, unless joined with farinacea or animal juices, so as to be submitted to the action of the stomach. Certainly, water is not alone an attenuant. It may be, however, doubted, whether the blood is in any instance too viscid; the buff coat in blood is owing to a very different state. If, however, the gluten is ever morbidly viscid, the neutral salts are the only proper attenuants, and soap as containing an alkali may be such. The sweet fruits and sugar also produce some effect in attenuating the blood. The obstructions from more solid substances can never be attenuated by any fluid; and the only successful mode of treatment is, to excite the action of the vessels. Mercury may perhaps have some effect, but its influence in attenuating the fluids arises wholly from its increasing the action of muscular fibres of the sanguiferous system. See Hoffman, vol. i. and ii. cap. iv. Cullen's Mat. Med.

A'TTICUM. The name of a plaster used by Hippocrates. When applied to honey or wax it means Athenian: as those, in the neighbourhood of Hymettus, were the best.

ATTO'LLENS, (from *attollo, to lift up*). It is an epithet applied to some muscles, whose office it is to elevate the part to which they are attached.

ATTO'LLENS AURICULÆ SUPE'RIOR MU'SCULUS. A muscle which rises from the corrugator supercilii by a thin fascia.

ATTO'LLENS OCULI, i. e. *Musculus superior*, et *rectus superior oculi*. See ELEVATOR OCULI.

ATTO'NITUS MO'RBUS, et STUPOR, (from *attonitus, surprised*, because the person attacked falls downs suddenly). Names of the APOPLEXY, q. v. It is also given to that species of palsy which succeeds the apoplexy. See PARALYSIS.

ATTRA'CTIO, (from *attraho, to attract*). See REPULSIO and AFFINITAS.

ATTRACTI'VUM, (from the same). ATTRACTIVE. Paracelsus pretends to have had an *attractive* medicine which would draw away the diseases of the body; but the extravagances of this whimsical genius with respect to it, though not deserving a place here, may be met with in his Archidox. lib. vii.

ATTRACTI'VUS, (from the same). ATTRACTORIUS, and ATTRAHENS, are applied to remedies that have a power of attracting or drawing.

ATTRI'TA, ATTRI'TO, (from *attero, to rub together*). ATTRITION. See INTERTRIGO.

A'TYPOS, (from *α*, negative, and *τυπος*, a *form* or *tenor*). IRREGULAR. It is applied to diseases which

have no regularity in their periods; and to a deformity in the limbs.

AUA'NTE, AU'APSE, (from *αυαινω*, *to dry*). The DRY DISEASE. The patient cannot bear either abstinence or eating. Fasting causes a rumbling in his belly, and gnawing pain in his stomach. He vomits up various matters, and after vomiting he is at ease. After eating, there are eructations; an inflammatory heat and redness; a constant feeling as if a painful stool was to be discharged, yet only wind is evacuated; a head-ach; a sense of pricking, as with needles, in different parts of the body; the legs seem heavy, grow feeble and extenuated, and he becomes weak: (Hippocrates). It is not easy from this account to ascertain the real complaint, unless it be an accumulation of sordes in the stomach and bowels. In confirmation of this idea, he prescribed at first a purge, and after it an emetic; he then directs abstinence from fat food, temperance, bathing, unctions, and moderate exercise.

AU'CHMOS, (from *αυω*, *to dry*). The Latins call it *squalor*. It is hot, dry, sultry weather.

AUCUPA'LIS or AUCUPA'RIA, (from *aucupor*, *to endeavour to catch*,) so called because birds are taken by its berries. See ORNUS, and SORBUS SYLVESTRIS.

AUDA'CIA, (from *audax*, *bold*). In a medical sense it is that sort of boldness which we meet with in delirium or madness.

AUDITO'RIA ARTERIA, (from *audio*, *to hear*). The internal auditory artery goes off from each side of the *arteria basilaris* to the organ of hearing, and accompanies the auditory nerve, having first furnished several small twigs to the membrana arachnoides.

AUDITO'RIUS MEATUS, (from the same). The passage that conveys the air to the auditory nerve. It leads from the lower anterior part of the concha to the tympanum, and is partly bony, partly cartilaginous; all within the temporal bone is the bony part, it is the longest, and forms the bottom; the rest is cartilaginous, and makes the external opening or orifice of the canal: these two parts make a canal of about three fourths of an inch long, a little tortuous, and wider in some parts than in others. On the membranous covering of the cartilaginous part we observe the yellow bodies, supposed to be the *glandulæ ceruminis*. The bony part of the *meatus* is nearly horizontal and straight; the cartilaginous part only is curved and winding, which should be observed when a syringe is used to inject any thing with into the ear.

AUDITO'RIUS NERVUS. The AUDITORY NERVE. The seventh pair of nerves are called *auditory nerves*; so are the *sympathetici minores*. This seventh pair of nerves run into the os petrosum, and are there divided into the portio mollis, which is spent upon the labyrinth of the ear, and distributed to the meatus auditorius internus, passing to the vestribulum cochleæ; and portio dura, which goes out by the aqueduct, between the mastoid and styloid processus, passes through the parotid, becomes a cutaneous nerve, and communicates with the upper maxillary. On these nerves, no covering from the dura mater can be traced.

AUDI'TUS, (from *audio*, *to hear*). The sense of HEARING, also called *acoë*. By this sense we perceive the elastic tremors of the air; and to facilitate the function, the organ of hearing is made up of hard bones, and of elastic cartilages and membranes. The elastic air only receives sonorous tremors, and transfers them, as we see water transfer any impulse given to it. The sound is increased in air that is condensed, and is lost in a vessel emptied of its air. The body, which produces sound, ought to tremble or vibrate in the smallest of its particles. From such a tremor the contiguous air is beat into waves, whereby the parts of the air that lie outermost are compressed, and fly back again as soon as their elasticity conquers the impulse. The air consequently flies again towards the sonorous body, where it is now more loose and rarefied, to be again compressed by the impulsive power; and in the same manner the anterior and outer portion of air surrounding that which is impelled, is by the action of the latter compressed and removed further from the trembling body, yet so as to return again in its proper time by the force of elasticity, driving its contents to the tremulous body for the exciting a new wave. These impulsions of the air are required to succeed each other with a certain velocity; and in order to render them audible, they must not be fewer than thirty in a second of time. As these sonorous waves are more frequent in a given time, so much sharper is the sound heard, and the more strongly does it affect us, till we come to the most acute of audible sounds, which have 7520 tremors in a second. Acute sounds are in general yielded from bodies that are hard, brittle, and violently shook or struck; but grave sounds from bodies of a contrary nature. Sounds, whether acute or grave, are carried through the air with a celerity equal to about 1038 Paris feet in a second; but a contrary wind retards their progress about one-twelfth of their velocity. Sounds, as arising from elastic tremors, are reflected from hard bodies in angles, equal to those of their incidence; but the same sound conveyed to the open air, and dilating through an immense sphere, grows proportionably weaker; but if it pass through a tube in a cylindrical shape, it is increased; therefore, the sonorous waves of the elastic air being driven into the cartilaginous funnel of the ear, are repelled and collected together by alternate reflections from its elastic sides into the cavity of the concha, from whence it proceeds through the auditory passage, with a force so much stronger as the surface of the outer ear is larger than the section of the auditory passage, through which the same force is continued entire forward, and increased by new reflections, excited from the percussion of the elastic cartilages and hard bones, so as to mix imperceptibly with the primitive sound. At the bottom of the auditory passage is the MEMBRANE OF THE DRUM OF THE EAR, called MEMBRANA TYMPANI; sometimes by the barbarous terms *myringa*, *myrinx*. It is a thin, transparent, flattish pellicle, the edge of which is round, and strongly fixed in the circular groove which divides the bony meatus of the external ear from the tympanum or barrel: this membrane consists of several plates, one of which is dry, rattling, splendid, and pellucid. It is very tense, easily put into a tremulous motion; and upon it the sonorous waves or modulations of external air strike, move the small bones fixed to it, and it proves a means of sound being readily conveyed to the common sensorium. This membrane is stretched over a cavity in the os petrosum, called the TYMPANUM or DRUM, which consists of several cavities. In the tympanum, which is of an irregular oblong figure, are

the bones of *hearing*, lodged in its hollow part, between the pars petrosa and squamosa of the temporal bones. The cavities of the tympanum are, the opening of the *mastoid cells*; that of the *Eustachian tube*, the *canalis semi petrosus*, *half bony canal*, the *fenestra ovalis*, and *rotunda*. Within the tympanum are suspended the bones of hearing moveably; the first of which is the *malleus*, or *hammer*, whose handle is fixed to the membrane of the drum; and at one end to the second bone, called the *incus*, or anvil, which it resembles in shape, to which it conveys the tremors impressed upon the membrane: the incus rests on the *os orbiculare*, a small round bone, and this upon the stapes or stirrup; the stapes and the air of the tympanum press the auditory nerve, whence the sense of sound is conveyed to the common sensory. When, by the force of external sounds, the membrane of the drum is forced too much inward, it is probably supported by air which passes from the mouth through the Eustachian tube into the inner ear. The importance of the cochlea of the ear, in order to the conveyance of the sound, is very considerable. For a more minute information, consult Haller's Physiology, and the ingenious observations of Dr. Shebbeare on this subject, in his Theory and Practice of Physic, and the article Sonus.

AUGME'NTUM, (from *augeo*, *to increase*). AUXESIS, (from αυξανω, *to increase*). The increase of a disease, from its attack to its height.

AUGU'STA. An epithet given to several compound medicines.

AULI'SCOS, (from αυλος, *a pipe*). See Catheterus, and Fistula.

AU'RA, (from αηρ, *air*, or rather from the Hebrew term aor,) signifies an exhalation, or vapour, which arises from mephitic caves. The chemists mean by it a certain fine and pure spirit, found in every animal and vegetable body; but so subtle as only to be perceptible to us by its smell.

Au'ra epile'ptica. A gradual sensation, like air ascending from some determined part of the extremities upwards, occasioning an epileptic attack. In the *Ephem. Nat. Cur.* An. 3. Obs. 336; and in a treatise of Galen on an epileptic boy, there are evident examples of an epilepsy *per consensum ab aurâ adscendente*.

Au'ra vita'lis. So Helmont calls the vital heat.

AURA'NTIA, (ab *aureo colore*, from its *golden colour*). Enasce'ntia, and Immatu'ra. See Aurantia curassaventia.

Aura'ntia hispale'nsis, called also *mala aurantia fructu acido*, *major arantia malus*, *aurangia*, *mala aurea*, *chrysomelea*, *nerantia*, *martianum pomum*; *poma anarantia*; Seville orange. It is the *citrus aurantium* Lin. Sp. Pl. 1100.

The China and Seville orange are both only varieties of the same species: the latter is only found in our Pharmacopœias; and the *flowers*, *leaves*, *yellow rind*, and *juice*, are made use of for different medical purposes.

The flowers of this tree are highly odoriferous, and are used as a perfume; they are bitter to the taste; they give their taste and smell both to water and to spirit, but most perfectly to rectified spirit of wine. The water which is distilled from these flowers is called *ol. naphæ*. In distillation they yield a small quantity of essential oil, which is called *oleum* vel *essentia neroli*; they are brought from Italy and France.

The leaves have a bitterish taste, and yield by distillation an essential oil; indeed by rubbing them between the fingers and thumb they manifest considerable fragrance. Westærhoef, De Haen, and several German physicians, have spoken highly in favour both of the flowers and leaves, but particularly of the latter, and held them in great estimation as a remedy for epilepsy and other convulsive disorders; but from later experience they have sunk greatly in their reputation. The dose of the leaves in powder was from ʒ ss. to ʒ i. two or three times a day, and in decoction proportionably strong. They resemble the laurel and the bitter almond, and may owe their taste also to the prussic acid.

The yellow rind of the fruit, freed from the white fungous part, is warmer than the peal of lemons, of a more durable flavour, and abounds more with a light fragrant essential oil, which exudes upon wounding it. Infused in boiling water it gives out nearly all its smell and taste; cold water extracts the bitter, but very little of the flavour. In distillation all the oil rises without the bitter. The yellow rind gives an agreeable flavour to the other medicines, and has deservedly gained the character of a pleasant warm aromatic bitter. Its expressed oil is *essence of bergamot*.

The orange peel is commonly employed as a stomachic, promotes appetite, and is particularly useful in restoring tone to the stomach when it has been impaired by excess. It has been also much celebrated in cure of intermittents, and in those of a most obstinate kind; and as a powerful remedy in menorrhagia, and immoderate uterine evacuations. It is, however, little more than a light bitter, not very powerful in any of these diseases. The London college direct a syrup and tincture. In the former, eight ounces of the peel are steeped in five pints of water; and in the latter, three ounces of the peel are digested in a quart of proof spirit.

The juice of Seville oranges is a grateful acid, which, by allaying heat, quenching thirst, promoting various excretions, and diminishing the action of the vascular sanguiferous system, proves extremely useful in both ardent and putrid fevers, though the China orange juice, as impregnated with a larger proportion of sugar, becomes more agreeable, and may be taken in larger quantity. The Seville orange juice is particularly serviceable as an antiscorbutic, and alone will prevent or cure scurvy in the most apparently desperate circumstances. In dyspepsia, putrid bile in the stomach, both lemon and orange juice are highly useful. The acid of the Seville orange differs in some of its pharmaceutical properties, both from the fermented acid of vinegar, and from the native acid salts of the leaves or plants: from the former in its not being volatile, or not exhaling upon inspissating the juice, nor rising in distillation with the heat of boiling water; from the latter, in its being soluble in spirit of wine: the inspissated juice liquifies in air, water, or spirit of wine; whence it is easily preserved during many years, either in the form of an extract, or in a spirituous solution.

Aura'ntia curassave'ntia. Aure'ntium curassa'vense. Curassoa, or curassao, apples, or oranges. They seem to be the immature oranges that by some accident have been checked in their

growth. They are a grateful aromatic bitter, of a flavour very different from that of the peel from the ripe fruit, and without any acid; what little tartness they have when fresh is lost in drying. Spirit of wine extracts perfectly all their virtue; water imperfectly: infused in wine or brandy they afford a good bitter for the stomach. They are used to promote the discharge in issues, whence their name of ISSUE PEAS, and to give the flavour of hops to beer.

AURANTIA SINENSIS, called also *aurantia dulcis*, *poma Sinensia*, *mala aurantia Chinensia*, CHINA or SWEET ORANGES.

The rind hath a faint smell, with but little bitterness, and is never used in medicine; the juice hath a grateful subacid sweetness, in general of the same qualities as our summer fruits.

AURA'TUS GERMANO'RUM, (from *aurum*, *gold*). It is an oleo-saccharum with the oil of cinnamon, called AU'RUM HORIZONTA'LE.

AU'REA ALEXA'NDRIA. An antidote invented by Alexander.

AURELIA'NA CANADE'NSIS IRO'QUÆIS, (ab *aureo colore*, from its *golden colour*). See GENSING.

AU'REUS, (from the same). A weight equal to a drachm and a half; also a pompous appellation for many compound medicines. Blancard says it was a weight amongst the Arabians of a drachm, a seventh part; the same with *denarius*.

AURICHA'LUM, a corruption of ORICHALCUM. See Æs.

AURICO'LLA, (from *aurum*, *gold*, and κολλαω, *to glue together*). A substance with which goldsmiths solder gold. See TINCAL.

AURI'CULA (from *auris*, *the ear*). The EXTERNAL PART of the EAR; which is divided into the upper part called *pinnà*, and the lower soft part called *lobus*, or *lobulus*. The pinna is divided into several eminences and cavities; the eminences are the *helix*, called also *capreolus*; *anti-helix*; *tragus*, called also *anti-lobium*; and *anti-tragus*.

The *helix* is the large border round the ear, or the exterior compass of the ear; so called because of its tortuosity.

The *anti-helix* is the large oblong eminence, surrounded by the helix.

The *tragus* is the like anterior protuberance, opposite to the lobe, below the fore part of the helix, which in the aged is often covered with hairs.

The *anti-tragus* is the posterior protuberance below the inferior extremity of the anti-helix. The name of a muscle which acts only upon the cartilage of the ear.

The cavities are the *scapha*, on the inside of the helix; the *cavitas innominata* or *fossa navicularis*, at the anterior upper part of the anti-helix; the *concha*, which is situated under the anti-helix, divided by a *septum*, which is a continuation of the helix; and the *meatus auditorius externus*.

The *auricula* is composed chiefly of cartilage, which gives and preserves its shape. It hath the advantage of being variable, for there are certain small muscles called *helicalis major* and *minor*, *tragicus*, and *anti-tragicus*, which are peculiar to the ear; they act only upon the cartilage, and contribute to direct it towards sound; or by giving a greater tension, to increase its intensity.

The external ear is fixed to the cranium, not only by the cartilaginous portion of the meatus, but also by the ligaments, viz. the anterior, which is fixed by one extremity to the root of the apophysis zygomatica of the os temporis, close to the corner of the glenoid cavity, and by the other extremity to the anterior and superior part of the cartilaginous meatus. The posterior ligament is fixed by one end to the root of the mastoid apophysis, and by the other to the posterior part of the convexity of the concha, so that it is opposite to the anterior ligament. There is also a kind of superior ligament which seems to be only a continuation of the aponeurosis of the frontal and occipital muscles.

The lobe seems to be a doubling of the teguments; it is only skin and cellular membrane. For a particular account of the vessels, &c. see AURIS.

AURI'CULA I'NFIMA. The LOBE of the EAR. Besides, it is the specific name of several herbs, from their supposed resemblance to ears.

AURI'CULA LE'PORIS. See BUPLEURUM.

AURI'CULA MURIS. See ALSINE.

AURI'CULA URSI, called also *sanicula Alpina lutea*, YELLOW BEAR'S EARS, *oricola*, and FRENCH COWSLIPS. It grows plentifully in Switzerland, Savoy, and many other places; bears thick, large, green leaves; and on the tops of the stalks there are flowers of different colours. In Utrecht this flower is called *primula odorata*, on account of its agreeable smell. The juice removes spots on the face.

AURI'CULÆ CO'RDIS. Two muscular bags at the basis of the heart. See COR.

AURI'CULÆ JU'DÆ, called also *fungus sambuci*, *fungus membranaceus*, *peziza auriculam referens*, *agaricus auriculæ forma*; JEWS' EARS. *Peziza auricula* Lin. It is a sort of fungus, which grows on elder trees; its internal use is generally thought not safe, but a decoction in milk has been a much esteemed gargle in the quinsy.

AURICULA'RIA, (from *auricula*, *the ear*). See MENTHA PALUSTRIS FOLIO OBLONGO.

AURICULA'RIS. See EXTENSOR MINIMI DIGITI.

AURICULA'RIS DI'GITUS. The little finger is called the ear finger, because with it we are most apt to rub and pick the inner ear.

AURICULA'RIS ME'DICUS. A physician for the ear.

AURICULA'RIUS. Belonging to the ear, also an ear doctor.

AURICULA'RUM SEPTUM. See COR.

AURICULA'TUM, vel AURI'TUM FO'LIUM, an EARED LEAF, from *auricula*, a little ear; twisted into the form of a little ear, or having an appendage like a little ear: or they are heart shaped, but have the corners prominent and rounded, but with an additional smaller lobe near the base

AURI'GA. A WAGONNER. A sort of bandage for the sides, described by Galen. So called because it is made like the traces of a wagon-horse. It was also a name given by the ancients to a lobe of the liver. They divided the liver into four lobes; the *first* was called FOCUS, from a ridiculous belief that there the food was concocted; *second*, MENSA, because they thought the

aliments of the limbs were placed there; the *third* CULTER; and *fourth* AURIGA, as conducive to the distribution of the aliments.

AURI'GO, (ab *aureo colore*, from its *yellow colour*). See ICTERUS.

AURIPIGME'NTUM, (from *aurum*, *gold*, and *pigmentum*, *paint*,) also called *arsenicum croceum*, *arsenicum flavum*, *adarnech*, *albimec althanaca*, *ethel*; ORPIN, ORPIMENT, and AURIPIGMENT. Galen called it *arsenicum*, and Serapion *narueth*.

There are three kinds of orpiment; the gold coloured; the deep red mixed with yellow, called *andarac*, *auripigmentum rubrum*; and the greenish and yellowish, which is the least valuable. The best is a yellow shining sulphureous mineral, consisting of little flakes or scales like talc. If powdered orpiment is set on fire, it will flame, and yield the odour of common brimstone; if a plate of copper is held over these fumes at their first rising, it becomes white and brittle; an iron plate is also turned white by them; and it is soluble in oil. But, as is the case with crude antimony, its sulphureous combination is such as to render the arsenic inert. If it is kept long in a subliming vessel over the fire, the whole mass is raised, and concretes in the upper part of the vessel into a red pellucid substance like a ruby, leaving only a very small portion of metallic earth at the bottom.

Some use it for fumigating venereal ulcers; Drs. Boerhaave, Mead, and others, commend its fumes in asthmas; mixed with quick lime it hath been used as a depilatory. The painters use it for a gold colour, without the idea of its being poisonous; but if swallowed, its effects are similar to those of the hydrargyrus muriatus.

AURIPIGME'NTUM RU'BRUM. See REALGAR.

AU'RIS, (from *aura*, *air*, as being the medium of hearing). The EAR. The *ear* is usually divided into the external and the internal. By the external is meant all that lies without the external orifice of the meatus auditorius in the os temporis; see AURICULA. By the internal, all that lies within the cavity of this bone; the orifice of which is called *cyar*. For MEATUS AUDITORIUS, TYMPANUM, and LABYRINTH, see LABYRINTHUS, &c.

The arteries of the external *ear* come anteriorly from the arteria temporalis, and posteriorly from the occipitalis. The veins are branches of the external jugulars. The portio dura of the auditory nerve having passed out of the cranium through the foramen stylomastoidæum, gives off a branch, which runs up behind the ear, whence it sends off several filaments to the meatus and fore side of the ear. The second vertebral pair send also a branch to the *ear*, the ramifications of which communicate with those of the other branch from the portio dura.

The bones of hearing, called *malleus*, *incus*, *orbiculare*, and *stapes*, are placed in the cavity of the tympanum, immediately on the inside of the membrana tympani. The malleus is joined by its handle to the membrana tympani, and its round head rests on the incus, the long leg of which rests on the os orbiculare, which is fixed to the fore part of the stapes, the sole of which rests on the hole called fenestra ovalis.

The use of the external *ear* is to collect sounds, and to render their impression on the other organs of hearing most perfect; this is evident from those who have their ears cut off being obliged to use a horn, or some means to assist them in hearing: all animals, as deer, hares, &c. whose ears have much motion, always direct them so as to meet the sound.

How hearing is effected, see AUDITUS and SONUS.

On the ears, see Cassebomius, Du Verney, Valsalva, Celsus, and Winslow's Anatomy. They treat either of the anatomy or the disorders of the ear.

AU'RIS MARINA. AU'RMAR. A shell fish very common on the coast of Scotland, Guernsey, Normandy, &c. It is shaped like an ear, it adheres to rocks, and to render them eatable they are first boiled, then fried.

AURISCA'LPUM, from *aurem scalpere*, an ear picker.

A'URIST, an EAR DOCTOR.

AU'RUM, (from *aor*, *resplendence*, a Hebrew term). GOLD; called also *sol*, and *rex metallorum*, *deheb*, *cor*. The filings are named *catma*; the chemists call it sol, because they thought it to be under the influence of the sun. Its character is a circle with a dot in the middle, thus ⊙, denoting a body perfectly inacrimonious, smooth, and equal.

The greatest part of what we have comes from America, particularly from the mines of Peru; but the Asiatic is esteemed the finest. Sometimes it is found pure and unmixed in small grains or in large lumps, and is then called VIRGIN GOLD; but it generally rises in ores of different kinds: its chief matrix is flint; and all sand contains a greater or less quantity of it.

Gold is somewhat more than nineteen times heavier specifically than water. The Arabians introduced it into medicine; Avicenna esteemed it for its cordial quality, and a comforter of the nerves; but as in every state it is insoluble by any of the animal fluids, it can only be an amulet against poverty.

It is not surprising, however, that the alchemists, to whom we are indebted for so many chemical remedies, should have tortured this metal for the service of the art of healing. The cordial qualities were supposed to assist medicines of this class; and even a heated mass of gold, extinguished in a fluid preparation, gave it the name of *solar*. The pure leaf gold has been employed with some success to exclude the access of air; and in some measure to prevent the pits of the small pox; and as a defence to sore nipples from the saliva of a child, particularly when affected with aphthæ.

The aurum-fulminans has been employed as a medicine since the time of Crollius, and its use has been lately revived. It is gold precipitated from its solution in aqua-regia (nitro muriatic acid) by a volatile alkali; or, if the sal ammoniac is added to the nitrous acid to form the aqua regia, the fixed alkali will answer the same purpose. Whether from careless washing, or from the metal itself, the worst effects have followed its exhibition; and colics, convulsions, faintings, and cold sweats, have been the consequences. In smaller doses it is said to be an useful sudorific in the worst fevers; and Angelus Sala observes, that it is a certain and easy laxative. Lemery has supposed, from chemical views, that it may be of service in diseases arising

from a too copious use of mercury; and modern practice, from the usual tonic powers of metals, has employed it, apparently with success, in chorea.

Some other preparations of gold may be shortly mentioned, though many of these supposed to contain it have not a particle of the metal in the whole composition. The *aurum potabile*, *tinctura solis*, with many other sounding applications, are of this kind. The preparation is either concealed or described with a suspicious reserve; but it seems to be only an ethereal oil coloured with gold, or some substance resembling its golden hue. The *aurum vitæ* of Quercetanus is a calx of gold dissolved in vinegar, seemingly by the medium of spirit of wine. The *magisterium auri* is the aurum fulminans, digested repeatedly with the spirit of baum, and mixed with $\frac{1}{20}$ of ambergrise, as much musk, and $\frac{1}{2}\frac{1}{2}$ of saffron. This preparation, in a dose of from three to five grains, is said to be tonic, antiseptic, alexipharmic, and antispasmodic. It is the foundation of many other preparations which are exuberantly extolled, but which modern practice rejects. We shall notice but one other, which merits some notice, as it is honoured with a place in the Wirtemberg Dispensatory; and if any preparation of gold is useful, this promises to be so. It is styled *cornu cervi auratum;* and consists of leaf-gold very carefully rubbed with powdered hartshorn, and calcined in a crucible till it assumes a purplish colour. It is used in malignant fevers; in measles and small pox as a cordial; but may probably be an useful tonic.

Au'rum ele'mpium. See Succinum.

Au'rum horizo'ntale. See Auratus Germanorum.

Au'rum pota'bile. See Lentsigus.

Au'rum lepro'sum. See Antimonium.

Au'rum vegeta'bile. A name given to saffron. See Crocus.

AUR'US BRASILIE'NSIS. See Calamus arom. Asiaticus.

AU'STER, (from *αυω, to burn*). The south wind, which is warm, moist, and productive of putrid diseases. It means also austere, and arises from the union of acid with astringent particles, such as in unripe fruits.

AUSTROMA'NTIA, (from *αυστης, the wind*, and *μαντια, divination*). Pretending to tell events from observation of the winds.

AUTA'LIS. See Dentalium.

AUTHE'MERON, (from *αυτος, the same*, and *ημερα, a day*). The very same day. A medicine is thus called that gives relief on the same day it is taken. Galen describes two remedies of this kind.

AUTOPHO'SPHORUS, from *αυτος, itself*, and *φωσφορος, phosphorus:* real *phosphorus*). See Phosphorus.

AUTO'PSIA, AUTOPSY, (from *αυτος, himself*, and *οπτομαι, to see*). Ocular evidence.

AUTO'PYROS, from *αυτος, itself*, and *πυρος, wheat*). See Bread.

AUTU'MNUS, (from *augeo, auctum*, because, Festus says, at this time the fruit of the earth, and the labours of men, are increased). Autumn. The season of the year between summer and winter, beginning astronomically at the equinox, and ending at the solstice: popularly it comprises August, September, and October. Celsus wisely advises people to begin early in this season to wear warmer clothes, for the irregularity of the weather subjects them to a variety of diseases.

AUXE'SIS. See Augmentum.

AUXILIA'RII MUSC, (*auxilium, assistance*). See Pyramidalis musculus.

AU'XYRIS, (a corruption of *Osyris*). See Asyris.

AVACCARI, (Indian). A little tree, the leaves, fruit, and flowers of which resemble the myrtle; but it is more astringent. It grows on mountains in the province of Malabar, and is used against dysenteries; but not yet described so clearly that its systematic arrangement can be ascertained.

AVARA'MO, (Indian). The name of a siliquose tree which grows in Brasil. Its bark is externally of an ash colour, and internally very red; both it and the leaves are astringent: a decoction of the bark hath been supposed to dry ulcers, and is said to have cured cancers. Raii Hist. It has not been noticed by systematic authors.

AVELLA'NA, (from *Abella*, or *Avella*, a town in Campania where they grow,) *corylus avellana* Lin. Sp. Pl. 1417. The hazle nut. Miller takes notice of six sorts; viz. the hazle nut, the small manured ditto, the large cob nut, the Spanish nut, the red filbert, and the white filbert.

The iuli, or katkins, which grow on the trees early in the spring, and the shells, are restringent or binding. An emulsion made of the kernels of nuts or filberts, and mead, is commended in coughs. Filberts nourish more than nuts; but the oil is so closely united with the mucilage that they are very indigestible; the roundest kernels are most esteemed. They all afford a considerable quantity of an agreeable soft oil by expression.

Avella'na catha'rtica. See Cataputia minor.

Avella'na Mexicana. See Cacao.

Avella'na purga'trix. See Cataputia minor and Ben.

Avella'na India'na versico'lor. See Areca.

AVELLA'NÆ I'NDICÆ GE'NUS OBLO'NGUM. An inferior species of nutmegs.

AVE'NA, (from *aveo, to covet*, because cattle are very fond of them). *A. sativa* Lin. Sp. Pl. 118. Oats. The two kinds, the black and white, have similar virtues, but the black ones are preferred for horses, as more nutritious; they are less so than rice or wheat, yet afford a sufficient nourishment to as active and vigorous a people as the world produces; viz. the Highlanders. Gruels made with the flower, called oat meal, digest easily, have a soft mucilaginous quality, by which they obtund acrimony, and are used for common drink and food in inflammatory disorders, coughs, hoarseness, roughness and exulceration of the fauces. A subacid jelly made with oats is a pleasant summer food, and highly useful as an antiphlogistic diet in fevers. It is called *sowins*, sometimes *frumenty*.

Water gruel answers all the purposes of Hippocrates' ptisan: it forms externally, with vinegar and oil, *emollient* poultices for sprains and bruises, and *stimulant* ones with the grounds of strong beer for tumours, of a gangrenous tendency, or in poor emaciated habits. For that named Græca and Sterilis, see Ægylops.

AVE'NQUA. See Adianthum Canadense.

A'VENS. See CARYOPHYLLATA.

AVER'SIO, (from *averto, to turn from*). The diverting of a flux of humours from one part to another; a nausea or inappetency; the recession of the uterus from its proper place.

A'VES, CY'PRIÆ. See CANDELA FUMALIS.

AVICE'NNIA TOMENTO'SA. See ANACARDIUM.

AVIGATO PEAR, *laurus persea* Lin. Sp. Pl. 529. A nutritious tropical fruit, supposed to be antidysenteric. The sailors eat the unripe fruit as an antiscorbutic.

A'VIS ME'DICA, (from *avib*, Hebrew). The PEACOCK. See ALIMENT.

AVOIRDUPOIS. This, in the French language, signifies *to have weight;* because the pound so called contains sixteen ounces, and hath more weight by some ounces than that which is called Troy weight, which contains twelve ounces; more probably from its being employed in weighing the heavier articles.

AVO'RNUS. See ALNUS NIGRA.

AVRA'RIC. See ARGENTUM VIVUM.

A'VRUM. See SUCCINUM.

A'XEA COMMISSU'RA. See TROCHOIDES.

AXE'DO. The name of a spell in Marcellus Empiricus, to render a person impotent.

AXI'LLA, (*Atzil*, Hebrew; but Scaliger derives it from *ago, to act*, and from thence *axis*, and *axilla*). The ARM PIT, called also *mascale, titillicum, male*. When an offensive smell is perceived from the arm pit, Dioscorides and Ætius recommend the decoction of wild artichoke in wine, which, by bringing off much fetid urine, may produce a cure. See also ALA.

AXILLARES GLANDULÆ. Conglobate glands in the axilla, through which the absorbents of the upper extremity pass.

AXILLA'RIA ARTE'RIA. The SUBCLAVIAN ARTERY having left the thorax immediately above the first rib, in the interstice between the portions of the scalenus muscle, there receives the name *axillary*, because it passes under the axilla. This axillary artery detaches the external mammary arteries to the breast; and lies behind, on the inside of the coraco brachiæus: when it has got to the under side of the subscapularis, it gives off a branch to that muscle, the serratus major anticus, &c. The axillary artery gives off the inferior scapular, which passes backwards, chiefly to the infra spinatus. Just below the head of the humerus, the axillary throws off the humeral or articular artery, which, passing round the joint, anastomoses with its fellow. The axillary artery commonly runs down behind the tendon of the pectoralis major, then passes over the coraco brachiæus, goes down on the inside more and more forward, just covered by the inner edge of the biceps, passes under the aponeurosis of that muscle; and a little below the bend of the arm, between the pronator teres and supinator radii longus, divides into the radial and ulnar arteries.

AXILLA'RIS NE'RVUS. The AXILLARY NERVE; also called the ARTICULAR NERVE, arises from the last two cervical pair; it runs in the hollow of the axilla, behind the head of the os humeri, between the musculus teres, major and minor, and turning from within outwards and backwards round the neck of the bone, runs to the deltoid muscles.

AXILLA'RIS VENA. The AXILLARY VEIN, is the continuation of the subclavian from its passage out of the thorax to the opposite side of the axilla.

A'XIS, (from *ago, to act*). That round which any thing revolves or is supposed to revolve. With ANATOMISTS it is the name of the second vertebra, and according to some the first vertebra, of the neck; it hath a tooth which goes into the first vertebra, and this tooth is called the *axis*, by others the axle. Blancard says it is the third vertebra from the skull.

A'XIS ARTE'RIÆ CŒLI'ACÆ. See CŒLIACA ARTERIA.

AXU'NGIA, from its use, *unguendi, axem*. HOG'S LARD. See ADEPS.

AXU'NGIA CASTO'REI. See CASTOR.

AXU'NGIA DE MUMIA. See MEDULLA.

AXU'NGIA VITRI. SANDIVER, OR SALT OF GLASS; it separates from glass whilst making; it is acrid, and hath been used to clean the teeth.

AYAPA'NA. A plant brought to the Isle of France from the Brasils, supposed to be a certain remedy for phthisis and the bites of serpents; but, as Bory in his late voyages informs us, is really useless.

AYBO'RZAT. See GALBANUM.

AY'CAPHAR, and AY'COPHOS. See ÆS USTUM.

A'ZAC, (from *asak*, Arabic). See AMMONIACUM.

A'ZADAR ACHE'NI A'RBOR. See AZEDARACH.

AZA'GOR. See ÆRUGO.

AZA'NITÆ A'COPON. The name of an acopon or ointment, in P. Ægineta.

AZA'NITÆ CERA'TUM. The name of a cerate in Oribasius.

A'ZAR. See ADROP.

AZA'RNET. See AURIPIGMENTUM.

A'ZED. An inferior kind of camphor among the Arabians. The finest was called *alcansuri;* the second *abriagi*. The first was the natural exudation from the tree; the second was a very pure kind carefully sublimed. The azed was the present camphor of commerce.

AZE'DARACH, AZE'DRACHINI, (Indian). Called also *pseudosycomorus, azadar, tacheni arbor, arbor fraxini folio flore cæruleo, zizipha candida, anabephou. Acostæ zodoaria candida. Melia azederach* Lin. Sp. Pl. 550. It is a tall tree in the island of Ceylon, and other parts of the East Indies. It resembles an ash; the fruit is like an olive, and from it oil is expressed for staining cotton: the pulp of the fruit is said to be poisonous, but the taste is not disagreeable. Another species is a native of the coast of Malabar; the *m. azederacta* Lin. Sp. Pl. 550. The oil expressed from its fruit is used to cure bites of serpents, and to restore flexibility to contracted limbs. The leaves, infused in juice of lemons, are supposed to be vulnerary and anthelmintic. Wildenow has described two other species of similar virtues. See Raii Hist.

AZE'DEGRIN. See HÆMATITES.

A'ZEFF. SCISSILE ALUM. See ALUMEN.

A'ZEG. See VITRIOLUM.

AZEMA'FOR. RED LEAD. See PLUMBUM.

AZEMA'SOR, and AZYMAR. See CINNABARIS.

AZE'NSALI, A sort of moss that grows on rocks.

A'ZIMAR. BURNT COPPER. See ÆS USTUM.

A'ZOTUM, AZO'TICUS GAS, (from α, non, and ζωη, *vitâ*). AZOTE, AZOTIC GAS. This is the noxious part of the atmospheric air; see AER. Formerly called *phlogisticated air;* and *atmospheric mephitis*. It has been called AZOTE by modern chemists, because the chemical properties of the noxious portion of atmospheric air being hitherto little known, they have thought it right to derive the name of its base from the known quality of killing such animals as breathe in it. It is a tasteless, inodorous element, existing in a large proportion in the atmosphere, and is obtained copiously from the fibrous parts of animals by means of nitric acid. Mixed with vital air or oxygen, in the proportion of 72 to 28, it forms air similar to atmospheric air; combined with hydrogen, it constitutes volatile alkali; and with carbon, the gluten of animal fibres; it is the basis of the nitrous acid. The weight of this gas, at the temperature of 54, 50, and under a pressure equal to 28 inches of the barometer, is 1 oz. 2 drachms and 48 gr. to the cubical foot, or 0.444 of a grain to a cubical inch; and to common air it is as 942.6 to 1000. See Lavoisier's *Elements of Chemistry*. According to Kirwan, it is as 985 to 1000. We have much reason to suppose, as already hinted, that a larger proportion of azote in the air we breathe might be medicinally useful; but on this subject there are many doubts; and until it can be separated from ignorance, presumption, and quackery, such doubts must remain.

AZOTH, is a name for BRASS. It sometimes signifies the quicksilver of any metallic body. See REBIS.

A'ZRAGAR. See ÆRUGO ÆRIS.

A'ZUB. See ALUMEN.

A'ZUR. See CORALLIUM RUBRUM.

A'ZURIUM. A chemical preparation described by Albertus Magnus. It consists of quicksilver two parts, sulphur one-third, sal ammoniac one-fourth, mixed in a mortar, and set in a vessel over the fire till a bluish smoke arises: it must be then taken from the fire, the glass broke, and the contents powdered.

A'ZYGES, (from α, neg. and ζυγος, *a yoke*). See SPHÆNOIDES OS.

AZ'YGOS MORGA'GNII. See STAPHYLINI.

AZ'YGOS, vel A'ZIGOS, (from α, neg. and ζυγος, *a pair; without a fellow*). The musculus *azygos* of Morgagni rises tendinous from the junction of the ossa palati, and runs down the palatum molle to the middle of the uvula, serving to elevate it.

A'ZYGOS PROCE'SSUS. See SPHÆNOIDES OS.

A'ZYGOS VE'NA. *Vena sine pari*. A vein situated within the thorax on the right side, *having no fellow* on the left. It arises posteriorly from the vena cava superior, a little above the pericardium; it is immediately bent backwards over the origin of the right lobe of the lungs, forming an arch which surrounds the great pulmonary vessels on that side, as the arch of the aorta does on those on the left, with this difference, that the curve of the azygos is directly backwards, but the other is oblique: from thence it runs down by the right side of the vertebræ dorsi, and before the intercostal arteries; and passing behind or below the diaphragm, it terminates by an anastomosis, sometimes with the vena renalis, at others with the neighbouring lumbar vein, sometimes immediately with the trunk of the vena cava inferior.

The vena azygos sends out branches from its upper part to the aspera arteria and bronchiæ by the name of venæ bronchiales; afterwards it sends out the *intercostales dextræ superiores;* lower down, the *intercostales dextræ inferiores*.

Sometimes there is an azygos on the left side, proceeding from the arch of the common azygos: it is afterwards distributed in the same manner as the other on the right side; but this disposition is very variable.

The azygos having reached the last rib, sends off a large branch, which, bending outwards, perforates the muscles of the belly, is ramified betwixt different planes, and communicates with the branches of the intercostal veins which run there.

A'ZYMOS, (from α, neg. and ζυμη, *ferment*). UNFERMENTED BREAD, AS SEA BISCUIT, which, Galen observes, is not very wholesome, except were the digestive powers are too strong. See BREAD.

B.

BAG

B. See Argentum vivum.

BABUZICA'RIUS, (from βαβαζω, *to speak inarticulately;* because the voice is apt to be inarticulate and confused in this disorder). See Incubus.

BA'CANON. Cabbage or rape seed.

BA'CCA MONSPELI'ENSIS. See Baccharis.

BA'CCÆ, are small roundish fruit that grows scattering upon trees and shrubs, and in that are distinguished from acini, which are berries hanging in clusters.

Baccæ norlandicæ, the berries of the *rubus arcticus* Lin. Sp. Pl. 708. Supposed to be cooling antiseptic, perhaps antiscorbutic.

Ba'ccæ bernu'dæ. See Saponariæ nuculæ.

BA'CCAR, BA'CCHARIS, (from *bacchus, wine,*) from its fragrance resembling that liquor. Also called *bacca Monspeliensis, conyza tertia Dioscorides, eupatorium. Inula dysenterica* Lin. Sp. Pl. 1237. Great flea bane, ploughman's spikenard. It is a sweet-scented shrubby plant, used for making garlands; and delights in rough and dry grounds. The roots smell like cinnamon, and are a powerful emmenagogue; the leaves moderately astringent.

BA'CCHIA, (from *bacchus, wine,* because it generally proceeds from hard drinking and intemperance). See Gutta rosacea.

BA'CCHICA, (from *Bacchus,* because he was generally crowned with it). See Hedera terrestris.

BA'CCHUS. The fish called mullet. See Mugilis.

BA'CCIFER, (of *bacca, a berry,* and *fero, I bear*). An epithet added to the name of any tree, shrub, or plant, that bears berries.

BACHE'RI PILULÆ TONICÆ. See Ascites.

BACI'LLI. See Trochisci.

BACI'LLUM. See Candela fumalis.

BA'DIAGA. A kind of sponge usually sold in Russia, the powder of which takes away the livid marks of blows and bruises within a few hours. It differs, however, from the sponges and alcyoniums, as it is full of small hard grains, connected by friable herbaceous fibres, and grows under the water. It is only described by Bauxbaum, and its nature is not properly understood.

BA'DIAN. SEM. See Anisum Indicum.

BÆ'OS. In Hippocrates it means *few;* but in P. Ægineta, it is an epithet for a malagma.

BAGNIGGE WELLS WATERS. These wells are situated at the bottom of the hill on the south-

BAL

west side of Islington; the water is clear, and tastes slightly brackish, like a weak solution of Epsom salt. From a gallon of this water evaporated, Dr. Bevis obtained 135 grains of insoluble earth, 257 of bitter purging salt, mixed with a marine salt, from whence they derive their purging quality. Dr. Monro thinks it probable that the salt of this water is mostly an Epsom salt, with a good deal of a bittern; because it runs easily per deliquium, and is very difficult to crystallize. In most constitutions three half pints are considered a full dose for purging.

BA'GNIO. (from *bagno,* Italian). A sweating house.

BAGS. Various medicinal substances were usually confined in thin bags, and applied to the part affected. These were chiefly cordials applied to the pit of the stomach in deliquia; anodynes and antispasmodics to the pit of the stomach in hysteria and colic; and sedatives or discutients to the head in its diseases. Malt liquors are medicated or perfumed by substances in bags; and clothes scented in a similar way.

BA'HEI COYO'LLI. See Areca.

BA'HEL SCHU'LLI. An Indian tree; also called *genista spinosa Indica verticillata flore purpureo cæruleo.* It resembles the *barleria buxifolia* Lin. Sp. Pl. 887; but is probably not the same, as the latter is represented in Rheed's 42d table, but the real species occurs in the 45th. It is of the family of the canthoides, and is a thorny shrub, of which there is one species growing in sandy ground, another in watery. A decoction of the roots is diuretic; the leaves boiled and sprinkled in vinegar have the same effect. Raii Hist.

BA'IAC. See Plumbum.

BA'LA. See Musa.

BALÆ'NA, major and vulgaris, (from βαλλω, *to cast,* from its power in casting up water). See Cetus.

Balæ'na macroce'phala. See Cete admirabile.

BALAMPU'LLI. See Tamarindus.

BA'LANDA, (from βαλανος, *a nut*). See Fagus.

BALANI'NUM, Ol. (from βαλανος, *an acorn*). Oil of the Ben nut.

BALANOCA'STANUM, (from βαλανος, *a nut,* and καστανον, *a chesnut*). See Bulbocastanum.

BALA'NOS, (from βαλλω, *to cast,* because it sheds its fruit upon the ground; or from the Hebrew term, *balon,* proceeding from the oak). See Quercus, Suppositorium, Pessarium, Penis glans and Adipsos. Theophrastus uses it sometimes to express

any glandiferous tree. From the similitude of form, this word is used to express *suppositories* and *pessaries*.

BALARUC, WATERS OF, in France, are warm, about 128° of Fahrenheit; chiefly saline and purgative, without iron or sulphur.

BALAU'STIA, BALAU'STIUM, (from βαλιος, *various*, and αυω, *to dry*; so called from the variety of its colours and becoming soon dry: or from βλαστανω, *to germinate*). Called also *malus punica sylvestris*; *granatus sylvestris*, *punica granatum*, the double flowered wild POMEGRANATE, or the BALAUSTINE TREE. The *punica granatum* Lin. Sp. Pl. 676.

Balaustium is properly the cup of the flower of this tree. The *balaustines* of the shops are large rose like flowers of a deep red colour, set in long, bell shaped, tough cups. The plant is a native of the southern parts of Europe, and is cultivated in our gardens for the beauty and duration of its flowers. The dry flowers are brought from abroad into England, but those of our own growth do not seem to be inferior to the foreign.

Those flowers are mildly astringent, but less powerful than the bark of the fruit, and have a rough bitterish taste. They give out their virtue to water and to rectified spirit of wine. The extracts made from these tinctures retain all their astringency, but the watery infusion yields most, and the spirituous a somewhat stronger extract.

The dose of these flowers may be from one scruple to two drachms, and to this quantity most of the vegetable astringents may be given. The rind of the fruit is considered as strongly astringent, and has been particularly useful in gargles, in diarrhœa, and in external applications. Sydenham, against prolapsed rectum and uterus, prescribed an ounce of the rind bruised with two pints of the decoction of oak bark and half a pint of red wine, as a fomentation; and Dr. Mead orders a decoction compounded of this bark with cinnamon and red roses, of each a drachm; in milk strained one pint, and the same quantity of water to be gradually added, the whole reduced to one pint, and sweetened with sugar, to be taken daily in colliquative diarrhœas.

BALBU'TIES, (from βαλζαζω, *to stammer*). A DEFECT OF SPEECH, properly that sort of stammering, where the patient sometimes hesitates, and immediately after speaks precipitately; the *psellismus balbutiens* of Dr. Cullen.

BA'LCHUS. See BDELLIUM.

BALDNESS. See ALOPECIA. It is said that women and eunuchs are scarcely ever bald; and that in the parts from whence the hair falls, the brain retracts from the skull. The temples first lose their hair; then the vertex. Bald head was in the eastern regions a term of reproach; probably implying early excess, to which it has been attributed.

BALLON, a glass receiver, often with two necks to join another ballon.

BALLA-MUCCA-PI'RA. See MOMORDICA.

BALLI'STÆ, Os. The astragalus, because the ancients used to cast it from their slings, (from βαλλω, *to cast*). See ASTRAGALUS.

BALLOTE, (from βαλλω, *to send forth*, and ωτος, the genitive of ους, *the ear*,) because it sends forth flowers like ears. Called also *marrubium nigrum fœtidum*, *ballota nigra* Lin. Sp. Pl. 814, and BLACK STINKING HOREHOUND. It grows in paths, highways, and hedges, flowering in July. A strong decoction of it, freely taken, is of great efficacy against hysteric affections.

BALLS, *Martial*. A mixture of two parts of cream of tartar and one of filings of iron made into a ball, which, when given, is infused in water till it imparts some colour to it.

BALLS, *Mercurial*. An amalgam of mercury and tin, boiled in water to purify it and destroy animalcules.

BALNEUM, (from βαλλω, *to cast away*, and αγια, *grief*). This word properly signifies the HOT BATH only; and under this head we shall consider only the general and partial warm baths, referring for *cold bathing* to the article BATHING, q. v.

In Greece and Rome the baths were of considerable importance both in preserving and restoring health; nor can the practical regulations of the ancient physicians be properly understood, without a description of the different parts of their apparatus. It was reduced to a system; and its effects must necessarily be more powerful than the simpler mode in which warm bathing is now practised.

The baths consisted of four parts, (Galen, Methodus Medendi, lib. x. cap. 10). In the first, the person was gradually heated in hot air until a sweat was produced; and generally at this time anointed and rubbed. The apartment was called *laconicum*; the operation *assa*, and *assæ sudationes*. When the baths were more simple, they had one hot room, or stove only, which was round, and covered with an hemispherical roof, (Vitruvius, v. 10). Others had two rooms, the *tepidarium* and *caldarium*; and many three, which were placed in succession. The first was used as a dressing room, *apodyterium*, when there were more than one stove.

The hot rooms were heated from a stove underneath, by means of flues carried round within the walls. From the hot bath, which was adjoining the hottest room, the floors declined, that the water thrown over the side might cover each room, and keep the air full of warm vapour.

After the sudæ sudationes, they went into the hot bath; then into a warm one; and gradually into a cooler. The first two were called also *caldarium* and *tepidarium*; but there was a third part called *frigidarium*. The patient commonly sat on a low seat, called the *solium*, with the legs, and sometimes the thighs, covered with water. At the same time the servants poured the water from pitchers or urns on the heads. If any part was particularly affected, a larger quantity of water was thrown on it. This mode of using the bath is preserved in various antiques and bas reliefs, as well as in the descriptions of Galen. Sometimes they were anointed during this period, and returned again to the bath. After bathing in the cooler water they were rubbed with cloths, and gradually accustomed themselves to meet the cooler air of the atmosphere by a short stay in the frigidarium. The curious reader may find in Galen (Method. Medendi, i. 4. and x. 10), a particular description of the management of the bath, in disorders of the head, and in hectic fevers.

The term frigidarium implied comparative cold only, for the stove was continued under this part of the bath also. Vitruvius expressly orders three cauldrons to be placed in the furnace, in such situations that the water may fall from the frigidarium into the tepidarium, and

from the latter into the caldarium. The hearth also was lowest at the præfurnium, and gradually ascended under the caldarium, tepidarium, and frigidarium, for the purpose of keeping the fuel under the first, and that its effects might extend with diminished power through the whole cavity. Not only from its situation, but from the continuance of the sweat after bathing in the cooler water, which was expected (see Galen l. c.), it may be concluded that the chill of the water was taken off in the frigidarium, and that the term, as we have said, was comparative only. Avicenna, the implicit follower of Galen, gives a particular caution, *ne aqua multum sit frigida: imo ut sit temperata*, (lib. 1. canon. fen. 3. doct. 2. cap. 6). In the baths, built rather for pleasure than for medicinal purposes, the water in the frigidarium seems to have been quite cold; and it certainly must have been so in the baths described by the younger Pliny, lib. v. epist. 6.

In Baccius de Thermis, and Mercurialis de Arte Gymnastica, *balnea pensilia* are mentioned; and physicians have been greatly divided respecting the meaning of a term which would seem to imply that some exercise was occasionally employed during bathing. We find however in Vitruvius, that any buildings supported by pillars were called *edificia suspensa;* and before the more complicated construction just described was introduced, in the time of Sergius Orata, the cotemporary of Crassus the orator, about 700 years *ab urbe condita* (Valerius Maximus Memorabil. ix. 1.), the water was probably heated in common vessels; and the baths, supported by these pillars, then acquired the name of balnea pensilia. There is a remarkable passage in Pliny's Natural History which seems to support this idea. He is speaking of the rude method of exciting sweating previous to the time of Asclepiades, by clothes, the sun, or large fires, and adds, that the baths which he introduced were infinitely luxurious, and received with the greatest avidity: "Imo vero toti Italiæ imperatrici, tum primum *pensilium balnearum* usu, in infinitum blandiente." Again, "Balneas avidissima hominum cupiditate instituit." Seneca supposes the invention to have been first known in his time, but he unites the *suspensuras* balnearum and *impressos per parietes tubos*, (Senec. epist. xc.). Vitruvius, also, in his directions for the hearth of the stoves, adds a reason, "Quo facilius flamma pervagaretur *sub suspensione*." It is singular that Baccius and Mercurialis should have supposed that these balnea pensilia were suspended by ropes. We find no instance in the ancient physicians of the management of exercise during bathing, and the words of Valerius Maximus, in the passage formerly quoted, are almost decisive. "Balnea *pensilia* Orata primus facere instituit; quæ impensa levibus initiis capta, ad suspensa aquæ calidæ *tantum non æquora* penetravit." What ropes could support such oceans of hot water?

The whole of this arrangement appears to be very judicious. We are not acquainted with the degrees of heat employed, as the ancients had no instruments to measure it. There is reason however, from the effects, to think it considerable; and when people are used to bathing, the extremes of heat constitute the luxury. In general, the bath consisted of vapour only, since the water was only occasionally and partially poured on; and we know that the degrees of heat that can be borne either in hot air or in vapour are very considerable. M. Tillett's experiment on the heat endured by a girl in a hot oven, and the heat which Dr. Fordyce and his companions experienced in their hot rooms, were almost incredible. See HEAT.

If, then, the heat of the baths was raised to so great a degree, some previous preparation was necessary. It is thought expedient at Bath, by previous evacuations to prevent the bad effects of a high temperature; and this the Romans obtained in their laconicum, where, by previous rubbing and warm air, the sweat would immediately break out on entering the bath. Asclepiades depended on the discharge by the skin to free the vessels from obstructions; and his followers, Erasistratus and Chrysippus, would not admit of the more general evacuations, since that from the skin would not only supply their place, but be in other respects more beneficial.

To prepare for these evacuations the assæ sudationes were employed; in the language of Galen, "to produce an uniform heat to expand the contracted apertures of the smaller passages, to relax what is tense, to melt what is condensed." The patient can then with advantage bear a considerable degree of heat; but in water *too hot* the smaller vessels are contracted rather than relaxed, and the excrementitious fluids retained rather then expelled, (Galen de Sanitate tuenda, iii. 4). This plainly proves what we have already stated, that the heat of their common baths was considerable; for we could not without some preparation endure the degrees of heat which would produce these effects; and the baths of that time, after the period of Pompey, are styled *incendio similia*. The great danger apprehended by the Roman physicians of the bath after eating, is an additional proof that the temperature was high; and Seneca mentioned as one of the duties of the ediles, enforcing cleanliness, *et utilem, et salutarem temperaturam*. Perhaps this temperature may have been of service in stimulating the solids and giving additional vigour, since the athletæ, after their exercises, were bathed in very hot water; and the bath waters of this country, which are of a considerable heat, seem of service in cases of relaxation, independent of their impregnations. But we must not anticipate what will be the subject of future consideration.

The warm bath was interposed between the hot and the cool to prevent a too sudden change, and, in Galen's language, to restore a due symmetry to the skin and flesh. The utility of the third part is obvious, to prevent all danger from the cold of the atmosphere. The fever, however, excited by the great heat still kept up the perspiration, which was not wholly checked after leaving the frigidarium.

The stay in the different rooms was regulated by the physician according to the nature of the disease. Baccius has preserved a list of the complaints for which the warm bath was employed (lib. vii. cap. 19.), but has not explained the management adapted to different constitutions and different diseases. When the object was to relax, for instance, the patient was detained for some time in the moderately warm bath, but passed very quickly through the sweating rooms, where he was anointed, and only rinsed himself with the waters of the last bath. When the constitution was weak and relaxed, he was well sweated and rubbed in the first part, and had a larger quantity of colder water poured on him in the third. His stay in the second part was

very short. The various modifications detailed at length in Galen and others, would detain us too long, and be uninteresting, as we cannot imitate them.

The danger, however, of coming into cool air from the bath is in a great degree imaginary; for the fever, or, more properly, the temperature, thus raised, will check the bad effects of a considerable degree of cold. The Russians and the Swedes use the warm vapour bath raised to a very considerable heat, and roll immediately afterwards in snow. This impunity may perhaps be, in part, derived from habit; but we have found little inconvenience arise in those not accustomed to such a change, when the heat previously excited was considerable.

It will be obvious, that we can learn nothing from the Greek or Roman physicians respecting the effects of bathing on the pulse, or the degree to which the heat of the body is increased. On the other hand, we cannot in our simpler operation attain all the effects of the balneum which they produced. We must now attend to the more modern use of this remedy, and its power in different diseases.

Warm bathing gives a softness and flexibility to the skin and muscles; and from some rarefaction of the blood, or from its determination to the surface, increases the bulk. It seems to increase all the secretions, as it certainly does those of the skin; nor after the sweat excited by bathing is the perspiration diminished, though the increase of any evacuation, in general, occasions a temporary suppression afterwards: the pulse becomes fuller and quicker; the face flushed; the respiration laborious. A moderate stay in the bath increases the spirits as well as the activity, and improves the general health: continuing in too long induces languor and debility.

We do not recollect any direct experiments on this subject but those in a Thesis by Dr. Parr, which have been generally copied in every subsequent publication. He tried the effects of warm bathing at 96°, 98°, 100°, 102°, 104°, and 106°, of Fahrenheit. At 96° the general effects above mentioned were observed; the pulse, if at first slightly quickened, was soon natural; the respiration, in the earliest period a little more rapid, soon became free and easy, and but little change was produced in the heat of the body.

At 98° the pulse was slightly increased in quickness, and did not subside; but the heat appeared to remain stationary. There was no sweat, though a free copious perspiration: the urine was not increased; and, after some time, the pulse became slower than before the bathing. The cuticle was observed to be slightly corrugated.

At 100° the pulse was increased from 60° to 72°; the respiration much affected; the face red and swollen, and a copious sweat broke out: the cuticle appeared more corrugated. The heat was raised two degrees; and, after about ten minutes, faintness came on. The perspiration was free and copious; and, after a short time, every disagreeable symptom vanished; the pulse sinking a little below its natural standard.

At 102° the pulse was soon raised from 68° to 100°, and, in ten minutes, the sweat on the face was copious, the vessels turgid, the skin not corrugated, and the heat of the body raised from 98° to 102°. A beating noise was heard in the head; and in half an hour, giddiness came on. When laid between blankets, the sweat was copious and free, the pulse soon became natural, and the quantity of urine was not increased.

At 104° all these appearances were still more striking and more rapid: a vertigo coming on, at the end of about twenty minutes, put a stop to the experiment. At 106° the effects came on still more quickly and more violent. The faintness and sickness supervened more early; the sweat was more copious, but the frequency of the pulse did not subside even after twenty-five minutes. From these experiments, seemingly made with care and attention, we perceive that little is to be dreaded from the stimulating effects of the hot bath under about 102°; and that, probably, under 94° it has no peculiar or appropriate power. As the limits of the cold bath we shall find to be about 84°, the temperature, in the interval, has the effects of neither. Above 102° the warm bath determines powerfully to all the extreme vessels, particularly to the head and breast; and at this temperature it must be used with caution when the contents of either are disordered. The balance between the urine and the skin is nearly even at about 98°. Dr. Cullen supposed the effects of the warm bath to arise wholly from the relaxation of the skin, and, of course, the diminished pressure of that peripherical band which confines the fluids. Though correct to a certain extent, this view is too simple to explain all the benefit derived from the remedy. It will undoubtedly account for the determination to the skin, and joined with the stimulus of the heat, to the evacuations occasioned by warm bathing. When we reflect, however, that the subcutaneous nerves, as closely connected with the skin as the vessels, are subject to this relaxing warmth, we must suppose some of the benefit to be derived from this source also. In higher degrees, the stimulus we shall find to be very advantageous. The state of the extreme vessels is soon communicated to other organs; and as these in every part of the body sympathise with the vessels of the surface, a considerable relaxation must be thus obtained. In a certain degree their increased action gives a tone to the nerves; and we may therefore suppose that their relaxation produces an opposite state. In this way the effects on the nerves may be explained without supposing any immediate effect of the bath on the nervous system; and we thus see how moderate heat may relax, and a higher temperature give a tone to the nerves.

Two other opinions must be noticed. One of these is the general language of relaxing contracted ligaments, as if from the external action of warm water, the subjacent parts were macerated like the skin. There is not the slightest evidence of the fluid penetrating beyond the surface: indeed the oily fluid below the skin must prevent it; and from what has been said, its immediate contact will appear to be unnecessary in the explanation of the effects of bathing.

Dr. Stevenson has attributed all the effects of warm bathing to a rarefaction of the blood; and this idea is supported by all the appearances of external fulness. The language is echoed in every medical work without careful examination. In fact, the blood is one of the least expansile fluids by heat which has ever been tried. Sauvages inclosed it in a thermometrical tube, and found that at 212° it did not expand $\frac{1}{100}$ part. Haller

exposed it to a still greater heat with the same result. Indeed the expansility of fluids follows no given law. Æther and quicksilver are nearly equal in this respect; at least, as we were informed by Dr. Black, who had tried the experiment, the difference was very inconsiderable.

In the cure of diseases, therefore, the beneficial effects of warm bathing are to be expected from its relaxing power; the increase of the circulation in the extreme vessels; with the perspiration excited and its general stimulus. In *melancholy*, its effects as a relaxant are most conspicuous; and in some spasmodic diseases without inflammation, particularly *tetanus*, it has been useful. In *ileus* it has been highly commended; but we have suspected that it hastens the progress of mortification, and are convinced that its free use has had injurious effects. Dr. Heberden, however, in the Medical Transactions, mentions the case of a woman who went into the bath nine times in one day, while labouring under an ileus in consequence of a hernia. In the *spasmodic asthma* of children it has been employed with success. In the *croup* also it has been commended, but scarcely any benefit has been derived from its employment.

Modern theory supposes a spasm on the extreme vessels to prevail in case of fevers; and warm bathing must, of course, be a remedy of importance. We are not prepared to discuss the question of the cause of fevers, but may remark, that the circulation during the paroxysm is not carried on in the smaller branches of the sanguiferous system. In *intermittents* it has consequently prevented the return of a fit; and in *continued fevers* it is often highly useful. In the beginning of continued fevers it is, however, less advantageous than in their decline; and in this state the bath must be supplied by the pediluvium, or, more commonly, by warm fomentations to the legs and thighs. In *inflammatory fever* it is less useful; yet at 98°, where the action of the heart and arteries is scarcely, if at all, increased, it may safely be employed; and Dr. Whytt, on the fourth day of this fever, has used it with advantage. In the latter period of *typhus*, when the low delirium occurs, it has been freely employed, and at least with some alleviation of the symptoms, if not with more decisive advantages; and should even inflammation have taken place in the brain, as it is of a less active kind, no injury is likely to result. Dr. Whytt supposes that fomentations are less useful than pediluvia; but in the low state to which the patient is usually reduced before the bath is employed, the former are only admissible. It will be remarked, that in vapour greater heat can be borne than in water; and, consequently, when the fomentation is properly employed, the heat of the flannels is seldom less than 120° of Fahrenheit.

Of the *exanthemata*, the only disease in which bathing has been employed, is the *small pox*. In Upper Hungary, Fischer has described it as the domestic remedy for this disease; and, in an epidemic small pox of considerable virulence, by imitating this practice, he was very successful. Dr. Stack, in his Thesis published at Leyden, has shown that variolous fevers, threatening a copious eruption, were mitigated by warm bathing, and the disease proceeded mildly and safely. When the eruptions are repelled, also, it has been very useful. The heat of the bath should be carefully regulated, and should certainly not exceed 100°. The foundation of this practice we shall afterwards explain. See CUTANEOUS DISEASES.

In *hæmorrhages* and *phlegmasiæ* the use of bathing is equivocal; yet, with caution, it has been employed in the latter successfully.

In *amenorrhœa* from cold it has been useful; and such is the popular prejudice in favour of pediluvium, that it is too indiscriminately used. It is chiefly adapted to the strong and robust, where the suppression has been owing to a violent occasional cause. In the pain from *stone* in the *ureters*, or the *gall ducts*, from its relaxing power, it is a valuable remedy.

From its power of determining to the surface it is useful where any acrimony is to be discharged, or any unequal balance of the circulation is to be removed. In the former view we find it employed in *cutaneous diseases* and *syphilis;* in the latter, in *chronic catarrhs* and *diarrhœas*. In the first it chiefly assists the effects of mercury, and in the latter only supplies the advantages of a milder climate. In *hydrophobia* it has been employed, though with no very particular success. The ancient physicians used it in their complicated form, but concluded with immersing the patient into the piscina, the cold bath.

As a stimulus, the warm bath has been found very useful; and in the diseases for which it is most successfully employed the heat must be raised very high, far beyond that used in the experiments described. To this high degree of heat the peculiar virtues of the Bath waters are to be attributed, rather than to their impregnation. They are assisted also by the percussion in pumping on an affected part; a mode of application which greatly adds also to the tonic power of the cold bath.

In cases of *hemiplegia* there have been many doubts respecting the use of the warm bath. These chiefly arise from the disease being often occasioned by effusion on the brain, which the necessary stimulus might increase; and many instances have been adduced of its producing in such cases a fatal apoplexy. Undoubtedly, where marks of a determination to the head are strong; where the patient has not passed the meridian of life; or where the vessels have been stimulated by a continued excess of wine and spirituous liquors; warm bathing is a precarious remedy. In palsies in general, however, it may perhaps be allowed; and, as we have said, in amaurosis: so we shall find in hæmiphlegia, that the effusion having once taken place, the disease is continued in consequence of the injury which the nervous system has received from the compression. We may then disregard the cause, except in the younger and more inflammatory constitutions just described. It should, however, be managed with caution: a drain from the head should be established by a perpetual blister, and the bowels freely emptied previous to its employment.

There is little management required in the use of the balneum in *chronic rheumatism*. It is a disease nearly allied to palsy, as the vessels, from the previous distention, are rendered paralytic, and contract spasmodically on fluids, probably in too large a proportion. The warm bath is particularly useful, and often alone will cure the disease. In that species of it confined to the

hip joint, *sciatica*, bathing and pumping on the part affected, are very valuable remedies.

In the hip joint, also, the relaxation of the ligament often occasions or endangers dislocation. It is the *morbus coxarius* of De Haen; the *arthrofluosis* of other authors. If it has not yet advanced to a suppuration, the Bath waters have certainly relieved a large proportion of those who have applied for their assistance; nor need we despair of imitating their effects by employing an equal temperature, and pouring it from a height. It would not require any great ingenuity to contrive a hand pump fixed in a reservoir, which is continually filling from cocks conveying boiling and cold water. The size of the aperture, or the number of cocks conveying cold water, might easily regulate the heat. A common garden engine might be readily converted to this purpose.

Contracted limbs are greatly benefited by warm pumping, and gradually moving the limb during the relaxation obtained. Dr. Blegborough, in these local diseases, has contrived a receptacle for the part from which the air is exhausted while the vapour is applied; but this seems unnecessary. If the vapour is confined, all the benefit will be obtained without previous exhaustion; or, in reality, the vapour itself, by rarefying the air, will exhaust the vessel sufficiently.

The warm bath, if the temperature is too high, will certainly be injurious to the plethoric, or those disposed to any accumulations in particular parts, unless they are such as the bath may dissipate. In the weak, the relaxed, and the irritable, it is hurtful; and hence the indiscriminate use of pediluvium in chlorosis and amenorrhœa has been highly injurious. In both views it is injurious in hectic fevers, and in scirrhosites of the liver. Hoffman thinks it hurtful in asthma; and it will be seemingly so from its effect on the respiration. Dr. Falconer differs from him in this respect; and, on trial, in convulsive asthma, it has not seemed particularly injurious, though so much benefit was not derived from it as to induce a repetition. Those subject to hæmorrhage should be cautious in its use; and, in general, danger may attend its employment after any agitation of mind or body, which greatly quickens the circulation. The Romans used it in the time of the emperors after a full meal: the practice is reprobated by Juvenal and Horace, rather as a luxurious than a dangerous indulgence.

After the bathing, sweating between flannels is generally enjoined; but if we wish to employ it as a stimulus, a copious perspiration should not be too freely indulged. The contracted vessels should be excited to action, but their powers should not be exhausted.

Fomentations and embrocations are partial warm baths, and supposed to derive some virtue from their impregnations; but, in general, the heat and moisture, when the latter are used warm, are the most beneficial agents.

Warm baths, *impregnated with different medicinal substances*, are said to derive, from these, peculiar advantages. The baths at Bath and at Harrowgate, we shall on a future occasion notice; and we must here speak only of those imitations which are within our reach. We know of no instance in which the waters of Bath have been imitated for external use. Those of Harrowgate have been prepared by adding sulphurated kali to water, in the proportion of two ounces to a sufficient quantity of fluid for a bath. They are chiefly used in cutaneous complaints, but we have had no experience of their efficacy.

An impregnation of warm water, though not an artificial one, is employed in *warm sea water*. This bath is supposed to be a more active stimulant than common water, and to be more useful, not only in palsy, but from the absorption of its salts in scrofulous complaints. We have reason to think that its powers are considerable; and it may be used at a low temperature in constitutions that cannot bear the shock of cold immersion, and in weak habits as a good preparative for sea bathing. The greater weight and pressure of salt water have been supposed to render it more useful as a bath, than fresh. It certainly is so; though, during the short immersion, we cannot easily perceive how any advantage can arise from its weight. In pumping, or pouring from a height, the momentum is certainly greater, and the advantages are proportionally increased.

Near smelting huts, it is not uncommon to impregnate baths with the scoriæ of iron, and sometimes with the mixed slag of copper, cobalt, &c. The slags and scoriæ are immersed in water while hot, or heated again for the purpose; and the baths thus prepared are supposed to be peculiarly useful as tonics. With a similar view, it has sometimes been a practice of boiling alum and quick lime together for a bath.

Scheutzer describes the pepper water of the Alps, which was formerly highly esteemed as a bath. It breaks out in a place almost inaccessible with great impetuosity in the spring, and continues till near October. The water, however, according to this author, contains no particular mineral.

The vapour bath conveys heat less speedily than water, but a greater heat can be borne, and for a longer period. This, in reality, was the warm bath of the Romans, as it is of the Swedes, Russians, and the native Americans; and it is probably more efficacious both as a relaxant and a stimulant. It is certain, that water in a vesicular state is more powerful in its hygrometical affinity than when fluid; and Saussure, when he fixed the extreme point of moisture in his hygrometers in water, found that the index, in a fog, passed beyond it. This was our meaning when we remarked that man could live in air *beyond* the point of extreme humidity.

A bath of a different kind is that of *warm sand or earth*. The former is used by sailors in scurvy; the latter, we believe, has only been employed by quacks. We remember attending some experiments of this kind. A glowing heat was felt in the parts surrounded by the earth, but we remarked no peculiar change in the countenance that would lead us to suppose it a powerful remedy, and certainly no disease was relieved by it. The complaints to which it is apparently best adapted are cutaneous. See Edinb. Med. Comment. Decad. 2d vol. x. p. 153; also among the ancients, Hippocrates, Celsus, Cœlius Aurelianus, Aretæus, and Trallian; and among the moderns, Sir John Floyer, Dr. Wainwright on Bathing, and particularly Hoffman.

Ba'lneum are'næ. Balneum siccum. The sand bath.

Over the mouth of a common wind furnace place one end of an iron plate with a ledge round it, and under this plate the canal must run, by which the furnace communicates with its chimney; the plate must then be filled with sand or other dry matter for placing the medicines to be digested in. The heat from the fire will be different in different parts of the plate; and thus, as more or less warmth is required, different situations are chosen.

The vessel containing the matter to be heated hath its bottom and sides totally covered with the sand, and there it is continued until the digestion is completed.

Ashes may be used in this bath when a less heat is wanted, sand for a greater, and iron filing for the greatest. See FORNAX.

BA'LNEUM MARIÆ, vel MARIS. The SEA WATER BATH; which admits of greater heat than boiling water, though sometimes it implies this only. In this bath, water supplies the place of sand; and when a greater heat than that of boiling water is not required, this method of digestion is preferable to that by the sand bath, because the heat cannot exceed at any time that which is required.

BA'LNEUM SI'CCUM. See BALNEUM ARENÆ.

BA'LNEUM VAPO'RIS. A VAPOUR BATH. This is, properly, when the vessel containing the matter to be digested is exposed only to the steam that arises from boiling water.

BALSAMA'TIO, (from *balsamum*, *balsam*,) because balsams were used in that operation. The EMBALMING of DEAD BODIES.

BALSA'MEA, (from the same). See ABIES.

BALSAMELÆ'ON, (from βαλσαμον, *balsam*, and ελαιον, *oil*). See BALSAMUM.

BALSAME'LLA, (from the same). See MOMORDICA.

BALSAMIO'LEUM. See BALSAMUM.

BALSA'MICA, (from βαλσαμον, *balsam*). BALSAMICS, or those medicines by which wounds are healed. The term includes medicines of very different qualities, as emollients, detergents, restoratives, &c. But all medicines of this kind are supposed to be soft, yielding, and adhesive. Balsamics are generally directed for complaints whose seat is in the viscera; and as they cannot be conveyed there but by the common road of the circulation, it follows that no effects can be expected from them but by their long continuance. Hoffman calls those medicines by the name of *balsamics* which are hot and acrid; and unites with them the natural balsams, and gums, by which the vital heat is increased. Dr. Cullen considers almost all of the substances called BALSAMS to have the form and consistence of turpentine, and in general to possess similar virtues; see TEREBINTHINA. Dr. Fothergill seems to be of the opinion of Hoffman, and cautions against their use in ulcers of the lungs. Though modern chemists are not agreed as to the difference between balsams and resins, still balsams are considered to be fluid, odorous, inflammable substances, and contain a concrete acid, which may be obtained by sublimation or decoction. Balsams probably contain the largest proportion of oil, and resin of oxygen. See Med. Observ. vol. iv. p. 231—18. Cullen's Materia Medica. Lewis's Materia Medica.

BALSAMI'FERA, and A'RBOR I'NDICA, (from βαλσαμον, and φερω, *fero*, *to bear*). See PERUVIANUM BALSAMUM.

BALSAMI'FERA A'RBOR BRASILIE'NSIS. See CAPIVI BALSAMUM.

BALSAMI'NA, the balsam apple, (from *balsamum*,) so called from its odour. See MOMORDICA.

BALSAMI'NA LUTE'A. See PERSICARIA SILIQUOSA.

BALSAMI'TA MINOR, (from *balsamum*). See AGERATUM.

BA'LSAMUM, (from the Hebrew terms *baal samum*, *the prince of oils*,) called also *balsamum genuinum antiquorum*, *balsamelæon*, *Egyptiacum balsamum*; *bals. Gileadense*, *Asiaticum*, *Judaicum*, *è Mecchâ et Alpini*; *oleum balsami*, *xylobalsamum*, *opobalsamum*, the BALM OF GILEAD; a resinous juice, obtained from an evergreen tree, or shrub, of Arabia. The finest is of a greenish colour, and obtained by incision of the branches, called *opobalsamum*. The second is called *carpobalsamum*, expressed from the fruit, which is about the size of a small pea with a short pedicle, of a roundish or oval figure, pointed at the top, composed of a dark brown or reddish black wrinkled bark, marked with four ribs from top to bottom, and a whitish or yellowish medullary substance. This fruit, when in perfection, is said to have a pleasant, warm, bitterish taste, and a fragrant smell, resembling that of the balsam itself; but such as we now meet with in the shops is almost without smell or taste. It was only ordered in the Theriaca Andromachi, and Mithridate, for which, by the London college, cubebs were substituted; though now both these compositions are properly rejected. The third sort is reddish, called *xylobalsamum*, and obtained from a decoction of the branches, (Bruce). The plant was supposed to be the *amyris Gileadensis* and *opobalsamum* Lin. Wildenow, vol. ii. p. 334. Gledisch has formed a new genus of the *a. opobalsamum*, which he styles *balsamea Meccanensis*. It is a variety of the *a. opobalsamum*, which is scarcely distinct as a species from the *a. Gileadensis*. The first sort, which naturally exudes from the plant, is scarcely known in Europe. Prosper Alpinus says, that it is at first turbid and whitish, of a strong pungent smell like that of turpentine, but much sweeter and more fragrant, of a bitter acrid astringent taste; on being kept it becomes thin, limpid, light, greenish, and then of a golden yellow; after which it is thick like turpentine, and loses much of its fragrance. Its smell resembles that of citrons, or rather a mixture of rosemary and sage flowers.

All the balsams agree in their general qualities, differing only in the degrees of warmth, fragrance, pungency, and gratefulness. The balm of Gilead is a warm stimulant, and supposed to be a cordial diuretic; but the latter quality is greatly increased by the addition of a fixed alkaline salt. It is supposed to be also an expectorant, which it may be in a slight degree; but its chief use in the East is as a cosmetic. See Lady Mary Wortley Montague's Letters.

The balm of Gilead is generally used in medicine as a cordial; and, from its stimulus, is supposed to restrain mucous discharges from the vagina and urethra. In tabes it has been commended; but, like the turpentine, is probably too stimulant.

The Canadian balm of Gilead fir affords a balsam that

is often imposed for the genuine sort. If the true balsam is dropped in water when thin, it spreads itself on the surface, imparting to the water much of its taste and smell; and the grosser part, remaining at the top, is thick enough to be taken up with a needle; this is reckoned a mark of its being genuine. If pure balsam is dropped on a woollen cloth, it may be washed off without leaving the least stain or mark, but the adulterated kind sticks to the place. The pure coagulates with milk, but the adulterated will not. The dose is from fifteen to fifty drops.

Ba'lsamum traumaticum. See Benzoinum.

Ba'lsamum gu'idonis. See Anodynum balsamum.

Ba'lsamum genui'num antiquorum. See Balsamum.

Ba'lsamum arcæi. See Elemi.

Ba'lsamum arthriticum is the acid of vitriol sheathed with olive oil, in the proportion of four to one.

Balsamum canadense. We have already remarked, that balsams, in the strictest sense of the term, are turpentines of different odours and flavours, as combined with different essential oils. The present balsam is a striking instance of this resemblance, as it differs little from the turpentines, and is produced from the *pinus balsamea* and *Canadensis* Lin. Sp. Pl. 1421.

Balsamum carpathicum is produced from the *pinus cembra* Lin. Sp. Pl. 1419, which grows on the Carpathian mountains in the Tyrol, and different parts of Germany. It is called *balsamum libani;* and the oil distilled from it, *ol. templinum*, and by the Germans *krummholzæl*. It differs little from the turpentines.

All these natural balsams, with those to be afterwards described, agree in being natural compounds of an oily and a resinous substance, with an acid principle. Their first use seems to have been external; and in wounds, with the gluten of the blood, they formed a coagulum, which checked the bleeding, and preserved the injured part from the air. They in time became favourite remedies in internal bleedings, but their irritation is found to be injurious, and in such cases balsams are no longer trusted.

Balsamum copaibæ is obtained by incision of the trunk of the *copaifera officinalis* Lin. Sp. Pl. 557. It is colourless when first obtained, but becomes yellow by time, without losing its transparency. The smell is fragrant; the taste aromatic, bitter, and somewhat sharp, very permanent on the tongue. It affects with some acrimony the urinary organs, and is said to render the urine bitter. It unites with fixed and volatile oils, and with spirit of wine. By distillation in water we separate the oil from the resin; and, in the former, the taste and smell of the balsam are concentrated: if the operation is carefully performed, about one half of the balsam rises into the receiver, in the form of oil.

It is given in all the diseases of the urinary organs when no inflammation is present. In gleets and in leucorrhœa it is often employed; in gonorrhœa it was once a favourite remedy, but is now disused. In diseases of the kidneys it is still employed, though less frequently than usual; and, in hæmorrhoids it is occasionally trusted. The dose is from thirty to sixty drops, mixed with water by means of an egg. The balsam copaibæ is occasionally adulterated with turpentine, but its virtue is not greatly impaired by the fraud.

Balsamum locatelli. This preparation, now disused, consisted of two parts of oil with one of wax, coloured with dragon's blood or red sanders. In some formulæ balsam of Peru was added. It was used as an expectorant.

Balsamum Peruvianum, from its country Peru; balsam of peru, *Putzochill*, *Indian*, *Mexican*, and *American balsam*, and *Carbareiba*, the name of the tree from which, according to Piso and Ray, it is taken. It is the *myroxylon peruiferum* Lin. Sp. Pl. Wildenow, vol. ii. p. 526. Nat. order *leguminosa*. The native balsam which naturally exudes is white; but this we never meet with. The native balsam inspissated is the white styrax, or the dry balsam of commerce. It is of a reddish colour, less hot and more fragant than that usually in the shops. What is commonly sold is the black or dark red balsam, which is a decoction of the branches inspissated. Its smell is highly fragrant; its taste warm, bitterish, and acrid, very permanent on the back part of the tongue. It does not mix with water, but by long agitation imparts to it a fragrant smell and some of the properties of the balsam. It dissolves readily in spirit of wine, and is decomposed by fixed oils, which unite with the essential oil and acid, leaving a resin. It does not unite with other balsams. Distilled with water it gives about one-sixteenth of a reddish essential oil, with difficulty dissolved in water: distilled *per se* this oil is empyreumatic; with a moderate, cautiously regulated heat, a small proportion of benzoic acid may be separated from it. Baumé supposes that it is adulterated by the second oil which arises from benzoin, digested on poplar buds. This is not very probable, but no very injurious fraud. The dose is from five to twenty drops, suspended in water by the mucilage of gum arabic.

Internally it is a warm stimulant and tonic, useful in dyspepsia, in atonic gout, in mucous discharges, amenorrhœa, and humoral asthmas. Where the bronchial glands are greatly relaxed, it is useful even though the lungs are ulcerated, given in small doses. It is best exhibited in pills with aloes and aromatics, when used as a corroborant, and in a saline draught in hectics.

Externally it is an useful application to relaxed ulcers not disposed to heal.

Balsamum rakasiræ resembles the Tolu balsam, and is brought from India, but its source we are ignorant of, and some have supposed it to be a composition. In its qualities it resembles the Tolu balsam.

Balsamum sulphuris is a very fetid, stimulating balsam, prepared by uniting sulphur with a large proportion, sometimes eight times its weight, of olive oil. It was usually given in hectic cases, but now no longer employed. When there has been a considerable relaxation of the glands, and the expectoration stopped from debility, we think that we have seen it of service. It is sometimes made with petroleum instead of olive oil, and is then most offensive, and probably injurious.

Balsamum sulphuris terebinthinatum and anisatum are made by digesting the sulphur with oil of turpentine, and in the latter adding the oil of aniseseed. They are now confined to veterinary medicine.

Balsamum tolutanum is obtained by incision. The tree is a native of Carthagena; *toluifera bal-*

samum Lin. Sp. Pl. 549. It is of a reddish yellow, transparent and tenacious, but from age brittle. The smell is fragrant, the taste slightly warm and aromatic. It consists of oily, with a slight proportion of resinous, particles, united with a large one of benzoic acid, and is from hence partly soluble in watery liquids, though it is wholly dissolved in spirit of wine. The watery solution is the basis of the old syrupus balsamicus, now syrupus tolutanus; and, in spirit, it forms the tinctura balsami tolutani. It is little employed in medicine, though it is at least a safe, if not an effectual, expectorant. In gleets it is sometimes useful, and has been applied to wounds and ulcers, when a slight stimulus was required.

BALSAMUM VITÆ, *beaume de vie*, consisted of a great variety of the warmest and most grateful essential oils, with balsam of Peru, dissolved in highly rectified spirit of wine; but it is now greatly abridged in the number of ingredients, and little used.

BAMBA'LIO, (from *βαμβαινω, to stammer*). A man that stammers or lisps.

BA'MBAX. See BOMBAX.

BA'MIA MOSCHA'TA. See ABELMOSCH.

BAMMA, (from *βαπτω, to emerge*). See EMBAMMA.

BANA'NA, BANANIE'RA, (Indian). Called also *ficoides*, or *ficus Indica*, *musa fructu cucumerino breviori*, *senoria*, *pacæira*, and the BANANA OR PLANTAIN TREE. It is the *musa sapientum* Lin. Sp. Pl. 1477. The parent tree of all the American bananas, is the *m. bihai*. Nat. order *seitamineæ*. It grows in America; its fruit is diuretic, heating, and highly nutritious.

BANDAGE. See DELIGATIO and FASCIA.

BANDU'RA; called also *planta mirabilis distillatoria; utricaria; priapus vegetabilis; Nepenthes*. It is the *Nepenthes distillatoria* Lin. Sp. Pl. 1354. It is a plant which grows in the thick forests of the island of Ceylon, where its long fibres supply it with water, and where no sun comes to exhale it. Its seeds and seed vessels are like those of gentian; but it is most remarkable for a foliacious sheath about a foot long and as thick as a man's arm; and for its appendages at the ends of its leaves, which turn up, and contain a cooling limpid liquor, as does its sheath, which is half full and potable. The root is astringent; the liquor in the sheath is cooling; it grows not far from Columbo, in moist shady woods. Raii Hist.

BANGU'E, (Indian). *Cannabis Indica* Lin. *cansjava*, called by the Ægyptians *assis; asserac cannabis peregrina*, *althea foliis cannabinis*, *kalengi-cansjava*, *tsyeru-cansjava*.

It resembles hemp in its stalk, the rind of the stalk, and the leaves; but its medicinal qualities differ very much. The seeds and leaves are heating and intoxicating. When in pain the Hindoos mix it with opium: when their object is mirth and intoxication, with musk, amber, and sugar. It grows in Indostan, and other parts of the East Indies.

BA'NICA. See PASTINACA SILVESTRIS.

BANI'LIA, BANILAS. See VANILLA.

BANKSIA. *B. Abyssinica* Bruce. The flowers are chiefly employed for ascarides in Abyssinia. A handful is infused in two quarts of beer. It is not the same plant with the banksia of the Supplementum Plantarum, and has not yet found a place in botanical systems.

BAO'BAB, BAHOBAB. It is the *adansonia baobab* Lin. Sp. Pl. 960, of the natural order *malvaceæ*. The tree is the largest production of the whole vegetable kingdom. The trunk is not above twelve or fifteen feet high, but from sixty to eighty-five feet round. The lowest branches extend almost horizontally; and as they are about sixty feet in length, their own weight bends their extremities to the ground, and thus they form an hemispherical mass of verdure about one hundred and twenty, or one hundred and thirty feet in diameter. The centre root penetrates far into the earth; the rest spread near the surface.

The flowers are in proportion to the size of the tree; and are followed by an oblong fruit pointed at both ends, about ten inches long, five or six broad, covered with a kind of greenish down, under which is a rind, hard, and almost black, marked with rays which divide it lengthways into sides. This fruit hangs to the tree by a pedicle two feet long and an inch in diameter. It contains a whitish spongy juicy substance of an acid taste, and seeds of a brown colour and the shape of a kidney-bean, which are called *goui*. The pulp that surrounds these seeds is powdered when dry, and brought into Europe from the Levant, under the name of *terra sigillata Lemnia*. It grows on ths west coast of Africa, from the Niger to the kingdom of Belin.

The kernel of the fruit contains a large proportion of alkali when burnt, and the negroes mix it with palm oil to make soap.

The bark of this tree is called *lalo;* the negroes dry it in the shade, then powder and keep it in little cotton bags, and put two or three pinches into their food; it is mucilaginous, and powerfully prevents too violent perspiration.

The mucilage obtained from this bark is a powerful remedy against the epidemic fevers of the country that produces these trees; so is a decoction of the dried leaves. The fresh fruit is as useful as the leaves for the same purposes.

BA'PTES, a fossil medicinal substance, now unknown; probably a bitumen.

BA'PTICA CO'CCA. See CHERMES.

BA'RAMETZ, and BA'ROMETZ, a plant somewhat resembling the shape of a lamb. See AGNUS SCYTHICUS.

BA'RAS. (Arabic). See ALPHUS.

BA'RBA, a BEARD. Some vegetables have the specific term of *barba* given them, as their ramifications are bushy like a beard; viz.

BA'RBA ARO'NIS. See ARUM.

BA'RBA CAPRINA. See SPIRÆA ULMARIA.

BA'RBA HIRCI. See TRAGOPOGON.

BA'RBA JOVIS. See SEDUM.

BARBADO'ES TAR. See PETROLEUM BARBADENSE.

BARBADO'ES CHE'RRY, the fruit of the *malphigia glabra* Lin. Sp. Pl. 609, resembling the inferior of our cherries.

BARBAREA. *Herba sanctæ Barbaræ*, *nasturtium hybernum*, *pseudobunias*, *eruca lutea latifolia*, *sisymbrium*, *carperitaria*, WINTER CRESSES, GARDEN ROCKET, ROCKET GENTLE, *erysimum barbarea* Lin. Sp. Pl. 922. This plant resembles the mustard, but is distinguished by the smoothness of its leaves and its disagreeable smell. It resembles in quality the cresses, and is a native of Switzerland, but cultivated in our gardens.

The WILD ROCKET, called *eruca silvestris*, *sinapis alba* Lin. It grows on old walls and amongst rubbish. Its qualities are much the same as the former, but its taste is somewhat more acrid and bitter.

The active matter of the leaves is extracted by expression; by infusion in boiling water; and by digestion in rectified spirit. By distillation in water, a pungent yellow oil is obtained; by drying, the disagreeable smell and pungency are destroyed. The pungency of the seeds is less volatile, similar to, though weaker than those of mustard.

BARBA'RIA, BARBA'RICUM, (from *barbarus*, *wild;* because it was brought from a wild country). See RHABARBARUM.

BARBAROS'SA PIL. BARBAROSSA'S PILL. It was composed of quicksilver, rhubarb, diagridium, musk, amber, &c. and was the first internal mercurial medicine which obtained any real credit. See ARGENTUM VIVUM.

BA'RBARUM. The name of a plaster in Scribonius Largus.

BARB'OTA. The BARBUT. A small river fish, with a very large head. It is generally about six inches long; it lives on mud and slime; is found in the river which runs from Tamworth, in Warwickshire. The roe, as well as that of the eel pout, operates both upwards and downwards.

BAREGE WATERS. This appellation is given to four springs near the foot of the Pyrenées on the side of France. Their heat is from 73° to 120°. They contain sulphurated hydrogen, united to a small proportion of soda and some sea salt. The water is however very pure, scarcely exceeding in specific gravity distilled water. It is chiefly useful externally from its heat, and in cutaneous diseases from its sulphureous impregnation. It is supposed to be useful in atony of the stomach and calculous complaints. See BALNEUM.

BARDA'NA. BURDOCK. *Arctium, betonica Britannica.* By Myrepsus called *ilaphis.* It grows on highway sides, and is sufficiently known by the burs which stick to the clothes.

BARDA'NA MAJOR, called also *lappa major*, *personata aretium Dioscoridis;* CLOTBUR, OR GREAT BURDOCK. It is the *arctium lappa* Lin. Sp. Pl. 1143. The roots have a little faint smell, but a sweetish taste, with a light austerity. Boiled in water, they impart a brownish colour, and a vapid taste. Extracts, however made, are as insipid as the root. They are chiefly commended as diuretic, diaphoretic, and antiscorbutic, and have been successfully employed in rheumatisms, the lues venerea, scurvy, gout, pulmonic complaints, and in all cases where China and sarsaparilla roots, which they resemble, are prescribed.

The leaves are bitter, and more saline than the roots, and have no sweetness. The seeds are extremely bitter, and very slightly aromatic. A drachm proves diuretic; but the prickly matter on their surface must be well removed before administering them. The best method of using this plant as a medicine is in the form of a decoction, in which two ounces of the roots are boiled in three pints of water to a quart; to this two drachms of vitriolated kali have been usually added. Of this decoction a pint should be taken every day in scorbutic and rheumatic complaints; and when intended as a diuretic, in a shorter period.

BARDA'NA MINOR, called also *lappa minor*, *xanthium*, *chæradolethron;* by Ætius, the LESSER BURDOCK, or LOUSE BUR. *Xanthium strumarium* Lin. Sp. Pl. 1400. From this roughness of the fruit it is called a *burdock*, though not in the least allied to that plant. It grows in rich fat soils, and is found on some commons. Its juice is commended against scrofulous disorders.

BARDA'NA ARCTICUM, called also *lappa major montana*, *personata altera*, *arction*, and WOOLLY HEADED BURDOCK. Its virtues are much the same with the other species of *burdocks*, and it is a variety only of the *a. lappa.*

BARI'GLIA, BARI'LLA, so called from the place where it is produced. See ANATRON.

BARLEY. See HORDEUM.

BARLEY. (Indian). See VERBASCUM CEVADILLA.

BARNET WATER. It is of the purging kind, of a similar quality to that of Epsom, and about half its strength.

BARO'METRUM, BAROMETER, (of βαρος, *weight*, and μετρον, *measure*). An instrument to determine the weight of the air, or observe the changes of weather; it is commonly called a WEATHER GLASS, and frequently the Torricellian tube, from Torricelli its inventor.

The bore of the common tubes is too small. The glass tube should be one third, or at least one fourth of an inch in diameter, hermetically sealed at one end, and open at the other; the length should be thirty-four inches: the mercury with which it is filled must be pure. Fill the tube quite full with this mercury; and having in readiness a basin with a flat bottom, and about two inches high, in which is also some mercury, invert the tube, and put it in the basin, still holding your finger underneath it till it is in the mercury of the basin, then place it in a frame. On taking away your finger, the mercury in the tube will immediately subside to about twenty-nine or thirty inches, according to the state of the air, it being very rarely lower than twenty-eight, or higher than thirty inches, when the air is heavy. If a scale of four inches be divided into tenths, and placed against the upper end of the tube, the instrument is complete, and equal to every change. The mercury, however, still contains some air entangled with it, which will in time rise to the upper part of the tube, and not only by its pressure prevent the rising of the mercury, but by its expansion, from a change of temperature, produce many irregularities in the motion of the quicksilver. The tube may be previously cleaned by a wire, to the end of which a bit of leather is attached, and this will lessen the quantity of entangled air; but, to render the instrument perfect, the mercury must be boiled in the tube. We once separated in this manner more than an inch of air.

The *barometer* measures the weight of the air with sufficient exactness for the general purposes of life, yet it is affected with many irregularities, that no exactness in the instrument can remedy, and no theory explain. Many of these irregularities can be however explained, by considering the mercury as suspended, not only by the weight of the air, but in part by its elasticity. The barometer is, in reality, a MONOMETER. Moist air is very inelastic, the mercury of course falls; and the human body, from a diminution of the tone which pres-

sure gives, feels a languor. Dry air produces a contrary effect; and Saussure found, that water evaporating, produced a gas of very considerable elasticity. When high winds blow, the mercury is generally low; it rises higher in cold weather than in warm; and is usually higher in the morning and evening than at mid day: it generally descends lower after rain than it was before it.

On advancing up high mountains, the air is less and less dense, and usually the same inconveniences are felt that are complained of when the air is moist. But M. De Luc and his companions observed, when at the summit of the Buet, 3315 English yards above the level of the Mediterranean, no difference in the effects of the diminished density of the air, which was one third less than that of the plains below them. In this place, M. De Luc observes, 'how much naturalists are deceived in attributing the alterations that many persons experience, upon the falling of the *barometer*, to a difference either in the weight or density of the air. For if these changes, he says, could so sensibly affect our organs, what would become of those chamois hunters, who pass every day from the bottom of the vallies to the highest mountains? These people perceive no inconvenience; even asthmatic people find little, notwithstanding the barometer varies in these several places, as is usually observed in other similar ones.' If, however, our feelings are connected not only with the actual weight but the elasticity of the air, these difficulties will vanish; for the highly elastic gas which is produced by evaporating water, rises to the upper regions of the atmosphere, and compensates for the want of density. M. De Luc's reasoning, however, is very vague and inconclusive. Those accustomed to considerable changes of any kind, experience but little inconvenience from them; and other travellers have really found considerable languor on these very elevated spots.

The barometer may be applied to several uses, as measuring the heights of mountains: for twelve thousand and forty inches of air being equal to one inch of mercury near the surface of the earth, twelve hundred and four inches, or one hundred feet, must be equal to one tenth of an inch of mercury. Consequently, if a *barometer* be carried up any great eminence, the mercury will descend one tenth of an inch for every hundred feet that the barometer ascends. This we do not mean as a correct view of the subject, for many circumstances must be attended to in the actual measurement of heights, particularly the temperature. To consider all the necessary corrections is not a part of our subject. See *De Luc*, *Saussure*, *Trembley*, and *Sir G. Shuckburgh's* papers in the Philosophical Transactions.

But the great use of the barometer is to predict the future state of the weather for several hours, and sometimes days preceding, in many instances to a degree of probability. 1st, The rising of the mercury presages fair weather, and its falling, wet. 2d, In very hot weather, the sudden falling of the mercury foretels thunder. 3d, In winter, its rising portends frost; and in a continued frost, foretels snow. 4th, When foul weather happens soon after the falling of the mercury, it will soon again change, and so on the contrary. 5th, When the mercury continues to rise for some time before the foul weather is over, expect a continuance of fair weather to follow. 6th, In fair weather, when the mercury continues to fall before rains come, then expect a great deal of it, and probably high winds. 7th, The unsettled motion of the mercury denotes changeable weather.

It is not so much the height of the mercury that indicates the weather, as its motion up and down; therefore, to know whether the mercury is actually rising or falling, observe whether the surface of the mercury be convex, for it is then rising: if the surface be concave, it is falling: if the surface be plain, or a little convex, it may be considered as stationary.

There are different forms of this instrument which have each their advantages and disadvantages: but the common sort is perhaps better than any other if carefully constructed.

BARO'NES. Small worms; called also *nephones*.

BA'ROS. (Greek). Gravity. Hippocrates uses this word to express by it an uneasy weight in any part.

Ba'ros. See Camphora.

BARTHOLINIA'NÆ GLANDU'LÆ, (from the discoverer Bartholine). See Sublinguales Glandulæ.

BARYOCO'CCALON, (from βαρυς, *grave*, and κοκκαλος, *a nut;* so called because it gives a deep sound). See Stramonium.

BARYPHO'NIA, (from βαρυς, *dull*, and φωνη, *the voice*). A difficulty of speaking.

BARYPI'CRON, (from βαρυς, *dull*, and πικρον, *bitter*). See Absinthium vulgare.

BARY'TES, (from βαρυς, *heavy*,) called, from its weight, also *terra ponderosa*, ponderous earth.

This is not found very abundantly, or in large continued masses, but chiefly in the vicinity of mines, or veins of metal. Its species are aërated and vitriolated ponderous earth, either in the form of a transparent spar, or an opaque earth, of a white grey, or fawn colour; frequently of no regular figure, but often in the peculiar form of a number of small convex lenses, set edgewise in the ground. We are indebted to the celebrated chemists, Gahn, Scheele, and Bergman, for our more particular knowledge of this earth; but the vitriolated barytes was mentioned so early as 1700, by Legh, in his Natural History of Lancashire, Cheshire, &c.

As this has seldom been found pure, in order to obtain it in a suitable degree of purity, we are favoured with the following process by M. I. A. Chaptal. The sulphate of barytes, or the vitriolated ponderous earth, which is its most usual combination, is pulverised and calcined in a crucible, with an eighth part of powder of charcoal: the crucible must be kept ignited during an hour; after which the calcined matter is to be thrown into water. It communicates a yellow colour to the fluid, and at the same time a strong smell of hepatic gas is perceived; the water is then to be filtered, and muriatic acid poured in; a considerable precipitate falls down, which must be separated from the fluid by filtration. The water which passes through the filter holds the muriatic barytes in solution. The carbonate of potash, or mild vegetable alkali, in solution, being then added, the ponderous earth falls down; and the carbonic acid may be driven off by calcination. The product saturated with the muriatic acid, and little more of the acid being afterwards added, supplies the *terra ponderosa muriata*, or *salita*, which is considered as an evacuant, deobstruent, and tonic. It is given in solution, and half a drachm is dissolved in an ounce of water. On exhibition, it has been found in small doses to in-

crease the flow of urine, promote perspiration, open the bowels, and improve the appetite and general health. It has been considered as highly useful in scrofulous cases, chronic cutaneous complaints, and ulcerated legs. In some cancers, infarcted mesenteric glands, scirrhous testicle, buboes, asthma, and ascarides, it is said to be of advantage. Its dose is from six to ten or twenty drops; but if ever it occasion vertigo, nausea, purging, or pains in the bowels, the dose must be reduced, or the medicine omitted. Small doses, gradually increased, may be given twice a day, so long as they create no inconveniences. This medicine is however suspicious; and the vitriolated barytes is known to be poisonous. As the muriatic acid is but weakly retained, many substances may separate it. Even fixed air will decompose it; and in its exhibition hard water, alkaline, earthy, and metallic salts, particularly tartar emetic, should be avoided. Its irritating quality is so great, that it has produced considerable inconvenience in the more irritable constitutions and in spasmodic complaints. In scrofula, in some cutaneous diseases, and in indurated scirrhous tumours, we have found it successful; and when we have failed, have had reason to attribute the failure to the imperfect state of the medicine. Its purity may be ascertained by a little Glauber salt, or any vitriolated neutral. The smallest atom will occasion an evidently conspicuous deposition. Barytes acts on vegetable and animal substances, dissolving muscular fibres, and forming insoluble soaps with oil. For a further account see Med. Commentaries, vol. iv. and vi. dec. 2; Medical Communic. London, vol. ii. Chaptal's, Gren's, and Thompson's Chemistry.

BASA'AL. (Indian). The name of an Indian tree growing about Cochin. It flowers and bears fruit once every year, from the first year of its bearing to the fifteenth. A decoction of its leaves with ginger in water is used as a gargle in disorders of the fauces. The kernels of the fruit kill worms. Raii Hist.

BASANI'TES. A close grained stone resembling a lava, said by Pliny to contain a bloody juice, and useful in diseases of the liver. See BASILICUM.

BASILA'RE, (from *βασιλευς, a king*). This is used as a term of superior excellence or magnitude when applied to bones. See CUNEIFORME, SPHENOIDES, and SACRUM OS.

BASILA'RIS ARTE'RIA. It is a branch of the vertebral artery upon the apophysis *basilaris* of the os occipitis. The two vertebral arteries soon unite after they have entered the skull, and form this artery about the cuneiform process of the os occipitis. It runs forward under the great transverse protuberance of the medulla oblongata, to which it gives ramifications, as well as to the neighbouring parts of the medulla. Sometimes it divides into two branches near the apophysis *basilaris*, which communicate with the posterior branches of the two internal carotids, and are lost in the posterior lobe of the brain.

BASILEI'ON. An epithet for a collyrium in Ætius.

BASILIA'RIS APO'PHYSIS. The great apophysis of the os occipitis.

BASI'LICA. Black-seeded. See AGROM.

BASI'LICA VE'NA. The ancients termed the basilic vein of the right arm the *vein* of the liver, HEPATICA BRACHII VENA: and that of the left arm, the *vein* of the spleen, SPLENICA VENA BRACHII. Sometimes the basilica hath a double origin, by a branch of the communication with the trunk of the axillaris. It continues its course along the middle of the os humeri, between the muscles and integuments; and having reached the inner condyle, and sent off obliquely in the fold of the arm the *mediana basilica*, it runs along the ulna, between the integuments and muscles, a little towards the outside, by the name of *cubitalis externa;* and, a little below it, sends off another branch, which runs along the inside of the fore arm near the ulna: this branch may be called *cubitalis interna*. See CEPHALICA VENA.

BASI'LICUM UNGU'ENTUM FLA'VUM. UNGU'ENTUM RE'SINÆ FLA'VÆ. OINTMENT of YELLOW RESIN, consists of a pint of olive oil, yellow wax, yellow resin, of each a pound. To the wax and resin melted over a gentle fire the oil is added, and the mixture strained while hot.

It is commonly employed as a digestive on wounds and ulcers; and is as useful as the linim. Arcæi, now called unguent. è gummi elemi. If required to be a little warmer, a few drops of ol. terebinthinæ com. may be added when used. It justly supersedes the use of every similar application.

BASI'LICUM, (from *βασιλικος, royal*, so called from its great virtues). BASIL; called also *acinos, ocymum vulgare, herba regia, ocymum medium, citratum*. COMMON, or CITRON BASIL. *Ocymum basilicum* Lin. Sp. Pl. 833.

O'cymum caryophyllátum, ócymum minimum, (from *ωκυς, swift,*) so called because of its swift growth. SMALL, or BUSH BASIL, with uncut leaves. *O. b. minimum* Lin. Sp. Pl. 833. Nat. order *labiatæ*.

Both these are natives of the eastern countries, and sown annually in our gardens for culinary uses. The seeds, which rarely come to perfection in England, are brought from the south of France and Italy. They flower in June and July, and produce seed in August.

Infusions of the leaves are drunk in catarrhal complaints, uterine and pulmonic diseases. They are succulent, slightly aromatic, have a mucilaginous taste, and strong smell, which they lose partly in drying. The first sort resembles the scent of lemons; the second that of cloves. Distilled in water they yield much oil of a penetrating fragrance, similar but superior to the oil of marjoram.

Clinopódium május, (from *κλινη, a bed*, and *πους, a foot,*) so called because its leaves are like the foot of a bed. Called also *clinopódium ácinos* Lin. Sp. Pl. 826, GREAT, WILD, and STONE BASIL; a species of thyme. It grows in hedges; is supposed to be an astringent and emmenagogue.

BA'SILICUS PU'LVIS, (from *βασιλικος, royal, a king*). The ROYAL POWDER.

This term has been applied to various purging powders, which contain cream of tartar as one of the ingredients. The term was afterwards changed to *pulvis laxans*, and it was then cream of tartar with an equal part of senna. A small proportion of scammony is now added, and the appellation is the *pulvis è senna compositus*. It is an useful and convenient purgative, though with senna alone not sufficiently active. The following simple purgatives are observed to be both more agreeable and more useful.

" R. Calomel, pp. ʒ ij. pulv. rhab. ʒ ss. jalap. ʒ x. m.

" Or, R. Antimonii tartarisati, gr. iv. calom. ʒ i. gr. iv. jalap. ʒ ss. gr. viij. m.

"This is a convenient purge for gouty and rheumatic people, for whom it is best made into pills, and to be taken at bed time. It is also one of the best purges for gross bodied children, who are subject to breed worms and have large bellies; for though the ingredients are efficacious, its operation will be mild and safe enough. It clears the bowels of slime, and discharges those humours that obstruct the mesenteric glands, and in a great measure the lacteals themselves, which is often the case in children; and is attended with a hard belly, a stinking breath, frequent fevers, and a decay of strength in the lower parts. Those slight intermittents, which such children are subject to, will much sooner be cured by such a purge than by the bark; for these purges reach, and carry off the cause, but the bark pens it up; and by curing one, while such restriction continues, gives room for a return with much greater aggravation. The dose for children is from ten grains to fifteen; for adults from fifteen grains to two scruples." MOTHERBY.

BASILI'DION. A cerate described by Galen, and used for the itch.

BA'SILIS. A collyrium mentioned by Galen.

BASIOGLO'SSUS, (from βασις, *the foundation*, and γλωσσα, *the tongue*). A muscle so called from its insertion. See HYOGLOSSUS.

BASIO-PHARYNGÆ'I, (from βασις, *foundation*, and φαρυγξ, *the fauces*). A muscle so called from its position. See HYOPHARYNGÆUS.

BA'SIS, (from βαινω, *I am fixed*). The support of any thing upon which it stands.

The broad part of the heart is called its *basis*, to distinguish it from the apex or point.

In pharmacy by basis is meant that ingredient on which the most stress is laid for answering the intention of any compound medicine.

BASSI CO'LICA. The name of a medicine in Scribonius Largus, compounded of aromatics and honey.

BATEA'NEA ALUMINO'SA A'QUA, (from the inventor Bates). See ALUMEN.

BATHING, COLD and SEA.

By the cold bath is meant that application of cold water which produces a sense of coldness called a *shock*, and which is followed by the increased action of the extreme vessels styled a *glow*. One extreme of the scale we well know, that of the freezing point; the other is undetermined. The Buxton water of 82° occasions a slight but sensible shock, so that the limits are not below this degree; and as temperate heat is placed at 62°, we shall not be greatly in error if we fix the other extreme at 72°.

The first effects of the cold bath are well known. The whole body is contracted; the bulbs of the hair are conspicuous; and the skin, resembling that of a newly plucked goose, has been styled cutis anserina. The debility and tremor are considerable; a sense of weight is felt in the head; the respiration is quick and laborious. These appearances are followed by a very different series. A glow soon returns to the surface; the weight in the head is almost instantaneously relieved, and every function appears to be carried on with increased activity. If a person stays for a longer period in the cold bath, the glow will be slighter and soon disappear, while every previous symptom of debility will return and continue.

Few experiments have been made on the effect of the pulse after cold bathing. Dr. Stock has, in the trials he made, found in general the pulse quicker and weaker after immersion; in a few instances only slower. The writer of this article has found similar results; but the pulse, felt at a more distant period than that mentioned by Dr. Stock, has been usually more slow and full. In a slight feverish complaint, the quickness of the pulse was greatly mitigated. Other authors have found the pulse much slower, but this was the consequence of partial cold only.

If the immersions are at due intervals repeated, and the stay in the bath be not improperly continued, the general health and spirits are greatly improved; the different necessary evacuations properly carried on and supported; and the body and mind appear to act with increased vigour.

The explanation of these phenomena is not difficult. The cold, by its sedative power, represses the circulation in the extreme vessels, and the fluids are accumulated in the larger arteries and veins. Whether the distention excites the action of the former; whether in consequence of repressed irritability it is afterwards restored with greater vigour; or whether the vires medicatrices *re-act* to conquer debility; we must not now enquire: but in every such circumstance, from one of these causes, the circulation is again restored with additional activity. The repetition of cold bathing produces tonic effects, which, we own, that we are inclined to attribute to the frequent exertion of this re-acting power. We have often remarked in this work that the constitution gains energy by the exertion of those powers which preserve life and correct deviations, and we think the benefit, thus obtained, is a proof of that position.

According to the management of this remedy, we may therefore secure very different and opposite effects. A sudden change in the determination of the blood and nervous power, assisting its re-action, will produce a very different effect from the *continued*, and this again from the *repeated*, application: a distinction necessary to be attended to, in considering the different diseases in which the application of cold water has been considered as a remedy.

From the sudden changes in the determination of the blood it has been employed in many diseases, and particularly to prevent or remove the paroxysms of an *intermittent*. In the attack of this disease, there is a similar change of determination to that which has been described from the effects of the cold bath; and it is relieved by a similar exertion of the constitution. The cold bath, therefore, may be supposed to excite that exertion, and to render the subsequent relief more permanent and effectual; or, if the determination to the skin from the bathing has come on, the fit may be wholly prevented. The plan certainly has succeeded, and it is mentioned by Senac to have been useful even after the cold fit has appeared, (De Reconditâ Febrium Naturâ, p. 218).

If *continued fevers* are only intermittents, whose paroxysms run into each other, so that the earlier stages are less observable, we may see some foundation for its use in these also. Remittents are confessedly of the same nature as intermittents; and in the Breslaw fever (the *trytæophya Wratislaviensis* of Sauvages), De

Hahn used the application of cold water with success. It brought on a glow of warmth; and, in the language of an ancient physician, *inde novi motus initium*. In some other cases of *typhus* it has been employed, seemingly with success; but in some late trials, at a period of the disease when the powers of nature were unable to excite these new motions, it was unsuccessful and even dangerous. Dr. Currie's practice of cold ablutions we shall soon consider.

In *ileus*, the practice of dashing cold water against the legs and thighs of a patient standing on a cold floor has certainly succeeded. It is mentioned by Brassavolus, as the practice of Savanarola, and is recommended by Hoffman (iv. 349). The latest author who seems to have employed it successfully is Dr. Stevenson (Edinburgh Medical Essays, vi. 895). We remember having tried it with little advantage. If sudden immersion in cold water has prevented threatening paroxysms of hysteria and epilepsy, it must be referred to altered determination.

The debility occasioned by continuing long in the cold bath has occasioned its employment in many instances, where the excitement of both the nervous and sanguiferous systems was morbidly increased. (See Cold.) In cases of phrenzy it has been employed with success; but the most striking instance of this kind is in Dr. Willis's work, De Anima Brutorum, p. 201. The most frequent cases in which its advantages have been conspicuous, occurred from phrenitic patients escaping their confinement, and running spontaneously to a river or pond. Applications of cold water to the head are frequently employed; but the more general influence of cold must produce a more powerful effect. There may appear to be some danger from rupture of the over distended vessels of the brain, but no such accident seems ever to have occurred.

In *scarlatina* Dr. Currie has lately shown the advantages of cold ablutions, and the necessity of continuing them steadily to obviate the violent heat which attends the paroxysms of this complaint; and he has been successfully followed with equal spirit and perseverance by Dr. Gregory. As the object is to abate heat, it is only used in this complaint when the heat is very violent, and continued until it is mitigated. In *small pox*, accident has also shewn its utility; and in the whimsical compilation of Dr. Baynard there are numerous instances of this kind. It has in this complaint also been continued till the extreme heat is repressed, and, on returning to bed, a gentle perspiration has come on; some of the pustules have filled, and the greater number in the skin have disappeared. Since the general progress of vaccination we shall probably have little occasion for this remedy, either communicated by air or water.

In *hæmorrhages*, cold-bathing, or, more frequently, cold applications, have been employed with the same views; nor, excepting in hæmorrhoids and hæmoptyses, has it been neglected: in the former, as a supposed critical discharge; and in the latter, from apprehension of accumulating the blood in the lungs. Cold drinks have, however, in hæmoptyses supplied their place; and it is doubtful whether the American practice of giving a solution of common salt may not derive part of its advantages from the cold of the water, which common salt however will not increase. The utility of nitre in all hæmorrhages, is certainly increased by the cold it imparts to water during its solution. Hippocrates remarks, that the cold should be applied 'non *supra* ipsas partes, sed *circa* ipsas, unde profluit.' The hæmorrhage most certainly relieved by cold is mænorrhagia, and particularly that of pregnant or puerperal women. It may be safely and advantageously carried to a very considerable extent.

In more *general fevers*, cold in every form is useful. In those of our own climate, cool air and cool drinks are perhaps sufficient. In those of warmer regions, however, the cold must be more actively exhibited. It is chiefly confined to such fevers as have considerable internal heat without topical affections; and whether, with Hippocrates, we give water ὡς ψυχρότατον; with Lommius and Avicenna, apply cold water or snow to the extremities; with Celsus, apply vine leaves dipped in water to the pit of the stomach; the principle is the same. Paulus Ægineta recommends bathing; and in later periods it has been employed by Dr. Stevenson. But the most striking and satisfactory case is that of Sir J. Chardin in the Gombron fever of the remittent kind, related by himself, in which the coldest drinks and the application of cold water externally were of the greatest service. The Neapolitan physicians, following the ancients, according to the plans detailed by Lommius, give the coldest drinks; and if faint sweats come on, the water is if possible rendered still colder with snow and ice; for Cyrillus adds, that 'a person who sweats while under this course, is in danger of losing his life by faintness.' If cold drinks do not produce this effect, 'the patient is uncovered, exposed to cold air, and continually fanned; and some have gone so far as to sprinkle snow powdered on the skin.' The *plague* is attended with great internal heat, and cold applications have been found useful. Dr. Baynard has detailed many rambling stories of this kind, and we apprehend that they have been of service in our late experience of this disease in Egypt. Dr. Rush used cold applications with advantage in the yellow fever.

In *mania*, cold bathing seems to have attracted the attention of Van Helmont, in consequence of an accident which happened to a carpenter at Antwerp, and he afterwards employed it designedly. The patient was immersed so long as was necessary to repeat, distinctly, the psalm 'Miserere;' and, though he would be often taken up apparently lifeless, Van Helmont adds that he might be recovered; 'since people do not die from being under water so soon as is imagined.' It is however more to the purpose to remark, that this remedy is spoken of with respect by Boerhaave, and countenanced by Van Swieten.

The *repeated* action of cold bathing affords numerous opportunities of relieving some of the most troublesome and obstinate diseases to which the human frame is subject. Every complaint arising from debility in its varied forms and numerous consequences often yields to this remedy, when every other has proved ineffectual. *Palsy*, so often benefited by the stimulus of the warm bath, is greatly relieved by the tonic power of the cold; nor is the danger of its being improperly applied so great. It must not be used early in the complaint if the case is hemiplegia, nor until every symptom of congestion is removed. The partial palsies will not require even this precaution; but the cold is more useful if the water is poured from a height, or thrown from a pump, on the part affected.

Chronic rheumatism, we have said, is a paralytic affection of over distended vessels, and cold bathing is a singularly useful remedy. Sir John Floyer thinks it more beneficial if the patient is afterwards put between blankets to sweat. In the intervals of *gout*, if the patient is perfectly free from the disease, it is of service in restoring flexibility to the stiffened limbs, giving strength, and perhaps protracting, with safety, the return of the paroxysm. In stiffness of the joints from old *strains*, or any cause, it is useful; and the sea bathing has been supposed particularly so in *white swellings* of the knee. In other forms of *scrofula*, bathing and drinking salt water alternately are very serviceable.

In the *hæmorrhages* without fever, called by pathologists *passive*, and in the *mucous discharges from relaxation*, the tonic power of the cold bath is useful. In those little fevers, connected with debility or owing to excess, it relieves; though it is doubtful whether it be from its tonic power, or, in the language of Petron, from its exciting new motions. In *chlorosis*, though it does not produce any very rapid benefit, it is often of the greatest service to the general health, and ultimately brings on the expected evacuation.

When *poisons* or *infectious miasmata* have been communicated to the animal body, we often find that they lie dormant, till some exciting and generally debilitating cause gives them activity. This renders cold bathing of use during the progress of an epidemic, and it is a valuable part of the prophylaxis. Bathing has been supposed also to prevent hydrophobia; but as few of the animals supposed to be mad are really so, and of those really bitten by mad animals, few are infected, the advantages from bathing are equivocal. If we look into the old authors, we shall find that bathing was employed with considerable severity, and with every circumstance that could agitate the mind and fix the attention. Tulpius, one of the chief advocates for the utility of this remedy, considers the mode of administration to be a very important part of the process; and it may have been so, for modern practitioners have not found it very successful. When narcotic poisons have been swallowed, and tremors, &c. have been produced, cold bathing has been very beneficial. Baccius mentions its efficacy against the poison of the juice of the mandrake. The Indians are recovered from the stupefaction occasioned by the datura, by moistening the soles of their feet with cold water; dogs stupified by the carbonic acid air of the Grotto del Cani, are recovered by being thrown into the neighbouring lake; and sailors recover their intoxicated comrades by a dip in the sea.

The spasmodic and convulsive diseases are relieved by the tonic powers of the cold bath. In chorea, though often used, it is less successful, for reasons hereafter assigned; and in tetanus there is seldom time for the proper action of this remedy, though it has been employed with advantage. That convulsive diseases, when not produced by any direct irritation on a nerve, originate in debility, we trust to be able to prove in another article. See Convulsions.

Sir John Floyer has remarked, that cold bathing is injurious in palsies when the patient is plethoric and feverish. It probably is so whenever any partial plethora or local obstructions exist in any of the more important viscera. Jaundice may perhaps be an exception to this opinion. In the passage of a stone through the gall duct it seems to have been of service; but it was probably in cases where the liver was otherwise sound. In some of the western islands, a patient in the jaundice is laid on his belly, and a pail of cold water unexpectedly thrown on his back, (Smith's Curiosities of Common Water). It is injurious also when the stomach is full, or when the patient has been previously weakened. A ruptured blood vessel, or an incurable obstruction, may be the result of the former error; and in the latter case the constitution may not have sufficient power to restore the determination to the surface. When the body is heated it is also dangerous to bathe, though the young and strong transgress this rule with impunity.

Bathing in the sea is on the whole preferable, as the heat is more uniform. It is, we think, also, perhaps from the agitation of the water, more refreshing. Other causes of preference have been assigned: one is, the greater pressure of the water impregnated with salt; the other, the stimulus of the salt left on the skin. Each may have some effect, and the latter ground of preference is assuredly more certain than the former. We cannot easily conceive how the momentary increase of pressure can have any considerable effect, except by the increase of momentum; and the stay in the sea is too short to expect much advantage from this source. The river water, heated from the vicinity of the shore, is less active than the sea water, whose heat is uniform in summer, and more so in winter; and the sea water, warmed from 75° to 82°, may be an useful bath for invalids preparatory to immersion in the sea. In these baths of a higher temperature the patient should stay a longer time than in the sea or fresh water. It is an observation of Galen, that a more temperate bath is not less useful than a cold one, if the stay be protracted in it.

The shower bath, a modern invention, in which the water falls through numerous apertures on the body, is a remedy much less pleasing, but probably more useful, than the sea or river bath. The cold is greatly increased from the momentum; and, as the water is usually taken from wells, its heat is uniform, about 51° in this climate, the mean of the earth. In winter the river water is much cooler, but generally superior in heat to the air. Bathing, therefore, through the winter is not a practice so severe as may be supposed, except when it is necessary to break the ice. Even then, however, the water below is higher than the freezing point, as its latent heat cannot escape, and the temperature of the air is often far below it.

The time of bathing should be as soon in the spring as settled weather can be obtained; and, from the long prevalence of easterly winds on the eastern coasts, the southern seem preferable at that time. The most advantageous part of the day is the morning, before breakfast; but, when the weather is not warm, and the patient is much debilitated, it may be proper to begin in the forenoon, after a light and early breakfast. The usual mode of immersion, first plunging the head, is undoubtedly preferable; but if the whole body is *very soon* immersed, this precision is of little importance. The stay in the bath is of more consequence: many come out after the first immersion, and indeed this is the most common, and often the most advantageous, method. It sometimes happens, however, that the glow

is so violent, as to leave in the subsequent part of the day a chilliness; and in such circumstances we have advised a second dipping, which, repressing the too violent determination to the surface, has rendered it more equable and permanent. If any debility arises from staying too long, some *warm* wine and water, *warm* tea, or any similar fluid, drunk frequently while the patient is laid between blankets, will relieve it.

It has been supposed that where the fluids are too much attenuated, bathing will be injurious. We have already said that we have scarcely any evidence of this taking place. We know from frequent experience that no such effect is produced by sea water; and if any of the neutral salt were absorbed independent of the fluid, it might produce the effect. Seamen, however, fishermen, and the sea bathers, who are constantly immersed in salt water, never experience any inconvenience from this cause.

One other form of cold bath has been employed, viz. the *cold air bath*. This consists only in exposing the body for a few minutes to the cold air, partly secured by a loose dressing gown. With prudent precautions this practice may be useful; and even salutary. The effects to be expected must depend on the heat of the atmosphere, and the temperature of the body when exposed to it. *Sponging* the whole body *with cold water* is of the greatest consequence, particularly in cases of chronic debility, where the cold bath cannot be obtained, or is from circumstances inadmissible. For the more partial use of cold applications, see COLD.

BA'THMIS, (from *βαινω, fundatus sum*). A seat, basis, or foundation.

Hippocrates and Galen use it to express a cavity of a bone which receives the protuberance of another at the joints, particularly those at the articulation of the humerus and ulna.

BATHO'NIÆ A'QUÆ. Called also *solis aquæ*, *badiqua aqua*. BATH WATERS.

Dr. Cheyne accounts for the heat of this water by the following experiment. If filings of iron and the powder of sulphur, made into a paste with water, are put into a cellar under a cock which drops water gradually and slowly, it will ferment, and the water running from it will be of the same heat and virtue with those of Bath, though not equally pleasant. Tournefort observes, "that the filings of iron will grow warm by steeping in common water, but much more so in sea water; and if powdered sulphur is added, the mixture will burn."

Most hot waters seem chiefly to consist of sulphur and iron, and to differ only as the sulphur or the iron predominates; where the sulphur most abounds, they are hotter, more nauseous, and purgative.

According to the Experiments of Dr. Bryan Higgins, a Winchester gallon of Bath water contains,

	dwt.	gr.
Of calcareous earth, combined with vitriolic acid, in the form of selenite - -	0	$319\frac{1}{10}$
Of calcareous earth, combined with accidulous gas - - - - - - - - -	0	$22\frac{8}{10}$
Of marine salt of magnesia - - -	0	$22\frac{1}{10}$
Of sea salt - - - - - - - -	1	$14\frac{4}{10}$
Of iron, combined with acidulous gas -	0	$0\frac{1}{10}$

Acidulous gas, besides what is contained in the above earth and iron, twelve ounces measure; and atmospheric air two ounces.

The four principal waters in England that possess any remarkable heat, are those of Bath, Buxton, Bristol, and Matlock. The first of which raises Fahrenheit's thermometer from about one hundred and eight to one hundred and nineteen; the second to about eighty; the third to seventy-six; and the last to sixty-six or sixty-eight.

Dr. Monro, in speaking of these waters, says the highest degree of heat attributed to them by

	Dr. Howard,	Dr. Charlton,	and Dr. Lucas,	is from the pump of
the king's bath,	113	115	119	of Fahrenheit's thermometer.
hot bath	115	116	119	
cross bath	108	110	114	

And that, on evaporation, a gallon has been found to contain of iron $\frac{3}{37}$ or $\frac{3}{118}$ parts of a grain; of calcareous earth $22\frac{1}{2}$ grains; selenites $31\frac{1}{2}$ grains; Glauber's salt $25\frac{2}{3}$ grains; sea salt $51\frac{1}{3}$ grains; which were mixed with an oily matter, but not more so than is common to all waters. From this and other accounts it appears that the Bath waters are acidulous chalybeates, in which iron and earth are kept suspended by means of aërial acid; and that they are impregnated with a small portion of selenites, sea salt, and muriated magnesia. Indeed these waters were for a long time esteemed to be sulphureous; but certainly they have not a title to that name in the least: they do not affect the colour of silver or metallic solutions, or produce any other effect of water impregnated with sulphur.

It has been doubted whether hydrogen or azotic gas is contained in these waters; and there was some probability that the latter was an active ingredient in them, but its existence has never been properly ascertained. Dr. Gibbes has lately added to their impregnations the siliceous earth. But we are still unable to discover in their contents any ingredient sufficiently active to account for their effects, and must resolve the question in the present state of our knowledge to the minute division of the substances dissolved; perhaps to these waters containing the proximate principles of some active compound. They operate powerfully by urine, and promote perspiration: if drunk quickly, and in large draughts, they sometimes purge; but if taken slowly, and in small quantities, they have an opposite effect. These waters are adapted to weak and exhausted constitutions, to atonic gout, to visceral obstructions, nephritic complaints, and dyspepsia. Externally they relieve in all the complaints for which the more active stimulant power of the *balneum* is employed. To the young and plethoric they are frequently injurious; and unless some evacuations are premised, often at first disagree, occasioning headach, heat in the hands, drowsiness, and giddiness. The seasons for drinking Bath waters do not greatly differ. In hot dry summers the waters are strongest, but the spring and autumn are preferred, from fashion probably rather than reason.

More than two pints in a day can never be required, which may be drunk at three or four times, a few hours intervening betwixt each portion; and in such chronical diseases as require preparations of iron, the artificial ones may at the same time be used. See Dr. Cheyne's Account of, and Dr. Falconer's Essay on, the Bath Waters; Monro's Treatise on Medical and Pharmaceutical Chemistry.

BA'THRON. (Greek). The SEAT OF SUPPORT. It is also the *scamnum Hippocratis*, an instrument invented for the extension of fractured limbs. Oribasius and Scultetus both describe it.

BATHYPI'CRON, (from βαθυ, *exceedingly*, and πικρον, *bitter*). See ABSINTHIUM VULGARE.

BA'THYS. A sort of cheese formerly used in Rome.

BA'TIA. See CORNUMUSA.

BATI'CULA, (a dim. of βατος, *a bramble*, from its likeness). See CRITHMUM.

BATI'NON MO'RON, (from βατος, *a bramble*). See RUBUS IDÆUS.

BA'TIS, (from the same). See CRITHMUM.

BA'TOS, the BRAMBLE. See RUBUS VULGARIS.

BATRACHIOIDES, (from βατραχος, *a frog*, and ειδος, *likeness*, from its resemblance to a ranunculus). See GERANIUM.

BA'TRACHIUM. See GERANIUM.

BA'TRACHOS, (from βατραχος, *a frog*). See RANULA.

BATTA'RISMUS, (from Βατος, a Cyrenæan prince who stammered). See PSELLISMUS.

BATTA'TAS, (Indian). Called also *battata Virginiana*, *solanum tuberosum esculentum*, *kippa kelengu*, *papas* vel *pappus Americanus*, and *convolvulus Indicus*. The COMMON or VIRGINIAN POTATOE.

They were first brought into Europe by Sir Francis Drake in 1486, when he returned with the famous mathematician Mr. Thomas Herriot, who was sent to Virginia by Sir Walter Raleigh to explore the productions of the country. Herriot gave them to Gerard the botanist; who first planted them in London, and sent them to Clusius in Holland, who also planted them in Burgundy; and he sent them to Italy, as appears from the works of these and several other authors. It was from this introduction into Europe that so many writers say they were natives of Virginia; but it is said that they will not grow there without skilful culture.

Other authors have given a different account, and relate that the first cargo was shipped at Carolina for Ireland, but the vessel was lost near Liverpool. The potatoes that were saved were first planted there. Each may be true; and the former may refer to the first knowledge we acquired of them, the latter to the first importation.

They are of the natural order of *solanaceæ*, and the roots of the *convolvulus batatas* Ljn. Sp. Pl. 220. This is not the only instance where acrimony is inviscated by farina, or prevented from being evolved by keeping from the air. Those which grow near the surface are said to be poisonous. These roots are natives of both parts of the continent of America and of India.

The light mealy ones are the best, and, by proper management, a wholesome nourishing bread is made of them, called by the Peruvians *chunno*. Their use, as at present, is both profitable and salutary. More brandy may be obtained from an acre of potatoes, than from an acre of barley. They also afford much starch. They contain more than half their proportion of water, which renders them of easy solution and digestion in the stomach, and they are less liable to become ascescent and give the heartburn than the fermented cerealia. A cataplasm is made of potatoes, called CATAPLASMA SOLANI TUBEROSI. See AMBUSTA and ALIMENT.

The varieties of potatoes are numerous, and may yet be increased from the seed contained in the apples. But the usual method of increase is from the tuberose roots. These are cut into pieces, each containing an eye similar to a bud on a branch, with so much of the medullary substance connected with it as will nourish the young plant till it can draw by the roots.

Potatoes produced from sets, after a number of years, are found to decrease in bearing; for which reason they should be brought back every fourteen years to their original. It is after this period that those produced from the seeds themselves decline.

In Sweden, the leaves of the potatoe plants are manufactured for smoking instead of tobacco.

See on this article many remarks, both curious and profitable, in Hunter's Georgical Essays, Cullen's Mat. Medica.

BATTA'TAS CANADENSIS, also called *flos solis pyramidalis*, *heliotropium Indicum*, *adenes Canadensis*, *corona solis parvo flore*, &c. *helenium Indicum tuberosum*, *chrysanthemum latifolium Brasil*, *Americanum tuberosum*, *aster Peruanus tuberosus*, *Farnesianus solis Flos*. HELIANTHUS TUBEROSUS Lin. Sp. Pl. 1277. JERUSALEM ARTICHOKES. See ALIMENT.

BATTA'TAS PEREGRI'NA, called also *cacamotic flanoquiloni*. The CATHARTIC POTATOE; perhaps a species of *ipomæa*, nearly allied to convolvulus: '*cacamotic*' is certainly *quamoclit*, one of the species of *ipomæa*. Many worse blunders occur in the synonyms of the former editions. They grow spontaneously in the warmer parts of America. Their taste is very agreeable; and if about two ounces of them are eaten at bed time, they gently move the belly the next morning. As all the species are in a certain degree cathartic in some of their parts, this quality is less surprising.

BATTITU'RA, (from *batuo*, *to strike*). The squamous scales of metals which fly off whilst under the hammer.

BAU'DA. A vessel for distillation is thus named.

B. P. An abbreviation for *Caspari Bauhini Pinax Theatri Botanici*, sive Index in Theophrasti, Dioscoridis, Plinii, et Botanicorum, qui à Seculo scripserunt Opera.

B. THEAT. An abbreviation of *C. Bauhini Theatrum Botanicum*.

BA'URACH. From the Arabic term *bourach*. See BORAX, ANATRON, and NITRUM.

BAXA'NA. (Indian). A tree in an island near Ormuz, the smallest quantity of whose fruit is said to suffocate the person who tastes it, and the same effect to be the consequence of continuing under its shade; yet its root, leaves, and fruit, are antidotes to poison in other countries. It is also called *rabuxit*, Raii Hist. but not sufficiently described to be referred to its proper place in botanic systems.

BA'ZCHER. A Persian word for antidote. See BEZOAR.

BDE'LLA, (βδαλλω, *to suck*,) BDE'LLERUM, HORSE LEECH. See also VARIX.

BDE'LLIUM, (from the Arabic term *bedallah*,) called also *madelion bolchon*, *balchus*, and by the Arabians *mokel*, is a gummy resinous juice, produced by a tree in the East Indies, of which we have no satisfactory account. It is brought to Europe both from the East Indies and Arabia in pieces of different sizes and figures, externally of a dark reddish brown, somewhat like myrrh; internally it is clear and not unlike glue. To the taste it is slightly bitterish and pungent; and its odour is very agreeable. If held in the mouth it soon becomes soft and tenacious, sticking to the teeth. Laid on a red hot iron it readily catches flame, and burns

with a crackling noise; and, in proportion to its goodness, it is more or less fragrant.

Near half of its substance dissolves either in water or in spirit of wine; but the tincture made with spirit is somewhat stronger, and by much more agreeable. Vinegar, or verjuice, dissolves it wholly.

The simple gum is a better medicine than any preparation from it. It is one of the weakest of the deobstruent gums, but it is used as a pectoral and an emmenagogue. Applied externally, it is stimulant and promotes suppuration.

BEAN IGNATI'US. See FABA STI. IGNATII.

BEAN MA'LACCA. See ANACARDIUM ORIENTALE.

BEAR'S FOOT. See HELLEBORUS.

BEAR'S FOOT. See UVA URSI.

BECABU'NGA, (from *bach-bungen*, *water herb*, German, because it grows in rivers,) called also *anagallis aquatica*, *laver Germanicum*, *veronica aquatica*, *cepæa:* WATER PIMPERNEL, and BROOK LIME. The *veronica begabunga* Lin. Sp. Pl. 16.

It possesses in an inconsiderable degree the virtues of the cochlearia and nasturtium. It hath not the volatility of the cochlearia, nor is it pungent to the taste, but rather saltish and bitterish than acrid. It should be eaten plentifully as food, or a large quantity of the juice taken, if benefit is expected from it, as its powers are very inconsiderable.

BE'CHA, (from βηξ, *a cough*). Any medicine designed to relieve a cough, and of the same import as pectoral. The *trochisci bechici albi* of the London college consists of starch and liquorice, with a small proportion of Florentine orris made into lozenges, with the mucilage of gum tragacanth. It is a soft pleasant demulcent.

The *trochisci bechici nigri* consists chiefly of the juice of liquorice with sugar and gum tragacanth.

BE'CHION, BE'CHIUM, (from the same). See TUSSILAGO.

BECUI'BA NUX. (Brasil). It is as large as a nutmeg, of a brownish colour, with an oily kernel in a woody brittle husk. A balsam is drawn from it, which is held in estimation in rheumatisms.

BEDE'GUAR, (from the Arabic *bedegua*). See CARDUUS LACTEUS SYRIACUS, and CYNOSBATOS.

BEDENGI'AN. The name of love apples in Avicenna: an esculent fruit of a species of solanum.

BE'GMA, (from βηξ, *a cough*). Hippocrates by this word means a *cough* and the *sputum* brought up with it.

BE'HEN A'LBUM, (from the Arabic term *behen*, *a finger*,) called also *jacea orientalis patula*, *raphanticoides lutea*, and the true WHITE BEN, or BEHEN of the ancients.

BE'HEN A'LBUM VULG.; called also *lychnis sylvestris*, *lanaria*, *papaver spumeum vulg. muscipula pratensis*, *vesicaria*, SPATLING POPPY, BLADDER CAMPION, or WHITE BEN.

BE'HEN RU'BRUM, LIMO'NIUM, or LIMO'NIUM MAJUS.

BE'HEN SEA LAVENDER, or RED BE'HEN.

Two roots, viz. the red and the white ben, are described by the ancients. The white is a long, slender, white root, of an aromatic smell, and sharp taste; it is hard, but does not keep well. It comes from the East, and is the *centaurea behen* Lin. Sp. Pl. 1292. The red is a thicker root, also brought from the East, and is the *statice limonium* Lin. Sp. Pl. 394. It is cut in slices, and tastes acrid; but the root of the white lychnis is used for one, and the root of the sea lavender for the other. The last grows in salt marshes on some of our sea coasts. It hath a thick root that runs deep in the earth, and is of an astringent quality.

BEIDE'LSAR, and BEIDELLO'PAR. A species of Asclepias, perhaps the *a. gigantea* Lin. Sp. Pl. 312, used in Africa as a remedy for fever and the bites of serpents. The caustic juice which issues from the roots, when wounded, is used by the negroes to destroy venereal and similar swellings. It resembles the apocynum and anemone.

BEJU'IO; called also the *habilla de Carthagenâ*, BEAN OF CARTHAGENA, perhaps from the *Hippocratea volubilis* Lin. Sp. Pl. 50. It is a kind of bean in South America, and is famed for being an effectual antidote against the poison of all serpents, if a small quantity is eaten immediately. This bean is the peculiar product of the jurisdiction of Carthagena.

BELA'E. (Indian). A particular kind of bark of Madagascar, which was first presented by M. Saillant to the college of physicians at Paris. It is thin, of a yellowish colour externally, reddish within, and to the taste slightly bitter and astringent. It is said to be of considerable efficacy in diarrhœas.

BELEMNOI'DES, (from βελεμνον, *a dart*, and εἰδος, *shape*). BELOIDES, and BELENOIDES: a name for the *processus styloides*, and of the process at the lower end of the ulna.

BELE'SON. See BALSAMUM.

BE'LI. See COVALAM.

BELI'LIA. (Indian). Called *frutex Indicus baccifer*. An Indian berry bearing shrub, a decoction of which is cooling. Raii Hist. The *mussænda frondosa* Lin. Sp. Pl. 251.

BELLADO'NNA, (from *bella donna*, *handsome lady*, Italian). It is so called because the ladies of Italy use it to take away the too florid colour of their complexion. See SOLANUM LETHALE.

BE'LLEGU, BELLERE'GI, BE'LNILEG, BELLE'RICÆ. See MYROBALANI BELLERICI.

BELLIDIOI'DES, (from *bellis*, *the daisy*; and εἰδος, *form*). See BELLIS MAJOR.

BE'LLIS, (*à bello colore*, *from its fair colour*). The DAISY.

BE'LLIS MINOR; called also *consolida minima*, *symphythum minimum*, *bellis sylvestris minor*, BRUISEWORT, and COMMON DAISY. *Bellis perennis* Lin. Sp. Pl. 1249. It is too well known to need a description. Its leaves and flowers loosen the belly, are commended in disorders that arise from drinking cold liquor while the body was hot. The leaves are slightly acrid, the roots rather more so. They have a subtle penetrating pungency, that is not hot or fiery, but like the contrayerva. The root preserves this pungent matter when dried, and an extract made with water, or with spirit, retains the greatest part of its virtues. It is said to be an excellent antiscorbutic; but with all these fancied virtues it is wholly neglected.

BELLIS MAJOR, *consolida media Lobelii*, *bellidioides*, *leucanthemum bellidis facie*, *buthalmum majus oculis bovis*, OX EYE, MAUDLIN WORT, or GREAT OX EYE DAISY. It is the *chrysanthemum leucanthemum* Lin. Sp.

Pl. 1251. It is perennial, grows wild in corn fields and in dry pasture grounds; and flowers in May and June.

The leaves have been in esteem as diuretic and anti-asthmatic.

BELLIS LUTEA FOLIIS PROFUNDIS. See CHRYSANTHEMUM.

BELLIS MONTANA FRUTESCENS ACRIS. See PYRETHRUM.

BELLO'CULUS, quasi BELI-OCULUS, a white gum dedicated to Bel, the Assyrian idol. A sort of precious stone resembling the eye; hence supposed to be good against its disorders.

BE'LLON. See COLICA.

BELLO'NIO and BELLO'NIS; so called in honour of Petrus Bellonius. See CEDRUS FOLIO CYPRI.

BE'LLONIUS DE AQUAT. An abbreviation of *Petrus Bellonius de Aquatilibus.*

BE'LLOSTI PI'LLULÆ, BELOST'S PILLS. R. Hydrargyri purificati, ℥ iv. in syr. è spin. cervin. ℥ i. extinct. resin. jalappii et pulv. colocynth. āā ℥ i. f. massa cujus cap. ℥ ss. 2^do^ vel 3^tia^ quaq. nocte.

BELLU'TTA TSJA'MPACAM. (Indian). Called also *amelpo* and *amelpodi.* The name of a large tree in Malabar. The root, powdered and taken with ginger, promotes sweat. A decoction of the leaves is a good expectorant, and it is said to be of service against the bites of serpents. Raii Hist.

BELLY. In medical language means the state of the intestines; as a *bound belly*, a *loose belly.*

BELLY of a MUSCLE. The larger fleshy part, in contradistinction to the smaller or tendinous extremities.

BELOE'RE. (Indian). An Indian evergreen plant. The seeds purge moderately, but the leaves roughly. Raii Hist.

BELOI'DES, BELONOI'DES, (from βελος, *a dart*, and ειδος, *forma*). See BELEMNOIDES.

BELT. A bandage applied round the body. Mercury is used externally, by covering the internal part with its calx prepared by trituration; and some other medicines have been employed in the same manner.

BELU'GA STONE. A morbid concretion from the beluga fish, *delphinus leucas* of Pennant. The Asiatics near the Volga suppose it useful in many complaints, and think it promotes delivery.

BELU'LCUM, (from βελος, *an arrow*, or *dart*, and ιλκω, *to draw out*). An instrument for extracting darts or arrows.

BELUZA'AR. See ANTIDOTUM.

BELZU'AR MINERA'LE. See BEZOAR FOSSILE.

BEM TA'MARA, (from the Arabic term, *behentamara*). The EGYPTIAN BEAN. See FABA ÆGYPTIA.

BEN, (from *behn*, Arabic,) also called *balanus myrepsica*, *glans unguentaria*, *nux ben*, *nux unguentaria moris*, *Coatlis.* The OILY ACORN, OILY NUT, or BEN NUT, probably from the *guillandina moringa* Lin. Sp. Pl. 546. Wahl and Wildenow have formed a new genus for this species with the appellation of *hyperanthera.* Loureiro styles it *anonia moranga.*

It is a whitish nut, of the size of a small filbert, roundish, triangular, with a kernel covered with a white skin. It grows spontaneously in the East Indies and America; and is brought also from Arabia.

These kernels have a nauseous bitter, oily taste, are purgative, occasion a nausea and colic: on expression they yield one-fourth of their weight of a yellow oil, called *oleum myrepsicum; balaninum oleum*, almost insipid and flavourless; for the nauseous bitter remains behind. This oil does not grow rancid by long keeping, as is common with expressed oils, on account of which it is used as the basis of odoriferous unguents and perfumes, and would be highly valuable for ointments were it easily procured. It is impregnated with the odour of jasmine, and other flowers, by stratifying them with cotton dipped in the oil, and repeating the process with fresh flowers until the oil becomes sufficiently odorous, after which it is squeezed out from the cotton in a press. This is also a name of the *behen.*

It is generally supposed that the *lignum nephriticum* is the wood of the tree which bears these nuts: q. v.

There is another species of ben much larger than the above. Monardus calls it *ben magnum, seu avellana purgatrix*, the GREAT BEN OR PURGING FILBERT. It purges and vomits violently.

BE'NATH. The Arabic name for small pustules which arise in the night after sweating.

BENEDI'CTA AQUA. A former appellation of the *aqua calcis simplex;* the name of a water distilled from serpyllum; and in Schroeder of an emetic.

BENEDI'CTA AQUA COMPO'SITA; i. e. AQ. CALCIS. COMPOSITA. See CALX.

BENEDI'CTA HERBA. The HERB BENNET. See CAROPHYLLATA.

BENEDI'CTA LAXATIVA. A compound of turbeth, scammony, and spurges, with some warm aromatics.

BENEDI'CTUM LIGNUM. See GUAIACUM.

BENEDI'CTUM O'LEUM. See LATERITIUM OLEUM.

BENEDI'CTUM VINUM. See ANTIMONIALE VINUM.

BENEDI'CTUM LAXATIVUM. RHUBARB, and sometimes the LENITIVE ELECTUARY.

BENEDI'CTUS LA'PIS. See ADAMUS.

BENEDI'CTUS, (from *benedico, to bless*). A specific term affixed to many herbs and compositions, on account of their good qualities.

BENGA'LLE INDO'RUM. From Bengal, its native place. See CASSUMUNAR.

BENINGA'NIO. A fruit which grows in the bay of St. Augustine: it is of the size of a lemon, red without, and grateful to the stomach. Raii Hist.

BENI'VI ARBOR, BENIVI'FERA, BENJAMIN, BE'NJUI, BENZO'E, BENZO'IFERA, and BENZOIN. See BENZO'INUM.

BENZO'INUM, (from the Arabic term *benzoah,*) called also *assa dulcis*, *assa odorata*, *liquor syrenaicus*, or, *cyreniacus balzoinum*, GUM BENJAMIN. It is a concrete resinous juice, obtained from a middle sized tree, with leaves like the bay leaves, but not ribbed, and falling off in winter, bearing flattish nuts, the size of nutmegs, whose fleshy covering is externally rough and hairy. It is a native of the East Indies and of North America, particularly of Virginia and Carolina; but only brought from the East Indies: it grows in open ground with vigour in England. Mr. Dryander has fully ascertained this tree to be a styrax; hence it is called *styrax benzoin* Lin. Sp. Pl. Wildenow, vol. ii. 623, nat. order *bicornes.* It is the STYRAX FOLIIS *oblongatis acuminatis subtus tomentosis, racemis compositis longitudine foliorum* Dryander. Philosophical Transactions, vol. 77, p. 308. The leaves

and the bark smell like the gum; and to rectified spirit of wine they give out a resin like the benjamin, but no resin naturally flows from it: the resin is obtained by incisions made in its trunk, about the origin of the first branches; as it runs out it is white, but soon becomes yellowish, reddish, or brownish. It is brought into Europe in brittle masses, composed partly of white, and partly of yellowish or light brown pieces. The white pieces are called *benzoes amygdaloides*, and are reckoned the best; they are hard, solid, shining, transparent, and possess a very fragrant smell: this gum resin hath but little taste, impressing the palate with a slight sweetishness; its smell is very fragrant if rubbed or heated, and it is less heating than most of the other balsams. Its specific gravity is 1.092; and though enumerated among the resins, it is in reality a balsam, uniting an oil with an acid: 100 parts contain 9 of acid, 5½ of acidulated water, 60 of thick empyreumatic oil, 22 of brittle coal, and 5½ of carbonated hydrogen and carbonic acid gas. If the oil is examined, 5 grains more of acid may be discovered. Brande Ap. Nicholson's Journal.

If pure it totally dissolves in rectified spirit of wine. By digestion it imparts to water much of its fragrance and pungency: the filtered liquor, gently exhaled, leaves a crystalline matter of a seemingly saline nature, amounting to an eighth part of the whole.

The FLOWERS *of* BENJAMIN, which is the gum sublimed, and purified, if yellow, by repeating the operation, partake of the fragrance of the resin: they dissolve in spirit of wine, and, with the assistance of heat, in water; from which they are prevented from separating, if as much sugar is added as will give the consistence of syrup to the water.

The *essential oil* of benjamin rises after the flowers, mixed with a little acid, and tainted with a slight empyreuma. It is purified by re-distilling it from water: the *tincture* is made by digesting four ounces of benjamin with a pint of rectified spirit; the *compound tincture*, dignified by the names of commander's and traumatic balsam, drops of life and Persian balsam, by digesting three ounces of benjamin, two of strained storax, one of balsam of Tolu, and half an ounce of socotorine aloes in a quart of rectified spirit. The *lac virginalis* consists of the tincture of benjamin in water, which becomes milky, and the gum deposited is the *magistery of benzoin*, and is chiefly the resinous without the saline part of the gum. In the original receipt of the commander's balsam, called also jesuit's drops, balsam of Berne, and friar's balsam, the ingredients were much more numerous, and the composition seems to have been warmer and more fragrant.

Of GUM BENJAMIN, the principal use is in perfumes, and as a cosmetic. It resembles in virtues and fragrance the storax and balsam Tolu, and may be useful in asthmas and other disorders of the breast, promoting expectoration: the flowers are also a powerful errhine. The flowers may be given from ten to fifteen grains, and the tincture in doses from eighty to one hundred and twenty drops, but is chiefly used to clear the skin and give a scent to wash balls. The lac virginalis must be used when a roughness or blotches render the skin unsightly: it may be rubbed on gently every day with a soft rag.

The flowers of benjamin are manifestly a saline substance of the acid kind, of some acrimony, and stimulant power. They have been recommended as a pectoral; but Dr. Cullen has employed them in some asthmatic cases without effect: half a drachm appeared to be heating and hurtful. This is the benzoic acid of the chemists, which claims a share of our attention from its so often occurring in animal substances, though, as a medicine, it is almost, if not wholly, useless. About fourteen drachms of concrete acid may be obtained from a pound of benzoin, by Scheele's process, which is preferable to any other. Its specific gravity is 0.667. It is white; with difficulty reduced to powder; its taste sharp and pungent, subliming by heat, but not volatile in an ordinary temperature. Cold water dissolves $\frac{1}{100}$ part of its weight, and boiling water $\frac{1}{25}$. Benzoat of lime is found in the calculi of herbivorous animals, and in some human concretions. The benzoats have not, however, been employed as medicines. From Hermstaedt's experiments, Journal de Physique, vol. 34, it appears to contain some prussic acid. It has been reckoned among the correctors of opium; and, to prevent the latter checking expectoration, has been added to the old elixir paregoric, though without any particular advantage. It is also an ingredient in the balsamum traumaticum; and in fumigations has been employed as a corrector of foul air.

BE'RBARIS, BE'RBERIS, (from the Arabic term *berberi*, *wild*). Called also *oxyacantha* Galeni, *spina acida*, *crespinus*, *crispinus*; PIPERIDGE or PIPERAGE BUSH, and BARBERRY. The *berberis vulgaris* Lin. Sp. Pl. 471. Nat. order *trihilatæ*.

It is a large prickly bush, with brittle branches, covered with an ash coloured bark, under which lies another of a deep yellow colour. Some of the individuals have no seeds in their berries; and sometimes berries with and without seeds are found on one bush. It grows wild on chalky hills, flowers in May, and its fruit ripens in September.

The fruit is a mild restringent acid, useful in hot bilious disorders, and colliquative putrescent state of the fluids. The leaves have the same virtues as the berries, but in less degree. The inner yellow bark is austere and bitterish, gently purgative, and supposed to be useful in the jaundice. The bark of the root is mildly astringent. These barks do not keep long, and are best used by infusing one ounce of bark in a pint of water.

Simon Paulli recommends an essential salt of barberries under the appellation of *tartar of barberries*. Two ounces of lemon juice are added to two pints of the juice of barberries: they are digested, the liquor evaporated, and the salt suffered to crystallize. A *jelly of barberries* is made in the usual way. The vicinity of the barberry tree has been accused of communicating the fungus, on which what is called the *rust* depends, to wheat; and it was long since observed that the ears of corn in its neighbourhood were barren.

BERDIRA'MON. See BISTORTA.

BERE'DRIAS. The name of an ointment mentioned in Ætius.

BERENI'CE, (from the city of Berenice, from whence it was brought). See SUCCINUM.

BERE'NS SE'CUM. See ARTEMISIA.

BE'RGAMOTE, or BE'RGAMOT, (French). It is a species of citron, produced at first casually by an

Italian's grafting a citron on the stock of a bergamot pear tree, whence the fruit produced by the union participated both of the citron tree and the pear tree, and the plant is a variety of the *citrus medica* Lin. The fruit hath a fine taste and smell, and its essential oil is in high esteem as a perfume.

The essence of bergamot is also called *essentia de cedra*. It is extracted from the yellow rind of the fruit by first cutting it in small pieces, then immediately squeezing the oil into a glass vessel. This fluid is an ethereal oil.

A water is distilled from the peel by adding the outer rind of three bergamots to a gallon of pure proof spirit, and four pints of pure water: a gallon may be drawn off in a balneum mariæ, and as much of the best white sugar as will be agreeable must be added. It may be prepared also by distilling off three pints from the essence of bergamot three drachms and a half, rectified spirit of wine three pints, ammonia prepared a drachm.

BERIBE'RI, BERIBE'RIA. In the East Indies, the terms mean, in a medical sense, a species of palsy, in which, according to Bontius, patients seem to imitate sheep in lifting their legs when they walk. This palsy consists in a partial deprivation of the motion and sensation of the hands and feet, and sometimes of the body. Sauvages defines it under the order of *clonic spasms*: 'In walking, a retraction of the knee, with tremor; a sense of crawling, or tingling, and hoarseness, common in the Indies.' Linnæus describes it as 'a tremor of the parts, contracture of the knees, i. e. continual chronic agitation of the parts without a sensation of coldness, stupor, and hoarseness.' Sagar adds to the definition of Sauvages, 'painful stupor of the limbs.' He once saw some sheep, observing a wolf, seized with this spasmodic affection; and that they, whether standing still or walking, momentaneously retracted their knees, which immediately returned to their natural situation. Dr. Aitkin makes it synonymous with CONTRACTURE, which see. The cause is generally thought to be exposure to the cold vapours of the night too soon after exercise.

The cause of this disease is whatever weakens the moving powers, and relaxes the ligaments. Generally its approach is gradual; but sometimes it seizes suddenly.

The symptoms are, an universal lassitude, a faulty motion of the hands and feet, and the same throbbing titillation is felt in them as is felt in the fingers and toes in a cold country in the winter season, only the pain is not so great: sometimes the voice is so obstructed as to render articulation difficult. The disease is not mortal, except by seizing the muscles of the breast, so as to obstruct respiration and the voice.

In THE CURE, moderate exercise and frictions are useful: the Indians use a semicupium made of water, in which is boiled an aromatic herb called *lagondi*, or, in want of it, camomile and melilot. The affected parts are rubbed well with a mixture of the oils of mace and roses. Bleeding is not required; but, on the contrary, warm nervous strengthening restoratives are to be used, with an occasional gentle purge. Decoctions of sarsaparilla and guaiacum are also of service. See Bontius De Medicinâ Indorum.

BERICO'CCA. A corruption of the Tuscan language from PRÆCOCCA, which see; and also ARMENIACA MALA.

BERMUDE'NSES, BA'CCÆ, (from *Bermudas*). See SAPONARIÆ NUCULÆ.

BE'RNAVI. An electuary mentioned by Prosper Alpinus in his work De Medicinâ Ægyptiorum. It is prepared in India; its composition is unknown; but very extraordinary effects are attributed to it.

BERNHA'RDI TESTI'CULUS. See ASPHODELUS LUTEUS.

BERNHA'RDI EREMI'TA. See CANCELLUS.

BERRIO'NIS. See COLOPHONIA and JUNIPERI GUM.

BERS. A sort of electuary used by the Egyptians to promote gaiety; it contains opium, and creates a temporary delirium.

BE'RULA. See BECABUNGA.

BE'RULA GA'LLICA. See SIUM ANGUSTIFOLIUM.

BERY'TION, from Berytus, its inventor. The name of a collyrium described by Galen as good against an ophthalmia; and of a pastil against the dysentery.

BES. See CYATHUS.

BE'SACHER. See FUNGUS and SPONGIA.

BE'SASA. See RUTA.

BESL. FA'SCIC. An abbreviation of *Basilii Besleri Fasciculus rariorum*.

BESL. GAZOPHYL. An abbreviation of *Gazophylacium Rerum Naturalium Michaëlis Ruperti Besleri*.

BESL. HORT. EZS. An abbreviation of *Besleri Hortus Eystetensis*.

BESO'NNA. Rulandus explains it by *muscarum fungus*. Probably he means a *sponge*.

BESSA'NNEN. An Arabian term. In Avicenna it is a redness of the external parts, resembling that which precedes the leprosy: it occupies the face and extremities. Dr. James thinks it is what we call chilblains, but is more probably erysipelas. See PERNIO.

BE'STO. See SAXIFRAGA.

BE'TA. So called from the river Bætis in Spain, where it grows naturally; or from the Greek letter β, *beta*, which when turgid with seed it is said to resemble. BEET. It grows on some of the sea coasts of England and Holland. There are numerous varieties of the *beta vulgaris et maritima* Lin. Sp. Pl. 322, distinguished rather from their colour than their properties; and a wild sort called by Dioscorides *limonium*. The parent of all is probably the *b. maritima* Lin. The mangel wurtzel, with whose wonderful virtues the world was some years since so much amused, is a variety of the *b. cicla* Lin. From the *b. vulgaris* M. Achard has attempted to extract sugar, hitherto with little success. By a miserable pun, both have been said to be *baits* for popularity.

Beets, used as food, are difficult of digestion, and afford but little nourishment. If freely eaten they are laxative and emollient. The red ones give out their colour to spirit of wine; and on expression the colour accompanies their juice.

The juice of both kinds has been considered as a powerful errhine, occasioning a copious discharge, without sneezing; but Dr. Cullen observes, in the trials he made, the juice snuffed up the nose gave no large or durable evacuation. The dried red beet roots yield one-twentieth part their weight of sugar, and the dried white beet roots one-tenth.

BETLA. (Indian.) Called also *betre*, *betele*, *bethle*, *betelle*, BETLE, and *bulatwaela*.

It is a scandent plant, growing in different parts of the East Indies, bearing a fruit which resembles a lizard's tail; its taste is agreeable; and the ancient botanists confound its leaf with the malabathrum. It is, however, a species of piper, viz. *p. betele* Lin. Sp. Pl. 40. Another species growing in Java is the *p. scriboa* P. 41.

Mixed with other things, as fancy directs, the Indians chew it almost continually. It is gratefully cordial, but seems to injure their teeth.

BETO'NICA, corrupted from *vetonica*, perhaps from Vetones, a people of Lusitania. Called also *vetonica cordi*, *cestrum*, *drosiobetanon*, COMMON or WOODY BETONY. The *betonica officinalis* Lin. Sp. Pl. 810. Nat. order *verticillatæ* or *labiatæ*.

The leaves and tops are somewhat disagreeably scented, but the odour soon flies off from the dry herb: to the taste they are warm, rough, and bitterish; if powdered, they make a good errhine.

An infusion of the leaves in boiling water contains all the virtue of the herb, and is its best preparation. From large quantities a small portion of essential oil is obtained by distillation. The roots are said to be nauseous and emetic; and, as a medicine, very similar to the helleborus albus. Scopoli thinks it a cephalic and a tonic. It is an ingredient in Rowley's British herb snuff.

BETO'NICA AQUA'TICA. See SCROPHULARIA AQUATICA.

BETO'NICA PAU'LI. See VERONICA.

BETO'NICA CORONA'RIA. See CARYOPHILLUS RUBER.

BE'TRE. See BETLA.

BETTO'NICA. See BARDANA MAJOR.

BE'TULA, (from *batuo*, *to beat*, because rods are made of its twigs). The BIRCH TREE. The *betula alba* Lin. Sp. Pl. 1393. Nat. order *amentaceæ*.

If this tree is wounded in the spring pretty deeply into its trunk, there gradually issues a large quantity of a limpid sweetish juice. It is best when drawn from the upper part of the tree: soon after the leaves have begun to appear, the juice loses its sweetness. This juice hath been drunk as an antiscorbutic; it sensibly promotes urine, and, freely taken, proves laxative. It has been used in diseases of the skin, and against worms. By fermentation it becomes a vinous liquor; and, inspissated to the consistence of a syrup, it yields in cool places a brownish concrete like manna.

The leaves and bark are antiseptic. The former are applied to erysipelatous inflammations, and the latter is burnt to correct bad air; and for this purpose it is the next in goodness to juniper. The oil is sweet, but not particularly employed: that of the epidermis is black.

BEUTU'A. See PAREIRA BRAVA.

BEX, (from *βηττω*, *to cough*). See TUSSIS.

BEXU'GO. The root of the *clematis Peruviana* of C. B.; one drachm of which is enough for a purge.

BEXUGU'ILLO. The PERUVIAN IPECACUANHA. See IPECACUANHA.

BE'ZOAR, so called because it is found in the stomach of the sort of goat named *bezoar*. This is originally a Persian word, viz. BADZCHER, or LAZCHER, or PHAHAZAR, which signifies an *antidote*. Avenzoar is the first who mentions it as a medicine, or who gives its history.

Bezoar stones are preternatural or morbid concretions formed in the bodies of many animals; they are composed of several strata, or layers, like an onion. In the Hist. de l'Acad. an. 1703, it is asserted, that all bezoar stones are bilious concretions of the respective animals which afford them.

Bezoars may be divided into: 1. The true oriental and occidental. 2. Animal concretions which resemble bezoar; as those from apes, and even the various species of pearls and crabs' eyes. 3. The several species of fossil bezoars. 4. Those which have only the shape, without the virtues of bezoar, as the calculi in the human bladder, kidneys, and gall bladder; or in the same parts of oxen. 5. The ægragropila, balls of matted hair, and bezoar Germanicum, see CAPRA ALPINA.

BE'ZOAR ORIENTA'LIS, called also *lapis bezoar*, *hircus bezoarticus*, and the ORIENTAL BEZOAR STONE, from the East Indies. It is supposed to be produced in the cavity at the bottom of the fourth stomach of a species of goat in Persia called *parau*. *Antelope gazella* Lin. though not peculiar to this species, as it occurs also in the *antilope cervicapra* and the *capra ægagrus* Lin. It is only found in the old ones, and exclusively in those which feed on particular mountains.

This stone, finely powdered and levigated with spirit of wine, was formerly made into balls, which were called GASCOIGNE BALLS, from Gascoign their inventor. What are at present sold under that name by the trading chemists, if any remain, are a sophisticated medicine without bezoar.

BE'ZOAR OCCIDENTA'LIS, called also *lapis bezoar*, *Peruvianus*, the AMERICAN or OCCIDENTAL BEZOAR, from the West Indies.

It is found in the stomach of an animal of the stag kind, called *animale bezoarticum occidentale*, a native of Peru, and other parts in the Spanish West Indies; and in the stomach of the yzard of the Alps, *antilope rupicapra* and *capra ibex* Lin.

BE'ZOAR HYSTRI'CIS, (from *ὑστριξ*, the *hedge hog*, because its spots resemble the bristles of an hedge hog,) *pila hystricis*, *bezoar porci*, *lapis porcinus*, *petro del porco*, *lapis Malacensis*, the PORCUPINE BEZOAR, or GALL STONE. It is found in the gall bladder of an Indian porcupine, particularly in the province of Malacca, of a roundish figure, and of a pale or purplish colour, or between a green and white; it is soft, smooth, and slippery to the touch; to the taste intensely bitter, and the water in which it is steeped soon becomes bitter also. It does not appear to differ from the biliary concretions of an ox or any other animal. It is carried in the pocket as an amulet, and hired in Portugal at about a shilling a day.

BE'ZOAR SI'MIÆ, or LA'PIS SI'MIÆ, the BEZOAR of the MONKEY. Stones of this kind are found in the stomach of certain monkeys in Brasil and the East Indies, though they rarely produce them. They are about the size of hazel nuts, harder than the oriental bezoar, of a dark green colour, almost black. The scarcity renders them costly, and they are seldom to be met with. Bezoars are also taken from the stomachs of

crocodiles, dogs, mules, and the *camelus vicugna* Lin. All the true bezoars, when rubbed, exhale a perfume; and, when cut through, are found to contain a nucleus of vegetable matter, successively covered by laminæ of an ammoniacal magnesian phosphat, mixed with a coloured extractive vegetable matter, and animal fluids of a bilious kind. These give the green colour and the smell of musk. On the molares of ruminant animals there is a brown golden coloured coat, like that on the surface of their bezoars. Fourcroy has analysed the oriental bezoars with some care, (Annales du Museum d'Histoire Naturelle, vol. i. p. 111). He considers them as an animal resin different from every concretion. They are softened by heat, easily penetrated by a hot needle, exhaling an aromatic and musky odour; they burn and inflame with a thick smoke, impart a colour to boiling water, and wholly dissolve in alcohol, which they colour. They are dissolved by caustic alkalis, differing in this from vegetable resins.

The false bezoars are prepared with powdered oyster shells made into small balls with gum water, and perfumed with ambergris. They effervesce with acids, and, when cut, have no concentric laminæ; nor, when broken, any crystalline striæ; nor, when rubbed on paper previously covered with chalk, do they leave an olive coloured mark. The *Goa* and *Malacca stones* are of this kind.

BE'ZOAR FO'SSILE. FOSSILE BEZOAR is a small hollow body from Italy, found in sand and clay pits, of a purple colour, with a rough surface, the size of a walnut, and light. When broke, it is found to consist of an irony crust, containing in its hollow a fine greenish white earth resembling pale bezoar. The earth is used, and not the shells. It seems to be of the nature of bole armoniac, or rather calcareous; and is also called *bezoar minerale*, *terra sicula et noceriana*, *lapis bezahan*, *siculus albus*, *belzuar minor*. SICILIANA, MINERAL BEZOAR, and SICILIAN EARTH.

Notwithstanding all the boasted virtues of these bezoars, viz. the power of destroying poisons and reanimating the vital powers, it is certain that they are absolutely indigestible in the stomachs of the animals in which they are found; and they are equally so in the human, except when accompanied with an acid; so that no more can be expected from them than from any of the testacea that are soluble in acids; but they are inferior to them, as far less absorbent, and more difficultly acted on by any acid.

BE'ZOAR MICROCOSMICUM, called also *calculus humanus*, the calculus of the human bladder.

It is various in its degrees of hardness, as well as in its size and figure. It has been used in the place of the more costly sorts.

BE'ZOAR ANIMA'LE. ANIMAL BEZOAR. Take the whitest calcined hartshorn levigated to the greatest subtility, pour on it, drop by drop, the spirit of vitriol, to form it into a paste to be made into balls.

A powder of liver and heart of vipers is called *animal bezoar*.

BE'ZOAR BO'VINUS, called also *alcheron lapis*. The Portuguese call it MESANG DE VACA. It is a stone found in the gall bladder of a bull.

BE'ZOAR MI'NERAL. See BEZOAR FOSSILE.

BEZOAR'DICA RA'DIX. See CONTRAYERVA.

BEZOA'RDICUM JOVIA'LE. BEZOAR with TIN. See ANTIMONY.

This differs very little from the anti-hecticum Poterii, and might as well be prepared by simple deflagration with nitre, since it is a mere calx.

BEZOAR'DICUS PULVIS. See BEZOAR ORIENTALIS.

BEZOA'RTICUM, BEZOARTIC; such was the opinion of the ancients respecting the virtues of bezoar, that physicians held it as a medicine highly efficacious in a vast variety of cases, particularly as a counter poison or alexipharmic, and placed a very great dependence on its powers; therefore, all medicines supposed to possess similar virtues, were termed bezoartica.

BEZOA'RTICUM MINERALE. The common calx of antimony generally supplies its place, for, like that calx, it is absolutely inert.

BIA'NCA ALEXANDRI'NA. See ALBUM HISPANICUM.

BIBITO'RIUS MU'SCULUS, (from *bibo*, *to drink*). See ADDUCTOR OCULI.

BI'BULUS LAPIS, (from *bibo*, *to drink*, so called from its drinking or absorbing power). See PUMEX.

BICAUDA'LIS MUSCULA'RIS, vel INTRICA'TUS MU'SCULUS, (from *bis*, *twice*, and *cauda*, *a tail*, so called from having two tails). See ABDUCTOR AURIS, N° 1.

BI'CEPS MU'SCULUS, (from *bis*, and *caput*). A DOUBLE HEADED MUSCLE.

BI'CEPS HU'MERI, called also *biceps internus humeri*: Dr. Hunter calls it *biceps flexor*. It rises by two heads; one of them, which is a slender tendon, from the uppermost part of the glenoid cavity; it runs across, within the cavity of the joint, under the ligament of the articulation, passes in the groove between the two tubercles, and, going down, grows fleshy. The second head rises from the extremity of the coracoid process, runs down the axilla, and joins the first, forming a tendon, which sinks between the interstices of the muscles, to be inserted into the tubercle on the inside of the radius. This muscle, besides being a flexor, acts as a rotator of the radius, when the hand is prone. This muscle sends off an aponeurosis towards the inside of the arm, which is the part wounded when the tendon is said to be pricked by bleeding. This aponeurosis was first noticed by Cowper.

BI'CEPS EXTE'NSOR. This muscle rises by two heads; the longer, taking its origin from near the neck of the os humeri, runs between the teres major and minor, down the back part of the arm, and joins the short head which rises on the outside of the deltoid, and is inserted into the olecranum.

BI'CEPS FE'MORIS. This muscle hath two heads; the longer rises in one mass with the semitendinosus, but, having advanced a little way, they part: they arise from the protuberance of the ischium on its back part; as the biceps advances it becomes fleshy. Between the biceps and the semitendinosus, the vessels lie in the ham. The short head rises from the lineal aspera, between the insertion of the biceps and the origin of the vastus externus. The two heads join, and are inserted into the superior epiphysis, or outer part of the fibula.

It bends the tibia, and partly rotates the leg by turning the foot outwards. Cowper.

BI'CHOS, (from *bicho*, *port*). A Portuguese name for the worms found under the toes in the Indies, and which are destroyed by the oil of the cashew nut.

BI'CION, (from βικος, *a pitcher*, from the shape of its pod). See VICIA.

BICO'RNE OS, (from *bis*, *double*, and *cornu*, *horned*). See HYOIDIS OS.

BICO'RNIS, (from the same). A muscle is so called when it hath two terminations; also a name of the *flexor carpi radialis*, and of the *extensor carpi radialis*.

BICU'SPIDES, (from *bis*, *twice*, and *cuspis*, *a point*). DOUBLE POINTED. See MOLARES.

BI'DENS, (from *bis*, *twice*, and *dens*, *a tooth*,) so called from its being deeply serrated or indented: called also *verbesina*, *cannabina aquatica*, *hepatorium aquatile*, *eupatorium Arabum*, *ceratocephalus*, AGRIMONY, and WATER HEMP. *Bidens tripartita* Lin. Sp. Pl. 1165. Nat. order *discoideæ*.

The leaves have a light agreeable smell, and pungent bitter taste; are supposed to be aperient, corroborant, and of some efficacy in icteric complaints, scurvy, and œdematous swellings of the feet. An infusion in boiling water, drunk freely, is the best method of using them. The juice of the fresh herb may be taken in doses from one to two ounces: larger doses operate by vomit and stool, and the root purges actively.

BI'DENS ZEYLA'NICA, BI'DENS URTICA. See ACHMELLA.

BIE'NNIALIS, (from *bis*, *twice*, and *annus*, *a year*). BIENNIAL. Herbs are said to be *biennial* when their roots continue two years.

BI'FIDUS, (from *bis*, *twice*, and *findo*, *to cleave*). BIFID, cloven; called also *dicræus*.

BIFO'LIUM, (from *bis*, *twice*, and *folium*, *a leaf*,) because it sends up two leaves upon one stalk: also called *ophris*, *ophris major*, *orchis bifolia*, *didyme*, ordinary WOOD BIFOL, and COMMON TWAYBLADE. *Ophrys ovata* Lin. Sp. Pl. 1340. It is found in woods and other shady places, flowers in June, and ranked among the agglutinant astringents. Miller's Bot. Off.

BIGA'STER, (from *bis*, *twice*, and γαστηρ, *belly*). A name given to muscles that have two bellies.

BIGNO'NIA CATA'LPA, Lin. The leaves, as Thunberg informs us, are applied with success to limbs affected with rheumatic pains by the Japanese.

BILA'DEN. See FERRUM.

BILIA'RIA ARTE'RIA, (from *bilis*, *appertaining to bile*). The BILIARY ARTERY. When the hepatic artery hath advanced as far as the vesicula fellis it gives out the *biliaria*, which accompanies the two cystic branches in the gall bladder, and then is lost in the great lobe of the liver. See HEPATICA ARTERIA.

BILI'MBI. (Indian). A tree of about eight or ten feet high, which Bontius calls *billing bing*; and by the Europeans it is named *malus Indica*, *fructu pentagonò*. *Averhoa bilimbi* Lin. Sp. Pl. 613. Nat. order *terebinthinaceæ*.

It is cultivated in the gardens in Malabar, bears flowers and fruit all the year. The juice of the root is cooling; that expressed from the fruit cures the itch, and several other diseases, if applied by laying on linen cloths that have been dipped in it. Inwardly taken, it abates the gripes and a diarrhœa. The ripe fruit is eaten as a delicacy, the unripe made into a pickle for the use of the table.

There is another species called *neli pioli*, or *bilimbi altera minor*, *averhoa acida* Lin. The male species of the *nebipouli* is called *alapouli*. Raii Hist.

BILIO'SA FE'BRIS, (from *bilis*, *bile*). The BILIOUS FEVER; called also the MARSH, REMITTENT, AUTUMNAL REMITTING, and CAMP FEVER. *Febris flava*, *febris maligna Barbadensis*, *icterodes*.

When a fever is accompanied with bilious discharges by vomit or stool, whether it be continual, intermittent, or remittent, it is called *bilious*. It is the second species of typhus in Dr. Cullen's Nosology, named *icterodes*, defined a typhus with yellowness of the skin. In his First Lines, vol. i. he observes that the typhus is a genus that comprehends several species; that these, however, are not well ascertained by observation; many of the different cases do not imply any specific difference, and seem to be merely varieties, arising from a different degree of power in the cause, from different circumstances of the climate or season in which they happen, or from different circumstances in the constitution of the persons affected. One effect, arising from these circumstances in the constitution of the persons affected, is an unusual quantity of bile appearing in the course of the disease, which is almost a distinguishing character of intermittent fevers; but if it should appear with a continued fever, it could only be considered in such a case as a coincidence owing to the state of the season, producing no different species or fundamental distinction, but merely a variety of the disease.

In Britain it generally prevails in the first cold that succeeds hot weather; in hot countries it is most frequent in damp marshy places, and after great rains that are followed by great heats. In both situations, those who are exposed to damps, and to the night air, are most subject to it.

Besides the causes in general of fevers, it is occasioned by a copious secretion of the bilious fluid poured into the duodenum and stomach, whence the symptoms proper to this fever arise.

Besides the usual symptoms of fever, there are an extraordinary inquietude and anguish, a burning heat, cardialgia, nausea, vomiting, and purging; and, in consequence, a copious discharge of bile. The thirst is excessive, and the dejection of spirits equally so; the pulse is small but quick; sometimes it remits very sensibly, at others the remissions are more obscure; and at last an inflammation of the bowels comes on. If the evacuations are cadaverous, death is approaching; and an involuntary discharge of the excrements is usually fatal.

If the pulse is full and hard, bleeding may be admitted in the beginning; a repetition is rarely, if ever, required; and in hot countries it is best to omit this evacuation. In all cases a grain or two of antimonium tartarisatum, as an emetic, is necessary.

If saline medicines are given, the citrated potash is the most proper; but each dose should be administered in the act of effervescence.

As soon as an intermission is perceived, the bark, which is the chief dependence, must be given. But if the disease be very violent, or the disease occur in a

hot climate, the bark must be given before the intermission, for on its early use depends the cure; a drachm may be given every hour in wine and water, or what the patient uses for his common drink. If the bark, in substance, is not agreeable, a cold infusion of it may be substituted, which may be acidulated with the acidum vitrioli dilutum, and the patient may take it as freely and frequently as his stomach will bear. If it excites stools or vomiting, a few drops of the tinct. opii will prevent the inconvenience.

In colder climates and less urgent circumstances, the pulv. rad. columbo, gr. xv. ad xx. with the kali vitriolat. ℈ i. ad ℈ ii. given every four, five, or six hours, produce both speedy and beneficial effects. The neutral salts, Dr. Percival observes, abate the febrile heat, allay thirst, and bring on a gentle salutary diarrhœa; whilst the columbo supports the patient's strength, obviates the sickness, and checks the septic ferment in the primæ viæ. Dr. Haygarth adds, that after the primæ viæ are cleared from their bilious contents, the columbo root allays the nausea so constantly attendant on this disorder: and that in this fever, though the remissions are very evident, and the accession marked with chills and other symptoms of an intermittent, yet the bark is not always so successful in this climate as to encourage its use. The columbo, he observes, answers our warmest wishes, by correcting the bile, restoring the proper tone of the stomach, and of the whole habit; it also prevents relapses, to which, in this fever, the patient is peculiarly disposed.

Bilio'sa a'rdens fe'bris. The burning bilious, called also the yellow, fever, the West Indian fever. It is a variety of the *typhus icterodes* of Cullen, and has no connection with the *biliosa febris* just noticed, except in the bilious discharges, and the colour of the skin. This, as just observed, is a typhus of a very rapid and dangerous kind, as nervous debility, torpor, and mortification, soon come on. It is the fever which has made such considerable devastation on the North American continent, and, with a little variety, in Spain and Gibraltar. It has proved a more general and fatal epidemic than any other, the plague excepted, to which it bears no inconsiderable relation. This subject we must however soon again return to.

It attacks with a transient chilness and shivering, which are soon succeeded by a burning heat all over the body, but more particularly about the præcordia: the pulse is high and quick, but not hard; the eyes are heavy, the face flushed, a violent headach comes on, with beating in the temporal arteries, and a thick laborious respiration; a nausea soon follows, and what is discharged upwards is black and highly bilious. Anxiety is very great; a shooting pain is complained of in the back and loins, and an uneasy lassitude in the limbs. In about twelve hours after the first invasion of this disease, the tongue is very dry, rough, and discoloured; thirst is excessive, vomiting incessant, anxiety increased, a soreness is felt all over the body, and a delirium comes on. In the last stage, which soon arrives, the patient labours under a coma, manifests a great oppression about the præcordia, the respiration is very difficult, the face swollen and darkly yellow, and at length the tendons tremble; cold sweats and convulsions usher in death. Blood taken the first day is florid but thin, and the crassamentum scarcely coheres: on the second or third day it is still more loose, and the serum is more yellow. When the patient recovers, the crisis usually happens in the fourth day after the attack, and generally discovers itself by a brighter suffusion of the bile all over the body. The yellow tinge sometimes appears in the eyes twelve hours after the symptoms of this fever come on; the sooner it appears the more favourable is said to be the prognostic. This however is not correct, for the bilious suffusion is only salutary when the disease is protracted. If the skin continues dry and rough the patient rarely recovers, however good his pulse may be. Incessant vomiting, and the discharges growing darker coloured, with dark spots on the skin, are fatal signs; and if a dry skin accompany an inflamed redness of the eyes, death may be expected in a few hours.

The violence and fatality of this disease have directed very powerfully the attention of physicians to its nature, and particularly of those who have been engaged in the conduct of such epidemics. As it obviously occurred at the period when autumnal remittents were common on the American continent and in the southern parts of Europe, it was highly probable that this was only the usually returning epidemic, from accidental circumstances rendered more violent and fatal. Yet when its nature was more closely examined, this idea was entertained with greater hesitation. It was obviously bilious, but less clearly remittent; its rapid progress did not keep pace with that of the true bilious fever, and symptoms of peculiar debility came on in a very early stage. In short, it was highly probable that it was a typhus, attended with bilious symptoms, rather than a remittent of a peculiarly malignant kind. Some little remission may be observed in the earliest stage, but it is transient, and perhaps not more than by careful attention may generally be observed in typhus.

When the violence and malignity of the disease were ascertained, no country was willing to claim the destructive visitant. It was supposed to be an importation, and probably was so. At Martinique it was the fever from Siam: in America, from Bulam. The discussion would be too long; but, from a careful examination of all the facts, it appears probable that some contagion, uniting with the epidemic tendency of the bilious autumnal remittent of the country, has produced the destructive monster. The observations in Philadelphia seem to trace it to some foreign importation. At Martinico, at Grenada, and Jamaica, there appears always to have been a concurring cause. It is doubtful, however, whether this is constantly contagion. The putrefaction of vegetable and animal substances, which in any situation may occasion typhus, in concurrence with the autumnal remittent, may produce the yellow fever.

These views will discriminate it from the causus, from the gaol and hospital, as well as from the common bilious fever. In the gaol fever there are little accumulation and discharge of bile: in the others, little of the asthenic and putrefactive state. When we consider fever more generally, we shall distinguish these states, and point out in what cases putrefaction may produce debility, and where debility occasions putrefaction. The yellow fever and the plague are, we think, referable to the latter; and the distinction is not an object of curiosity and refinement only, for it assists in directing the cure, particularly the exhibition of the Peruvian

bark. Much idle—it is an improper word—many highly pernicious disquisitions have been indulged, whether this fever is contagious. The existence of a doubt shows that it may not be highly so. Yet it has in so many instances been communicated from an infected person, that the utmost caution is requisite. It has been even doubted whether the plague is contagious; but those who have suggested and disseminated the doubts, are answerable for the lives of thousands, and in some instances have paid the forfeit with their own.

On dissection, the contents of the brain and thorax were uninjured; but the blood is fluid like that of persons who have been destroyed by electricity. The stomach and duodenum were generally inflamed; sometimes a little extravasation; sometimes pus and a black fluid, black, generally from containing flakes, and evidently a depraved secretion of bile, were observed. On the surface of the other viscera some distended veins were seen, but the liver was generally sound. Negroes and mulattoes escaped better than the white inhabitants, and those were less frequently and violently affected than strangers. In America, however, the inhabitants and strangers were equally susceptible of the disease.

The American physicians have differed greatly in opinion, whether this fever was an inflammatory or a putrid one. The difference has, we fear, led each party to an injurious plan of treatment: which, as usual, has been pursued with more pertinacity, because it was their own system. We see in this disease, as we have said, an asthenic fever, joined with biliary accumulations; a fever hastening rapidly to a fatal termination, while we do not possess a power of supporting the strength without previously exciting proper discharges; or of producing the necessary evacuations without inducing a fatal debility. The great debility, the anxiety, the sighing, the distended veins, prove the existence of a highly asthenic state. The absence of internal mortification shows, that if the disease becomes putrid, it is when long protracted.

In the cure, Dr. Rush, adopting the idea of its being inflammatory, bled largely and repeatedly; he adds with success. But were his success so conspicuous, his brethren would not probably have so strenuously urged an opposite plan; nor would the relations of the patients screamed with terror when the bleeding was proposed. This he tells us has often happened. Though we consider Dr. Rush, however, as the slave of prejudice and system, we believe him to speak what he thinks; and we can easily suppose that early bleeding in the manner described may have been useful. We know that Sydenham bled in the plague, and Dover in putrid fevers; we know, too, that other practitioners in the West Indies have bled in the yellow fever with advantage. The bleedings must however be large, and confined to the first twenty-four, or at most thirty-six hours. Dr. Rush at first extended the period in which this remedy might be proper, but in the following epidemics was more cautious. It is not necessary to assign a reason for the utility of bleeding, though we can perceive some foundation for the practice. When in asthenic cases the blood is determined to the larger vessels, if these are not excited to action by the distention, they become still more torpid. Lessening actively the general mass relieves the over distended torpid vessels in a greater degree than the loss of blood weakens the whole system: their action commences, and the salutary discharges are induced.

To fulfil the other indications may appear an easy task; the stomach and bowels are to be emptied, the bark and wine given, and the whole is at an end. Such is the easy track of the theorist. In practice, however, we find the stomach so highly irritated that we dare scarcely add to the irritation. To assist the vomiting with mild, diluent, nutritious fluids, as mutton and chicken broth; or, if the urgings are violent and ineffectual, to aid them with a small dose of ipecacuanha, or tartarised antimony, is all that can be allowed. We have already remarked, that all neutral salts possess an anti-emetic power, and a dilute solution of these with manna and tamarinds may be drunk frequently to evacuate the bowels. Some physicians have added a small proportion of tartarised antimony; and this medicine, in the dose of one-sixth or one-eighth of a grain, will sit easily on the stomach, and tend rather to produce a discharge downward than to vomit. In some instances where the vomiting and diarrhœa are dangerously violent, a slight opiate may be given to regulate rather than repress them.

When a sufficient discharge is procured where necessary, or regulated when excessive, warm cordials may be safely employed to support the strength; and wine cautiously given, observing its effects, and from these directing its repetition or omission. The discharge by stool must be kept up according to the symptoms and the nature of the evacuations. Respecting the cordials and tonics practitioners have differed: the bark irritates the stomach and bowels, and can seldom be retained. When it is so the effects have not often been salutary. The contrayerva and serpentaria have been employed; but the disease treated by Hillary and Lining seems scarcely to have been the violent fever, which has so lately forced itself on our attention, and animated our exertions. The columbo root may be useful in correcting putrid bile, but it has a very inconsiderable effect as a tonic. The quassia is by far more serviceable, and the cascarilla has been employed with advantage.

Practitioners have greatly differed respecting the propriety of applying blisters. The discharge from these is thin, acrid, and yellow; nor have they been seemingly of any utility. Indeed they are not apparently indicated in any stage of the fever, except from the affection of the head, which is rather a mark of debility than of fulness. Theoretical views have occasioned the discussion rather than observation of their effects; and their power of attenuating the blood, of which there is not the slightest evidence, has been the chief subject of dispute. Acrid cataplasms to the feet have not been more useful; and the warm bath, though often employed, seems to have done little service. The whole plan of cure consists in evacuating the stomach and bowels with the least irritation, and supporting the force of the circulation.

Two other plans have engaged the attention of practitioners. The followers of Brown, with the rashness and indiscriminate violence of sectaries, urge their tonic plan of cure, and give at once the warmest stimulants.

If the view we have given of the disease be correct, we need not say with what success over distended vessels are thus excited to transitory and ineffectual action. In fact they have been very unsuccessful.

The second plan is that, we believe, now generally followed, viz. the mercurial. Calomel unites the different objects, since it not only evacuates the alimentary canal, but effectually stimulates the vessels of the biliary system, and supports the action of the smaller vessels. When the bowels are so irritable as not to bear its being given internally, frictions of mercurial ointment will supply its place. This practice is not yet unquestionably established, but it is rapidly gaining ground, and promises to be highly useful. The mercury must be introduced as usual into the system, until some sign of its action on the minuter vessels is observed.

The late fever in Spain and Gibraltar showed the same marks of asthenic venous accumulation, with a similar affection of the biliary system. We cannot perceive, from the very accurate description in one of the last volumes of Dr. Duncan's Annals, that it had any very peculiar or discriminating marks to distinguish it from the yellow fever of America. Nor have we found a single improvement in the conduct which requires a detail.

See Bisset on the Bilious Fever of the West Indies. London Med. Obs. and Inq. vol. iv. p. 156. Blicke on the Bilious Fever of Jamaica. Sir John Pringle, Drs. Chalmers, Lind, Towne, Warren, Cleghorn, and Rouppe. Of the more modern authors Dr. Rush, Dr. Chisholme, Drs. Mosely and Grant, merit the most considerable attention.

BI'LIS. In Ainsworth it is derived from φαυλος, scil. *succus*, *juice;* and also *fel*, *bile*, or *gall;* and we know no better etymology.

It is a bitter viscid juice, secreted from the blood in the liver, and collected in the receptacle known by the name of gall bladder. The blood collected from the adjacent abdominal viscera is thrown into the vena portæ in the liver, from whence it is secreted. When formed, it is carried to the beginnings of the biliary ducts, called *pori*, or more properly *tubæ biliariæ*, and by them is conveyed into the ductus hepaticus. This duct, passing on a little way, enters into the ductus communis choledochus, whence the *bile* is partly discharged into the duodenum, partly regurgitates into the ductus cysticus, and falls into the gall bladder. By lodging there some time its thinner parts transude, or are reabsorbed, and the rest becomes thicker and more acrid; increases in bitterness, and the depth of its colour.

The hepatic *bile* before it is mixed with the cystic is subalkaline and rather oily; it continually passes into the duodenum, but the cystic only when required.

The *bile* is formed from the blood in the secretory vessels of the liver. It is of a yellow colour, varying to green; has a bitter taste, with something like sweetness; the mucilage which it contains is decomposed, not coagulated by acids, and some of their compounds; the acids precipitating only a part which is resinous. It is soluble in alcohol, but incompletely. It has a peculiar smell of the species of animal in which it is produced, and is a powerful antiputrescent. Dr. Saunders, from some experiments, draws the following conclusions respecting the elements forming the bile, and says it consists, 1st, Of water impregnated with the odorous principle. 2dly, A mucilaginous substance, resembling the albumen ovi. 3dly, A resinous substance, containing the colouring principle and bitter taste. 4thly, A mild mineral alkali. With respect to their combination, it seems that what has been styled the saponaceous matter consists of the bitter resin in union with the alkali; this admits of a ready union with a mucilage, and with this again the aqueous matter very easily combines, so that the whole forms an apparently homogeneous mass. The soap, or the saponaceous matter of the bile, is equally soluble in water and alcohol.

It is the least putrescent of any fluid in the body; its apparent use is to mix the chyle, to support the peristaltic motion of the intestines, and to assist in completing the assimilation of the food. When the stomach is full, the cystic *bile* is more copiously discharged into the duodenum; when it is empty, the hepatic more freely into the gall bladder.

The odour of the bile is nauseous, though when evaporated or spontaneously decomposed resembling that of musk, an odour which at times the perspirable matter, if confined, will also exhale. Its specific gravity to that of water is 1.0246 to 1.0000. It is perfectly soluble in water. Acids separate the soda and the coagulated albumen; and the bitter inflammable matter, styled the resin, is left in the filter. The sulphuric acid gives the bile a deep green colour; concentrated nitric, a brilliant yellow; and the muriatic, a beautiful clear green; oxygenated muriatic acid destroys the colour of the bile, and coagulates its albumen, which it precipitates, furnishing the albumen seemingly with oxygen. The colourless bile, however, still contains an oil, though changed by the oxygen, so as to be soluble in water. This oil is precipitated by an acid, and consequently the fluid still seems to retain a portion of soda. Bile contains also a white crystalline matter, which sometimes contributes to the formation of biliary calculi, but it differs greatly from the white oil, since it is more soluble in alcohol, and not precipitated in laminæ. The oil also is as fusible as fat, but the laminæ require a heat exceeding that of boiling water.

When putrified in a considerable heat, its odour is more nauseous; its colour changes; white mucilaginous flocks are precipitated; and it becomes more fluid. When putrefaction was further advanced, the smell became more pleasant, resembling that of ambergris. From inspissated bile kept a long time without decomposition, the musky odour may be obtained by distillation, combined with the water. The coal remaining after distillation contains carbonat of soda, phosphat of lime, and a small proportion of oxid of iron. Fourcroy adds a small proportion of prussic acid, to which probably the bile owes its bitterness; but this part of the subject we shall soon again notice. The saponaceous nature of the bile has occasioned many disquisitions and disputes. It is, undoubtedly, not a soap in the strict chemical sense of the term, though approaching a saponaceous nature; but, as on this point no physiological question hinges, we need not enlarge on it.

Various authors have supposed that bile exists already formed in the blood. Mr. Higgins, in his Comparative View of the Merits of the Phlogistic and Anti-

phlogistic systems, describes some experiments on the blood, in which a yellow matter not unlike bile was separated: and Fourcroy, by a more complicated process, has changed the blood into a fluid resembling bile. Yet, in the economy of the animal system, in all its subordinate gradations, there is no organ more constant than the liver, no apparatus of secretion more complicated than that for preparing bile. In the human body, the blood designed for this purpose, has already circulated, without being again exposed to the atmospheric air, so that it is deoxygenated; but the fluid itself resists rather than promotes putrefaction, nor do we find it on experiment highly azotic. The bile, it is said, neutralises acids; and, as in children it is thin and watery, authors have supposed that it performs its office imperfectly, and that for this reason acids abound in their stomachs. Bile, however, never passes naturally into the stomach, and when there produces considerable inconvenience: on the other hand, though acid may be prevalent in the stomach, it does not appear beyond the duodenum, where the contents of the stomach meet with the bile. One of its use is, therefore, very probably to correct acidity.

Its saponaceous nature was said to assist the union of the oil and water in the formation of chyle; but this idea is effectually destroyed by the experiment of Dr. G. Fordyce, who tied the ductus choledochus communis, and still found the lacteals filled with a chylous fluid.

The ancients supposed the liver to be the organ by which the nourishment was prepared; and Fourcroy has lately endeavoured to revive the opinion, supposing that the long protracted circulation was destined to unite more intimately the molecules of the blood with the new nourishment, with the air taken in by the lungs, and that formed during the circulation. When we reflect on the general importance of the liver, and that its place cannot be supplied by any other organ; when the emaciation which follows its diseases, and the immense size to which inactivity with highly nutritious food enlarges it, this idea will appear to have greater force. Yet we think it acts only, in this respect, a secondary part. We shall find, in our enquiries into the process of digestion, a very great change produced by it on the food taken in; an immense distance between, for instance, the herbage of the field and the muscular fibres of the sheep and ox: we shall, of course, perceive the necessity of a powerful agent for the production of this change. A fluid highly animalised, is necessary to join the vegetable matter before it is permitted to mix with the general mass; for the mildest chyle immediately injected into the vessels is fatal: and this matter must be very distant from a putrescent fluid, since this process, already going on in the sanguiferous system, requires a check rather than a ferment. It is then a fluid necessary for perfecting the assimilation of the aliment, and giving to the chyle some principle which enables it to join the general mass with impunity. We consequently see it formed from blood which has undergone a languid circulation, but not from those parts where it might meet with a putrid fomes; for the hæmorrhoidal veins do not form a portion of the vena portarum. This blood is said by some authors to be peculiarly fluid; it probably contains a larger portion of soda, with hydrogen and carbone. The two latter, in consequence of the languid circulation uniting with the remaining oxygen, form with the fibrin of the blood the oil, which is rather a spermaceti than a truly oleaginous fluid. In those animals whose respiratory organs are small, the liver is unusually large; and we find birds, whose livers are naturally small, when pent up in a close coop, have this gland considerably increased in bulk. When this oil abounds and the fluid no longer holds it in solution, a crystallization takes place, and biliary calculi are formed, of which we shall afterwards treat. See Calculus biliaris.

It is observed, in general, that the gall of small animals is stronger and more acrid than those of larger kinds; that the gall of carnivorous animals is more active than those of herbivorous. Instances are those of the hawk, serpent, eel, and pike, but in general all their secreted fluids are more acrimonious.

Physiologists have warmly contended, whether the bile was derived from the hepatic artery or the vena portæ. But, as the former artery is small, as its ramifications are not peculiar, and as the circulation in the latter is singularly complicated, and has no apparent object but the preparation of a very important fluid, it is generally supposed that the hepatic artery only nourishes the viscus, while the secretion is exclusively from the contents of the vena portæ.

The changes of the bile from disease are not numerous, but merit particular notice. We have introduced the appearances which putrefaction really occasions, to show that this state of the bile is often accused, when in reality it does not exist. The dark acrimonious bile is often a depraved secretion; and the dark flakes in bile are equally produced by a derangement in the functions of this organ. These are generally the result of too great indulgence in spirituous liquors. Bile will sometimes assume so dark a hue as to be mistaken for blood. Dilution destroys the error; for the diluted fluid has a yellow tinge; and the flakes, to which this dark colour is often owing, are then obvious. With acids the bile assumes a greenish colour; and, as bile when in the circulating system is soon carried to the kidneys, we once saw it convey this green hue to the urine. The cause was evident, since an alkali destroyed it. Another disease of the bile is an oiliness; in other words, the adipocire becomes a more perfect oil, which the soda does not unite to the watery part of the fluid. It is often vomited in this state, and is the strongest proof of a considerable injury experienced in the process of digestion. The defect of bile is known from the white colour of the stools; but more certainly from the appearance of bile in the urine and under the skin. We see occasionally the kidneys torpid from a paralysis of the renal vessels, but we recollect no instance of a want of bile from the same cause. Fernelius, in his Pathology, speaks of a defect of bile as producing different diseases; but he means rather an obstruction, and that kind which is owing to a scirrhous liver.

In fevers the bilious discharges are often copious and troublesome; and the liver is the organ generally affected when the fluids are not propelled to the surface, since its vessels chiefly contain the blood from the venous system. Yet copious discharges of bile are peculiar to remittents and intermittents, though in continued fevers of every kind the liver is unusually filled—

in medical language infarcted—and peculiar attention to the discharge of its contents is required.

According to the supposed uses of the bile has it been employed as a medicine. It is a saponaceous aperient, a stomachic, a laxative, or a tonic, if the opinion of the author is in favour of either system. When the bile is deficient, it has been supplied with that of the ox; the practitioner forgetting that bile *in* the stomach was the source of numerous inconveniences, particularly sickness, faintness, and cold sweats. It has, however, been fortunately given in pills, and escaped the stomach without greatly disordering it. That bile is a stimulus to the action of the intestines is more probable; yet in jaundice we have not found costiveness peculiarly prevalent, and it seems to have been marked as a symptom rather from theory than observation. Inspissated bile of oxen has been given to children in a dose of one grain, and to adults in three or four, three or four times a day, to relieve visceral obstructions, to promote urine, and the menses; or half a drachm has been administered in clysters. If this has not succeeded, Boerhaave recommends the gall of the eel or pike; and remarks that the hard bellies of rickety children have been relieved by these remedies. We cannot doubt the utility of such an acrid fluid; but the small proportion of an ox's bile above recommended can have very little effect. If it has any, we cannot think that it would be a salutary one. In jaundice it has been given to supply the defect of bile; but modern practice disregards it, and we cannot speak of it from experience. On recurring to those authors who have recommended it, we find those vague and general praises which in similar circumstances we have had so much reason to distrust.

As putrid, acrimonious, and copious discharges of bile from the intestines are so often accused as causes of disease, when in reality they are only effects or symptoms, so in the stomach it is often supposed to be injurious, when brought by the medicines intended to discharge it. When bile is suspected of producing inconvenience in the stomach, and an emetic is given to discharge it, we often find no bile evacuated, but the next food or medicine brings it up; in fact the fluid, which the emetic, by inverting the action of the duodenum, had brought into the stomach.

A too copious secretion of bile sometimes occasions inconvenience, and in this case the alternation of laxatives and opiates removes the cause of complaint. We have thought that opiates really check the secretion of bile; but as any stimulus on the mouth of the opening of the ductus communis will increase the discharge, opium may act only by diminishing its too great sensibility and irritability. We may just add, that, in judging of the pains occasioned by accumulations or obstructions of bile, we must recollect that the under edge of the gall bladder, and the entrance of the biliary duct, are nearly at the pit of the stomach; the pain is felt there when a stone enters the duct, and a fulness is perceived in that part when there is an accumulation of bile. The course of the duct is then backward; and when the stone is near the extremity of the duct which opens into the duodenum, the pain is felt on the opposite side at the back.

Haller's Physiology, in the chap. on the Liver. Percival's Essays Med. and Exp. Fordyce's Elements of the Practice of Physic, part. i. Macbride's Experimental Essays. The Appendix to Sir John Pringle's Diseases of the Army. Maclurg on the Human *Bile*. Coe on Biliary Concretions. Saunders on the Structure, Economy, &c. of the Liver; and Fordyce on Digestion. Fourcroy Système de Connoissances Chimiques. Cadet Experiences Chimiques.

BI'LIS A'TRA. See ATRABILIS.

BI'LLING-BING. See BILIMBI.

BINA'RIUS, (from *binus*, *double*). Among the Romans it is the number two. But the Spagiric philosophers affix other ideas to it. See Théât. Chim. vol. i.

BINGA'LLE. See CASSUMUNAR.

BINO'CULUS, (from *binus*, *double*, and *oculus*, *the eye*). A bandage for retaining the dressings on both eyes. It is either a single or a double headed roller, is twelve feet long, and two or three fingers in breadth. Its application will be easily understood by referring to MONOCULUS.

BI'NSICA. A Rabbinical term signifying *mental sickness*, or a *disordered imagination*. By the addition of MORS to this term, it is a BINSICAL DEATH; the death which follows the disorders of the mind, such as are produced by the bite of a mad dog.

BINTA'MBARU ZEYLANE'NSIBUS. (Indian). *Convolvulus maritimus Zeylanicus; pes capræ Lusitaniæ;* the *convolvulus pes capræ* Lin. Sp. Pl. 226. A plant growing in Malabar and Ceylon; it abounds with an acrid milky juice. A drachm of the resin of the root purges. Raii Hist.

BIOLY'CHNIUM, (from βιος, *life*, and λυχνιον, *a candle* or *lamp*). The LAMP OF LIFE. Vital heat, vital flame, or natural heat. See CALIDUM INNATUM. It is also the name of a secret remedy prepared from human blood by Beguinus.

BI'OS. (Greek). Life and its course. But sometimes it only means victuals.

BIO'TE, (from βιος, *life*). LIFE. In an affected sense it signifies the time of a continuance of aliment in the body; thus weak food hath a short life annexed.

BIOTHA'NATI, (from βια, *violent*, and θανατος, *death*). A term applied to those who die a violent and sudden death; it is sometimes applied to suicides.

BIPINE'LLA, and BIPEMULLA. See PLANTAGO MINOR, and PIMPINELLA.

BI'PULA. A worm mentioned by Aristotle.

BI'RA. See ALLA.

BIRA'O. See AMOMUM.

BIRD'S NEST. The nest of the *hirundo esculenta*. See ALIMENT.

BIRE'THUS, (from βιρρος, *a priest's hood*, from its resemblance). See CUCUPHA.

BI'RSEN. An Arabian or Persian word, signifying an inflammation or imposthume in the breast.

BIRTH. A term in midwifery. It is styled *natural*, when the head presents; *premature*, when at too early a period; *preternatural*, when any part but the head presents; and *laborious*, when from obstacles or weakness it is protracted. See LABOURS.

BIRTH WORT. See ARISTOLOCHIA.

BISCO'CTUS, (from *bis*, *twice*, and *coquo*, *to boil*). TWICE DRESSED. This word is chiefly applied to bread twice baked, or that is much baked; i. e. BISCUIT.

BISCU'IT, SEA. This is doubly baked; but its excellence consists in its not being fermented, and consequently not easily becoming acid in the stomach. It

is on this account more fit for children, and those troubled with acid in the stomach. These biscuits may be long kept; and the rusks, which are also twice baked, have the same advantage, but are not equally useful with the unleavened biscuit in diseases. See BREAD.

BISE'MATUM. See PLUMBUM.

BISLI'NGUA, (from *bis*, *twice* and *lingua*, *a tongue*,) so called from its appearance of being double tongued, or of having upon each leaf a less leaf. See LAURUS ALEXANDRINA.

BISMA'LVA. Supposed to be a corruption of the word *vismalva*, quasi *viscum malva*, from its superior viscidity. V and B were convertible letters, and hence this line of Scaliger:

'Felices populi quibus *vi*vere est *bi*bere.'

See ALTHEA.

BISMU'THUM, (from *bismut*, German). BISMUTH; also called *wismuthum*, *marcasita*, *Galæna inanis*, *plumbum cinereum Argricolæ*, *blende Germanis*, MARCASITE of SILVER, and TIN GLASS.

It seems not to have been known to the Arabians, for their marcasite was the lapis pyrites; and the first traces of it occur in Basil Valentine. It is a brittle metal of a silvery whiteness; of the specific gravity 9.8217, melting at 460° of heat, smoking, and in a more intense fire rising in fumes. If calcined in close vessels the calx is in part volatile: if agitated it grows yellow, next red, and soon becomes a glass, vitrifying with it some of the less perfect metals. It may be easily powdered. The nitrous acid dissolves it, from which it is precipitated in the form of a bright white powder by dilution with water, The marine acid does not readily affect it, and the vitriolic scarcely at all. It impregnates the vegetable acid with a nauseous taste, and from all the acids may be separated by water alone in the form of a milky calx. By zinc and iron it may be precipitated in a metallic form. The chief of it brought into England is from Saxony. Dr. Alston denies that the ores of bismuth contain any arsenic; it is true that the bismuth, when brought to us, is without such particles.

It mixes easily with several metals, but destroys their ductility. It promotes the fusion of other metallic bodies. Mixed with lead and tin it forms a compound that melts with a very small heat; the following proportion is so fusible that it hath been proposed for anatomical injections, two parts of lead, three of tin, and five of *bismuth*. If *bismuth* is mixed with lead, a larger portion of the latter can be combined with quicksilver than without this method; and the quicksilver cannot be by the common methods.

The magistery of bismuth is a precipitation of the calx from nitrous acid by means of water, and with the addition of powdered pearls. It is styled *pearl white*, and chiefly used as a cosmetic. Internally, it has been said to occasion great anxiety. Dr. Odier has, however, recommended it in hysteric colics, diarrhœas, and all diseases owing to too great irritability, particularly in the violent pains arising from a scirrhus of the pylorus. Carminati of Pavia, and Bonnat in France, have also experienced its good effects in similar diseases. Dr. Odier found it serviceable in the toothach. The dose is one or two grains suspended by mucilage, gradually increased to six, and by Odier to twelve, four or five times in a day.

The SPANISH WHITE is a magistery of *bismuth*, made by dissolving it in spirit of nitre, and precipitating it with salt and water. The calx further calcined has been commended by Jacobi, but not employed by any of his successors for more than a hundred years.

BISTA'CIUM. See PISTACIA.

BISTO'RTA. BISTORT: quasi *bis torta*; twice twisted, or wreathed. So called from the contortion of its roots. Called also the GREATER BISTORT, or SNAKEWEED; *colubrina*, *beadiramon*. It is the *poligonum bistorta* Lin. Sp. Pl. 516. Nat. order *oleraceæ*.

It is perennial, a native of Britain, grows wild in moist meadows about Battersea, and by the side of Bishop's Wood near Hampstead, and flowers in May and June.

The root is bent vermicularly, and jointed at each bending. It is commonly about the thickness of a finger, surrounded with bushy fibres, of a blackish brown colour on the outside, and reddish within. It is distinguished from the other *bistort* roots by being less bent; that of the officinal species having only one or two bendings, and those of the other three or more.

This root is powerfully astringent, and as such antiseptic. It is of a singular efficacy in hæmorrhage, obstinate fluxes, looseness of the teeth, spongy gums, and soreness in the mouth. It is said to be refrigerant; but this is from its being antacid, whence all astringents are cooling. The dose is from gr. x. to ʒ i. Water totally dissolves its astringent matter. Extracts made with water, or with spirit, retain all the styptic qualities. All the parts of this plant possess the same qualities as the root, but in a less degree. If the roots are boiled in vinegar, an excellent antiseptic gargle is obtained. Dr. Cullen says it seems to be one of the strongest of our vegetable astringents, and justly commended for every virtue that has been ascribed to any other: he has frequently employed it in intermittents, and has given it both by itself and with gentian to the quantity of three drachms in one day. Cullen's Materia Medica.

The tormentil root is so similar in its efficacy, that it may always be substituted for it.

BISTOU'RY. In surgery is a small knife, either straight or crooked, single or double edged, round pointed or probe pointed. Its form must be regulated by the purpose for which it is employed. Sometimes a director or a grooved canula is employed, along which the knife passes; and at others the instrument is concealed in a kind of sheath, which supplies the place of a director, and raised at the moment it is to be employed.

BISU'L. An abbreviation of BISULCIS, (from *bis*, *twice*, and *sulcus*, *a furrow*,) cloven footed.

BI'THINOS. The name of a plaster described by Galen.

BITHNIMA'LCA. A word coined by Dolæus to signify a peculiar acting principle residing in the stomach, and presiding over the functions of digestion and chylification; called also *gasteranax*.

BITHY'NICI TONSO'RIS EMPLA'STRUM. The BITHNIAN BARBER'S PLASTER for splenetic people. See Ætius Tetrabib. iii. serm. ii. cap. xxii.

BI'TI. (Indian.) A tall evergreen tree in Malabar, and other parts of the East Indies. An oil is prepared from its root to cure the alopecia.

BI'TTERN. The oily fluid left after the crystallization of salt, styled the mother water, *eau mère*, since

no other salt will crystallize in consequence of the viscidity of the fluid, arising from the oily matter, occasioned by the decaying fish molluscæ and alga. It consists chiefly of vitriolated magnesia, and from it the Epsom salt is now prepared.

BITTERS. See AMARA.

BI'TTER ALMONDS. See AMYGDYLA.

BI'TTER GOURD, or APPLE. See COLOCYNTHUS.

BI'TTER PURGING SALT. See SAL CATHARTICUM AMARUM.

BI'TTER SWEET. See SOLANUM.

BITU'MEN, πιτ]ωμα, (from πιτ]α, *pitch*; or πι]υμα, from πιτυς, *a pine*, because it flows from the pine tree,) called also *asphaltos*, *pissasphaltus*, *asphaltum*, *bitumen Judaicum*, *carabe funerum*, *gummi funerum*, *mumia*, CARABE OF SODON, FOSSILE PITCH, and JEWS' PITCH.

It is a solid mineral substance, of a dusky colour on the outside, and a deep shining black within; having but little taste or smell, except it is heated, in which case it emits a strong pitchy odour. It is not soluble in oils, nor in vinous spirits; it melts but imperfectly in the fire. On burning it a large quantity of ashes remain. It is found in the earth in many parts of Egypt, and floating on the surface of the Dead Sea. At first it is soft, but grows hard by keeping.

Though we have spoken of bitumen as a single substance, we are, from the labours of Mr. Hatchet and Mr. Kirwan enabled now to be more correct and discriminate. Bitumens are either fluid or solid. Of the former we have the pure naphtha and petroleum: of the latter, the mineral tar and pitch, and asphaltum. The first by exposure to the air gradually becomes darker, till from naphtha it is changed to a true asphaltum, the substance to which the synonyms at the head of the article apply. The amber is a bituminous substance also, though from a different source.

Bitumens, like oils, are composed of hydrogen, carbone, and azote, modified in some measure by oxygen. To carry on the analogy with the substances of the vegetable kingdom which they resemble, we may suppose the two extremities of the scale, naphtha and asphaltum, to be the ethereal oils and resins. It is indeed highly probable that all bitumens are of vegetable origin (Hatchet, Phil. Transactions, for 1805, part ii. and Nicholson's Journal, vol. ii.). *Naphtha*, the purest of the bitumens, is lighter than water, viz. 0.788: the smell highly penetrating, though not disagreeable, like oil of amber. It resists the cold of 0 of Fahrenheit. The petroleum is less fluid, transparent, and agreeable, specific gravity 0.878. *Mineral tar*, dark coloured, viscid, and of an unpleasing smell; scarcely if at all heavier than water. *Mineral pitch*, brittle in cold weather, dark and opaque; gravity nearly that of water. *Asphaltum*, very brittle and shining, fusible and inflammable, specific gravity often 1.165.

These seemingly differ only in their proportion of oxygen. In medicine, the first kind has been employed as a stimulant and an antispasmodic, but is now disused. It is employed externally only in chilblains and paralytic affections: and what is styled British oil is drawn from stone coal. Naphtha has been employed in hectics, but is too stimulating, and produces considerable inconvenience. It is found very pure, near the Caspian Sea, at Backu. See PETROLEUM and SUCCINUM.

BITU'MEN BARBADENSE. See PISSÆLEUM.

BITU'MEN LIQUIDUM. See PETROLEUM.

BIVE'NTER. Thus muscles are named that have two bellies, from *bis* and *venter*; also *digastricus*.

BIVE'NTER MU'SCULUS. It arises from the processus mastoidæus. Its tendon frequently joins the stylohyoidæus and the membranous ring fixed to the os hyoidæus, and is then attached to the inner part of the chin. It depresses the jaw, and thus opens the mouth. It is fleshy at both its extremities, and tendinous in the middle. The middle tendon passing through the aponeurotic ligament as the lateral part, and the root of the cornua of the os hyoides, is what renders it capable of performing its office. The ancients called it *graphoides*.

BIXA OVIEDI. See ACHIOTL.

BIXA ORELLANA. See ORLEANA.

BLACCIÆ. See MORBILLI.

BLACK VO'MIT. The discharge from the stomach in the last stage of the yellow fever. See BILE.

BLA'DDER. See VESICA URINARIA.

BLÆ'SITAS, (from *blæsus*). See PSELLISMUS RINGENS.

BLÆ'SUS, βλαισ⊙ς, (from βλαπτω, *to injure*). The same as *valgus*, BANDY LEGGED, or one whose legs are bent outward, called also *cyllos*, *devalgatus*: one whose back bone is bent either forward or backward; also a paralytic person, and one who hath an impediment in his speech. Blancard.

BLA'NCA, (from *blanc*, French, *white*). See PLUMBUM. Also the name of a purging medicine in the Antidotarium of Nicolaus.

BLANC TA'RBE. See COBALTUM.

BLA'NCNON. See FILIX.

BLAS'A. An Indian name of a tree, the fruit of which, when powdered, is given to destroy worms. Raii Hist.

BLAST. A vulgar term for inflammation; quasi *blasted*, *burnt*, as trees from the influence of lightning.

BLASTE'MA, (from βλαστανω, *to germinate*). Also called *germen*. A BUD, OFFSET, or SHOOT of a plant: but Hippocrates expresses by it a cutaneous eruption or pimple.

BLATTA, (from βλαπ]ω, *to hurt*; so called from its injuring books or clothes,) or BLATTA FŒTIDA. The SLOW-LEGGED BEETLE, or BOOK WORM. It is that species of beetle which is so common in bake houses. If they are boiled and bruised in oil, then dropped into the ear, they are said to relieve pains in that part.

BLATTA'RIA LUTE'A, (from *blatta*; so called because it engenders that reptile). YELLOW MOTH MULLEIN. It is said to possess the same virtues as the verbascum, but merits no particular notice.

BLA'TTI, *sonneratia acida* Lin. Supplem. 252. Wildenow, vol. ii. 999. The seeds are surrounded by an acid juice, and the fruits are dressed as alimentary substances. The leaves are applied to the head to relieve vertigos, and their juice is supposed useful in aphthæ.

BLEE'DING. See PHLEBOTOMIA.

BLE'NDE. A German name for BISMUTH. See BISMUTHUM; ZINCUM.

BLE'NNA, or BLE'NA, (Greek, *mucus*). A thick phlegm descending from the brain through the nostrils.

BLE'NORRHAGIA, and BLE'NORRHŒA, (from βλεννος, *mucus*, and ῥεω, *fluo*). A newly formed genus of disease, to supersede the probably too general use of catarrhus. It is intended to include the mucous

discharges, but it should have been confined to those from the genital and urinary systems.

We shall divide them into discharges from venereal, from miscellaneous acrimony, and from relaxation. For the first, see GONORRHŒA. The acrimony we have styled *miscellaneous*, may be any internal irritation, the stimulus of cantharides, or some other poison; gouty irritation, calculus, and cancer. See STRANGURY and CANCER.

The blenorrhœa is attended with very slight, if any, inflammation; though this may be occasionally excited by free living, riding on horseback, excess of venery, or either of the former acrimonies. But, except from the venereal poison, this superadded inflammation is transitory. The discharge may occur from any part of the urinary or genital organs. See GONORRHŒA BENIGNA, LEUCORRHŒA, CATARRHUS VESICÆ.

BLE'PHARA; quasi, βλεπους φαρος, as being the cover or defence of the sight. See PALPEBRÆ.

BLEPHA'RIDES, (from βλεφαρον, *an eye lid*). The hairs on the edges of the eye lids; also that part of the eye lids themselves on which the hairs grow.

BLEPHAROPTO'SIS, (from βλεφαρον, *palpebra*, *eye lid*, and πτωσις, *casus*, *descent*,) called also *ptosis*. A DISLOCATION, OR DISPLACING OF EITHER, OR BOTH EYE LIDS, by elongation, retraction, turning inwards or outwards, with different symptoms in different species. But the true blepharoptosy, or preternatural descent of the eye lid, arises from a wound of the frontal muscles of the temple, or the superior levator of the eye lid, or from any large tumour dragging down the eye lid; from inflammatory or cold defluxions elongating the palpebra; from mere relaxations of the eye lids, or from a palsy of the palpebra, which is sometimes constant, sometimes periodical. See PROSIS.

The varieties of this species are obvious. With respect to the first it must be remarked, that the cheek of the same side, the lower jaw, the tongue, eyes, and other parts, are affected. The second and third varieties are cured by conquering the primary disease to which they owe their origin; to the fourth, corroborating spirituous fomentations are useful; to the fifth anti-paralytic remedies administered externally and internally. If these remedies do not properly succeed in the two last, a cure must be sought for from a surgical operation, performed on the prolapsed palpebra, or on the skin of the forehead. Internal remedies are scarcely useful; but such as will draw off the superabundant serous fluids, which are chiefly purgative and diuretic remedies, particularly jalap, and sal diureticus, may be employed. Amongst the remedies for any paralytic affection, electricity may be mentioned as occasioning the increased action of any particular muscle. In that variety said to proceed from relaxation, the use of alum with an infusion of oak bark is recommended for an external application; but if it does not succeed, the relaxed skin must be cut away, and the edges of the wounds confined together by sutures, and healed in that situation. There are several other species of this disease. See ECTROPIUM, TRICHIA.

BLEPHARO'TIS, (from βλεφαρον, *the eye lid*). INFLAMMATION of the EYE-LIDS. See OPHTHALMIA.

BLEPHARO'XYSIS, (from βλεφαρον and ξεω, *to scrape off*). See OPHTHALMOXYSTRUM.

BLEPHARO'XYSTON, the RASP-LIKE PROBE. So Paulus Ægineta, in lib iii. cap. xxii. calls the *specillum asperatum*, from βλεφαρον, *an eye lid*, and ξεω, *to scrape off*.

BLESTRI'SMUS (from βαλλω, *to throw about*). A restless tossing of the body, as in a phrensy.

BLE'TA, WHITE. An epithet for milky urine, proceeding from diseased kidneys.

BLETI, STRUCK. Those who were suddenly seized with a suffocation, or difficulty of breathing. Hippocrates applies the term to a livid spot on the chest, as if the person had been struck. It sometimes is observed in pleurisy.

BLINDNESS. This very comprehensive term includes a variety of very different diseases; and we must here consider not only imperfect or depraved vision, but the causes of the total loss of sight. Imperfect vision proceeds from many sources. We have noticed, in different parts of the work, that which arises from the rays of light converging before they reach the retina, or beyond it; the species occasioned by diseases of the lids, and obtuscations or ulcers on the cornea; those which arise from opacity of the lens, and from a palsy of the optic nerve. Little therefore remains but to notice partial transitory obstructions, or imaginary appearances. In nervous diseases the sight is sometimes for a time lost; and though this deprivation occurs without danger, and is temporary only, yet we ought to reflect that it is often the forerunner of a fatal apoplexy or a palsy. The muscæ volitantes, as they are called, motes floating before the eye, and for a time obscuring the sight, are equally signs of an approaching cataract. Yet, after a strong light, or from transitory debility, they occur with little danger or permanence. There is another imperfection of vision from fulness of blood; and in this case the sight is obscured by lines, with apparent intersections. An author, whose name has escaped us, mentions it as an impression on the retina, from the passage of the blood through vessels not usually conveying the red globules. We remember the disease occurring in a man who could represent his sensations by a pencil. He drew the figures that appeared to him, and they formed an exact representation of the circulation of the blood, as seen through a miscroscope. Bleeding and low diet completely removed this complaint.

There are many imaginary appearances in the eyes, not only from fulness, but from nervous affections. Double vision is not uncommon: to see objects inverted is an occurrence not indicative of any considerable disease. False representations are generally morbid: to see angels round the bed, wild beasts with open mouths ready to devour, flames curling round and scorching, are the effects of fever, or an imagination greatly disturbed. The organ is not affected; but the impression on the sensorium is not consonant to that on the nervous extremities, or the associated idea is stronger than that from the impression.

Blindness is seldom complete. Strong lights are often perceived; the forms of objects not uncommonly: but the colour, the shade, and the minuter forms, are in many instances imperceptible. In this case every sense is alive to supply the imperfection. Spalanzani has shown, that a blinded bat can avoid objects in its way; and we know, from the blind people who can describe their feelings, that they can distinguish a

crowded from an empty room; one furnished from another unfurnished; windows opening to the country or a street; tall from short persons; and even in a theatre, an able and judicious actor from a pretender to the art. The feelings, the breathing, the hearing, in short, a combination of all the senses, almost a new sense, contribute to their information. It has been supposed that the blind can distinguish colours by feeling, but this is not true. We remember Dr. Moyes observing, that an old blind man was brought to him who professed to distinguish colours. He had been a dyer; but in his determinations he was often wrong, and when correct, was assisted by the smell. Dr. Reid, in his 'Geometry of Visibles,' endeavours to show what ideas a blind man would entertain of different objects, though with little success. People blind from infancy have been restored to sight; and we might suppose that from their observations much might be collected. We have, however, only two well authenticated instances of persons restored to sight, who never remember to have seen. One, the case so often quoted from Mr. Cheselden; the other, more lately, in the Philosophical Transactions by Mr. Ware. They unfortunately differ in many respects; but we must be allowed to hint our suspicions, that Mr. Ware's patient must have remembered seeing, for he knew a cloth on the table to be green. This indeed he might have heard, but he ascertained the distance: this a blind man could not have done. Had he in any instance been able to distinguish objects either from their brilliancy or their shape, this faculty might have been acquired, but in no other way. We remember seeing an account of the feelings of another person who never had seen, restored to sight by the extraction of a cataract, in the papers of an old surgeon. *He* could not distinguish distances; and when carried near a river, was eager to walk on that beautiful plain. The various resources for the amusement of blind persons, and their mode of assisting their acquisition of the different abstract sciences, are scarcely a part of our subject. Perhaps we have already strayed from it; but literally, in our situation, *nihil humani nobis est alienum.*

BLISTERS. The operation of this most useful remedy has occasioned numerous disquisitions and eager controversies. It is fortunate that the calm attentive practitioner has steadily pursued his path, and contributed to relieve or save his patient, without being influenced by the surrounding contests. As the principal application by which we excite blisters is the Spanish fly, the nature of this insect has contributed to keep alive the controversy, or to add to the difficulties. It will, however, make no part of our enquiry, and we must consequently refer to that article for some account of its peculiar qualities. See CANTHARIDES.

Blisters, when applied to the skin, first produce a tingling heat, a redness, and afterwards the cuticle is elevated, and a portion of fluid resembling the serum of the blood is inclosed, as in a bladder. When this is evacuated, a redness continues, the serum gradually thickens, at last becomes a whitish curdly substance, under which the new skin is again formed, or assumes a truly purulent appearance, and the blistered part contracts until the whole wound is healed.

From this very simple and confined operation, it is not, *à priori*, probable that extensive benefit should be produced. The first effects are pain and irritation; and it was once supposed that blisters were only useful by their stimulant power. The evacuation followed; and others then thought that from this source only they were beneficial, and that their first effects were injurious. They were then antispasmodics from some unknown influence; they coagulated or thinned the blood according to the fancy of the pathologist; but the manner in which they really operate is still uncertain, notwithstanding the labours of Tralles in his closely printed quarto, entitled, Usus Vesicantium.

The first effect of blisters is undoubtedly stimulant; yet this stimulus is local, and seldom communicated to the whole system. In irritable skins, however, when the pain is considerable, when restlessness and want of sleep are the consequence, they are certainly for a time injurious from their stimulant power, but in general they relieve more pain than they give; they lessen previous irritation or uneasiness, and dispose to sleep. These are their effects in fevers and inflammations, where we might chiefly dread their stimulant power. It may be asked if they are never used as stimulants? Undoubtedly, but chiefly as local ones, and where we come near the affected nerve; and, indeed, from the moment of their application, they must be considered as such, though the external stimulus, relieving the internal, renders the former an object of little comparative importance. The great difficulty arises from considering the benefits derived from so small an external inflammation, when the internal, which it relieves, is so extensive and violent. Various have been the modes of resolving the question, and numerous the discussions which the various solutions have occasioned. The effects are undoubtedly disproportioned to the cause, but it is probable that the smallest relief given to the internal over distended vessels, gives nature an opportunity of exerting her powers, and the turgid arteries of propelling more effectually their contents. We shall not encumber this comprehensive account with the various theories of INFLAMMATION, or the different explanations of DERIVATION, but refer to these articles, q. v.

The stimulus of a blister seems also of service in lessening the excessive action of the nervous power. We well know that the tone and the sensibility of the nerves, and the consequent irritability of the muscles which they supply, are intimately connected with the state of the circulation in their extremities. We can easily see, therefore, the means by which this excessive action may be mitigated. In some peculiar circumstances, however, we have thought that diseases more purely nervous have been relieved by this remedy, and have suspected that there may be a balance between the excitement of the internal and external nervous power, as there more evidently is of the circulation. We need not enlarge on the subject, but leave this hint to suggest future enquiry. We may, however, add, that if blisters ever act as antispasmodics, it must be from this or a similar effect.

The discharge, in many instances, gives a greater permanence to the benefits derived from blisters, and in some cases seems to be the chief source of their advantages, particularly in dropsies, in humoral asthmas, the more decidedly serous apoplexies, and a few other diseases. It is continued, however, with some difficulty, as in many constitutions the blister rapidly heals, what-

ever be the application. The sabine ointment now generally supplies the place of the blister ointment, which is inconvenient by its effects on the neck of the bladder.

Though, as we have said, the inflammation is confined and slight, and the discharge inconsiderable, yet it probably has more effect on the constitution than we might suspect from the absolute quantity; for in many constitutions the continued discharge from blisters produces considerable debility: in some they can scarcely be borne for even the period of two or three days. We might attribute this to the quality of the discharge; but M. Margueron, who has analysed it (Annales de Chimie, vol. xiv.), found that it very nearly resembled the serum of the blood, containing only a little less of the albuminous portion. It is seemingly darker coloured from the tinge of the plaster, whose peculiar smell it retains. He found it the same when the blister was applied in putrid fevers, as when the person was in health.

Blisters have on many constitutions a cordial and exhilarating effect, generally on those of full habits, and probably of languid circulation, by relieving the over distended vessels. A gentleman, once highly distinguished at the bar, and of brilliant convivial powers, always applied a blister when he wished to shine in either sphere, and the effect was produced as soon as the warmth in the part began. We have heard also many, who even felt the pain of blisters acutely, declare that the relief of the languor they previously experienced, counterbalanced all their sufferings.

In our enumeration of the diseases benefited by blisters, we shall be guided by their effects, and shall consider them as altering the determination of the fluids from parts overloaded; influencing the determination of the nervous power; as stimulants, evacuants, and cordials.

In *fevers*, we generally find the equilibrium of the circulation greatly disturbed; and, in general, the two organs which chiefly suffer from over distention, are the brain and the liver. We have a more ready access to the latter by more easy remedies. The distention of the vessels of the brain is chiefly relieved by blisters. In some *inflammatory fevers* the load in the head is considerable; and in cases not truly phrenitic, the delirium is of that wild and violent kind which approaches very nearly to phrensy. When bleeding is admissible, it must be premised; and, in other cases, the stomach and bowels must be freely emptied. Blisters will then greatly relieve, but they should be applied very near the head, and in general immediately below the hair on the back part of the head. Near the head we have still the temples, as well as the parts behind the ears, for a succession of blisters, if necessary; since the first effects of this remedy are those most beneficial, and it is unnecessary to continue the discharge from one part more than thirty-six or forty-eight hours. We must still however look forward to the possibility of a continued determination; and should the fever not terminate in fourteen or sixteen days, shave the vertex, that cold applications may be employed, or any accidental scratch be healed, before it be necessary to apply a blister to that part. These frequent repetitions of blisters are however seldom necessary.

In the *typhus* there is also a determination to the head, though less violent, and with inflammation less active. In these our chief reliance is on blisters, for bleeding is improper, and active purging sometimes inadmissible. The inexperienced practitioner has been alarmed by the debilitating powers of this remedy; but these are observed in very few constitutions, nor have we ever found them permanently injurious in fevers of this kind. In the worst kind of asthenic fevers they are less proper; and in highly putrid fevers, they have been considered as rather injurious than useful.

The greatest advantages of blisters are experienced in *inflammations*. In *phrenitic cases* their administration does not greatly differ from that we have described, when speaking of inflammatory fevers. In *sore throats* we have mentioned them as highly useful, and they should extend from behind the ear under the lower jaw to the trachea. In every inflammation of the face they should be applied in the same way, and are highly useful. The tic douloureux, in Dr. Fothergill's language, the dolor faciei crucians, is an exception to this rule, and indeed can scarcely be called an inflammation. In *inflammatory affections of the chest*, blisters are our chief dependance; and in every disease of this kind, except perhaps the putrid pneumonia, they are of service: in this, however, they are certainly not injurious, and, as we have said, they are not so in angina maligna. We spoke with less confidence of their effects in highly putrid fevers, as these have not very often occurred to us. In inflammatory *coughs* they are useful; and in many of these, especially if not attended with expectoration, they seem to be more beneficial when applied to the bone of the neck, than to any part of the chest. In general, however, if there is any *fixed pain* in any part, to it they must be directed. To this subject, however, we must return in the articles of Pneumonia and Hectic fevers. In *croup* we have said they are used, but, like most other remedies, with little advantage: and in *hooping cough* they rather guard against any inflammatory accumulation in the chest, than shorten or materially mitigate the disease.

In *inflammations of the abdomen* they are highly useful, with the exception only of those of the bladder; but even in the latter, when the inflammation is confined to its neck, a short application of a blister to the perinæum has been of service. In all *local pains* of the abdomen blisters will relieve, and we think they even facilitate the passage of a gall-stone through the duct. They are certainly useful in preventing inflammation of that part from the distention. In *gastrodynia*, whatever be the cause, they seem to relieve.

In all *inflammations of the joints* blisters are useful: even the paroxysms of *gout* they shorten and mitigate, though we have had reason to fear with disadvantage to the constitution. The *white swelling* is a peculiar disorder, which we cannot at present enlarge on. It consists however in its commencement of a rigidity of the ligaments, and in its progress of deep seated inflammation. In the early state, there is perhaps no more certain remedy than blisters repeatedly applied: their first action seems to be the most useful. Modern practitioners have substituted the stimulus of emetic tartar in these and some other swellings, particularly the bronchocele, it is said with success. In our hands,

however, it has appeared less useful; and the peculiar deep irritable little sores which it occasions soon prevent the use of this and every other external application.

In the *exanthemata*, we find blisters chiefly useful in *small pox* and *measles*. In the former, when the head and breast are greatly loaded previous to the eruption, they are often useful, and occasion a more mild and distinct kind. When repelled, also, they assist in their reproduction, and often prevent the inconveniences which arise from their disappearance. In measles they are more useful, on account of the violent catarrhal inflammation which often becomes pneumonic.

Active hæmorrhages are greatly relieved by blisters. The *sanguine effusions* in the brain producing *apoplexies* require their immediate application, without waiting for the effect of evacuations. *Bleedings from the nose and the lungs* are equally relieved by them. It has not been usual to apply them in discharges of blood from the bowels, chiefly perhaps because these are seldom of the active kind; and as it is not easy to ascertain the part, particularly affected, with accuracy. *Discharges of blood* from the *kidneys* and *bladder* also are not relieved by blisters. In *diarrhœas* from the measles they are supposed serviceable; and indeed this must be considered as an inflammatory complaint. In *dysentery* they are said to relieve pain, but are seldom employed.

Blisters are employed also to alter the determination of the nervous power. This is certainly a vague indication; but they are useful in *spasmodic pains of the intestines* when there is no inflammation; they relieve the paroxysms of angina pectoris, of spasmodic asthma, as well as epilepsies not connected with local plethora and extravasation; they remove pains in the stomach arising wholly from the irregular action of that organ; and coughs that are nervous and independent of inflammation. These are certainly facts, though the mode of their operation may be doubted.

Though the stimulus of blisters be transitory and local, yet they are certainly useful as stimulants. On the back part of the neck they stimulate the nerves sent to the throat, and relieve aphonia, and deglutition impeded from palsy. On the internal humerus they relieve paralytic affections of the hands and fingers; on the internal part of the thigh they are equally useful in weakness of the legs. They are certainly employed as stimulants in palsy and apoplexy, yet their power as such is doubtful. It is too much the custom to accumulate stimulants and evacuants in these emergencies till we know not to what the relief is to be attributed, and unfortunately to what our failure is owing, for the little remaining excitability is often thus destroyed. A gentle breath will re-illumine the flame, which a violent wind will irrecoverably extinguish. In asphyxy, in carus, in catalepsy, and in hysteric affections, which for a time apparently destroy life, they have been employed as stimulants; yet we doubt if with any good effect, except in the species *simulatæ*.

As evacuants we have already mentioned the good effects of blisters in anasarca, in humoral asthma, and in serous apoplexies; nor does our recollection at present supply any other disease to which from this power they are applied. In tumours, and collections of a doubtful nature, setons and issues are preferred. Where the fluid to be discharged lies deeply imbedded, the two last are more useful.

We have mentioned the foundation of their employment as cordials. This rests, as we have seen, on a loose equivocal foundation; nor do we find them used by practitioners with this view, except in some cases of low nervous fever, in which their utility may perhaps be explained more satisfactorily by their power of altering the determination.

The inconveniences arising from cantharides have induced physicians to employ other stimulants with a view of exciting blisters. The flour of mustard, garlic, arum root, emetic tartar, and the vitriolic acid, have been used for this purpose. They produce, however, a very inadequate discharge, and we shall return to them under the title of RUBEFACIENTS. The only substance which may probably with advantage be substituted, is the inner bark of the daphne mesereum or laureola. The small branches are cut into portions of the required length, and macerated in warm water or vinegar till the bark can be loosened. This must be applied to the part previously rubbed with vinegar.

BLI'TUM. See MERCURIALIS.

BLITUM FŒ'TIDUM. See ATRIPLEX FŒTIDA.

BLOOD. This is the fluid contained in the arteries and veins of the human body, and is generally red; but in some smaller vessels which will not admit the red particles, a fluid apparently similar in every other respect is contained, which should also retain the name. In the vessels of insects also a white fluid circulates, which, from the uniformity of nature, we may suppose to consist of similar component parts, but it is not styled blood; and such insects are generally denominated exsanguineous. Though we sometimes employ the distinguishing epithet *red* blood, yet this alone deserves the appellation, and to this we shall confine our observations.

From the period when philosophy began to investigate, with particular attention, the nature of the animal fluids, the blood has been a principal object. It has been tortured with all the violence of fire; but only since chemistry enabled us to examine satisfactorily the component parts of bodies, has its real nature been understood. The experiments of MM. Parmentier and Deyeux have illustrated the properties of this mysterious fluid more satisfactorily than those of all their predecessors.

The appearance of blood is well known. When drawn it has a peculiar faintish smell, which adheres more tenaciously to the coagulum than the serum. Like the aroma of vegetables its nature is little known. Its specific gravity is about 1090. It unites with cold, but is coagulated by boiling water, and by concentrated acids both vegetable and mineral, which change it to a dark brown. Mild alkalis, neutrals, and lime water, render it more fluid, and of a brighter colour. Vitriolated iron and copper coagulate it. Exposed to oxygen gas its colour is heightened, but the brilliant hue soon disappears, and the blood becomes black: after this change the oxygen has no effect. Exposed to unrespirable gas it becomes black. Vasali has informed us that the electricity of the circulating blood is positive; that of the excrementitious fluids negative. Blood at rest spontaneously separates into two parts, a red coagulum,

and a yellowish serum; unrespirable gas impedes, and oxygen accelerates, the coagulation. It coagulates more quickly when it flows slowly; and the coagulation is long protracted when the air is excluded. The blood of the catamenia seems never to coagulate. During the coagulation heat is extricated, seemingly from the coagulated part, as the increased temperature is not found in the serum. The coagulation is prevented by agitation; and when suffered to cool during the agitation, neither alkalis nor acids will afterwards coagulate it. In that state, alkalis greatly heighten its colour. In a day or two, at the heat of 50° of Fahrenheit, it becomes putrid, the coagulum softens, and soon disappears. It assumes the appearance of a dark coloured serum, with a few remains of coagula only; and the smell of ammonia is obvious.

Blood, when distilled, affords a large proportion of hydrogen, with carbonic acid gas and azote. The prussic acid also comes over, with insipid phlegm, empyreumatic oil, and an ammoniacal salt. The coal affords carbonat and muriat of soda, phosphat of lime, and oxid of iron.

When by less violence the different parts into which the blood spontaneously separates are examined, the *serum*, whose specific gravity is 1.0287, is found to be coagulated by the heat of 160°, into a tender tremulous clot, from which a glutinous fluid may be squeezed, styled the *serosity*. In fact, the serum appears to be a watery fluid containing albumen; and, when this is coagulated, the remaining water is squeezed out, with a small proportion of animal mucilage or gelatine. That gelatine was contained in the blood was generally doubted till ascertained by Fourcroy, and afterwards by Parmentier and Deyeux. It is confined, however, to the serum. Besides these substances, the serum contains carbonat and muriat of soda, phosphat of soda and of lime. The fixed alkali renders the albumen more soluble, and is apparently combined with it, as oil is in soap. The other salts are dissolved in the aqueous fluid.

There is one substance discovered in the serum, apparently peculiar to it, that we must notice particularly; we mean *sulphur*. We shall find it of considerable importance in the pathology of the animal fluids, and it is a principle whose source and existence are still obscure. If the albumen, perfectly dry, be heated in a silver vessel to a high temperature, it will be blackened; or, if triturated in a glass mortar with a fully saturated solution of silver, then digested, and afterwards diluted with water, some greyish threads will be deposited, from which sulphur, in the usual way, may be extracted. Again, if fixed alkali be boiled with the albumen and water, by adding distilled vinegar, a substance, whose smell is hepatic, and which discolours silver, will be deposited. Sulphur appears too in the white of an egg; it is found in the substance of the brain; but whether formally existing, or whether produced in the operation from its proximate principles, we cannot yet discover. We must rest, however, on the fact, that sulphur, in one of these ways, exists in the animal fluids. When in a larger proportion, or more copiously evolved, it will be found to press on our notice.

The existence of *gelatine*, as we have said, has been lately ascertained. On coagulating the serum, and suffering it to remain in the bath, a substance collects on its surface, which was found by every chemical test to be jelly. Some portion of jelly is also, with great reason, supposed to remain combined with a part of the soda. The gelatine is, however, confined to the serum; and we have no reason to suppose that it varies in proportion or consistence in any known difference of the state of the constitution.

The *coagulum* is the next object of our attention, and it is in every view a very important one. The coagulation has been attributed to cold, to rest, and to the density of the liquor, but it is the effect of neither; and the chief, we believe the only, means of retarding it, is the addition of neutral salts. Various authors have mentioned the effects of Glauber's salts and muriat of soda; and we remember finding the same effects result by letting the blood flow into a solution of nitre without the slightest agitation. This experiment was made under the direction, and under the eye, of Dr. Cullen.

The coagulum does not soon lose its form or colour; but in a warm temperature is quickly deprived of both. If removed from the serum and placed in a water bath, its consistence is increased, and serum drops from it: if put in warm water, the fluid assumes a milky hue, and a scum arises on the top, both owing to the serum either dissolved or coagulated. In short, a portion of this substance accompanied the albumen with its attendant soda. The albumen, we must add, was found to be the portion most affected by disease. It separated sooner, and was less firm, but in no determined ratio to the violence or the nature of the complaint.

We have observed, that, in various experiments, some remaining thready substance, some unconquerable coagula, remained. In fact, dilution will prevent the coagulation of the albumen, but not of the portion we are next to speak of, the *fibrin* of the blood. It is thus styled because it concretes in fibres, and is found to be the most animalised portion of the vital fluid; that is, it contains the largest proportion of azote, and is even found to contract on the Galvanic stimulus. In short, when it has assumed the solid form, it resembles in every thing but in colour the muscular fibres; and it is a singular phenomenon to remark this intermediate step between a fluid and a solid, between matter in its common form and an organised body. This subject we must in future consider.

The fibrin is separated by inclosing the coagulum in a bag, by agitating and rubbing it between the hands in a vessel of water; thus separating all the soluble parts. It is obtained also by agitating the blood with the hands, or any instrument, when first drawn from the veins. In this way it adheres to either that is employed. Authors have supposed, that in the agitation of the circulation the fibrin is deposited, and forms the muscular fibres. This, however, is a refinement which will not bear examination. The juxta position of nutritious matter is carried on in the minutest elements; and, as in crystallization, we see only the effects of an infinite number of added molecules. Besides, we shall find reason to think that the embryo contains every organic part of the perfect man; and that the difference consists in the addition of matter not organised, interposed between the truly original organs. We have no instance of a muscle being reproduced. The ends are united by a firm ligamentous substance, and the motion of an injured part is thus preserved. But to return:

The coagulation is supposed to depend on the life of the blood, an opinion which we shall afterwards consider, or, in other words, on the irritability of the fibrin depending on *its* life. This idea of Mr. Hunter is, however, unnecessary; for the aroma of the blood may have, and very probably has, the power of hindering its coagulation in the body; a power, however, which is occasionally lost, since the albuminous and fibrous portions coagulate in many diseases. The basis of the crassamentum, which is the fibrin, appears to be a white solid elastic substance, more heavy than the serum. It is insoluble in water and alcohol; and contains a larger proportion of azote than any other portion of our fluids.

The colouring matter is that portion of the blood which, on the first employment of microscopes, excited the attention of observers. They found that it depended on red particles; but respecting their shape philosophers differed. Lewenhoeck described them as circular; and remarked, that, in passing into a vessel of a somewhat less diameter, they assumed an elliptical form; and that when brought to the orifice of an artery still smaller, they passed it, leaving the transparent fluids only to circulate through it. Haller does not greatly differ from this account. Mr. Hewson, probably misled by an optical illusion, considers them as flat, having a vesicle in the middle, containing a solid central particle. We have no reason to suppose this portion of the blood, from any office it can perform in the animal economy, would require a structure so complicated and almost organised. Dr. Wells, however, in the Philosophical Transactions for 1797, from a difficulty of explaining some of the chemical affinities of the red part of the blood, is inclined to adopt Mr. Hewson's idea; and the microscopical observations of father Torre seem to support it, though other observers confirm Lewenhoeck's description.

Mr. Cavallo, repeating father Torre's observations with similar lenses, saw the same appearances; but, following in his reasoning the laws of optics, drew a different conclusion. On the whole, he finds them spherical, or nearly so, consisting of double spheres; the light thrown on the internal having seemingly misled Mr. Hewson. Water, he found, dissolved them, though it loses this property if impregnated with common salt or nitre, or by the addition of a small proportion of vitriolic acid. Diluted marine acid did not dissolve them, but deprived them of their colour. Vinegar was a solvent, though inferior to water; and serum or urine would dissolve them after some days. When once dried or dissolved, they never recovered their shape; and when much blood had been lost, these globules were not soon again supplied. The red colour of the blood was long supposed to depend on iron; and M. Parmentier, with his associate, having found that iron, oxygenated by any means to a certain point, was capable of being dissolved by a fixed alkali, and imparting a red colour to a fluid, concluded with great reason that the redness of the blood was owing to this metal. Two scruples of iron were found in a pound of blood; and, if twenty-five pounds of this fluid be allowed to a man of a middle age and size, the whole amount of the iron will amount to nearly three ounces. The quantity of red blood is probably underrated; and, at least, one half must be added, so as to make the quantity of iron more than four ounces. Dr. Wells' objections to the colour being derived from iron, in the volume just mentioned, are strong and almost convincing; yet the arguments taken from chemical phenomena, in fluids less complicated than those of the blood, cannot be allowed to have the same weight as they would have in simpler fluids. They are too long either for an abstract, or for our consideration in this place; but when we reflect that the red colour is confined to portions found on inspection to be distinct, that we cannot examine these except when in a great measure broken down and mixed with fluids of very different qualities, we should be very cautious of deciding on their nature, from the result of experiments on solutions so essentially different. The red globules, for instance, are said not to be oily because they unite with water; but are we certain that the soda they contain may not occasion their solubility? or, on the other hand, who can say that we have yet ascertained all the aërial contents of this fluid, or the effects of those which it does contain? We mean not to urge either idea; but these suggestions are sufficient to apologise for our present scepticism, and for our considering the problem as yet requiring further investigation. We omitted to observe, that Abilgaard (Annales de Chimie, N° 106) found a larger proportion of carbone in the venous than in the arterial blood, and that the carbone of the arterial was lighter than that of the venous.

As the immediate causes of the coagulation of the blood were so obscure, Mr. John Hunter supposed it to possess life, and styled it, with Harvey, the 'primum vivens et ultimum moriens.' Since his era, the discovery of the irritability of the fibrin has been adduced as additional evidence of this opinion. We know, however, that this fluid is continually changing, and that by nutriment primarily derived from the vegetable kingdom, it is regularly renewed. We may then ask, whether these fluids possess originally the living principle? Do the carbone and hydrogen which form the nutritious vegetable productions possess life? Do they assume this distinction only in the grass, or when they form a part of the system of the sheep or ox? In short, if they do not possess life originally, there is no period in which they can obtain this distinction, consistent with our present knowledge, unless we adopt the system of the Buffonian molecules organiques. Should this opinion be again assumed, we shall find it difficult to escape from the idea of life as connected with organisation; and of an organised fluid we have no example. One of Mr. Hunter's arguments is drawn from the white and the yolk of the egg, which, by possessing a principle of life, do not putrify during incubation. No profound knowledge is, however, required at this time to show, that in this instance there is a living organised body, and that the yolk is a part of the future chick; at least surrounded with its vessels, and drawn into its abdomen as its first nourishment. Another argument is, the production of vessels in coagulated extravasated blood. But, if the idea was correct, we should find no end to protuberances of this kind, and an ecchymosis must, in time, equal or exceed the bulk of the man; for as the blood is continually adding to the mass, and fresh vessels produced without limitation, this new living excrescence may equal that from which it was primarily drawn. Indeed the determined form of every part, the limits set to extraordinary devia-

tions in bulk or shape, show that some fixed principle regulates our form; and the various facts concur in proving the opinion lately hinted, which will be afterwards more fully explained, that the additions in the progressive stages, from infancy to age, are of inorganised matter only, and that the primordial stamina are unaltered in bulk or length.

Some other arguments adduced by this celebrated physiologist are, that persons killed by lightning, who have died in consequence of violent fatigue or by blows on the stomach; in short, in every instance where the irritability of the vessels is destroyed, the blood no longer coagulates. This, however, proves only that some circumstances will destroy the irritability of both; and we know an agent which will effect this completely, viz. hydrogen gas. We have employed the term irritability indiscriminately, because it will not be now contended that it is the exclusive property of *animal* life. Another argument is, that vegetable bitters, mixed with blood, did not hinder the coagulation, but that a solution of opium prevented it. This argument is peculiarly weak; for, if we can distinguish any appropriate power in the vegetable bitter, it is that of destroying irritability. The effect of opium in preventing the coagulation of the blood has been repeatedly denied; and some experiments adduced by an anonymous author, whose accuracy and judgment are so generally conspicuous as to demand our concurrence, have shown, that infusions, not only of opium, but of tobacco and bella donna, have not prevented the coagulation. In short, though this system is, on the whole, plausible, it will not admit of a fair examination; and, indeed, the reasoning of Mr. Hunter on almost every point of physiology is so vague and inconclusive, as to leave some doubt whether he has not in this walk more than counterbalanced the advantages which medical science has derived from his dissections and experiments.

Such are the properties of the blood in its natural state. In diseases it admits of little change, though the humoral pathologists copiously declaim on its viscidity and tenuity, its alkaline or acid acrimony. Blood drawn in inflammatory diseases, is at first streaked with purplish lines, and soon a yellow viscid coat covers the red globules; the sides of which often rise around, giving the coagulum the form of a cup. This coat, styled from its colour the BUFF, is so very dense as to justify, in some measure, the idea of the disease arising from lentor. Mr. Hewson, by an obvious, though a new, remark, taught us, that blood, in these circumstances, was not *more* but *less* viscid than usual; and that this crust was owing to the slow coagulation of the blood, by which means the red particles subsided, and left the albumen and fibrin colourless. In confirmation of this opinion, if we find the upper strata of the clot more, the lower are less dense than in the natural state. It is singular that this idea had not more early occurred, and we might then have found the tenuity of the circulating mass accused, for in the blood it was supposed the causes of disease *must be*. We think it admits of little doubt that the extraordinary agitation, and of course the more intimate mixture, of its component parts, occasion its slow coagulation, and the buffy coat. It does not, however, follow, that this is the only cause of the same appearance. Whatever occasions an increased tenuity of the blood may have a similar effect. We thus find it in scorbutic cases, and in some species of typhus, as Dr. Lind, and MM. Parmentier and Deyeux have shown. In these instances the tenuity of the blood is not occasioned by agitation, but, in the first, by a probable increase of the proportion of neutral salts, with a deficiency of oxygen; and, in the latter, by a diminution of the proportion of fibrin or albumen: a change, however it may be explained, which is the constant consequence of debility.

A putrid state of the blood is frequently spoken of by pathologists, and may be very reasonably expected in the most putrid fevers. MM. Parmentier and Deyeux examined repeatedly that drawn from patients in fevers of the worst form. It did not yield volatile alkali by distillation, nor did it become putrid sooner than blood from the most healthy person. Yet, in various diseases, the albumen seemed affected; its union with the serum was less complete, and its concretion less perfect than in health. By analysis, the buff when present was similar to that from inflammatory diseases, and the coagulum below was tender: it was soluble in water; the solution was coagulated by heat, alcohol, and concentrated acids, while fixed and volatile alkalis rendered the colour more vivid, and prevented the coagulation.

In hectics the red globules have a more brilliant red, and the blood is generally buffy. The latter can be accounted for from increased action, and the former has been lately explained from the more rapid respiration, and consequently from the blood being more frequently exposed to the oxygen of the atmosphere. It is not, however, considered, that, in the greater number of hectics, the extent of the surface of the lungs is destroyed, in a greater proportion than is compensated by the repetition of breathing. When we contrast this appearance with the pale colour of chlorotic blood, we think it will be admitted that the cause lies deeper, and has not yet been discovered. If a deficiency or redundance of the iron be allowed to occasion the diminished or increased colour, we must still examine from whence either proceeds.

It was once proposed to relieve diseases of the blood by a bold but singular experiment, viz. the transfusion of the blood of a young healthy animal into the veins of an aged or diseased person, while *his* blood was at the same time discharged from a distant orifice. The experiment was simple, and consisted of inserting each leg of a syphon into the aperture of an artery of the animal, and the vein of the patient. In the ardour which usually attends a new invention, it was supposed capable of prolonging life to an indefinite period; of correcting not only diseased states of the fluids, but even of correcting the disposition and temper. By a singular fatality, this project having been often employed, it is said with advantage, certainly without injury, was at once abandoned, in consequence of the death of a person, in which the operation could not be blamed. We can now see how little was to be expected from it, unless we could substitute the life of a calf or a lamb for that of the human body: but, the most zealous follower of Mr. Hunter would not willingly abridge *his* life to their period by transfusion. Numerous instances of the effects of this practice occur in the early volumes of the Philosophical Trans-

actions; and the outlines are given with great precision in their abridgment, by Dr. Shaw and his associates.

Another method of relieving diseases supposed to reside in the blood, was by injection of medicinal substances into the vessels; thus the medicine, taking the shorter way, was supposed to be more speedy and certain in its effects. But, the mildest fluids injected into the circulating system, were soon found to produce very disagreeable symptoms, and the plan is now wholly abandoned.

A singular mode of prolonging life was suggested by Lord Bacon, on the supposition that the heat of the blood exhausted the strength. He proposed cooling it by nitre; and thought that life might be in this way indefinitely prolonged. The experiment was never, we believe, tried: had it been so, little spirit of prophecy is required to foretell the event.

See, on this subject, Haller's Elementa Physiologiæ, vol. ii.; Plenck's Hydrology; Hewson's Enquiries into the Properties of the Blood, (Philosophical Transactions, vol. lx.) afterwards published separately; Fourcroy's Système des Connoissances Chimiques; Wells' Observations and Experiments on the Colour of the Blood, Philosophical Transactions for 1797; Mémoire de MM. Parmentier and Deyeux, Journal de Physique, vol. xliv.; Cavallo on the Medical Properties of Factitious Airs, 1798.

BLOOD, *discharges of.* See HÆMORRHAGES.

BLOOD, *medicines to check the discharges of.* See STYPTICS.

BLOOD, *dragon's.* See SANGUIS DRACONIS.

BLOW. The meaning of the term in general is sufficiently understood. The *blind* blow means that attended with no wound or ecchymosis.

BLUSHING, a suffusion of the cheeks, from a sense of shame or sudden surprise. It is supposed by Dr. Whytt to arise from the increased action of the smaller arteries; and, by Dr. Derham, from the near connexion of the fifth pair of nerves distributed on the cheeks with the brain. In fact, however, though the suffusion is chiefly observable on the cheeks, the glow is felt over the whole body. To the distribution of the fifth pair of nerves on the lips, Dr. Willis attributes the pleasure of kissing.

BO'A, a SERPENT, the etymology of whose appellation is unknown, which is met with in Calabria. Also a symptomatic kind of miliary fever, in which the eruptions are of the size of millet seeds, watery, without redness or pain, called *sudamina*, caused by inordinate sweating; called also *hydroa*. See PLYETIS.

BOA'NTHEMON, (from βους, *an ox*, and ανθεμον, *a flower*, so called from its likeness to the ox's eye). See BUPHTHALMUM.

BOBE'RRI. See BORRIBORRI.

BOCHE'TUM. A secondary decoction of lignum-vitæ, and of similar woods.

BO'CIA. See CUCURBITA.

BO'CIUM. See BRONCHOCELE.

BOD. à STAPEL. An abbreviation of *Johannes Bodæus à Stapel*, in Theophrasti Historia Plantarum.

BOERHAAVIAN SYSTEM. In a work of this kind, it would have been desirable to have given a short account of the lives, and an abstract of the opinions, of the most eminent physicians. It was for a long time a favourite object of the editors to have thus interweaved the history of the progress of medicine; but the extent to which it might proceed, forbade the attempt. While, however, a short history of MEDICINE and its different branches will be found under that title, many reasons induced them to offer, in separate articles, a short account of the most distinguished systems. They need not conceal that the strongest of these was, that the early occurrence in the alphabet of the more important ones would enable them to give more fully the opinions on which the practical remarks in this work are founded. With these views, we shall in their place mention the BOERHAAVIAN, the BRUNONIAN, the CULLENIAN, and the STAHLIAN, systems, enlarging chiefly on the second and third, as they now principally influence the practice of medicine.

Few physicians enjoyed, for so long a period, such unbounded, such unalloyed, reputation as Boerhaave. He was represented, for we are old enough to have conversed with his favourite pupils, as equally amiable in private life, and respectable in science: he first gave chemistry a philosophical systematic form, and reduced medicine to a science at least plausible, neat, and perspicuous. At his era, the chemical reveries of Van Helmont were yielding to the more abstract sciences; and, from unreal fancies, the change to the necessity of demonstration was so rapid, as to leave scarcely the vestige of an intermediate step. Calm, penetrating, and reflecting, Boerhaave could distinguish between the visionary theorist and the attentive observer; and, equally judicious, could appreciate the merits of each. We have no reason to think that he expected to be the founder of a sect; yet he proceeded with the caution of a veteran, and culled from each the flower which was to adorn his own parterre. Though Paracelsus had burnt the writings of Hippocrates and Galen in solemn state, yet they were not forgotten; and the wise observations of the Grecian sages formed the ground work of his system. The Galenic doctrine of humours he assimilated with wonderful address to his chemical doctrines, and gave them a specific character, founded on their chemical relations. The mechanical philosophy, then attracting universal attention, added to the fabric: the vessels were cones or cylinders; the fluids, consisting of various particles, adapted only to given apertures, were at times forcibly impelled and impacted in vessels to which they were not fitted, and consequently produced numerous complaints.

The whole of this doctrine was combined with so much precision, with such scientific skill, as highly to prepossess even the experienced observer. Each found his own opinions placed in a respectable view, illustrated by language elegant and perspicuous, and supported by collateral doctrines, which, in another situation, he would have rejected. The Galenist could not object to the elegant illustration of the various humours; the chemist saw, with surprise, that the works which his master had burnt, illustrated his favourite system; and the mechanical philosopher, probably, never suspected the very extensive application of doctrines which he had cherished exclusively for their own

sake. In fact, Boerhaave's system was a selected one; and he has, of course, been styled an *Eclectic*.

We have engaged in this short comprehensive view, partly to account for the enthusiasm with which this system was received; for it must not be concealed, that, in treating of the properties and functions of a living body, he overlooked the principle of life, and the laws of a living organised machine. He seems to have seen his error, and in his later works he speaks, but still in the language of a sectary, of the 'inertia liquidi nervosi.' The first decisive step in opposition to this mechanical pathology was taken by his own nephew; and this heresy is followed, apparently, with some reluctance, by Gaubius, the pupil of Boerhaave.

Yet though we have spoken thus freely of his doctrines, we mean neither to depreciate the man nor his talents. He was far above the common race of mortals; and, with Newton almost alone, might be shown by angels as imitating their superior powers, and emulating their brighter intellectual acquisitions. When in different parts of this work also we speak disrespectfully of saponaceous aperients, of attenuants, and the other scions of the humoral pathology; or of the more rigorous demonstration of qualities and powers which refuse the trammels of mathematics, we must still profess an admiration of the talents of Boerhaave. Those who have contemplated the state of medicine, previous to his time, will see order rise from confusion, precision from vague analogy; in a word, science from doubtful unconnected facts.

The practitioners of the Boerhaavian school have, in general, been distinguished for patient attention and acute observation. They have not perhaps extended the bounds of medicine, but been contented to imitate *their* master, and *his* preceptors, Hippocrates and his successors. This was perhaps an error, and it resulted from the unbounded admiration they felt for Boerhaave. It was a very advantageous trait of Dr. Cullen's character, that he wished to raise his pupils into critics on himself. The writer of this article can add, that he received the most cordial assistance from the latter in a work, the leading principle of which was in opposition to one of Dr. Cullen's favourite doctrines.

BOETHE'MA, (from *βοηθεω, to assist*). See Remedium.

BOETHEMA'TICA SEMEI'A, (from the same, and *σημειον, signum*). Auxiliary signs in diseases, such as give notice of a cure observable in them.

BO'GIA GUM. See Esula Indica.

BOICINI'NGUA, BOICININI'NGUA. The rattle snake, and *Dominicum serpentum. Crotalus horridus* Lin. It is said, that this serpent cannot approach a piece of a root which in Virginia is known by the name of seneca, rattle snake root; but the blood root is the most frequent remedy against their bite, which, when bruised, is applied to the wound, and a decoction of it is drunk.

Troches are made with the gall of rattle snakes, which are caught in spring mixed with chalk or meal; these are called *trochisci Connecticotiani*, from the Connecticut colony. They are anodyne; three or four grains are taken after great fatigue, but may be given to fourteen grains or more.

When a person is bit by a rattle snake, purple spots, and a difficulty of breathing, soon attend. Many medicines are used by the Americans as an antidote to the poison of this animal; (see Senega). Those in most esteem have a quick, warm, pungent taste, though mild and volatile on the tongue; but the most noted remedy is the following, which was discovered by a negro. Take of the roots of plantain and horehound, in summer the whole herb, a sufficient quantity; bruise them and squeeze out the juice, and give immediately a large spoonful. If the patient be swelled, pour it down his throat. If it does not relieve in one hour give a second spoonful, which never fails. If the roots are dried, moisten them with a little water. Modern practice has substituted volatile alkali and eau de luce.

It is said that rattle snakes have a power of charming birds, and other small animals, so as to make them their easy prey. This has been denied, and the appearances with greater probability referred to a restless anxiety for the safety of their young.

BOIL. See Furunculus.

BOITI'APO. A serpent of Brasil, which the Portuguese call *cobus de cipo*. Its bite is venomous.

BOJO'BI. A serpent in Brasil, which the Portuguese call *cobre verde*. Its bite is venomous. The cure is the root of the caa-apia, which the patient is to swallow in a little water.

BOLBI'DION. A small fish, mentioned by Hippocrates.

BO'LBITON. BOLYNTHON. Cow's dung.

BO'LCHON. See Bdellium.

BOLE'SIS. See Corallium.

BOLE'SON. See Balsamum.

BOLE'TUS, (from *βωλος, a mass*). Spunk. A genus of the fungi. It is an horizontal fungus; and porous underneath. The boletus igniarius is commonly called agaric of the oak.

Bole'tus ce'rvi. See Amanita.

Bole'tus pi'ni la'ricis. See Agaricus.

Since the article on agaricus was printed, we have received a very laboured and interesting analysis of the white agaric, and agaric of the oak, from M. Bouillon La Grange, in the 151st number of the Annales de Chimie, of which we shall here give a short abstract.

He found the *white agaric* to contain an uncombined acid. Water dissolved a small quantity of extractive matter, as well as sulphates of potash and of lime, some muriat of potash, and an animal matter. When distilled in close vessels, acetat and carbonat of ammonia were formed. When burnt, he discovered, in the cinders, carbonats of potash and of lime, muriat of potash, sulphat of lime, phosphat of lime, and some iron.

With the assistance of nitric acid, the malic and oxalic acids were formed with a spermaceti, mixed with resin; alcohol extracted a large proportion of *acid resin*, which was the benzoic acid. Caustic alkalis separated a considerable quantity of ammonia.

From the agaric of the oak water took up an extractive matter, with sulphat of lime, and muriat of potash. In the cinders, when burnt, were found phosphats of lime and magnesia, with some iron.

With the nitric acid, the malic and oxalic acids were alone discovered. Alcohol dissolved only a small proportion of resin, and caustic alkalis disengaged a much less proportion of animal matter than from the white agaric.

BOLI'SMUS. See Boulimos.

BO'LSTER. A soft pillow, to be laid under a broken limb, or a gouty joint.

BO'LUS, (from βωλος, *a mass*, from the Hebrew term *balah*, *to agglutinate*). A BOLE or BOLUS. Boluses differ not from electuaries, only they are made of a firmer consistence, in single doses, and therefore more proper where accuracy is required in the administration, and where evaporation would injure the medicine. The light and ponderous powders may more conveniently be mixed with mucilage, for so they are the least bulky. The quantity of each is as much as can be conveniently swallowed at once. The more disagreeable powders should be given in another form, and the more bulky doses mixed in draughts. This form is, however, now little employed, and the powders are usually mixed in draughts. Where swallowing is difficult, boluses are often improper. Yet we once saw ʒss. of valerian ordered in a bolus for a man in an apoplexy, by a fashionable physician.

BOLUS, BOLE. Boles are argillaceous earths, which readily fall down into a loose mass in water; smooth, and rather unctuous to the touch. It is the argilla bolus of mineralogists; and, like other reputed argillaceous earths, contains the largest proportion of flint. Boles were once highly prized; and the Armenian and Lemnian boles were dug and sealed with numerous ceremonies. They were accounted cordial, alexipharmic, and sudorific; and, in imitation of these, other argillaceous and calcareous earths were sold under the title of *terræ sigillatæ*, because they had, like the two former boles, the impression of a seal. They are all now neglected; yet, were we to interpose against authority, we would whisper some defence of the former, *pulvis è bolo cum opio*, now the pulv. è creta compositus cum opio.

Bo'LUS GA'LLICUS, FRENCH BOLE, is a friable earthy substance of the argillaceous kind, intimately blended with a slight portion of ferruginous calx, and siliceous earth. It is of a pale red colour, variegated with irregular specks, and veins of a whitish yellow. It is said to imbibe sharp acrid humours, and has been recommended in alvine fluxes and cardialgia, in doses of from ten to sixty grains. Pipe clay, coloured with red chalk, is its very innocent substitute. Its sudorific and alexipharmic powers have no foundation.

There are various other species that are not allowed to possess any medical virtues. The London college have consequently exchanged two compositions under the titles of *pulvis è bolo compositus*, *sine opio et cum opio*, for the *pulvis è creta compositus*, without and with opium. In the former, half a pound of prepared chalk is added to four ounces of cinnamon, three ounces of tormentil root, and as much gum arabic. In the latter, eight ounces of this powder are mixed with a drachm and half of powdered opium. Thus, about two scruples of the powder contain a grain of opium.

BOLY'NTHON. See BOLBITON.

BO'MBATS, (from *bombyx*). Salt formed by the union of the bombic acid with different bases.

BO'MBAX. COTTON. Called also *xylon*, *gossipium*, *cotonium*, *moulelavou*. *Bombax pentandrum* Lin. Sp. Pl. 959. There are three sorts of cotton trees: one creeps on the earth like a vine, the second is thick like a bushy dwarf tree, the third is tall as an oak. All the three, after producing beautiful flowers, are loaded with a fruit as large as a walnut, whose outward coat is black. When this fruit is ripe, it opens and discovers the cotton; the seeds are separated by a mill from the cotton. This tree grows in many places in the Levant, East and West Indies, especially in the Antilles. The fruit is oval. The cotton of the first sort, which creeps on the ground, is the best: that brought from the East Indies is supposed to be the BYSSUS of the ancients. That produced near Smyrna is greater in quantity than any where else. They sow the seeds, which are like little beans, in June; gather the cotton in October; and the soil there produces three crops in a year.

The skin of the seed is mucilaginous, the kernel is sweet like an almond, and of virtues similar to the althea. If cotton is applied to wounds, it excites inflammation; and, when worn next the skin it checks perspiration. That called MOULELAVOU is also denominated *arbor lanigera spinosa; gossipium arboreum caule spinoso*, *bombax ceiba* Lin. Sp. Pl. 959. A tall cotton bearing tree, of the bark of whose root an emetic is prepared.

BO'MBICUM A'CIDUM. BOMBIC ACID. Acid of silk worms. Silk worms contain, in every state, an acid liquor, in a reservoir placed near the anus; but at the more advanced periods of their growth it is mixed with a gummy matter. It is obtained by expressing their juice in a cloth, and precipitating the mucilage by spirit of wine, or by infusing the chrysalides in that liquor. This acid is very penetrating, of a yellow amber colour; but its nature and combinations are yet not well known. It has never yet been employed in medicine.

BO'MBUS, (from βομβεω, *to sound like a drum*). A RESOUNDING NOISE, from flatulencies rolling in different cavities. If a sound of this sort, or a ringing, is perceived in the ears in acute diseases, it is a dangerous symptom. It also means a noise in the bowels from flatus.

BO'MBYX, (from βομβεω, *to resound*). So called from the noise it makes in spinning its web. The SILK WORM. They are of no medical use; but it is said that if their bags are burnt they yield a larger quantity of volatile salt than any other animal substance, and consequently may be superior to burnt sponge.

BOMPO'URNICKEL. See COLIPHIUM.

BON ARBO'R. See COFFEA.

BO'NA. The KIDNEY BEAN. See PHASEOLUS.

BO'NDUCH INDORUM. (Indian.) Called also *bonduch cinerea*, *bonduch pianta Indiano*, *arbor spinosa Indica muricatis siliquis*, *lobus echinatus*, *acacia gloriosa marsus*. *Guillandina bonduc* Lin. Sp. Pl. Wildenow, 534. MOLUCCA NUTS, and BEZOAR NUTS.

The plant runs up to five or six feet in height; it is a native of both the Indies. The round beans only are of use, which are of an ash colour on the outside, and white within. They are warm, bitter, and carminative.

Ray mentions another species, which he calls *bonduch*, Indorum siliqua minime spinosa.

BON. SEP. An abbreviation of *Bonetus Sepulchretum*.

BONE. Its Latin term, *os*, is supposed to be derived from the Hebrew word *ozam*, *strength*. The bones of animals constitute their firm, solid support; and their varied articulations give the animal that flexibility, those minute and complicated motions, on which our numerous functions depend. There appears to be no bone in the human body that does not possess every move-

ment required, except such as would be inconsistent with its more general and useful purposes. The solidity of bones depends on an earthy deposition, in a manner to be afterwards described; a deposition which some have styled a secretion, though with little propriety, as a bony substance is sometimes deposited by all the exhalant arteries: we have even seen ossifications in the corpora cavernosa penis. The bones are said by minute anatomists to be 304 in number.

Bones consist of fibres crossing each other in different directions. In the middle of the long bones these fibres are closely united, so as to form an almost solid substance. At their extremities the fibres are more distant, forming a distinct reticulated texture. As the long bones are solid, so they are hollow, to give resistance in a greater proportion than weight: the extremities are enlarged in bulk, to afford a more advantageous attachment to the muscles; but their cavities are divided into cells, and in these there is no part free from this reticulated substance. In this way, we believe, the weight of a given length at the extremity or the middle is not very different.

The substance of bones is now known to be a calcareous phosphat, which is deposited by exhalant arteries; and this substance is constantly renovated, while an equal portion is carried off by absorption. The part absorbed is carried off by urine; and we find in the disease styled mollities ossium the urine containing a large portion of this calcareous neutral. Lime is found in a great variety of our aliment; but the acid is the production of the animal economy, or rather perhaps a modification of some common acid, (probably the muriatic,) by means yet unknown to us. This calcareous salt is deposited in fibres in the long bones, and these fibres placed longitudinally are in the middle of these closely compacted, but diverge and separate towards the joints, leaving a space connected by cross threads of bone to form the net work. We find by proper preparation, not only this fibrous but a laminated structure also; that is, the fibres are disposed even in the hardest bones in strata, connected by crossing threads of a bony matter. The flat bones have no cavities; but, when they rise in protuberances, the same reticulated structure is observed in their substance: so cautious, apparently, is nature to give every advantage to the muscular power, without adding inconveniently to the weight.

The form which bones ultimately assume, is in a great degree owing to the action of the muscles and of the arterial system. In the youngest fœtus indeed the general shape is observable; but the extremities are larger, and the cavities of the long bones still retain the reticulated bony structure. When the action of the strong muscles of the extremities condense the bony substance, these last cancelli disappear as no longer useful; but the tendons which possess no contractile power, cannot have the same effect on the ends of the bones, though these are in some measure condensed; for, by increasing age, their bulk becomes less, and their density greater. In old age the contrary change takes place. The bones indeed retain their form, but the proportion of the calcareous phosphat is lessened, and their specific gravity greatly diminished.

The process of the formation of bone was for a long time overlooked or mistaken; and even so late as the era of Duhamel, it was generally thought that bony layers were deposited from the periosteum, as the woody layers of trees are from their bark. Traces indeed of more philosophical and correct views appear in earlier authors, but they were disregarded; and it was singular that it should not have occurred to Duhamel and his followers, that, if their system were true, man must yearly increase in bulk like a tree. Another error long prevailed, that bone was only a hardened cartilage. Were this the case, we should find the one gradually changing to the other: they are united indeed by bony protuberances in appearance, shooting into the cartilage, but it is at once obvious where bone ends, and cartilage begins.

In the fœtus, at its earlier stages, we find the future bone a gelatinous substance, covered with a membrane, the future periosteum. It gradually becomes firmer and whiter; but even at birth the bony system is flexible, so as to admit of considerable motion in all its parts, to adapt itself to the passage in birth. For a time a considerable proportion of the extremities of the bones is cartilaginous, which has occasioned the idea just mentioned; but when the change is carefully observed, new blood vessels are perceived to penetrate the cartilage, and the osseous matter is deposited from them in the body of the latter, which enlarges till it extends to the bone. This additional portion is for a long time easily separable from the rest of the bone, as united only by a layer of cartilage, and called an *epiphesis;* and when the union is more complete, this additional portion is called an *apophysis*. The object of this mechanism is easily explained. Bones are formed from the osseous matter deposited in points, which are either added to longitudinally, or in rays, as from a centre. Where great strength is required, the former structure is observable; but a continuation of the longitudinal fibres would weaken the bone, and a different direction is necessary; besides, as from bony centres, a substance is more quickly produced, when the child begins to walk, his strength will thus increase with a rapidity proportioned to his increase of bulk. We know that bones are nourished by arteries, since in young animals they are reddened by an injection thrown into the general arterial system; and in more advanced age, are coloured by feeding an animal with madder. The experiment so often tried and quoted to support many different systems, was not understood till lately examined by Dr. Rutherford. He found it to arise from an affinity between the colouring matter and earth, forming what the painters call a lake. If to a solution of madder in distilled water with muriat of lime phosphat of soda is added, a double decomposition takes place: the muriated soda continues in solution, and the colouring part of the madder is precipitated in union with the phosphat of lime. It is thus attracted in the blood vessels by the calcareous phosphat, and deposited with it.

Bones, if they have arteries, must have accompanying veins, and they have also absorbents; for a diseased bony part is absorbed as well as other parts of the body: and the cavities of the round bones bear the same proportion to the whole bulk of the bone in the fœtus and the adult. The earth when out of the circulation has no longer any peculiar quality; and when dissolved by spirit of salt, the vessels and membranes remain unchanged, displaying the same laminated arrangement as the bony

parts. The earth of bone is however valued as a material for cupells in the nice assays of silver, and styled *virgin earth;* but its properties are owing to a portion of the phosphoric acid. The circulation in the bones is peculiar. The vessels run in the direction of the fibres in the long bones longitudinally, occasionally dipping perpendicularly; in the flat bones they are radiated, diminishing towards the centre. The bones are full of pores for the admission of vessels: in the middle they are large and few; at the extremities smaller and more numerous. In every long bone, there is about the middle a hole for the passage of an artery and vein: the artery passes slantingly through the bone, branches on the internal periosteum, and externally *again* through the bone. These branches freely anastomose, and thus form an uninterrupted circulation between the internal and external parts. In the flat bones, the vessels anastomose in the meditullium or diploe.

In their external form bones greatly vary. Besides the epiphesis, they rise, we have said, in various protuberances, named processes, and they are sometimes depressed in cavities. These if deep, with large brims, are called *cotylæ;* if shallow, *glenæ* or *glenoid.* Anatomists have employed other appropriate terms. Thus, *pits* are small roundish cavities; *furrows*, long narrow canals; *niches*, small breaches; *sinuosities*, broad superficial depressions without brims; *sinuses*, large cavities within the bones, opening by a small aperture; *foramina*, holes that pierce through the bone. Bones are usually divided into, 1st. *spherical*, which are spongy, except a thin plate on the surface: 2dly, *cylindrical*, which are compact in their middle, and spongy at their extremities; 3dly, the *flat*, which are compact on both sides, but spongy in the middle; 4thly, the *irregular*, which when thick are like the round, and when thin like the flat bones. It will be sufficiently obvious that these terms are not mathematically accurate.

Bones, we have said, owe their solidity to phosphorated lime. They contain also gelatine, and the proportion of each differs in different animals, and at different periods. The bones of an adult contain the greatest proportion of earth; those of a fœtus, of gelatine. Fish bones, from Mr. Accum's experiments, contain one-sixth part more of phosphoric acid than the bones of quadrupeds. Carbonated alkalis decompose the phosphat of lime in bones. They contain also a small proportion of selenite, carbonate of lime, and, according to Proust, of mineral alkali. Mr. Hatchett's late experiments in the Philosophical Transactions, greatly illustrate the chemical analysis of bone, horn, zoophytes, &c. but as less applicable to human bones, they fall not within our immediate province. See HAIR and HORN.

Bones are covered with a strong, firm, fibrous substance, styled *periosteum*, which is acutely sensible when inflamed, as indeed all the denser membranes are. Its chief use is to defend the bone, and perhaps to prevent its irregular growth. Bones themselves when inflamed are also highly sensible.

The internal parts of bones and the minutest cells are filled with marrow; a fluid fat contained in membranes, forming, in the language of some authors, the internal periosteum. The marrow does not differ in its analysis from suet and fat, or perhaps it has not been minutely examined. The marrow of herbaceous animals hardens when cold; that of carnivorous remains fluid; and in young animals a little blood is occasionally deposited. We suspect that the harder fats are distinguished by their containing a larger proportion of oxygen, and the softer by a greater proportion of hydrogen or carbon. Marrow is contained in follicles not communicating with each other: at the heads of the bones these follicles are supported by the cancelli, but in the middle they have no such support, though the marrow is still confined by follicles, which lessen its weight on the lower parts of the bone, where the cancelli again lend their assistance. The bone is apparently always full. It has been supposed that the larger arteries which penetrate the middle of the bone, are exclusively appropriated to the nutrition of the marrow. The facts however lately noticed of the mutual anastomoses of the internal and external vessels, oppose this opinion, which, we believe, is not supported by any well authenticated observation. The use of the marrow is not known: it is a part of the adipose system, and perhaps intended for occasional support, and to correct the acrimony produced by inanition. Animals that remain torpid during the winter repair to their retreats with considerable coverings of fat, and leave them in a most impoverished state. We suspect also that the fat may be a reservoir of oxygen; for when this principle is exhausted little fat remains. In the last stage of phthisis some fat is found in the adipose membrane, and in this disease the oxygen is not deficient: but in dropsy it is quite exhausted; and in this complaint the retention of the excrementitious urine would be soon injurious, were not its acrimony blunted by either an oleaginous or an oxygenated fluid.

The products of bones employed in medicine are the empyreumatic oil, styled Dippel's animal oil, highly rectified. When distilled they afford ammonia; and from these the spiritus cornu cervi is now exclusively prepared. Bones calcined in open vessels are styled cornu cervi calcinatum, now seldom employed. The oil remaining after distillation burnt with the earth produces lamp black; the finest kinds of which are furnished by the more compact bones, and the horns of animals, thence called ivory black. Bones rasped and macerated in hot water, or exposed to considerable heats in Papin's digester, furnish a nutritious soup; and in a more condensed state a valuable glue. Six pounds of dry bone shavings produced fifteen ounces of clear glue; and fifty pounds of ivory shavings yielded nine pounds and a half of transparent glue. The exact proportion of gelatine in bones has not however been ascertained, since the driest glue contains some water. These preparations were made by boiling only; but the soluble parts are more perfectly extracted in Papin's digester, though the fat acquires an unpleasing empyreumatic flavour. Proust informs us, that the enlarged extremities of the bones, boiled for a quarter of an hour in water, yield one-fourth of their weight in fat, and the haunch bones one-eighth. The hard bones must be powdered, reduced to a fine paste by trituration with water, and boiled for a longer time. See Proust's 'Memoir for Meliorating the Condition of a Soldier,' published at Madrid 1791; an abstract of which may be found in the 53d volume of the Journal de Physique.

The diseases of the bones, independent of FRACTURES and DISLOCATIONS, are WOUNDS, NECROSIS,

CARIES, EXOSTOSIS, OSTEO SARCOMA; including SPINA VENTOSA and PÆDARTHROCACE, RICKETS, FRAGILITY of the bones; *injury* from RUPTURED LIGAMENTS, DROPSY in, and WOUNDS of, the JOINTS, WHITE SWELLING of the joints, ANCHYLOSIS, DISTORTION, MOLLITIES, SCROFULA.

See Haver's Osteology, Monro on the Bones, Cheselden's Osteology, Memoires de Pelletier, vol. ii. Proust (Journal de Physique, l. c.), Hatchet, Phil. Trans. 1799, 1800.

BONIFA'CIA, (from *bonum*, *good*, and *facio*, *to do*,) from its utility to the human frame. See LAURUS ALEXANDRIA and HIPPOGLOSSUM.

BONONIE'NSIS L'APIS. The BONONIAN STONE. Called also *phosphorus Bononiensis*, *spongia solis*, *lucidus lapis*, *illumina bilis lapis*, *phosphorus Kircheri*; the LIGHT CARRIER and BONONIAN PHOSPHORUS.

It is a small, grey, soft, glossy, fibrous, sulphureous stone, about the size of a walnut. When broken, a kind of crystal, or starry talc, is found in it. This *stone* is met with in the neighbourhood of Bologna, in Italy; and, when duly prepared, makes a species of phosphorus.

This phosphorus gradually emits light for six or eight hours after being exposed to it. As a medicine, the stone is caustic and emetic; and the phosphorus itself has been highly injurious, when used as a medicine.

BONT. An abbreviation for *Jacobius Bontius*, a writer of good credit.

BO'NUS HENRI'CUS. See MERCURIALIS.

BOO'NA. See PHASEOLUS.

BORA'SSUS. The tender medullary substance which grows at the top of the great palm tree.

BO'RAX, (from the Arabic term *borac*). Called also *chrysocolla*, *capistrum auri*, *ancinar*, *boraxtrion*, *anucar*, *atincar*, *tincal*, *amphitane*, *baurach*, *nitrum factitium*, *santerna*, and *nitrum nativum*. BORAC signifies nitre, but it was corrupted into borax, and applied to the chrysocolla. It is not much unlike alum, and if genuine, hath a sweet taste at the first, but afterwards an unctuous one. Its pure crystals are hexaedral prisms, terminated by three sided summits finely cut; it dissolves with difficulty in cold, but easily in boiling water; requiring of the former more than twelve times its weight. It is soluble in alcohol, swells and bubbles in the fire, and soon becomes a glass, which dissolves again in water; but if mixed with flint or sand, it becomes a durable glass, hard enough to cut common glass. It is an excellent flux for metals, and for their ores; changes the colour of blue flowers to green; precipitates earthy and metallic bodies dissolved in acids; and renders vegetable and animal oils miscible with water. A solution of borax made in a menstruum of vegetable acid, when inspissated by evaporation, is a tenacious substance that will not crystallize, but will dissolve in the air. Borax was originally brought from Thibet, where it was found on the shores of a lake, seemingly the crater of an old volcano. We receive it inviscated in a greasy substance, and in an impure state, then called *tincal*. It has been since found more pure in the mines of Ritinquipa and Escapa, and still more pure in China. In Europe it has been discovered in a mineral lake in Tuscany. It is purified by long boiling and repeated crystallization; but when most pure, white, and transparent, it has a somewhat greasy fracture. We now know it to be a compound salt, with an excess of alkali; containing thirty-nine parts of boracic acid, seventeen of soda, and forty-four of water. It is decomposed by barytes, magnesia, and lime.

Its acid, the sedative salt, is of a white, scaly, glittering appearance, has a cooling saline taste, and reddens the blue vegetable infusions. A pint of boiling water dissolves 183 grains, but it dissolves more easily in alcohol. Its solution in spirit is green, and burns with a green flame. If dry, it is fixed in the fire.

The borax of the shops is sometimes adulterated with alum: but then it is not so light nor clear, nor does it swell so much when put on burning coal.

Borax itself is used for soldering gold, whence its name *chrysocolla*. It is also a solder for other metals; and a powerful flux for fusing minerals of all kinds. It is used to give a gloss to silks.

As a medicine it seems to possess inconsiderable virtues, or these have not been sufficiently examined. It has been, however, styled a deobstruent, diuretic, and emmenagogue, in doses of half a drachm, or two scruples. A mixture of it with honey—viz. borax one drachm, honey one ounce—is efficacious in removing aphthous crusts from the mouth and fauces, but a solution in water is considered to possess superior power. Externally it is a far better cosmetic than bismuth. If given in powder it is said to be emetic, but, mixed with aromatics, this quality is checked, and in the fluor albus it is supposed highly useful.

A dose of borax is from gr. v. to ʒi ss.

BORBONE'NSIS, or BORBO'NICA. A patronymic epithet for the Bourbon water. See AQUÆ SULPHUREÆ.

BORBORO'DES, (from βορβορος, *filth*). FECULENT, MUDDY, DIRTY, EARTHY.

BORBORY'GMUS, (from βορβορυζω, *to make a noise*). A rumbling noise, excited by wind in the bowels.

BO'REAS. The NORTH EAST WIND. The northern winds are cold, but, unless in the east, not unwholesome. They resist putrid diseases, but often occasion those that depend on an inflammatory state.

BO'RI. (Greek). GREAT EATERS.

BORI'DIA, (from βορα, *food*). Salted fish eaten raw. Oribasius.

BORO'ZAIL. The ZAIL of the Ethiopians. It is a disease epidemic about the river Senegal, principally infesting the pudenda, but different from the lues venerea, though owing to immoderate venery. In the men it is called *asab*, in the women *ossa batus*.

BORRA'GO, vel BORAGO, formerly written CORAGO, the C being now changed into B, (from *cor*, *the heart*, because it was supposed to comfort the heart and spirits). BORRAGE. Also called *buglossum verum*, *buglossum latifolium*, *borago officinalis* Lin. Sp. Pl. 197. Nat. order *asperifoliæ*; *borragineæ* of Jussieu.

The leaves are succulent; their medical qualities are not discernible until the juice is separated by pressure, and are then inconsiderable. A decoction of them affords a small quantity of the nitrous and muriatic salts. The leaves are ranked among coolers, and the flowers among cordials. See also BUGLOSSUM.

A syrup is prepared from the leaves in France, and used in pleurisies and inflammatory fevers. It is sometimes put into negus, forming what is called a cold tankard.

BO'RRI-BO'RRI, BOBERRI. (Indian). See CUR-

CUMA. It is also a name in the East Indies of an ointment in which are the roots of turmeric.

BOS, (from βοω, *to bellow*). The BULL, COW, OX, HEIFER, or any other of the neat kind. See ALIMENT.

As a medicinal article, we may reckon BEEF TEA, which is thus made: Cut a pound of the leanest part of a buttock of beef into thin slices, add to it two pints of boiling water; keep the water just below the boiling state, and let it infuse for near an hour, having previously added about twenty or thirty pepper corns and a little mace. By infusing only, it retains the lightest parts of the nutritious lymph, which boiling dissipates, and seems more agreeable to stomachs greatly debilitated. It may be salted when drunk.

BO'SA. An Egyptian word for a mass which is made of the meal of darnel, hemp seed, and water. It is inebriating.

BOSCAS, (from βοσκω, *to feed*). A sort of dry pitch, which is tenacious like bird lime. Also the mallard.

BOS INDIA'NA. See BUBALUS.

BO'TANUM. See PLUMBUM.

BO'TANY, (from the Greek word βοτανη, *a plant*). In its strict meaning it is *the science of plants*; but in such a very extensive view it cannot be treated of in this place. Botany is divided into the classification and nomenclature of plants; an account of their virtues in medicine; in dietetics, and the various arts; their physiology, and their diseases. Botany, though plants must have been from the earliest ages observed and employed, is not a science of high antiquity. In the ruder periods, a few culinary and medicinal plants were probably discovered; their forms were pointed out by fathers to their children, and their virtues were equally handed down by tradition. Knowledge of this kind is soon corrupted or lost. If a name be given, it is applied by another to a plant which resembles it, whose virtues may be different or contradictory; and if the family emigrates, the experience of ages is lost, should the same plant not be discovered in their new habitations. Our earliest records, the sacred writings, speak of few plants, though of several vegetable productions which are now ascertained with sufficient accuracy: but we cannot judge of the botanical science of Solomon, who is said to have been acquainted with all plants, from the cedar of Lebanon to the hyssop that groweth on the wall. The plants mentioned by Homer are not numerous, but an interesting and amusing work might be still written on those which occur in his poems. Hippocrates, our great object, speaks of the virtues of about two hundred and thirty plants, which were described by Cratævas his cotemporary: but the first great luminary in this science was Theophrastus, to whom we are indebted for some very accurate descriptions of plants; and he was followed by Dioscorides, who describes about four hundred and ten species, and mentions, by name, about one hundred and ninety others.

Even in that state botany became an unwieldy mass, from its bulk and want of arrangement. The descriptions of Theophrastus are vague and imperfect; though, as the scholar of Aristotle, we may expect to find in him all the science of the Stagirite, whose work on plants is evidently the forgery of a later age. His arrangement is taken from their size or their virtues, and little calculated to assist the tyro in the investigation. The descriptions of Dioscorides and Pliny deserve not a higher character; and had it not been for the labours of the Bauhines, whom we shall afterwards mention, we should have attained but little knowledge from the accumulated acquisitions of fifteen centuries.

Gesner, who flourished about the middle of the 16th century, was the first author who saw the necessity of arrangement, and the advantages to be derived from dividing plants into classes, orders, genera, and species; but it was only after fifty years that Cæsalpinus began the attempt; and more than one hundred, before Morrison and Ray produced the outline of a plan which approached perfection.

In this interval some works appeared which are more important, as more nearly connected with our subject. Dr. William Turner, the father of English botany, since he gave names to many English plants, published his Herbal, with the plates which belonged to the botanical work of Fuschius. The different parts appeared at different places, from the year 1551, the date of the first, to 1564, that of the last part. His arrangement is, however, an alphabetical one of the Latin names. About the same period, viz. from 1552 to 1583, Dodoens collected his works into one system, called Stirpium Historiæ sex Pemptades, the foundation of Gerard's, and every subsequent herbal in our language. In Gerard we perceive the first traces of a natural arrangement; for his first book contains the grasses, grain, rushes, reeds, flags, and bulbous rooted plants. This author's idea of the union arose, however, from the simplicity of the leaves. His second and third parts offer no very remarkable traces of arrangement. In the third, however, he has grouped the heaths, the mosses, mushrooms, and sea plants. These herbals are more to our purpose, as they unite botanical descriptions with medical virtues; but the system adopted is that of Galen, and with a profusion of virtues which each plant is supposed to possess, we are constantly told in what degree it is hot or cold.

Before, however, we approach the luminous period of classification, we must notice a work, whose peculiar merit and utility, in a medical view, have been greatly overlooked; we mean the Pinax of Casper Bauhine. Of the elder Bauhine (John) we need say little, but his three folio volumes, containing a general history of plants, are a work of great labour and utility; though, from the want of arrangement, it is of much less advantage than we might expect. The Pinax of the younger Bauhine contains the names of six thousand plants, to be found in the writings of Hippocrates, Galen, and the other ancient physicians; of Theophrastus, Dioscorides, and the elder botanists. In this work some traces of arrangement appear, which the following quaint verses will explain:

Gramen adest, *bulbusque*, *olus* atque *umbella*, *venenum*;
Atque *corona*, *odor* et *flos* est vescumque *legumen*;
Carduus in spinis, *frutex* succedit et *arbor*.

In this order, though not formally pointed out by the author, the plants are arranged, and several of these families are truly natural. The species are collected under natural genera; and as trivial names were not then invented, each species is shortly described. The synonyms of the different preceding physicians and botanists follow; and to make the use of this Pinax more easy, every name with the reference occurs in a full index.

We have in this way, at one view, whatever has been said of every plant then known; and to make this connecting link between ancient and modern science more completely useful, Linnæus has added the description of Casper Bauhine to each of his species. Thus, then, when we refer to the Linnæan species, we unfold to the medical reader the plant of which Hippocrates and Galen spoke, the author where each has been fully described, with all its real and supposed virtues.

Morison, in a second edition of the Hortus Regius Blesensis, gave, in 1669, the rudiments of a method founded on the fruit; but the remembrance of this proposal has been obliterated by the splendour of Ray, who published his Methodus Plantarum Nova, in tables. He divided the vegetable kingdom into trees, shrubs, and herbaceous plants; classing with the latter the suffrutices, the lesser shrubs. His great object was to connect the natural families, or the plants united by a similarity of fructification and general habit; but his genera were more loosely and imperfectly grouped; and in this first imperfect attempt we wanted both descriptions and synonyms. His system appeared in a more accurate and complete state in his Synopsis of British Plants, and his History of Plants. Two editions of the Synopsis were, we believe, published during his life. The most complete is the third, published in two vols. 8vo, 1724, near twenty years after his death.

It belongs to the general history of botany to pursue the various modes of classification proposed and adopted by different authors. It is our object in this sketch, chiefly to point out the progress of *Medical Botany*, and of the arrangement of plants in natural families, the means as we think of improving it. Though we greatly admire the ingenuity of the system of Tournefort, and, with all their imperfections, find considerable merit in those of Sauvages and Haller, we must chiefly confine ourselves to Linnæus. From the year 1735 to 1737, the different publications which announced his system appeared; and it was gradually improved to the last period of his life. It is styled the *sexual* system, because he supposed plants distinguished by sexes, the antheræ being in his opinion the male, and the pistils the female organs. From the number, situation, and connection of the former, his classes are chiefly denominated and distinguished; from the number of the pistils in general, the orders. It is confessedly an artificial system, but many of the families of plants are preserved undisturbed. Whatever are its imperfections must be now overlooked, since in the present vast extent of botanical science, this system only is commensurate with it. Various attempts have been made to correct and improve it. Thunberg attempted to render it more simple by diminishing the number of classes; and Gmelin has added to them. Botanists, however, have received each offered improvement with caution; and, as Dr. Smith has almost scrupulously adhered to the arrangement of the Swede, and Wildenow in his new edition of the species followed it without alteration, there is little probability of its being now disturbed.

A natural method, however, appeared always from the confession of Linnæus himself, the first and last object of the botanist; and in his Philosophia Botanica, a work published in 1751, often highly praised, but scarcely ever in proportion to its merits, he introduces what he styles 'Fragmenta Methodi Naturalis,' viz. fifty-seven natural orders or families of plants. We mean not to say that this was the first example of a natural method. Morison's and Ray's were certainly such; and previous to these, in 1626, Laurenberg published at Rostock his Botanotheca, in which he distinguished ten natural families of plants with tolerable accuracy. Ray's four classes, taken from the cotyledons, branched out into twenty-nine families, the greater number of which were natural groups. The cryptogamiæ and capillary plants we of course exclude. Besides our countryman, Royen of Leyden, in 1740, gave an elegant natural arrangement; Haller, a more laboured and a less useful one; and Wachendorff of Utrecht, a system not inelegant, but deformed by titles peculiarly complicated and compounded. At a later period, viz. in 1766, Crantz of Vienna published his Institutiones Rei Herbariæ; in which, by an arrangement neither neat nor convenient, he has, however, retained many of the more natural groups or families of plants. About the same time, Adanson formed his natural classes; but these are so *strictly* natural, that his definitions become descriptions, tedious and useless from their extent, since he includes a similarity in every part. Gærtner, in his arrangement from the seeds, without pretensions to natural orders, has formed numerous natural groups which well merit the attention of the botanist. The most successful modern attempts are those of Jussieu and Murray; the former more strictly botanical, the other subservient to his excellent work on the Materia Medica (Apparatus Medicaminum). Anthony de Jussieu is the nephew of Bernard, demonstrator in the royal gardens at Paris, to whom the merit of the first attempt is due. It was from Bernard Jussieu that we received the first systematic work of this kind in 1789, viz. Genera Plantarum secundum Ordines Naturales disposita; and from him Adanson, who was his pupil, probably derived his ideas. This was the foundation of the last and best natural botanical system that has appeared, viz. Tableau du Regne Vegetale selon la Methode de Jussieu, par E. P. Ventenat. The system of Murray we shall soon notice.

We have enlarged on this part of the science of botany, because we perceive a very intimate connection between the natural orders and the medical properties of plants; and because this part of the subject has not yet received the attention which it so justly merits in this point of view. The Linnæan system we have said is artificial; but it is not to be rejected on this account. With its aid we can at any time distinguish a plant, convey an accurate idea of its general form, and arrange it so as that future observations may be directed to their proper object; in short, for the purpose of discrimination, and the reference of synonyms, it is highly valuable. As an artificial method also it is always complete, so far as our knowledge extends. There are no lacunæ to be filled up, there are no links to be supplied. A natural method cannot possess such advantages. In reality, the further our knowledge extends, the more imperfect it becomes, for 'nature makes no leaps;' and the lacunæ, which, in the present state of science, give limits to the orders, will, when supplied, no longer enable us to discriminate them. In a general view, therefore, the clas-

sification and nomenclature of plants may be advantageously supplied by the Linnæan system; the union of properties and virtues by the natural families.

The opinion that the genera of the same natural orders possessed similar medical powers, is by no means new. It was suggested in the Philosophical Transactions by Mr. Petiver, and is enforced by Hoffman in a separate dissertation. In 1784, a slight lively work appeared on this subject, entitled 'A Short Attempt to Recommend the Study of Botanical Analogy.' The author's aim seemed not to be deep investigation, but to catch the attention by a few prominent facts, for the purpose of a more complete examination of the natural orders by himself or others. No publication has, however, appeared in the same path, nor will the limits of the present article enable us to give more than an outline: we hope, however, to make it tolerably complete.

Several of the fragments of the natural orders left us by Linnæus, contain no medical plant. They were published by the author without a comment; and we now find that he gave only at two very distant periods, lectures on this subject, viz. in 1764, to Ferber the future mineralogist, Fabricius the entomologist, to Zæga, to Kuhn of Philadelphia, and the chemist Meyer; and in 1771, to Giseke, Vahl, the celebrated botanist, to Edinger, and Tislef. From Giseke we have received an account of these lectures, published at Hamburgh in 1792; a communication truly valuable, as he compared the manuscript of Fabricius with his own, and marks the agreement and differences.

The idea of natural orders includes the want of connection into classes and systems. Linnæus, we shall find, had undoubtedly some views of connecting these fragments, but he often declared that he would not relate, on this subject, all that he knew. He was irritated at the injurious treatment different parts of his labours had received, and particularly the Fragments, so that he was with reluctance led to lecture on the subject. The formation of natural orders is a task of considerable labour, and we cannot better explain the difficulty than by translating the conversation between Giseke and Linnæus: it is in many respects curious.

"Before, however, he began them (the lectures), we often disputed on the subject. I had thought that all the species of columniferæ, for instance, should have a staminiferous column, and that those without it should be excluded from the order; while those distinguished by it, agreeing in other respects, thus formed the natural group. I thought the same of the bicornes, tricoccæ, and others. Linnæus smiled, and told me, that we must not always determine from the name; that there were plants so nearly allied to the columniferæ, though without that distinction, which could not be separated. He went on, and convinced me that there might be sometimes a single mark, which was found in all the plants of that order, which even gave it the name, but did not sufficiently distinguish it from others. Thus the siliquosæ have each a siliqua, but no one in their senses will expect to find every siliquose plant in this order: the hypecoum, chelidonium, cleome, capparis, fumaria, and epimedium, are all siliquose; but how different! how irreconcilable! Hence, he added, those who, on account of the siliqua, unite them to the cruciformes, or, in consequence of this distinction, unite other orders with it, do not understand my orders. I replied, what then is the use of a name, if the mark pointed out by the appellation does not suit every individual? It is of little consequence, he added, what the name is, so that it has some connection with the series of plants, and it is ascertained that you speak of a particular group which you have united. I have followed the axiom of the logicians, *à potiori denominari.* Can you give me the character of one order? G. I think I can; of the umbellatæ, for instance.

"L. What is the character of the umbellatæ? G. That circumstance, viz. their flowers being disposed in an umbella. L. Right: but are there not plants whose flowers are umbellated that do not belong to it? G. I recollect; and must therefore add two naked seeds. L. Then the echinophora will not be of this order, which bears its seed in the centre of the peduncle, yet it is umbellated: and to what order would you refer the eryngium? G. To the aggregatæ. L. By no means: it is certainly umbellated; for it has an involucrum, five stamina, and two pistils: what then is its character? G. Such plants should be placed at the end of the order, to connect it with other orders: perhaps the eryngium would unite the umbellatæ with the aggregatæ. L. It is a very different affair from giving the characters of orders to point out transitions. *I know the orders, and their connections, but these I will not explain: I will never explain.* If, however, the character is a mark to distinguish the object from every other; if the orders are to be discriminated; if the agreement of the orders forms a class; and the connection of classes *a method;* we cannot have a natural method in botany, for we must first complete the characters of the orders: but this is impossible. Take any order you please, and you will see it cannot be done.

"G. The contortæ have a very distinct character, viz. the contortion of the corolla, previous to its expansion. L. The malvaceæ, however, have the same peculiarity of the leaves, though wholly different.

"G. Perhaps, then, the *tricoccæ?* L. Ah! the cambogia has an apple. G. And the hura a multivalve capsule, the hippomane a fruit; so that they must be removed from the order. L. No, they cannot, and should not be removed: the connection is so intimate, and the other species of hippomanes, except the h. mancinella, are really tricoccæ. G. I wonder, therefore, that you did not insert the tropeolus. L. (smiling), I wish you understood affinities! In that case I should have opposed nature; and the rhamnus should be inserted also. G. Why not? L. The celastrus cannot be separated from the euonymus, which has five berries, nor this from the rhamnus. G. These things appear to me very obscure. L. I think so. There was, in 1771, one Fragæus at Petersburgh, an assiduous man, who determined to find out a clavis for my orders, and, after labouring for nearly three years, sent me his 'scheme.' I laughed heartily, and replied, learn first what is a natural order, and I showed him. But this I know, if I publish another edition of the genera, I will make a new arrangement of the orders, and change them in many respects; for the former orders of the list are more nearly connected than the latter. I would also arrange the rest, so as to divide them into groups, equally natural with the first

and second. G. Excluding, however, the ferns, and those which follow. L. Entirely; for these would make another group.

I.	II.
" Monocotyledones.	Dicotyledones & Polycotyledones.
Ord. I—X inclusive.	Ord. XII—LIV inclusive.

III.
Acotyledones.
Ord. LV—LVII.

Of the XIth order some have single, others double cotyledons; but the reason of the subdivision of the cotyledons I will not add. Perhaps you, or some one, at a distant period will discover it, and you will then see that I was already acquainted with it. But you must labour hard at it for ten years at least.

" G. But why, I pray you, will you not now give the reason? L. Because my orders were unfavourably received by those who did not understand them. Of the first class I had the connection in my mind; and in the second and third, I know that some are more nearly related than others. Where it was in my power I have given them their proper situation. Thus, the papilionaceæ are related to the lomentaceæ; the umbellatæ to the hederaceæ, but yet distinct. Others may have a less manifest connection: some have none. I should wish to know with what orders the siliquosæ are connected?"

If this extract appears to have little affinity with the great object of the work, it must be recollected that we shall endeavour to point out the connection between the natural affinities and the medical powers of plants, and that it is of course necessary to show in what these natural affinities consist. These doctrines will also assist in some other arrangements, which must be the subjects of our consideration. At all events, little has been said in any botanical work on the subject, and the explanation is wholly new to the English reader; consequently interesting. We may remark, that M. Giseke has prefixed what he styles 'A Geographico-genealogical Map of the Affinities of the Orders.' This consists of circles of different diameters, each of which has the title of one of the orders, and is of a size proportioned to the number of its genera. They are at different distances according to the affinity: some touch, others pass beyond the circumference of its neighbour when the affinity is considerable; and, at the point where they touch or encroach, we find the connecting neighbouring genera. Let us just mention a fact, that in the moment occurs to us on inspecting the map. The palmæ are nutritious, and in different parts farinaceous: the order most nearly connected with these is the tripelatoideæ; and the connecting genus is the *butomus*, which we have very lately learnt from the Russian naturalists is employed by the Kalmucks to make bread. The species is the b. umbellatus. Numerous observations of a similar kind we shall have occasion to add.

The first of the *Linnæan natural orders* is the PALMÆ. These are sufficiently distinct in their form and their properties. A farinaceous or an oily substance abounds in all the species; and so rich is the palm in supplying all the wants of man in a less artificial and refined state of society, that where these trees abound, scarcely any thing else is wanting for food, for defence, or for convenience.

The second order, the PIPERITÆ, contain but few genera; but all are pungent or aromatic. The pepper, the arum, the calla, the acorus, and dracontium. Of these the acorus only is aromatic. The CALAMARIÆ are the rushes, of which the carex arenaria, and two species of cyperus, are employed; and agree in a warm strengthening quality, which adapts them for humoral asthmas, and for rheumatism. The c. arenaria is called the sarsaparilla of the Germans. It rather, however, resembles the guaiacum.

The GRAMINA, which include the various kinds of the cerealia, seem to contain in the greater number of species a saccharine and farinaceous matter evolved in different parts of the plant. The former is often found in the leaves, though more generally in the seeds, always to be elicited by a slight preparation. Instances of these properties may be found in the sugar cane, and in barley; from which, by heat and moisture, malt is formed. These are connected, by botanical analogy and medical properties, with the rushes on one hand, and the oleraceæ on the other. One species of lolium is the only plant of this order supposed to be injurious, and the only one of the order used in medicine: the gramen caninum was employed on an uncertain foundation, and is now neglected.

The TRIPETATOLOIDEÆ, which follow, are related to the rushes and palms. The butomus, as we have observed, is a connecting link, but the species have no medical virtue. A species of the calamus, viz. c. rotang, is said to produce the sanguis draconis; but this is doubted, and the medicine itself scarcely possesses any powers.

The ENSATÆ contain only the crocus and the iris, employed in medicine; and, as the former is now found to be useless, we cannot compare the medical powers of the two genera. In the roots of the iris there is an astringency with a considerable acrimony, and they have been employed with success in dropsy. From general affinity, the colchicum should perhaps have been inserted in this order. Botanical refinement alone seems to have excluded it.

The ORCHIDEÆ contain the orchis; several species of which are at different times employed to produce the nutritious farina, the salep. The only other genus employed is the epidendrium, which furnishes the vanilla. This also is nutritious, and, in the opinion of Linnæus, (Amænit. Academ. vol. vii.) aphrodisiac.

The SCITAMINEÆ are almost exclusively aromatic and mucilaginous, if we except only the musa and canna; which, as nutritious substances, are not very distant. This order contains the ginger, the cardamoms, the costas, galangals, and zedoary. The acorus is the only European plant, though not a medicinal one. The musa is not properly a species of this order.

The SPATHACEÆ, the next order, are not very strictly medical, or probably natural. Its characteristic is a bulb, consisting of the bases of the leaves of the preceding year, and consequently tunicated; but a gem consists only of the rudiments of the future leaves. In the latter, the scales become leaves: in the former, the bases of the old leaves become fleshy. All the spathaceæ are acrid, but this quality is vague; and we think Mur-

ray, among some useless or inconvenient alterations, has properly united the garlic, the colchicum, the crocus, hellebore, sabadillum, the squill, and several similar medicinal plants, under a new order, the *liliaceæ*. Many of these are included by Linnæus under the following order, the CORONARIÆ; a term by no means descriptive, as it implies only a group of beautiful flowers, employed in making garlands, coronæ. The chief difference between these and the spathaceæ consists in the spatha. The roots of some of these plants are esculent, but it is not uncommon to find considerable acrimony sheathed in the root by farina.

The *eleventh* order, the SARMENTACEÆ, called from their having weak branches, in Latin sarmenta, is not strictly natural; and, in a medical view, contains plants of somewhat dissimilar powers. The sarsaparilla, the china, the rusous, the serpentaria, and other species of aristolochia, agree in being moderately warm and diaphoretic. One species of alstromæria, the a. ligta, has been employed for similar purposes; yet many are acrid and poisonous, of which our materia medica contains only the asarum and the cocculus indicus. The asparagus and cissampelos (pareira brava) are diuretic, not without suspicions, in a more advanced state, of deleterious powers. The convallaria sigillum Solomonis, Murray has with propriety referred to his liliaceæ. Its roots in Sweden are prepared like the cassada, and eaten as bread; the roots of the calla in the north of Europe, and the arum colocasia in Egypt, are employed in the same manner.

The OLERACEÆ contain the esculent herbs and roots; as the spinach, the beet, and similar plants. Linnæus, however, has added, with less strictness, some other medical groups, the docks, the laurels, and the canella. The first deviation is in the hernaria, which is slightly bitter; and from hence he is led to the docks, which are in their leaves herbaceous; and to the laurels, by steps still less obvious and natural. He is, however, in this indiscriminate arrangement, which he very lamely defends, followed by Murray.

The SUCCULENTÆ are a strictly natural association. The house leek is an example. About six genera of this order are occasionally used in medicine, though of weak powers. They are all succulent and cooling. Succulent plants flourish in the driest soils; and when too much watered they die, but do not produce a proper vegetable mould. The stapelia, the euphorbia, and aloes, do not belong to this order.

The GRUINALES are an association of congeneres, without any striking general character. In a medical view the order contains chiefly astringents, as the geranium, the quassia, and the simarouba. The ros solis and acetosella are acidulous; but it is not uncommon to find an acid evolved in the leaves of astringent plants. This is discovered in the docks, and their congeneres, the rhubarbs, and these plants are in other parts bitter. The guaiacum contains in its bark a bitter and slightly astringent principle.

The INUNDATÆ, which live in water only, are insipid, inodorous and not medicinal. The CALYCIFLORÆ contain no medicinal plant; and the CALYCANTHEMÆ one only, now neglected, the lysimachia purpurea. It is mucilaginous and astringent, so that perhaps some other genera of this order may merit a trial.

The BICORNES contain few medical plants, of no very decided character. The ledum palustre, rosmarinus sylvestris, has alone any odour. The uva ursi, and the different species of vaccinium, whose berries are chiefly employed, but whose roots are bitter and astringent, as well as the pyrola, show the general nature of the bicornes. Linnæus is inclined to add the styrax and citrus. Murray admits the styrax, with the alkanet, the red and yellow sanders, and the tamarisk, with views not correctly medicinal, though the last is a slight astringent.

Of the HESPERIDEÆ we have no explanation; but we observe the myrtus, which affords the cassia caryophillata and the pimenta, and the caryophyllus aromaticus. To which Murray adds the melaleuca leucandron, the source of the oleum cajeput. This order is therefore medicinally correct.

The ROTACEÆ have no commentary in Giseke. We perceive them, however, to contain the anagallis, the nummularia, the gentian, and centaury, which are all bitter and slightly astringent. Murray adds the primula veris, the cyclamen, and the menyanthes (trifolium fibrinum), which are slightly bitter and somewhat fetid. These Linnæus includes with propriety in the following order, the PRECIÆ, all of which are without stalks.

The CARYOPHYLLEI occur only in the elder manuscript of Fabricius. It is of little importance, including only the pinks. The only genera used in medicine are the dianthus and saponaria, both neglected. The last derived a temporary credit from the commendations of Stahl and Boerhaave, who thought to have found a powerful aperient in a plant, which thus contained what they considered as a natural soap.

The TRIHILATÆ contain the hippocastanum and nasturtium Indicum (tropœlum majus), to which Murray has added the barberry, and the tribulus aquaticus (trapa natans). The bark of the horse chesnut is powerfully astringent, and that of the barberry is slightly so. The others have little medicinal power.

The CORYDALES contains only the fumaria, a plant that, from a cooling bitter taste, has acquired credit in removing visceral obstructions. The fumaria bulbosa, which, in former pharmaceutical authors was styled aristolochia fabacea, is not very different. This genus connects the corydales with the rhœades.

The PUTAMINEÆ afford only one medicinal plant, the caparis. The gems styled capers are known among the acetaria; but the root is bitter and acrid, though not astringent.

The 26th order, the MULTISILIQUÆ, is, in every medical and botanical view, natural. It furnishes the aquilegia, the aconites, the delphinium, including the calcatrippa and the stavisagria, the nigella, the pæony, the hellebores, the ranunculi, the anemones, the flammula jovis, the actæa, the thalictrum, and cimifuga, with some similar plants. These are all anodynes, or rather narcotics, with different mixtures of a stimulant kind.

The RHŒADES contain chiefly the poppy: the only other medicinal plant is the chælidonium, which unites considerable acrimony with narcotic powers, and whose real merits seem to have been little understood.

The LURIDÆ, called by Murray the *solanaceæ*, contain all the narcotics, and, in a medical view, should

have followed the multisiliquæ. It contains all the vegetable narcotic poisons, or remedies; a class at present too extensive for enumeration, but which any reader can supply.

The CAMPANACEÆ is a very important order. The genus convolvulus furnishes five active purgatives, if we except the jalap, now suspected to be the root of a very different plant. The ipecacuanha also is known not to be a species of viola. The lobelia is a more general stimulant and diaphoretic; and the dentaria, if its genus is not mistaken, a simple stimulant only.

The 30th order, CONTORTÆ, is an important one, as it contains the cinchona; yet we find few, and not very active, medicines associated with it. The vinca pervinca is undoubtedly an astringent, and employed chiefly in topical hæmorrhages or mucous discharges; and the nerium antidysentericum, the codagapala of the hortus Malabaricus, the conessi and tilicherry bark of modern authors, is also a topical astringent. The asclepias vincitoxicum agrees with neither; and there is little doubt but that the order is not natural, or the asclepias improperly arranged. Was there room for disquisitions purely botannical, we could, we think, prove the former to be the case.

The VEPRECULÆ are without a comment, and furnish only one genus, the daphne, which supplies us with the mezereum and thymelæa. The PAPILIONACEÆ are of greater importance, and they form a natural group even in the sexual system: they are the leguminosæ of Ray, the papilionaceæ of Tournefort, and the irregular tetrapetalous flowers of Rivinus. In short, the natural relations are so obvious, that they cannot, even by the most hasty observer, be overlooked or mistaken. They afford, however, little subject of medical disquisition, as we shall show by enumerating the principal genera employed in medicine. These are the lupines, the brooms, the beans, vetches, tragacanth, mellilot, and fenugrec. The dolichos may have some medicinal properties, but the setæ of the pod are only employed as a mechanical anthelmintic. The seeds of the broom are acrid.

From the LOMENTACEÆ various medicinal plants must now be expunged, since they are found to belong to other genera; yet, in a medical view, the list is very miscellaneous. We find the cassia, including the senna and the cassia fistularis, which are purgatives; the mimosa and logwood, which contain astringents; the polygala, of which the seneka is a species, that is both emetic and cathartic. The tamarindus and myroxylon, the supposed source of the balsamum Peruvianum, must be excluded. We have already said that the fumaria has been added by Murray; and, to a class so miscellaneous, no injury can be offered.

The 35th order, the SENTICOSÆ, are astringent, though in a slight degree. The tormentilla is the strongest. The principal medicines derived from this order are the saxifraga, ulmaria, the roses, the brambles, agrimony, and some others of weak powers.

The POMACEÆ contain the different fruits, as apples, pears, medlars, quinces, cherries, plums, peaches, oranges, currants, &c. The spiræa, which produces no eatable fruit, should undoubtedly be excluded.

The COLUMNIFERÆ are the malvacæ of later authors. They are emollient, and contain the althæa, the mallows, and the cacao. The cotton and abelmoschus belong to this order; but, whatever be their merits in other respects, we have no evidence of their mucilaginous powers. Though the medical plants are few, the list is, on the whole, extensive.

The TRICOCCÆ are a strictly natural association, and contain plants of considerable acrimony. The genus euphorbia affords the euphorbium, catapotia, with the greater and less esula: the cambogia is the supposed source of the gutta gamba; the phyllanthus affords the emblic myrobolans; and the different species of croton produce medicines of considerable acrimony. The cascarilla is the bark of a croton, which, in its other portions, appears acrid and poisonous. The different species of ricinus afford also very acrid medicines, though the acrimony is sheathed in the oil procured from its seeds. Murray adds green and bohea teas; they are certainly tricoccous, but do not agree with the other botanical or the medical properties of the order.

The SILIQUOSÆ have been associated by almost every botanist from the time of Morison: they are the cruciformes of Tournefort; the tetradynamiæ of Linnæus. They are very generally stimulant. The mustard, the horse radish, the garden nasturtium, with a long tribe of similar plants, belong to this order. They are supposed to be very generally diuretic; and from hence their antiscorbutic qualities are explained: but they possess this power in a very slight degree superior to other vegetables.

The PERSONATÆ form a natural medical association, but their powers are weak, and they are at present seldom employed. The veronica, becabunga, agnus castus, linaria, and scrophularia, are of this order; and from these the virtues of the whole may be easily understood.

The ASPERIFOLIÆ are generally mucilaginous and cooling. The consolida, the borage, pulmonaria, buglossum, cynoglossa, with similar medicines, belong to it. In a botanical and medical view, this order is strictly natural: it was first formed by Cæsalpinus, and retained by Ray. The ancient pharmaceutists collected their four cordial flowers from this order, but the virtue was imaginary.

The VERTICILLATÆ formed an order also in Ray's system. It is a strictly natural one in a botanical and medical view, and chiefly contains the lighter European aromatics. The various species of teucrium, the thyme, the serpellum, the melissa, the lavender, the marjoram, the mints, the sage, the rosemary, &c. are of this order; and all the plants generally agree in the same powers.

With the order DUMOSÆ Linnæus was not satisfied. It includes the larger shrubs, without any very strict botanical views, and we find little union in their medical virtues. It contains the spina cervina (rhamnus catharticus), the elder, and the tree that affords the balsamum copaibæ. How distant and irreconcilable! The greater number are highly acrid, and many are poisonous: they seem to have some connection with the tricoccæ.

From the SEPIARIÆ we only employ the jasmine and the olive; and, from their virtues, if any, those of the other genera will be sufficiently obvious. The syringa is of this order.

The 45th order, the UMBELLATÆ, is a natural one; and the medicinal plants arranged under it are distin-

guished by some acrimony, which at times rises to aroma, as in the carui and coriander; at others, betrays the nauseous smell and taste of the fetid gums; and in some is united to the deleterious smell and powers of the cicuta, which is an umbellated plant.

The HEDERACEÆ contain the ivy, the vine, and the gensing, plants united by no medical, and no very striking botanical analogy. The STELLATÆ form a more natural group; yet, in a medical view, not strikingly such. It contains the spigelia, an anthelmintic; the serpentum lignum, a warm sudorific; the madder, the galium, matrisylva, and mungos (ophiorriza mingos). The coffee very nearly resembles the plants of this order.

The AGGREGATÆ contain the scabiosa officinalis; another species, morsus diaboli; and the viscum, which are astringents; with the valerian, of very different qualities. This order was established by Vaillant.

The COMPOSITÆ is a very miscellaneous order, and, in reality, consists of several sufficiently natural associations. Its distinguishing mark is a single calyx, common to several florets, generally monopetalous. The groups into which this order is divided, are the *capitatæ*, *semiflosculosæ*, *discoideæ*, *oppositifoliæ*, and *nucamentaceæ*. The *capitatæ* are distinguished by a bitterness, with occasionally a warm acrimony. It contains the bardana, the carduus, different species of centaury, the onopordum, the cinara, and the carthamus, with some similar plants. It is not easy to fix the limits between the capitatæ and semiflosculosæ: the scolymus unites them, for it has the habit of a carduus; yet all the florets are ligulated. In the same way the perdicium, a new genus, unites the inula of the group discoideæ with the hieracium, which is one of the semiflosculosæ. This second group contains the oleraceæ which possess some acrimony, as the cichoreum, the endive, the taraxacum, the lettuce, the scorzonera, and the tragapogon. The greater number are lactescent, but none poisonous except the lactuca virosa, which, however, by cultivation becomes mild and esculent.

The DISCOIDEÆ are styled by some authors *radiatæ:* many of these are slightly bitter, but the bitter is of the narcotic kind; and in several it is in so great a degree, particularly in the arnica and doronicum, as to require the greatest caution. One group which has no title, the following, the *oppositifoliæ* and the *nucamentaceæ*, do not greatly differ in the qualities enumerated; and we may mention, as examples, the artemisia, the tansy, the camomile flowers, the inula, the achillæa, and the arnica. Some are milder, as the colt's foot, the xanthium, the matricaria, &c.; but they all show some acrimony in different parts, and many seem to have an expectorant power.

The AMENTACEÆ are the trees distinguished by a particular calyx, styled amentum. If distinguished by any medical quality, it is astringency. The willow, the chesnut, the oak, the hazel nut, all show astringent powers; and there are a few other genera somewhat similar, though less distinguished in this respect. The pistacia affords the Cyprian turpentine, which, with the usual stimulus, seems to unite a tonic power. The mastich, used to preserve the teeth and gums, belongs to the genus pistacia of this order.

The CONIFERÆ we have partly noticed in the numerous species of pines under the article ABIES. The genera pinus, cupressus, and juniperus, afford the principal medicinal articles under this truly natural order.

The COADUNATÆ scarcely offer any medicinal plant, unless the ilicium anisatum, which affords the anisum stellatum, already noticed, be considered as referable to this order.

The SCABRIDIÆ afford little room for remark, as the plants referred to it scarcely agree in medical virtues. We find the parietaria, the contrayerva, the fig, the nettle, the mulberry, the elm, the hemp, and the hop, of different and almost of opposite powers.

The FILICES, MUSCI, ALGÆ, and FUNGI, only remain. These are truly natural orders; but of the plants, considered medicinally, we can say little. The ferns are in general slightly astringent. The polipodium, filix fœmina, and mas. are of this kind; and general experience, long before the time of Madame Noufler, has established the utility of the last in the destruction of the tænia. They are all mucilaginous; and the capillary plants, species of the asplenium and adiantum, are also accounted expectorant.

Of the MOSSES we know little. The lycopodium clavatum is employed externally; the l. selago is peculiarly acrid and violent in its operation. The adianthum aureum is the politrichum commune of the botanist, and a capillary plant, consequently used as an expectorant.

The ALGÆ afford the lichen, many species of which are employed. These are in general bitter, mucilaginous, and supposed to be pectoral; but we shall speak at length of the species most used under the title of lichen islandicus. The muscus cumatilis (lichen aphthosus) is peculiarly acrid and purgative. From the latter quality it has been considered as an anthelmintic. Infused in milk, it is given in Sweden to children in the aphthæ. The other algæ agree in no common property, if we except the ashes of the fuci, which, containing the natron and sea salt, are used with success in scrofula. Of the general properties of the fungi we have already spoken. Of their medical powers experience no longer permits us to speak, as they have been long disused.

We have followed this long discussion with anxious care, for the reasons already assigned. From a fair enquiry, we think it will appear that natural associations of medicinal plants in general possess similar virtues; and the principle is confirmed by the circumstance, that the less strictly natural orders, in a botanical view, contain plants most dissimilar in a medical. The conclusion, then, rigorously follows, that by cultivating natural orders we greatly improve our knowledge of the medicinal power of plants. It is this reflection that has led us in appearance so far from our path; and, after having rejected the general botanical details, has induced us to engage at some length in the present disquisition. In fact, it was not in our power to examine medical botany in its most extensive range; we have, therefore, chosen the parts which seemed to admit of the most useful application. We have chosen it, too, though fully convinced of the labour it required, since no prototype existed; and, though the natural orders are now generally pointed out, the subject has not been properly followed in detail.

As we have said, that, in proportion to the more cor-

rect formation of natural orders, medical botany might be further improved, the later attempts in this line would appear to merit some investigation. As Murray has adopted the natural orders of Linnæus with some changes, we have considered his system in a parallel with that of the Swedish naturalist. In these changes we have found something to commend, and much to blame. It is to be regretted that he has not left any disquisition on this subject, and given reasons for his interpolations. A favoured pupil of Linnæus might have communicated many valuable observations on the connection of botany with medicine in this mode of arrangement.

The later system of Jussieu, published in its most perfect form by Ventenat, would too far extend the present article; yet we should not avoid the labour if it were more applicable to medicinal investigation. Jussieu has adopted what is technically styled a method; that is, he has formed classes and orders, as well as a clavis classium. But his orders are extremely numerous, because they are very strictly natural; so that little can be predicated of each order, but what is immediately suggested by the genus. The step, however, which he has thus taken, is highly judicious, as preparatory to the formation of more extensive, and consequently more useful, orders; and, as we found that those of Linnæus contained too numerous, and consequently discordant, genera, so in this system we should see with satisfaction an union of some of the genera most nearly related. Were we to resume this subject in a separate work, we should perhaps be rather tempted to reform the associations of Linnæus, than wholly adopt those of Jussieu. We speak only with a view to the medicinal power of vegetables.

The Swedish naturalist thought highly of M. Jussieu's botanical talents, and of his natural associations. We have seen, in the little dialogue quoted, that he had in his view a *method* which he would not explain; but he has given hints of this method, and it appears to be the same with that of Jussieu. As this must be the foundation of every improvement of natural orders, we shall enlarge a little on it. Natural orders are very intimately connected with the cotyledons, or the lobes, as in the bean, into which the seed is divided. The seeds of the greater number of plants, as we have seen, contain two cotyledons; many contain one only, and the cryptogamiæ chiefly contain none. From the time of Ray, this has been found the part of a vegetable most steady and constant, and that which connects plants similar in form and in virtues. The polycotyledones are only like double flowers, vegetable monsters, produced by an excess of nourishment, and consist in a further division of the lobes of the bicotyledones. Some authors contend, as Gærtner and others, that real polycotyledonous plants exist; but this makes little difference in the arrangement, as there are but few such, and not strikingly distinguished.

Another part of Jussieu's system is connected with the insertion of the corolla. The flower is subject to few varieties, but it is not so constant as the cotyledons. Linnæus attended only to two distinctions, viz. the superior and inferior, when it was above or below the ovarium, or seed pod. Jussieu is more minute. It is sometimes inserted *on* the ovary, and is then styled *epigynous*, as in the rubiaceæ and umbelliferæ; sometimes *under* the ovary, when it is styled *hypogynous*, as in the cruciferæ and labiatæ; and sometimes *on the calyx*, and is then called *perigynous*, as in the rosaceæ and leguminosæ. In this case the flower is rarely monopetalous, though this occasionally occurs, as in the campanulaceæ, and some others. Jussieu has added the following table, to express the importance of each part of the fructifications in forming natural associations. The proportion is expressed by a fraction, of which 12 is the common denominator.

Calyx.	Presence or absence,	9
	Situation with respect to the ovarium,	10
	Structure,	8
	Regularity or irregularity of its border,	6
Flower.	Presence or absence,	10
	Insertion,	11
	Structure,	11
	Regularity or irregularity of its border,	9
Stamina.	Insertion,	11
	Number, connection, and proportion,	7
Ovarium.	Free or adhering,	10
	Simple or complicated,	9
Style.	Present or absent,	6
	Simple or complicated,	6
Stigma.	In every view,	6
Pericarpium.	Present or absent,	9
	Consistence,	6
	Internal structure,	8
Perispermum	Present or absent,	10
	Position with respect to the embryo,	9
	Nature,	9
Embryo.	Situation,	9
	Direction,	8
Plumula.	In every view,	4
Radicule.	Direction,	10
	Situation,	9
Cotyledons.	Form,	10
	Number,	12

In this table the only term not generally known is the perispermum: it is not a new appellation, though seldom employed. It is that part of ripe seeds distinct from the coverings and the embryo; in many seeds not unlike, both in consistence and colour, the white of an egg. Grew calls it the albumen, and Malphigi, the secundinæ internæ.

Jussieu's system is divided into fifteen classes. The first is the *acotyledonous*, the cryptogamiæ of Linnæus, containing an order of hepaticæ added to the usual ones. The *monocotyledones* are divided into three classes, according to the situation of the pistils before explained. The first of these contains the reeds, rushes, and grasses; the 2d, the palms, the lilies, and irises, &c.; and the 3d, the scitamineæ, orchideæ, &c. The *dicotyledones* are divided into three sections, forming ten classes, viz. the apetali, monopetali, and polypetali. These are subdivided according to the attachment of the stamina or corolla. The apetali, whose stamina are attached to the pistil, are the asaroids only; to the calyx, the laurels, the proteas, the daphnes, &c.; under the pistil, the amaranthuses, plantagos, &c.

The monopetali, whose corolla is attached under the pistil, contain the jessamines, the solana, borragos, the gentianæ, labiatæ, personatæ, &c.; when attached to the calyx, the bicornes, campanulaceæ, &c.; when attached under the pistil, with the antheræ reunited, they contain the corymbiferæ, chicoraceæ, &c.; with the antheræ distinct, the dipsaceæ, rubiaceæ, and caprifolaceæ. The polypetalous plants, whose stamina are attached to the pistil, contain the araliaceæ and umbelliferæ; when attached under the pistil, the tulips, ranunculuses, barberries, poppies, cruciferæ, hesperidæ, malvaceæ, sarmentaceæ, &c.; when attached to the calyx, the ficoids, the succulentæ, the rosaceæ, the leguminosæ, &c. The last class contains the irregular plants, where the stamina are separated from the pistil; viz. the tithymalæ, the cucurbitaceæ, urticeæ, amentaceæ, and coniferæ.

In these fifteen classes, one hundred natural orders are arranged; containing one thousand seven hundred and fifty-four genera. The characters of the genera are simple, and at the same time complete. The advantages of an increased number of characters are considerable, and it is not one of the least, that they are more simple, more easily comprehended and recollected.

The perfection of a natural method, is the philosopher's stone of the botanist. The great obstacle, says Linnæus, is the number of plants not yet known. We have expressed a very opposite opinion, but with a different meaning. Linnæus thought the method, which did not contain every vegetable, imperfect: he spoke of the groups, and the completion of a system, as comprehending the whole. But, as the shades by which nature varies her productions are minute and almost imperceptible, were every vegetable known, we should probably find discrimination into orders difficult, if not impossible. In the most natural orders, the distinction of genera is far from an easy task.

The arrangement of natural orders has occasioned some difficulty. From the varying shades by which these associations change, it has been proposed that they should follow each other according to their affinity. This is, however, difficult, and perhaps not the most convenient plan; for an order may agree with another in some respect, and with a very distant one in others. The idea suggested by Linnæus, and executed, as we have said, by Giseke, is more convenient, viz. to lay them down like countries in a map, when the connection of the whole vegetable kingdom will be obvious. As botanists now do not confine their descriptions to the arbitrary systematic distinctions only, natural systems will be daily more complete, and medical botany, we trust, be proportionably improved.

Though we look, however, to the perfection of a natural system as the best method of assisting our investigation of the medical properties of plants, we have expressed our approbation of an artificial one, as the most ready and convenient method of discovering the place of a vegetable in an arrangement of plants; and, of course, of obtaining a ready access to its synonyms. For these reasons we have identified the medicinal plants by a reference to the Linnæan system; and it remains to give some explanation of the principles on which the northern Pliny proceeded in constructing it.

Linnæus was very early persuaded of the distinction of sexes in plants, a question now no longer disputed; for the last dart of Spalanzani 'rung, ineffectually tinkling on the shield.' The male organs he supposed to be the stamina; those upright filaments which, in a tulip or a lily, stand around a central column, bearing orange coloured bodies, the *antheræ*. The central column is considered as the female organ, and styled the pistil, and its summit is the *stigma*. In the Linnæan system the first ten classes are distinguished by the number of the stamina, and styled *monandria*, *diandria*, &c. from the number of the ανηρες, or males. No vegetable contains eleven stamina, so that the eleventh class is distinguished by twelve *dodecandria*. The two next are those that contain twenty, or more than twenty, stamina, *icosandria* and *polyandria;* but in these greater numbers there is not always a regularity, so that the attachment of the stamina to the calyx is afterwards superadded. The unequal length of the stamina distinguishes the two next classes. When of four, two are longer than the others, the class is styled *didynamia*, the superiority of two; when of six, four are longer, *tetradynamia*, the superiority of four. When the *filaments* of the stamina are united into one body, the class is styled *monadelphia;* when into two, *diadelphia;* when into many, *polyadelphia*, the brotherhood of one, two, or many; when united by the antheræ, the class is *syngenesia*. When the stamina are attached to the pistil, the class is *gynandria*.

The sexual organs are sometimes found on different flowers of the same plant, sometimes on different plants. These furnish the *monœcia* and *diœcia*, a single or a double house. Sometimes they are found more indiscriminately, mixed with flowers which contain in one the organs of both sexes; and the class is then styled *polygamia*, many marriages. The last class contains the plants which have no visible flowers, the flags, the ferns, the mosses, and mushrooms; these are united under the class *cryptogamia*, concealed marriages.

Of these classes very few are natural: the tetradynamia and monadelphia are very nearly such. The diadelphia and syngenesia do not contain many discordant plants.

The ORDERS of the first thirteen classes are taken from the central column, which is not always a single one; and are styled monogynia, digynia, &c. from γυνη, *a woman*. The orders of the didynamiæ are distinguished by the seed being naked or covered; of the tetradynamiæ, from the seed pod.

The classes distinguished by the connection of the stamina, are divided into orders from their number: those where the antheræ are connected, from circumstances somewhat fanciful, but of little importance to explain. The orders of the gynandriæ, monœciæ, and diœciæ, are taken from the number and connection of the antheræ, or their situation. Those of the polygamiæ from the flowers being on the same, or on different plants. The orders of the cryptogamiæ are the natural families formerly mentioned; and to these Linnæus adds the natural family of the palmæ.

Of the numerous vegetables thus arranged, but few are used in medicine; and it has been for ages the subject of declamation, echoed from mouth to mouth with little change, and with little discrimination, how improperly we employ chemical medicines which the stomach cannot assimilate, instead of vegetables which are subservient to its power. We are not yet

prepared to discuss this question; yet we have already found that the vital fluid is seldom greatly changed in the most violent diseases; and in many no change has been even suspected. The great sources of disease are the excess and diminution of motion, or irregular action; producing either spasmodic paroxysms, or a derangement of the balance of the circulation. In a few instances only are the fluids affected; and in the greater number of these the fault is corrected by exciting the action of the moving powers, rather than amending the supposed deterioration. Yet we mean not to reject or undervalue vegetable medicines: in many instances they are our great support. Nor can we find, in the mineral kingdom, medicines equal to ipecacuanha, to rhubarb, the different aromatics, and, perhaps, the bark. Were we to pursue the list, it would not, however, fill many lines. In a vignette to the Materia Medica Contracta of Tessari, though we believe the original idea was Haller's, we see two boys holding the 'sieve of truth.' Opium, castor, and bark, only fall through; the rest are retained, even the radix senekæ; and cinnabar is seen apparently forcing a passage.

We had designed to add a table of the medicinal plants as arranged in the Linnæan system; but it would fill some pages without any adequate advantage; as it would only be more clearly seen what discordant properties are thus violently brought together, and how distant, plants very similar in their powers, are placed. This, however, from what we have already stated, is no argument against the Linnæan arrangement. The natural and artificial systems may mutually assist and illustrate each other; and each, in turn, be employed with advantage.

BOTA'NICON, (βοτανη, *herba*). The name of a plaster described by P. Ægineta, and made of herbs.

BO'THOR, (Arabic,) hath three significations among the Arabians. 1. Tumours in general; 2. A tumour with a solution of continuity; and 3. Small tumours, which is the most correct interpretation. It has been supposed to signify an abscess of the nostrils, or transitory pimples in the face. The Arabians call the *small pox* and *measles* by this name.

BO'THRION, vel BO'TRION, (in Greek, βοθριον, *a little pit*). A SMALL PIT, (from βοθρος, *a ditch*). This word is used to express a small clean ulcer of the cornea, equal to the head of a pin, called also *cæloma*. I it should be an internal lamina of the cornea, it creates the disease called *gerontoxon*, and a staphyloma succeeds. See Sauvages' Nosologia Methodica. Also the *alveoli*, or sockets of the teeth.

BO'TIN. See TEREBINTHINA.

BO'TOU, BO'TOUA. See PAREIRA BRAVA.

BO'TRIA. A plant found on the coast of Africa. Its berries are eaten as food, and a decoction of its roots recommended in internal inflammations of the breast. It resembles the pareira, but its botanical relations are not fully known.

BOTRI'TIS, BOTRYITES. BOTRITES, (from βοτρυς, *a cluster*, properly of grapes). See CADMIA.

BO'TRYS. The following are generally considered as species of botrys.

Bo'TRYS. The OAK of CAPPADOCIA or of JERUSALEM; also called *artemisia*, *ambrosia*, *chenopodium*, and *atriplex odora*, or *suavcolenus*. It is the *chenopodium botrys* Lin. Sp. Pl. 320.

Bo'TRYS MEXICA'NA. The MEXICAN TEA. Called also *botrys ambrosioides Mexicana*, *chenopodium Mexicanum*, *botrys Americana*, *Spanish tea*, and *Artemisian botrys*. *Chenopodium ambrosoides* Lin. Sp. Pl. 320.

These plants are natives of the southern parts of Europe; they are sown annually in our gardens. The leaves and flowery heads have a strong but not unpleasant scent, are aromatic and acrid to the taste. If they are much handled, an unctuous resinous juice adheres to the fingers.

The proper menstruum for their active matter is rectified spirit of wine; but boiling water also takes up the greatest part of their virtue. An infusion drunk as tea is useful in palsy, weakness, coughs, and humoral asthmas. The seeds are said to be carminative and anthelmintic. They are ranked among the antispasmodics: the former is the weakest.

BO'TUS, BO'TIA, or BO'TUS BARBA'TUS. It is a chemical vessel, called a *cucurbit*, (see CUCURBITA); also a vessel placed upon a vessel; a vessel for fusion, or a *desensorium*; a chemical furnace in which distillation is performed by descent; a crucible.

BOUBA'LIOS. See CUCUMIS AGRESTIS, and PUDENDUM MULIEBRE.

BOU'BON. The Greek word from whence BUBO is taken, (see BUBO). It signifies the groin, sometimes the glands in the groin; and a tumour of the glands in the neck, arm pits, behind the ears, or of any external glandular part.

BOU'CERAS, (from βους, *an ox*, and κερας, *a horn*). So called from the figure of the seed. See FENUM GRÆCUM.

BOUGI'E, in the French language, means a *wax candle*. The term is applied to a body of a similar shape, introduced into the urethra for removing obstructions. It is likewise known by the terms *catheter*, *candela cerea*, vel *medicata*. A wax candle was formerly employed; and from the name, it seems to be a French invention. It was described previous to the appearance of syphilis.

In Dr. Swediaur's Pharmacopœia Syphilitica, *bougies* are called CATHETERES, first made of silver, but they are better formed of elastic resin of various sizes. The second he styles CATHETERES CEREI, of elastic resin, or of musical chords, made from the intestines of sheep. The third are CEREI MEDICATI, made in the following manner:

℞. Ceræ flavæ liquefactæ ℔ i. spermatis ceti, ℥ iij. aquæ lythargyri acetati, Ph. Lond. nov. ℥ ij.—℥ i: these when mixed together are removed from the fire, and slips of linen cloth are to be dipped in the composition, to be rolled into the form of a wax taper.

The fourth are the CEREI MEDICATI, known long before the time of Le Dran.

The great object to be attained by the bougie is mechanical pressure equable on all sides. We do not now expect to gain any advantage by introducing mercury in this way into the system, or to cure any ulceration. The preparation is therefore simple; and the cloths of which they are composed, are chiefly impregnated with wax and oil, rendered somewhat firmer by a proportion of resin. Some saturnine preparation is generally added, as the urethra is in an irritable state, and the mechanical irritation might otherwise increase it.

From whatever composition the bougies are made, they must be of different sizes, from the knitting needle to a goose quill. The common ones are made in the following manner. Having spread any quantity of linen rag with the composition that is chosen for the purpose, cut it into slips from six to ten inches long, and from half an inch to an inch broad; then dexterously roll them on a glazed tile into the form of a wax candle. As the end of the bougie which is first introduced into the urethra should be somewhat smaller than the rest, the slips must be cut a little tapering; and when the bougies are rolled up, that side must be outward on which the plaster is spread.

Mons. Daran, and some others, attributed the action of their bougies to the composition used in forming them. Mr. Sharpe apprehended that their efficacy was chiefly owing to their compression on the affected part; and Mr. Aikin adds, that as bougies of very different compositions succeed equally well in curing the same disorders in the urethra, it is plain that they do not act from any peculiar qualities in their composition, but by means of some common property, probably their mechanical form.

The efficacy of mere compression in many cases of constriction is well known, from the use of sponge tents for dilating parts straitened by cicatrices. If, then, obstructions in the urethra arise from a constriction formed by cicatrised ulcers, or a projection of the spongy substance of the urethra into the canal, we may easily conceive that a gentle continued compression will, in time, overcome the disease. We may also readily account for the inferior efficacy of metallic, whalebone, and leather bougies, from their not having the property of swelling with moisture, and therefore not making an equal compression.

There is no doubt but the mechanical stimulus of a foreign body in such a tender part, though free from disease, must produce in some degree a discharge of matter, and this will be varied according to the chemically stimulating quality of the composition, and the irritable state of the urethra; but it seems an absurdity to apply an uniform cause of distention to the whole length of a canal, with a view of producing extraordinary effects upon a particular part, by means of some powerful quality in the ingredients. That part of the bougie which was in contact with the diseased part is certainly covered with matter; but this circumstance is owing to the greater irritation of the urethra there than in the other parts. To forming *bougies* of very active materials there certainly exists a very proper objection; because the healthy as well as the diseased parts are exposed to their action, and may themselves become diseased by the application. Surgeons, therefore, have confined themselves to the simple kinds, and such as act chiefly by compression.

Plenck recommended bougies of catgut, which may be easily introduced even into an urethra greatly contracted, as the size is small, the substance is firm, and as it dilates with moisture. They are not, however, convenient; they dilate below the stricture, give great pain when withdrawn, and do not dilate sufficiently on the contracted part.

The elastic resin has been employed for this purpose with great success, as it unites firmness and flexibility, but perhaps it does not swell sufficiently. The resin is moulded on catgut in a way kept secret. They are, however, in many cases highly serviceable, though their surface soon becomes rough, and they are expensive.

Mr. Smyth, apothecary, of Tavistock street, has discovered a metallic composition of which he forms bougies, which are allowed to possess properties that these instruments have long wanted, in order to make them complete and efficacious in practice. Bougies formed of this metallic substance are flexible, have a highly polished surface of a silver hue, and possess a sufficient degree of firmness for any force requisite for the passing them in cures of strictures in the urethra. Indeed the short time which they have been employed has convinced practitioners that they exceed any bougies which have yet been invented, and are capable of succeeding in all cases where the use of such an instrument becomes necessary. They are made either solid or hollow, and answer extremely well as catheters; for they not only pass into the bladder with ease, but may also be suffered to continue there for any convenient space of time, and hence produce the most essential benefit. Catheters are also made of the same composition. They certainly do not swell with moisture, but they do not break or bend.

See Sharp's Critical Enquiry, ch. iv. and Aikin's Observations on the external Use of Preparations of Lead. Bell's Surgery, vol. ii. 201, &c. and White's Surgery, 371.

BOUI'. (Chinese). See THÆA.

BOU'LIMUS. A VORACIOUS APPETITE; (from βϖ, a particle which, in composition, augments the sense, and λιμος, *hunger*). *Boulimos*, or *bulimus*, for which word Avicenna uses *bolismus*, signifies an ox's appetite, though this disease is more frequently called *fames canina*, or *appetitus caninus*; a CANINE APPETITE: it is also called *phagedæna*, *adephagia*, *bulimia*, *bupeina*.

Dr. Cullen names this genus of disease *bulimia*. He places it in the class *locales*, and order *dysorexia*; and distinguishes three species. 1. Bulimia heluonum, in which there is no other disorder of the stomach than an excessive craving of food. 2. Bulimia syncopalis, in which there is a frequent desire of food, and the sense of hunger is preceded by swooning. 3. Bulimia emetica, also *cynorexia*, in which an extraordinary appetite for food is followed by vomiting.

In some it may be a natural misfortune; for on dissection it hath been found, in a few instances, that the right orifice of the stomach was too large, consequently the aliment was too soon expelled through it. Galen says it is caused by an intense acid in the stomach, or other acrimony in the gastric juice. Others attribute it to a weakness in the lower orifice of the stomach, or to worms.

The complaint was perhaps more common formerly than at present, since the ancient authors consider it with great apparent anxiety. The cause of hunger, in general, we shall find to be an emptiness of the stomach, inducing an uneasy contraction. An increase of this contraction may arise from a rapid digestion, from a weakness of the stomach, or perhaps from worms. The food is retained in the stomach by its contraction, raising the larger curvature of the stomach to an horizontal position, and thus rendering the escape of the food from the pylorus difficult. In this way, weak-

ness may occasion imperfect digestion, and, of course, insatiable hunger; but this cause may be easily ascertained by the lienteric discharge. Indeed, we believe it seldom occurs, and acids scarcely in any instance produce the complaint. From worms we have, we think, seen this disease: but we own that this cause is doubtful, for a plain and obvious reason, that no known species of worm lives on a chylous fluid, and the general effect of worms is irritation.

Lommius observes, that in this case there is great hunger, much is eaten, which, oppressing the stomach, is again thrown up; the patient is thus relieved, but the appetite returns; the stomach eased, by eating is again oppressed, and is again relieved, as that of a dog by vomiting.

There is no danger if food is supplied, though the patient be pregnant, except fainting is frequent. Fainting, with a full stomach, is a dangerous symptom; and the breath failing when a fainting comes on, adds to the danger: but these appearances are uncommon.

If an acid should be the cause, after vomiting, the testaceous powders, the lixivium of tartar, and iron filings, have been given.

If worms are suspected, anthelmintics must be prescribed; and in every instance, food of a less nutritious kind should be employed.

When the cause is not very manifest, moderate doses of opium may be given at proper intervals; but some circumspection is required in administering it. Besides vomiting, purges with aloes will be adviseable, wormwood, and such other medicaments as warm and strengthen the stomach. Galen commends frequent small doses of brandy; and Riverius says, that ambergris is peculiarly useful if five or six grains be repeated at due intervals; and coffee we have found of great service.

This disorder terminates in a lientery, dropsy, atrophy, or cachexy. Boulimus, it is said, is not attended with a vomiting, but with a fainting; and that in the FAMES CANINA, the patient vomits up his greedy meals, or they run off by stool. In the BULIMIA, it is remarked, the same inclination to eat exists as in the BOULIMUS, but without the power; and after the patient does eat, he faints. See Galen, Alexander Trallian, Paulus Ægineta, and Lommius.

BOU'NIAS, (from *βουνος, a bunch*). See BUNIAS.

BOU'RSE, LA. See SUSPENSOR.

BOUTU'A. See PAREIRA BRAVA.

BOVILLÆ, (from *βους, an ox*). The MEASLES: so called because cattle were supposed subject to it. Turton says, it may perhaps rather mean the cow pox. See MORBILLI.

BOVI'NA AFFE'CTIO. The DISTEMPER of BLACK CATTLE. A disease among black cattle, caused by a worm lodged between the skin and the flesh. The Arabians call it *ægritudo bovina*, but it is little known in Europe; is not mentioned by the ancient Greeks, and differs essentially from the disorder produced by the *dracunculi*.

Avenzoar gives the following account of the *bovina affectio*. 'Sometimes a worm breeds between the skin and the flesh; and if this worm is not soon killed, the consequences may be pernicious. As soon as it is perceived, burn the adjacent part with a hot iron, so that heat may penetrate to the worm, in a degree sufficient to kill it. Then dress, as is usual after burns, and purge with aloes.'

Avenzoar in this passage speaks of this disorder as in human subjects. But Albucasis, who hath two chapters, one on the *dracunculi*, another on the *bovina affectio*, says, 'This worm, which is generated between the skin and flesh of black cattle, takes its course over the whole body, and is plainly perceivable in its motion from one part to another, until it breaks the skin; and wherever it makes a breach, there it finds egress;' evidently confounding it with the gordius. Alzaravius says, 'that in human subjects this worm passes betwixt the skin and the flesh, as Albucasis hath represented it in brutes; and that it is generated in the same matter as lice.'

The real *bovina affectio* is described in a dissertation, De Boûm Œstro, by Wallsinerius. This ŒSTRUM, or VEXATIOUS FLY, pitches on the back of black cattle, and, with a kind of sting growing to its hinder part, perforates them, and into each perforation introduces an egg, which some time after grows to a worm, and this to a fly, which in due season is like its parent. When this fly pierces the skin, it causes severe pain in the oxen. The worm, however, which is deposited, grows without any remarkable injury to the health of the animal; it never moves from its place, but in the following spring it occasions a tumour, out of which it finds its way when summer approaches, and becomes a fly. See Le Clerc Hist. Lumbric, Linnæan Transactions, vol. iii. p. 289.

Under this article may be placed the CHICOS, or CHICRES. They are small worms, which, in the warmer parts of America, frequently breed in the muscular parts, and particularly in the feet. The Indians pick them out, and then apply to the sore, by rubbing, the ashes of wood.

Hoffman speaks of a kind of worms to which the children in Misnia are subject. He says that these children are frequently seized with a tabes, which reduces them to mere skeletons. The cause is a sort of worms, like black hairs, lodged under the skin. These animals are usually called COMEDONES, or gluttons, because they devour the nutritive juices in their distribution. When the skin is rubbed with honey in any warm place, they come out, but cold keeps them concealed within. The disease is apparently eruptions, from dirt, neglect, and low living. See CRINONES.

Sennertus speaks of a sort of worms called *seurenes*, *sirenes*, or *crinones*. He tells us, that a species of pustules among the Germans, which rise on the palms of their hands and the soles of their feet, are called *seuren*, and contain little worms called *sirones* and *chirones:* that these worms are discovered by the itching of these parts.

BOVI'STA. See LYCOPERDON.

BO'XUS. See VISCUS.

BRA'BYLA, (quasi *βορεοβαλα, i. e. την βορον εκβαλλουσα*, because they are laxative, and clear the intestines of their contents). The plums which are called HUNGARIAN. They are large, sweet, and of a black colour.

BRACHE'RIUM: AM'MA. A surgeon's bandage and truss for a hernia. A word used by the barbarous Latin writers, probably from *brachiale, a bracelet*. It is so called because it is made to embrace the parts.

BRACHIÆ'US MU'SCULUS. The name of two muscles of the arm, (from *brachium, an arm).*

Brachiæ'us inte'rnus begins where the deltoid muscle ends, covers the interior and anterior surface of the os humeri, and is inserted into the coronoid process of the ulna, serving to bend it.

Brachiæ'us exte'rnus seems to be the third beginning of the gemellus; its origin is continued from above the middle of its insertion, and from the back part of the os humeri to the cavity which receives the olecranum in the extension of the cubit, where, joining with the tendinous outside of the gemellus, it is inserted into the superior and external part of the ulna, called olecranum. See Anconæus. Cowper.

Douglas says, that the *brachiæus externus* and the *gemellus* make but one single muscle with three heads, to which he gives the name of triceps cubiti, or extensor cubiti magnus triplici principio natus.

BRACHIA'LE. The word means a bracelet; but the ancient anatomical writers apply this term to the carpus, the part on which the bracelet was worn. See Carpus.

BRACHIA'LIS ARTERIA. The brachial artery. It is the continuation of the axillary artery, which, as soon as it has passed behind the tendon of the pectoralis major, receives the name of *brachial.* It runs down on the inside of the arm, over the musculus *coraco brachialis* and *anconæus internus*, and along the inner edge of the biceps behind the vena basilica, giving out small branches as it passes.

Between the axilla and the middle of the arm it is covered only by the skin and fat, but afterwards it is hid under the biceps, and runs obliquely forward as it descends, at some distance from the internal condyle; but it does not reach the middle of the flexure of the arm. Below the fold of the arm it divides into the cubitalis and radialis.

From its upper and inner part it sends off a particular branch, which runs obliquely downward and backward, over the anconæus, and then turns forward again near the external condyle, where it communicates with a branch of the radial artery. A little below the insertion of the teres major it sends off another branch, which descends, is united with the radial artery, and with the cubital.

The common trunk of the brachial artery having reached the flexure of the arm, runs, together with a vein and nerve, immediately under the aponeurosis of the biceps, and passes under the vena mediana, detaching branches on each side to the neighbouring muscles.

Sometimes, though very rarely, the brachial artery is divided from its origin into two large branches, which run down on the arm, and afterwards on the fore arm, where they are called cubitalis and radialis. Winslow.

Brachia'lis externus and internus; these are the Brachiæus externus and internus.

BRA'CHIO-CUBITA'LE LIGAME'NTUM. The expansion of the lateral ligament (see Lateralia ligamenta), which is fixed in the inner condyle of the os humeri, runs over the capsule, to which it closely adheres, and is inserted like radii on the side of the great sigmoid cavity of the ulna: it is covered on the inside by several tendons, which adhere closely and seem to strengthen it. Winslow.

Brachio-radi'ale ligame'ntum is the expansion of the lateral ligament (see Lateralia ligamenta), which runs over the external condyle of the os humeri, and is inserted round the coronary ligament, and from thence all the way down to the neck of the radius, and also in the neighbouring parts of the ulna. Through all this passage it covers the capsular ligament, and is covered by several tendons adhering closely to both. Winslow.

BRACHIUM, (from βραχυς, *short;* because in a well proportioned man it is shorter from the shoulder to the hands than from the hips to the feet. Festus). The arm. In Hippocrates it signifies what is now called the *humerus.* From the shoulder to the elbow, is called *lacertus;* to the wrist, *cubitus,* or the *fore arm.* By the *arm* is generally meant the whole, from the shoulder to the wrist.

BRACHU'NA. See Satyriasis, and Furor uterinus.

BRACHYCHRO'NIUS, (from βραχυς, *short*, and χρονος, *time).* An epithet of a disease which continues but a short time.

BRACHYPNŒ'A, (from βραχυς, *short*, and πνεω, *to breathe).* Breath fetched at short intervals.

BRACHY'POTÆ, (from βραχυς, *small* or *short*, and πο⟧ω, *drink).* Little drinkers. To drink but little in ardent fevers is a sign of insensibility, and consequently bad.

BRA'CHYS, (from βραχυς, *short).* See Brevis.

BRACIUM. See Æs.

BRADYPE'PSIA, (from βραδυς, *slow*, and πεπ⟧ω, *digero).* Weak digestion, or concoction of food. Blancard says, it is a slow digestion, proceeding from a depraved disposition of the acid ferment in the stomach. Its causes are various, but there is little reason for admitting that just mentioned. In general it arises from weakness. See Dyspepsia.

BRA'GGAT. See Hydromeli.

BRAN. The husk of wheat separated by sieves. It contains a gluten like that of animal substances, and has been used as a pectoral, a demulcent, and a detergent. It is chiefly useful in the two former views used in decoction.

BRA'NCA. An Italian word signifying *foot;* hence a species of acanthus is called branca ursina, *bear's foot*, from the resemblance of its leaves to the foot of a bear.

Bra'nca leo'nis, or Pes leo'nis. See Alchimilla.

Bra'nca ursi'na. See Acanthus.

Bra'nca ursi'na Germa'nica. See Pastinaca.

BRA'NCHÆ, BRA'NCHI, (from βρεχω, *to make moist*). Names of the diseases of the glandular tumours of the fauces, which resemble two almonds; accompanied with a difficulty of spitting and troublesome breathing.

BRA'NCHUS, (from the same). A defluxion of humours upon the fauces. It is a species of catarrh, which Cœlius Aurelianus calls raucitas.

BRANDY. It is a spirit distilled from wine, or, more often, from the mock after the wine has been pressed out. In Spain it is often produced from the plum; and in England it is imitated by giving to any spirit a yellow colour by burnt sugar, and a flavour by laurel leaves. In medical powers it agrees with alcohol. The various methods of trying the strength of brandies are

fallacious, and the hydrometer in its most improved state is the only certain method of ascertaining it. See Annales de Chimie, vol. xxxvii.

BRASI'LIA, produced in Brasil. See BRASILIUM LIGNUM.

BRASILIA'NA A'RBOR AQUA'TICA. See ANINGA.

BRASILIE'NSIS A'RBOR SILIQUOSA, &c. See COURBARIL.

BRASILIE'NSIS RADIX. See IPECACUA'NHA RADIX.

BRA'SILIS LIGN. BRASILE'TTO. LOGWOOD, also RED WOOD. See CAMPECHEN, LIGNUM.

BRASI'LIUM LIGNUM. BRASIL WOOD; called also *pseudosantalum rubrum*, *Hirapitanga Brasiliensibus*, *ibirapitanga*; *Abelicea*, *crista pavonis coronillæ folio*; *Erythoxilum Brasilianum*, *Santalus Adulterinus*.

This wood is rarely met with in prescriptions; it is sometimes substituted for red sanders, with which it agrees in most of its properties, with this difference, that the red sanders does not, like this wood, give out its colour to water. It is of a deep red or purple colour; is said to cool and strengthen; but is chiefly used by the dyers.

From the Brasil wood of Pernambuco is extracted, by means of acids, a CARMINE.

BRA'SIUM, (from βρασσω, *to boil*). BARLEY, or COMMON MALT. Called also *byne*; by Tacitus, *frumentum corruptum*. From it, BEER, ALE, and PORTER, which go under the general term, MALT LIQUORS, are made (see ALLA); but an infusion of malt, called WORT, is considered as powerfully antiseptic, and has been successfully given in the sea scurvy. It is prepared in the following manner: "Take of dry sound malt, fresh ground, one measure: infuse it for five, or six hours, in three measures of boiling water, then pour off the clear liquor," and let the patient drink two or three pints every day. This has been administered as a preventive of the scurvy with some apparent efficacy; and it has been considered as an alterative, in cases of inveterate ulcers and in cutaneous eruptions, which resist the action of mercury. It may be of service where a permanent change in the state of the animal fluids is required; and from its being so grateful, it is preferable to the scorbutic juices given for this purpose. See Macbride's Experimental Essays, Appendix to his Introduction to the Theory and Practice of Physic.

BRA'SMA, (from βρασσω, *to boil*). See PIPER LONGUM.

BRA'SMOS, (from the same). See FERMENTATIO.

BRASSADE'LLA, or BRASSA'TELLA. See OPHIOGLOSSUM.

BRA'SSICA, (from βρασσω, or βρυζω, *to devour*.) CABBAGE; called also *crambe*, *brassica oleracea* Lin. Sp. Pl. 932. All the species are supposed to be only varieties of the smaller kind, which grow spontaneously on our sea coasts. The white and green cabbages are called *caulo rapum*.

Cabbages are supposed to have a stronger tendency to putrefaction than most other vegetable substances; chiefly because in putrefying they exhale an offensive smell, which much resembles that of putrefying animal bodies; it may therefore seem reasonable to believe that they are easily digested in our stomachs, and also very nutritious. This, however, is by no means true. All of them, says Dr. Cullen, may be considered as a supplemental provision only, and are seldom chosen by the quantity of nourishment they afford, but by the tenderness of their texture, and the fulness and sweetness of their juice. In general they are flatulent, and inconvenient in weak stomachs.

Cabbages are, however, far from being unsalutary; they neither induce nor promote a putrid disposition in the human body, but, on the contrary, are salubrious aliment in the scurvy. They loosen the belly when eaten freely, and produce much flatulency; but by boiling they lose their laxative quality. The *brassicæ* have great powers as antiscorbutics, and taken in largely as aliments have proved a cure for the scurvy.

The Germans make the following preparation of cabbage, to which they give the name *Sauer Kraut*. SOUR KROUT.

Cut the cabbages in common use into thin slices, put them into a cask that is previously cleaned, dried, and lined in its whole inside with the sour paste called leaven; on each layer of the sliced cabbage sprinkle a small handful of salt, and press it down: when as much is put into the cask as it will contain when thus forcibly pressed, and all the liquor squeezed out of the cabbages is poured off, cover it with a clean cloth, then lay on it the loose cask head, and over it any heavy weight, that the pressure may be continued; thus, let it stand in a warm room until it ceases to ferment, and then it is fit for use. When used, boil a proper quantity for the present meal in water during two hours or more; then, pouring off the liquor, add to it a little butter, and eat it as other vegetable substances.

If the cask is closed up when the fermentation of the cabbage is finished, this preparation will be preserved in its perfection many years, and would be a convenient part of seamen's diet, as a preservative from the scurvy.

The white sort is the most putrescible and fetid; the red is supposed to be the sweetest, most emollient, and laxative: there is, however, little difference. If the stalks of the red kind are cut longitudinally in autumn and placed in a cool shade, a laxative juice, resembling honey or manna, exudes from the incisions.

BRA'SSICA SATIVA. COLEWORT or CABBAGE, named also *brassica capitata alba vel rubra*; *b. oleracea*, *var.* γ δ.

BRA'SSICA FLO'RIDA. CAULIFLOWER, called also *brassica multiflora*, *caulis florida*; *b. olerac. var.* ι.

BRA'SSICA CONGYLO'DES. TURNIP CABBAGE, called also *brassica caulorapa*, *rapocaulis*, *brassica caule rapum gerens*; *b. oleracea var.* λ.

The seeds yield, by expression, an oil which is useful for lamps, and in the woollen manufactory. After the oil is obtained, the remains are an indifferent food for cattle. In their recent state, however, sheep, and even oxen, are fed on them during winter.

BRA'SSICA CAPITA'TA VIRE'SCENS ITA'LICA CRI'SPA. GREEN BROCOLI.

BRA'SSICA RUGO'SA, LONGIO'RIBUS FOLIIS. BROWN BROCOLI. These are varieties of the brassica of little importance, chiefly belonging to the *b. oleracea botritis*; *var.* ι.

BRA'SSICA NAPUS, NAVEW, or COLE; *radice caulescente fusiformi*. See BUNIAS.

BRA'SSICA ERUCA. See ERU'CA.

BRA'SSICA ITA'LICA TENE'RRIMA GLOMERO'SA FLO'RE A'LBO. TABAUDE. The SAVOY CABBAGE.

BRA'SSICA OLERACEA ARVENSIS; from whose seed the oil styled CALSA is expressed. *B. rapa* is the TURNIP. See RAPA.

BRA'SSICA MARI'TIMA, called also *soldanélla marítima minor*, *convólvulus maríttimus minor*, *maríttimus nóstras*. SEA BINDWEED, SEA COLEWORTS, and SCOTCH SCURVY GRASS. The *convólvulus soldalenna* Lin. Sp. Pl. 226. It grows wild on the sea coast in the north and south of England, and flowers in June. The leaves are a violent cathartic; and this quality resides in the milky juice which exudes upon wounding them. A decoction of the dried leaves, from ʒ ss. to ʒ iij. is a dose.

BRA'SSICA BRASILIANA. Caspar Bauhine. *Arum esculentum.*

BRASSIDE'LICA ARS. A way of curing wounds, mentioned by Paracelsus, by applying the herb *brassadella* to them. See OPHIOGLOSSUM.

BRA'THU. The herb SAVINE. See SABINA.

BREAD. This 'staff of life' is now essential to our existence; yet, while we enjoy it, we are naturally led to consider the substitutes once employed, when it was not known. Man, we have said, is not wholly a carnivorous animal: he requires a proportion of vegetable nutriment; and this, in seasons not adapted for vegetation, or in climates when the short summers will not admit of corn ripening, must be supplied by various other vegetable substances. All the farinaceous plants have been used as corn. The palms, the bread fruit tree, the arum, the fern root, and the sweet acorn, have in turn supplied different nations with the necessary vegetable aliment. Besides these, various nations have employed the SEEDS of the *spergula arvensis* Lin. Sp. Pl. p. 630, of the *agiostemma githago* (624), and the *lychnis segetum* of Caspar Bauhine; the NUTS of the *hippocastanum*, the chestnut; the FÆCULA of the cassada (*jatropha manihot* Lin. 1429), Stachy's *palustris* (811), and *lichen islandicus* (1611); the BARK of the *pinus sylvestris* (1418); the ROOTS of the *solanum tuberosum* (265), white bryony (1438), *spiræa filipendula* (702), *colchicum autumnale* (485), *fumaria bulbosa* (983, β and γ), *gramen repens* (128), and *scirpus maritimus* (74). Many other substances, apparently farinaceous, are mentioned by Dr. Willich and Dr. Darwin. But, by general consent, in civilized countries, where the seasons, by the most artful management, can ripen the different cerealia, these have been preferred. Even in the short northern summers, where the sun can barely bring forward the ears, they are ripened not imperfectly by frost. When vegetation can no longer supply corn, even dried fish are powdered, and produce a substance not liable to rancidity; and at least approaching farina. In some countries, particularly in Upper Lusatia, a white earth is employed for this purpose.

The importance of corn was so strongly felt, that the inventive Greeks appropriated its first introduction to a goddess. They chose for its patroness the mother of the gods; but, by an inconsiderate anachronism, associated with her a person of a much later era, Triptolemus. The fable, in fact, meant that the discovery was a very early one, but that it was only communicated to the Grecians at a later period. Naturalists have, on their side, anxiously investigated the native country of wheat, but with little success. The fairest claim is offered by Sicily, as the Grecian fable would suggest; but, after every inquiry, it appears that native wheat is a comparatively small corn, containing an inconsiderable proportion of farina; and that the present seed is produced from a plant greatly meliorated by culture. When we speak of the native country of corn, we of course mean that country from whence it was anciently derived. We have now discovered it in other regions, with which the ancients were unacquainted.

Under the article of corn we shall mention the different seeds employed to make bread, and distinguish their peculiar properties. We shall now notice only the general properties of the farina used for aliment, with the changes produced in the process of making bread. Meal separated from the bran, or at least separated in a considerable degree, contains a mucilaginous and a saccharine matter, though in a small proportion. The greatest quantity is a fæcula, styled starch, which combines with cold water into a jelly, possessing all the properties of gelatine; to which we must add gluten, the animal portion contained in the husk, from which the finest flour is not wholly free, but which in the coarser kind is copious. The gelatine, therefore, gives bread its most striking characteristics, and we find them in the ship biscuit, which consists of flour and water only, and is a tough, hard, insoluble substance. These inconveniences are avoided by yeast or leaven, which, in the common bread, gives a lightness, as well as a greater degree of solubility to the mass. The changes produced by the leaven have been variously explained. They have been attributed to fermentation; but this has been denied, because in no part of the process do we find an ardent spirit. We may take, however, this opportunity of remarking, that our not discovering either of the products of fermentation is no proof against its existence. We scarcely, in any instance, see an ardent spirit produced in the process of digestion; yet in this, fermentation certainly takes place, with its usual attendant, assimilation. In ricks of hay we find no ardent spirit at any period, but it certainly has existed; since, when too damp, ricks will inflame, and when hay is in its best state, we find an evident smell of acetous æther, which shows that a spirit has been formed. The ancient leaven proves, that this process was not very different from fermentation: it was the remains of former bread in a sour state. The modern leaven, the yeast or barm, is a farinaceous solution in a fermenting state, abounding with carbonic acid gas, copiously evolving, in fact, the vegetable acid in the form of air, with an excess of oxygen, which must have a similar effect. It is, however, more rapid in its operation, produces the change much sooner, and, as it is also more quickly checked by the heat of the oven, does not, like leaven, occasion the sour taste in the bread. The use of leaven is of considerable antiquity, for it was known beyond the era of our most ancient and sacred records. The substitution of yeast is of a comparatively late date. The art of making bread was brought to Rome from Macedonia about the year 580, from the building of the city. Before that time the corn was mixed with boiling water, probably like the oatmeal in the neighbouring kingdom of Scotland. Such at least is Pliny's account. The other component parts of flour vary in some measure the properties of the

bread. Thus, from the mucilaginous and saccharine portion, it is liable to become sour, and from the gluten, musty. The former is the more common fault of the finer bread, and the latter of the coarser. The latter also is more difficult of digestion, and fit only for the stronger stomachs, which are better able to resist the putrefactive tendency. The use of salt in bread is not easily explained. It may be supposed to act as a condiment were it in a larger proportion, but it is generally said to promote union of the meal and water.

From this view of the subject, we shall be able to understand the difference between the household bread and the ship biscuit. The latter is not leavened, and consequently not so readily acescent; but it is harder of digestion, and, alone, not adapted to weak stomachs. For these it must be comminuted so as to form a pulp, and warmed by some carminative seeds, or united with animal food; when its undigestible nature contributes to retard the aliment, and render its assimilation more perfect. This doctrine will be elucidated under the article of CONDIMENTS.

Various are the forms of bread, and numerous the additions to adapt it to the taste of the luxurious. Every saccharine substance renders it more acescent, every farinaceous nut more difficult of digestion. The carminative seeds, of which the principal is the carui, or, on some occasions, as in the gingerbread, the aniseseed, lessen the inconvenience, but render it less suitable for a common aliment. The drier the bread, the less ready is it to become acescent: hence, new bread is often inconvenient in the stomach; and rusks, which consist of bread sliced and again baked, are scarcely less useful than sea biscuits.

Various adulterations of bread may be mentioned. Among the rest, bone ashes and bean flour are the principal, and chiefly used to whiten bread which has an over proportion of bran. Alum, too, has been employed, but its operation we do not well understand. It is said to coagulate the gelatine; and perhaps may be useful when it contains too large a proportion of humidity, or, in the language of bakers, when the corn is melted. Potatoe bread, or at least the method of making bread with a proportion of these roots, is an art sufficiently known. Bread of this kind is white, light, and wholesome: it keeps without injury for many days.

Turnip bread is made from the expressed mash of boiled turnips with an equal weight of meal; while the farina of potatoes may be made into bread with any proportion of meal, or even alone. The turnip bread has at first a slight taste of the root, which goes off in a few days, and it is then said to be even superior to that made with flour.

In a medical view, bread has been tortured to obtain its nutritious qualities in a liquid form. The chief form of this kind is the bread jelly, viz. bread boiled till the water has extracted a sufficient portion of the gelatine to become a jelly when cold. Bread also is often boiled with broth, when the patient can swallow nothing solid. In each form it is apparently useful. A brown toast infused in water gives it no unpleasant flavour, and it sits more easily on the stomach than water alone. When fresh, and sipped only in small quantities, it often relieves vomiting; and as a common drink in fevers, is peculiarly grateful and advantageous. Bread distilled produces an highly acrimonious empyreumatic oil, mixed with an acid. Yet, in Germany, a simple water distilled from it, previously adding the juice of cray fish, rose water, nutmegs, and saffron, is used as a restorative nutriment. From nutmegs, cinnamon, bread, and rhenish, a spirituous water is produced, supposed to be useful in diseases of the stomach. Hoffman recommends a spirit from bread distilled in the dry way. When the oil is separated, he thinks it a good sudorific.

BREAST. In general means the chest. For its most important organ see MAMMA.

BREATH. The air expired. In many persons it is fetid. This is sometimes constitutional, but more often the effects of rotten teeth, inattention to cleanliness, or sometimes the sign of approaching fever.

BREE'DING. See PREGNANCY.

BRE'GMA, (from *βρεχω, to moisten*). In infants these bones are not only tender, but very moist; and sometimes so in adults. They are also called *sinciput*, *parietaria*, and *medium testæ*. They are two bones on the upper part of the head, of an irregular square figure, nearly of the same thickness all over, and divided into an upper and lower part by a circular line; on the upper part they are covered only by the integuments, on the lower by the crotaphite muscle; towards the posterior and upper part, there is a hole through which the vessels of the dura mater communicate with those of the scalp. These bones have a large extent, but are the weakest in the human body. The trepan may be applied to any part of this bone, except on the lateral parts of the posterior lower edge of it, the lateral sinuses lying under them. It often happens that tumours are formed on these bones in infants, which contain a fluid, and conceal the osseous substance. These tumours should be left to nature, and their contents will be taken up by the absorbent system.

BRE'LISIS. See CARANNA.

BRETA'NICA. It is said to be a Frieslandic word, and means that it should be put between the teeth to cure the hiccough; *Bret tand hic*. GREAT WATER DOCK. See BARDANA MAJOR.

BRE'VIA VA'SA, (from being short). The vena splenica towards its termination is divided into several branches that go to the spleen, one of which produces the veins which receive this name.

BRE'VIS, vel BRA'CHYS. A name of the TERES MINOR.

BREYN. CENT. An abbreviation of Jacobi Breynii, Exoticarum aliarumque minus cognitarum Plantarum Centuria prima. Gedani, 1678.

BREYN. HIST. COCC. An abbreviation of J. P. Breynii Historia Naturalis Cocci Radicum Tictorii. Gedani, 1731.

BREYN. PROD. An abbreviation of Jacobi Breynii, Prodromus, Fasciculi Rarior. Plant.

BREYN. SCHED. An abbreviation of Jacobi Breynii Schediasma de Echinis.

BRI'CUMUM. See ARTEMISIA.

BRINDO'NES. (Indian). A fruit in the East Indies. Vinegar is made from it, and it is also a material used for colouring; reddish on the outside, and of a blood red within. The MANGOUSTAN of the Celebes, q. v. Raii Hist.

BRINE. The fluid which is separated from meat that has been salted, containing a solution of the salt,

with albuminous and other animal fluids. It is used, externally, as a stimulant in palsies, and œdematous swellings of the legs; and is sometimes poured with advantage into the ear when filled with viscid cerumen, or, when the action of the ceruminous glands is too languid.

BRISTOLIE'NSIS A'QUA. Bristol water. Of the four principal warm waters naturally produced in England, this is of the lowest temperature. See Bathoniensis aqua.

As the Bath waters are proper where the secretions are defective, so the *Bristol water* is of service when in excess. The Bath *water* warms; the *Bristol* cools. Bath *water* relieves the stomach and intestines; the *Bristol* the lungs, kidneys, and bladder. It issues from a limestone rock.

By the experiments of Dr. Bryan Higgins, a Winchester gallon of this *water* contains,

	dwts.	gr.
Of calcareous earth, combined with vitriolic acid in the form of sclenite - -	0	8½
Of calcareous earth, combined with acidulous gas - - - - - - -	0	12¾
Of marine salt of magnesia - - -	0	5¼
Of sea salt - - - - - - -	0	6½

Acidulous gas, besides what is contained in the calcareous earth above mentioned, eight ounce measures. Dr. Carrick found a little difference in the proportions, and adds to the ingredients sulphat of soda.

Little can be therefore expected from the mineral contents of this water. It has, however, been supposed useful in internal hæmorrhages, immoderate discharge of the menses, old diarrhœas, fluor albus, internal inflammations, spitting of blood, dysentery, purulent ulcers of the viscera, consumption, dropsy, scurvy with heat, stone, gravel, strangury, habitual gout, atrophy, slow fever, scrofula, gleets, and a diabetes; in which last it is esteemed a specific, and is allowed to be drunk as freely as the thirst requires it. The sensible qualities of this water render any particular directions for its use ridiculous.

The hotter months are the best for using it. In general it is drunk in repeated draughts of half a pint, from a pint to two quarts a day.

The *Bristol* and Matlock *waters* are of exactly the same qualities.

See Dr. Maplet, Dr. Guidot, and Dr. Wynter, on the *Bristol Waters*. It was Doctors Mead and Lane who established the reputation of *Bristol water* in diseases of the kidneys and bladder. The latest author on this subject is Dr. Carrick.

BRITA'NICA. The herb called *britanica* has occasioned numerous discussions, and it was supposed singular that it should not be known in Britain. The mistake respecting the meaning of the term occasioned the difficulty. (See Bretanica). It seems to have been the *rumex aquaticus* Lin. Sp. Pl. 479, from the descriptions of Pliny and Muntingius. See Bardana, and Lapathum aquaticum.

BRITTLENESS. See Fragilitas.

BRI'ZA, (from *βριζω, to lull to sleep;* because bread made of it causes drowsiness). Spelt wheat.

BRO'CHOS. Castellus thinks it must mean some chirurgical instrument, inasmuch as it is necessary to some operations, on the authority of Galen and Oribasius. It is considered also as expressive of some diseases, particularly, according to Galen, of a deprivation of voice. Indeed, in surgery it is a noose, and belongs to either instruments or bandages, for it is the Greek word for *laqueus*.

BRO'CHTHUS. The throat, (from *βρεχω, to pour*). See Guttur. Also a small kind of drinking vessel.

BRO'CHUS. One with a prominent upper lip, or one with a full mouth and prominent teeth.

BRO'DIUM. Broth. (See Jus). It sometimes means the liquor in which a solid medicine is preserved, or with which it is diluted.

BRO'MA. Food, (from *βρωσκω, to eat,*) in opposition to drink. See Aliment.

BROM. CHLOR. GOTH. An abbreviation of Olai Bromelii Chloris Gothica, seu Catalogus Stirpium circa Gothoburgum nascentium.

BROME'LIA. See Ananas.

BRO'MION, (from *βρομος, the oat*). A plaster mentioned by P. Ægineta: and so called because it was made of oaten flour.

BRO'MUS STE'RILIS, (from *βρωσκω, to eat*). Dank or wild oats. See Ægylops.

BRO'NCHIA, (from *βρογχος, the throat*). See Aspera arteria, and Bronchus.

BRONCHIA'LES ARTE'RIÆ. They sometimes go from the fore side of the superior descending aorta, at others from the first intercostal, or from the arteriæ œsophageæ. Occasionally they arise separately from each side to reach each lobe of the lungs, and sometimes by a small common trunk, which afterward separates towards the right and left hand, at the bifurcation of the aspera arteria, and the branches accompany the ramifications of the *bronchiæ*.

The *bronchial* artery on the left side often comes from the aorta, while the other arises from the superior intercostal on the same side; which variety is owing to the situation of the aorta. Sometimes there is another *bronchial* artery, which goes out from the aorta posteriorly, near the superior intercostal, above the *bronchialis* anterior.

Communications have been observed between the *bronchial* artery and the vena azygos, and with the coronary artery of the heart. Ruysch first discovered these vessels, and he describes both the *bronchial* arteries and veins in his fourth epistle.

Bronchia'les gla'ndulæ. At the angle of the first ramification of the trachea arteria, we find on both the fore and back parts certain soft roundish glandular bodies of a bluish or blackish colour, and of a texture partly like that of the thymus, and partly like that of the thyroid gland. There are many similar glands at the origin of each ramification of the *bronchia*. Dr. Hunter supposes their office is to separate a mucus to lubricate the lungs: they are different both in colour and structure from the conglobate and lymphatic glands.

BRONCHI'ALIS GLA'NDULA. See Thyroidæa glandula.

BRONCHOCE'LE, (from *βρογχος, the wind pipe*, and *κηλη, tumour*). Also called *bocium, botium*. It hath various names in different writings; the Swiss call it *gotre;* some have called it *hernia gutturis, gutter, tumidum, et trachelophyma, gossum, exechebronchos; gongrona, hernia bronchialis:* Heister thought it should be named *tracheocele*. Mr. Prosser, in his late publication

on this disorder, from its frequency on the hilly parts of Derbyshire, calls it, with others, the DERBYSHIRE NECK; and, not satisfied respecting the similitude of this tumour with that observed on the neck of women on the Alps, the English *bronchocele*. As various causes give rise to this complaint, he endeavours more strictly to distinguish that in which he expects success in his attempt to cure. When not produced by accidents, such as loud speaking, crying, blows, he calls it the natural, the spontaneous, or the curable *bronchocele*.

The seat of this disease is the thyroid gland, which Dr. Hunter hath observed lies just below the larynx, round the trachea. The tumour appears in the fore part of the neck, between the skin and the wind pipe. Women are the most frequent subjects of it, and in them it usually appears early. Dr. Hunter met with one case of this kind in a young surgeon; but it rarely happens in males.

Various causes are assigned by different writers. On the mountainous parts of Genoa and Piedmont, they attribute these tumours to drinking water cooled with ice. Dr. Leake thinks it very probable that such glandular swellings as happen about the neck and face, may be owing to the severity of the cold moist air, especially since they generally appear in winter, and rarely in the warm dry climates of Italy and Portugal. This, he adds, is probable, because the intense degree of cold may constringe the glandular ducts, and lock up that fluid which ought to pass freely through them. Some writers attribute it to a scrofulous cause. Mr. Prosser inclines to think that it is a dropsy in the gland, and similar to the dropsy in the ovaries. He relates, that Dr. Hunter dissected one of these glands that had been considerably enlarged, and it was found to be distended by a number of cysts filled with water, which must have been hydatids. Yet most writers agree that its true cause and nature are alike unknown.

The *bronchocele*, Mr. Prosser observes, is a tumour arising on the fore part of the neck; it generally first appears some time betwixt the age of eight and twelve years, and continues gradually to increase for three, four, or five years; and sometimes the last half year, we are told, it grows more than for a year or two before. It generally occupies all the front of the neck, for the whole thyroid gland is enlarged; but it does not rise near so high as the ears, as in the cases mentioned by Wiseman; and it is rather in a pendulous form, not unlike, as Albucasis says, the flap or dewlap of a turkey cock, the bottom being the larger part of the tumour. In figure, it varies considerably in different cases. It is soft, or rather flabby to the touch, and somewhat moveable; but, when it has continued some years after it has ceased to increase, it becomes more firm or confined. By the situation and nature of the complaint, it generally occasions a difficulty of breathing, which is increased on the patient's taking cold, or attempting to run. In some the tumour is so large, and so much affects the breathing, as to occasion a loud wheezing; but we meet with many exceptions to this general rule. When large, patients sometimes suffer but little; others suffer much from an inconsiderable tumour. In general, however, it occasions little inconvenience. Dr. Hunter observed, that this tumour now and then suppurates.

The *bronchocele* should be distinguished from a scirrhus, from an aneurism, and from those swellings in the neck that arise from strains or ruptured vessels. The distinction, however, is not difficult.

This tumour never becomes cancerous. Mr. Gooch says, he never knew this tumour, however large, to endanger life; but he observes a considerable inconvenience from it in cases of quinsy combined with it. Mr. Sharpe mentions, that the only cases of quinsy requiring bronchotomy, were owing to the presence of bronchoceles. Dr. Hunter has observed, that this disorder appears two or three years before or after menstruating; and that it sometimes spontaneously disappears, if the menstruation approaches kindly. Mr. Prosser thinks that this change in the constitution scarcely ever affects the tumour. We have never found that it has produced any diminution of its bulk.

The drain of an issue, or of a perpetual blister, applied on some other occasions, has apparently prevented the growth of the bronchocele, though the effect continued only during the drain. It cannot be extirpated, as it is entangled with the recurrent nerves, and the first branch of the external carotid artery; and if by chance a suppuration is formed, an ill conditioned ulcer, difficultly cured, is the consequence. Mr. Prosser hath succeeded, in many instances, in discussing it. On this plan, the late famous Coventry practice was formed, which Mr. Wilmer has inserted in an Appendix to his Cases in Surgery. It begins with an emetic the day after the moon is at the full, and, the day after that, a purge is given; the night following, and seven nights successively, the following bolus is laid under the tongue at bed time; and, in the days, a bitter stomachic powder given at noon. On the eighth day the purge is to be repeated; and, in the wane of the succeeding moon, the whole process to be repeated, except the emetic. The tartar emetic ointment rubbed in on the tumour is supposed to assist the cure; and, indeed, by adding this application to the Coventry receipt, we have often succeeded in greatly reducing bronchocele. Mr. King gives the burnt sponge in the dose of a scruple three times a day; but, if his recipe be correct, two ounces of the sponge in twenty-four troches must amount to two scruples in each. He attributes the cure to the quantity, which, we think, with many stomachs would be inconvenient. THE LOZENGE TO BE LAID UNDER THE TONGUE is formed of *calcined sponge*, *cork*, and *pumice stone*, of each ten grains, *syrup* a sufficient quantity.

Mr. Prosser has succeeded by the use of his medicines, though the patient was nearly advanced to her twenty-fifth year, more than twelve years after the appearance of the tumour on the neck: after the twenty-fifth year, no instance of success hath occurred. He orders one of the following powders to be taken early in the morning, an hour or two before breakfast, and at five or six o'clock in the evening, every day for a fortnight or three weeks. The powder may be taken in a little syrup, or sugar and water, or any thing else, so that none may be lost. If it does not sit well on an empty stomach, it may be taken betwixt breakfast and dinner.

℞. Cinnab. ant. op. levigat. milleped. ppt. et pulv. āā gr. xv. Spong. calcinat. ℈ i. m.

These powders should be taken for two or three weeks, then omitted for about a week or nine days; the same course must be then repeated. At bed time every

night, during the second course of the powders, three of the following pills are to be taken:

℞. Hydrargyr. ʒ v. terebinthinæ Strasburgensis ʒ ij. extracti colocynthidis comp. ℈ iv. pulv. rhabarbari ʒ i.

First grind the quicksilver with the turpentine till it appears no longer, then add the rest, and form a mass. If the turpentine be too thick, a little olive oil must be added.

These medicines do not require confinement, except they are taken in severe weather, and then only to the house; nor need the diet be much regarded. It may be sufficient that the medicines are taken in a temperate season, or rather warm weather, and the patient lives exactly in the usual way, guarding against cold during the second course of the medicines. The patient, if a servant, should avoid standing, especially at the washing tub, or any work with cold water. As to diet, when no alteration hath been made in it, the success has been the same as when stated regulations were regarded. In this discretion may occasionally direct. If the pills continue to purge, after taking them a few days, it would be better to leave out the extr. coloc. comp. in their preparation, and lessen the dose in the same proportion. In general it will be proper for the patient to be purged twice or thrice with manna and salts, or any gentle cathartic, before the powders are begun. The medicines are here proportioned for an adult of a good constitution; therefore, if the patient is younger, or of a weakly habit, the doses must be managed accordingly. As to external applications, they may be hurtful, but do not appear likely to be useful.

The patient must not expect to find benefit in a little time; perhaps it will be as long after the medicines are all taken, as the time they are in taking, before much difference will be perceived in the tumour of the neck. It is necessary that the medicines be begun at a proper time, especially the second course; a few days should always be dispensed with on that account.

Amongst the earlier writers, Albucasis is the first who gives any useful account of this disorder. See it translated into Friend's Hist. of Physic, and into James's Med. Dict. art. Bronchocele. See also Turner's Surgery, vol. i. p. 164. Wilmer's Cases and Remarks in Surgery, in the Appendix. An Account of the Method of Cure of the Bronchocele, by Thomas Prosser, edit. 3. Gooch, in his Med. Obs. gives an instance of an aqueous bronchocele. Bell's Surgery, vol. v. 514. White's Surgery, 289. Memoirs of the Medical Society of London, 217.

BRO'NCHOS, (from βρογχος, *wind pipe*). A suppression of the voice from a catarrh. Also a catarrh, when it principally affects the fauces. See Catarrhus.

BRONCHOTO'MIA, (from βρο⸗χ⊙ν, *the wind pipe*, and τεμνω, *to cut*). Bronchotomy. See Tracheotomia.

BRONCHUS, (from βρεχω, *to pour*). The ancients believed that the fluids were conveyed by the bronchiæ; whence its name. According to Galen it is the *aspera arteria*, from the larynx to the lungs; but, bronchiæ or bronchi, as now understood, are the ramifications.

BRO'NTE, (quasi βροντη, from βρεμω, *to roar*). Thunder. Was it from hence Lord Nelson derived his title?

BRU'MA. Some derive it from Βρομιος, *Bacchus*, because at that time the feasts of Bacchus were celebrated: but, more probably, quasi *brevima*, for *brevissima dies*. Winter. But particularly when the days are shortest.

BRU'MASAR. A spagirical term for silver. See Argentum.

BRUNE'LLA. Common self heal; called also *prunella*, *consolida minor*, and *symphytum petræum*. It is the *prunella vulgaris* Lin. Sp. Pl. 837. Nat. order *labiatæ*. It is perennial, grows wild in pasture grounds, and flowers in June and July. In taste it is slightly austere and bitter, and much used in fluxes, hæmorrhages, and in gargarisms, as well as to remove aphthous exudations in the mouth. Miller's Bot. Off.

BRUNNIE'RI GLANDU'LÆ. Brunnier's glands. So called in honour of their discoverer. They are lodged under the villous coat of the intestines, closely adjoining to the nervous; and are smaller than in the large ones. They are also called *Peyeri glandulæ*, Peyer's glands.

BRUNONIAN SYSTEM. We have already explained our reasons for adopting the plan of giving distinct views of the most prevailing medical systems in different articles (see Boerhaavian system), and shall pursue the present meteor from its first spark to its meridian: others may perhaps record its decline or fall. The history of Dr. Brown would not be of importance in this place, were it not necessary to explain some parts of his doctrines. Originally a teacher of Latin, he attended the medical classes by the permission of the different professors; and, as the tutor of his sons in that language, was first connected with Dr. Cullen, to whom he became an useful assistant, and of whose doctrine he was a warm admirer. His great object for a future maintenance when we knew him, was to repeat Dr. Cullen's lectures in London after his death. Some disagreement turned him to a virulent antagonist, and from hence arose the Brunonian doctrine.

We mean not by this to prejudge or disparage the system: it must rest on its own merits: but, to explain that decided opposition, and the virulent language employed when speaking of the Cullenian doctrines. We suspect, however, that it may explain the source of some of his own opinions, without giving him the credit of a very brilliant genius; for, in possession of a system with the arguments in its support, it is not very difficult to say that any part is '*false*,' and to wrest the arguments to the opposite opinion. If, however, his system be well founded, it proves his genius to be pre-eminent, for little was gained by study. We recollect but one author quoted, which is Triller; and, from the manner of the quotation, we should suspect that he was not intimately acquainted with him. The opinions and practice of different authors he could not have been ignorant of, from the lectures he attended; yet it is singular that his practice is so little discriminated, that he seems scarcely to have visited the sick bed, or attended to the distinguishing symptoms which influence the practical physician in the minuter variations of his conduct.

Dr. Brown, however, started as a self appointed lecturer, and the avowed opponent of the Cullenian system. His doctrine, even more simple than that of the methodists, admitted only of the strictum and laxum, the sthenic and asthenic states, without allowing the union of both. Simplicity is attractive to youth; it is

falsely called 'the seal of truth;' and to escape from professorial dogmas, added to the seduction. It is at least certain, that after some months of hesitation Dr. Brown was greatly followed, and his doctrines were echoed in the "Medical Society," where the Cullenian system had gained a complete victory over the Boerhaavian; and, by the aid of the numerous pupils of that school, was disseminated through Europe, Asia, and America. It was eagerly caught at on all sides; but, by a strange perversion, in escaping from the humoral pathology, many professed Brunonians adopted doctrines essentially distinct from those of Brown, supposing that if they were not Boerhaavians, they were of his sect.

Dr. Brown seemed to consider man, not as a being compounded of an organised system to which the principle of life was superadded, but as a machine, to which a certain series of actions and effects is allotted by means of an excitability, differing in degree, but generally, though on the whole imperceptibly exhausting. In fact, it is a flame kept alive by excitements, such as heat, food, passions, &c. which, however, destroy by degrees the pabulum, or, in his language, the excitability. As the machine is merely passive, and the flame kept up by blowing, it cannot be depressed except by an intermission of the blast. It may, however, be exhausted by blowing too violently; or the pabulum, not exhausted by the constant blast, may burn with greater fury on its recommencement. We mean merely to facilitate the reader's conception by our metaphor, not to render the subject ludicrous.

Life, therefore, is a 'forced state;' every thing stimulates; some substances too violently, others not sufficiently: and we thus have two kinds of debility, indirect and direct. In the former case, the strongest stimuli are necessary; in the second, the slightest destroy in consequence of too great irritability. In the gaol fever, for instance, we must give the strongest stimulants: to the man long pent up in darkness, with scanty food, the light must be moderate, the aliment of the mildest kind, and stimuli of every sort most sparingly administered; as the flame, long repressed, would be roused by the slightest excitement.

Such is the basis of Dr. Brown's system; and for one part of it, accumulated excitability, he deserves the greatest credit. It is a law of the animal economy so general, that the attention to it directs the practitioner in various ways; nor should he, on any occasion, lose sight of its consequence, that too frequent and violent excitements are destructive. It had been well if Dr. Brown had kept it more often in view, particularly in his arrangement of diseases. There is, however, another law of the system connected with this, which has been less adverted to, viz. that excitability, long repressed, is with difficulty, if at all, to be roused by stimulants. Constitutions of this kind are ruined from inactivity; they rust, as we have said, on their hinges; and the Brunonian will not refuse this addition to his system, since it is so connected with his principle, that life is a forced state.

This principle, however, we cannot admit. Life is superadded to organized matter; for organization itself will no more produce it, than the most skilful union of wheels will produce a time piece without its spring. This leads to a fundamental objection to the Brunonian system; that, by giving man in the beginning a determined proportion of excitability, he has no where provided for its renewal, when exhausted. It accumulates from want of exhaustion, but from what source? For, let only an atom be taken from a mountain, and in no way restored, the mountain must in that proportion be diminished, and cannot regain its former bulk. Boerhaave and Cullen felt the difficulty. Boerhaave supplied it by secretion; Cullen, more indistinctly, made it the consequence of collapse, alluding by some remote analogy to the electrical fluid. Brown cut the knot, and, like Jack in the tale, would be 'as unlike the rogue Peter as possible;' *so that there must be no collapse.* Brown himself speaks of 'recruiting the excitability; and his followers, when urged by the difficulty, have either evaded it, or explained in a way not very consistent with the general principle.

Again: Dr. Brown speaks of indirect and direct debility, of the two states of exhausted and accumulated irritability. The gaol fever is allowed to be an instance of the former, and the person, secluded from light and air, of the latter. Yet, did Dr. Brown never see (we believe he never did) in the gaol fever, inordinate stimuli fatal by their excess? Did he never see phlegmonic inflammation sometimes supervene? To the angina maligna, too, a very similar disease, the inflammatory angina sometimes succeeds from too violent and long continued stimuli. How, however, in the gaol fever, one of his own instances, is the excitability exhausted by excess of stimuli? Every previous cause, every concomitant circumstance, has a tendency totally different. In this and the other instance of indirect debility, we see only the powers of life gradually exhausting, in a certain degree to be roused with augmented violence by stimuli; but, after a certain period, incapable of any excitement: while even the effects of stimuli, though apparently for a time successful, often contribute to destroy the remaining portion of excitability. The difference of the two cases consists in this only, that the excitability in the latter is only accumulated; but in the former, by the debilitating power of the fever, added to that from the confinement, in a great measure destroyed, or at least so far diminished as to be very generally irrecoverable.

A striking instance of accumulated excitability occurred in that singularly intrepid exertion of captain Bligh, when he crossed the Pacific in a small boat, with a very inconsiderable stock of provisions. On reaching Timor, one of his crew died of an inflammatory fever. Had these men after their voyage been thrown into a loathsome prison, or an infected hospital, would they have escaped? We know they would not, for similar instances have occurred; yet in these we might in vain look for the stimuli by which the excitability had been exhausted.

A consequence of this doctrine must be, that every medicine stimulates; and the difference between what are styled stimulants and sedatives is, that the latter are not sufficiently stimulating. This, however, must soon become a verbal controversy. The oxygen of the atmosphere stimulates the lungs, and hence the whole system; but if the oxygen is deficient, the stimulus is abstracted, and the machine no longer urged on. Yet this is not the only stimulus; if we abstract oxygen, we may supply an additional stimulus by warmth: abstract warmth, also, and the passions may supply its

place. Without all these exciting powers, we need not despair; we have brandy, laudanum, and æther. It is sufficient to state this reasoning, which, on Brunonian principles, is fair, to show its fallacy. Azote and hydrocarbonate, when breathed without dilution, immediately kill. Is this from deficient or excessive stimulus? If from the former, it differs in no degree from a sedative: if from excessive stimulus exhausting excitability, we can only say that the existence of the previous stimulus is gratuitous; and we have long since learnt, that, *quod verbo dicitur, verbo negare sat est.* If no stimulus appears, we cannot place sufficient confidence in any assertion to believe that it exists.

But these are harmless speculations. When we find them applied to practice, humanity shudders at the dangerous tendency of many of these doctrines. If we can trust reports, their application has been very extensively injurious. As the trammels of a system are every where conspicuous, so diseases are supposed to be either sthenic or asthenic. Those arranged under the former class are, *peripneumonia, phrenitis, variola, rubeola, erysipelas, rheumatism, cynanche tonsillaris, catarrhus, synocha, scarlatina, mania, pervigilium,* and *obesitas.* The *asthenic* diseases are, *macies, inquietudo, eruptio scabiosa, diabetes lenior, rachitis, menstruorum cessatio suppressio et retentio, mœnorrhœa, epistaxis, hœmorrhois, sitis vomitus et indigestio cum affinibus alimentarii canalis morbis, pueriles affectus* scil. *vermes et tabes, dysenteria et cholera, scorbutus, hysteria levior, rheumatalgia, tussis asthenica, pertussis, cystirrhœa, podagra validiorum et imbeciliorum, asthma, spasma, anasarca, colicodynia, dyspepsodynia, hysteria gravior, hypochondriasis, hydrops, epilepsia, paralysis, apoplexia, trismus, tetanus, intermittentes, dysenteria et colica gravior, synochus, typhus simplex, cynanche gangrenosa, variola confluens, typhus, pestilens et pestis.* The *local diseases* follow, among which we see with some surprise, the *internal inflammations of the abdomen, abortion,* and *difficult births. Deep wounds, suppuration, pustula, anthrax, bubo, gangrene, sphacelus, scrofulous tumours,* and *scirrhus,* may with more propriety be considered as local diseases, yet these often require general methods of treatment.

The cure is as simple as the arrangement. Bleeding, low diet, and purging, cure the sthenic diseases; stimuli, of different kinds and degrees, the asthenic. Is it surprising then that this system should have its admirers? The labour of study is at once abridged. The works of Galen and his followers may be again burnt in solemn state; and the degree of strength or debility registered on a scale, may be at once attacked by the appropriate weapon. Sad is the history which must follow. The victims of the yellow fever in the West Indies were often laid low after full doses of Madeira, bark, and laudanum. We have *seen* the hectics raised into a destructive flame by similar means; and the typhus fever aggravated by equally undistinguishing management.

We cannot pursue the list minutely, but shall take an instance or two from each class. Peripneumony is a sthenic disease, and is attacked, as usual, by bleeding and purging. If this plan be followed, the fever is mitigated, but the affection of the breast remains the same. For this, the only salutary discharge is the expectoration, which should be conducted with care. Of this discharge Dr. Brown takes no notice; and, unfortunately, active purging will not only supersede, but prevent it: and we have no hesitation in saying, that few patients treated in this way would survive. We might notice also scarlatina and erysipelas. Either, treated by active bleeding and purging, would soon prove fatal. The treatment proposed for the latter may succeed in Scotland, but in this metropolis would at once sink the patient irrecoverably. Once more: obesity is a disease to be cured by bleeding and purging. In fact, there is no state of the system in which these evacuations are borne with so little advantage. The truly inflammatory habit is the strong, thin, firm, muscular highlander, or the English mountaineer. The opposite state is the irritable, hysteric female, generally plump, but weak, and soon sunk by discharges.

In the second class we see the asthenic cough, by which Dr. Brown means consumption; and apoplexy. In each case we must use active stimulants. In the latter we have said they must *soon* be employed, but not without previously lessening the quantity of fluids in the head, clearing the bowels with the most active laxatives, and establishing some drain to prevent the secondary accumulation. Of these precautions not a word is said, and without them the physician will not be very successful. We know this, for we have witnessed the events, and we alluded to them in the article of APOPLEXY, when we spoke of the accumulation of stimulants, till it was uncertain to what the relief, or, more often, the failure was owing.

Of the fatal consequence of the stimulating plan in consumption, we have unfortunately had too many instances. With the best management the picture is gloomy; with the methods proposed it is deeply darkened. If there is any more striking feature than another in this complaint, it is increased irritability of the arterial system, and a larger proportion of oxygen in the fluids, with its accompanying irritation. Every meal of an animal nature increases the heat, the smallest quantity of wine or spirits raises it to a greater degree; and when again cooled, the patient sinks with languor and debility. Yet this is the disease treated with all the warmth of Brunonian stimulus! We are free to own that the lowering system has been carried too far; and that while we were guarding against fever, we neglected properly supporting the strength. The whole subject we shall have occasion to state at length, with the necessary distinctions; but the plan sanctioned by experience will be found far, very far distant from the practice recommended by Dr. Brown. Nor is the change in the plan to be attributed to him. It was suggested by experience, before the splendor of his coruscations had reached this country.

Of the gout we shall not again speak. Undoubtedly the system may be brought too low; and Dr. Brown, we suspect, would raise his arthritics too high. He himself suffered severely when he changed his free plan of living to a more abstemious one; but his case is not to be brought as an example, till *his* plan and its long continuance are more particularly known. We knew it; and in these more rational days, till we find similar plans have been adopted by our patients, we shall not recommend those in the work now before us, his own Latin edition, published in 1784.

Scurvy also is to be treated by stimulants; and these without the usual remedies, it is said by this author,

will succeed. Uniform experience has decided differently; and lemon juice *without* stimulants is, even at sea, found to be an effectual remedy. In the hooping cough, stimulants are also essential in Dr. Brown's opinion. Change of air is nonsense (fabula), and vomiting, death. It is somewhat surprising, that, in opposition to this dogma, hooping cough is seldom fatal, though these useless or dangerous remedies are employed, and with those recommended—but we have not heard of any one who has so far sinned against common sense as to employ them.

We have enlarged on this system and its application, because, as we have said, it is seductive from its simplicity, and the little labour required either in its study or its management. We have not dwelt on the minute investigation really required to adapt the stimulus to the state of direct or indirect debility in a given case; for, though we know that every disease varies in this respect, yet no provision is made for it in the system: the name and the class are only necessary. We observe, indeed, that Dr. Brown, in one or two instances, orders the stimulus to be somewhat less than that of the disease; but he no where points out the symptoms which discriminate its degree.

It is not wholly the neglect of distinguishing the degree of debility, either indirect or direct, and, of course, the proportion of stimulus to be employed, that renders the application of this system difficult or dangerous, but the very imperfect distinction of diseases. The descriptions are often the most meagre and imperfect; the diagnosis is seldom attended to. These, in fact, would require what the author never possessed, practical knowledge. The distinction also of different circumstances of a disease, which would require very different and often opposite treatment, is neglected; and when we find in the same class, to be treated with the same remedies, menstruorum, suppressio, and mænorrhœa, we shall begin to suspect that an attachment to system has precluded the observation of the operations of nature. When we see in the opposite classes, pervigilium and inquietudo, phrenitis and epistaxis, colica gravior and enteritis; in the same chapter the podagra imbeciliorum and validiorum, treated in the same manner, we cannot greatly rely on the judgment or practical knowledge of the author.

We had supposed the Brunonian system hastening to oblivion; but, in the last edition by *Dr. William Cullen Brown*, we are informed that it is generally adopted; and he asks triumphantly, what would have been the event had this system been promulgated from a professorial chair? Perhaps the delusion might have lasted longer, but the pupil will at last become a practitioner, and will bring his master's doctrine to the test of experience, nor any longer foster it than he finds it successful. His son speaks of the numerous converts to this new doctrine; but we have found few who, though they profess themselves the disciples of Brown, follow implicitly his system; and we have had numerous opportunities of remarking, that those who, on leaving the banners of Boerhaave, have adopted the nervous pathology, are rather Cullenians than Brunonians. Dr. Darwin, it is said, was a Brunonian before Brown was known: in reality, his language is in some parts nearly the same, but his practice, though peculiar, most remote; and, if the analogy is pushed further, the term should at least be altered, and the system styled *Darwinian*.

BRU'NUS. See Erysipelas.

BRU'SCUS. See Ruscus.

BRU'TA. (Arabic). That virtue of the celestial influence manifested by the brutes, as in the stork teaching the use of salt in clysters.

BRU'TIA. An epithet for the most resinous kind of pitch, therefore used to make the *oleum picinum*, said by Ray to be the same as the pisselæon of the ancients; for that was called by them *oleum picinum*; and was, according to Galen, a medicine made of oil and pitch. The pix *Brutia* was so called from *Brutia*, a country in the extreme parts of Italy, and made from the *tæda*, mountain pine.

BRUTI'NO. See Terebinthina.

BRU'TOBON. The name of an ointment used by the Greeks.

BRUTU'A. See Pareira brava.

BRUXANELI. (Indian). A tall tree in Malabar: its bark is diuretic. Raii Hist.

BRY'GMUS, (from *βρυχω, to make a noise*). A peculiar kind of noise, such as is made by the grating of the teeth, or their gnashing.

BRY'ON, (from *βρυω, to germinate*). Called *splachnon* by some: a kind of moss found on cedars, oak, &c. It is astringent.

BRY'ON THALA'SSIUM. See Alga.

BRYO'NIA, (from *βρυω, to abound*). So called from its abundance. It is a name for the white jalap; also briony.

Bryo'nia a'lba. White briony; called also *vitis alba*, vel *sylvestris; agrostis, ampelos, archeostris; echetrosis*, by Hippocrates; *bryonia aspera; cedrostis; chelidonium; labrusca; melothrum, ophrostaphylon; psilothrum;* wild vine. This species is chiefly used. It is the *bryonia alba* Lin. Sp. Pl. 1438.

It is a perennial rough plant, grows wild in hedges, and climbs up bushes, with curled tendrils: the leaves are in shape somewhat like those of the vine.

These roots are taken up in spring, and afford a thin milky juice, which hath a disagreeable smell, and a nauseous, biting, bitter taste: if applied to the skin, it blisters. If the root be dried, or its milky juice inspissated, they lose most of their acrimony and nauseous smell.

Externally, this root is powerfully discutient. Dr. Alston observes, that in swellings, strains, and stiffness of the joints, he has experienced surprising effects from it; in contusions, a decoction of it with the addition of wormwood, does great service. According to Bergius, it is a *purgative, hydragogue, emmenagogue*, and *diuretic;* the fresh root emetic: it has chiefly been employed in *dropsies*, in *asthma, mania*, and *epilepsy*. In small doses it is said to be diuretic, resolvent, and deobstruent. In powder, from ℈ i. to a drachm it is strongly purgative. The juice, which issues spontaneously, in doses of ʒ ss. or more, has similar, though more gentle, effects; but the watery extract acts more mildly than the powder, and with greater safety. The dose ʒ ss. to ʒ i. Of the expressed juice, a spoonful acts violently both upwards and downwards; but cream of tartar is said to take off its virulence. As a discutient, the catapla'sma bryo'niæ compositum is much re-

commended. Of briony root three ounces, elder flowers one ounce, are boiled till they become tender; to which are added half an ounce of gum ammoniac dissolved in vinegar, muriated ammonia two drachms, camphorated spirit one ounce.

BRYONIA NI'GRA. BLACK BRIONY; called also *tamnus*, *sigillum beatæ Mariæ*, *chironia*, *afronia*, *gynecanthe*; BLACK VINE, and the CHIRONIAN VINE. This plant climbs without tendrils, the leaves are smooth, and, like those of the great bind weed, it bears black berries; the roots and leaves are commended as expectorant. Raii Hist. According to Gerrard it is called *agriampelos*, but is a variety of the *b. alba*.

BRYO'NIA MECOACHA'NA NIGRA. BRYO'NIA PERUVIA'NA. See JALAP and MECHOACANA ALBA.

BRY'THION. (Greek). A malagma so called. It is described by P. Ægineta.

BRY'TIA, (from βρύω, *to devour*). The solid parts of grapes which remain after the must is expressed.

BRY'TON. Βρῦτον, (from βρύω, *to pour out*). A kind of drink made of barley or rice, which Aristotle calls *pinon*. It is said that those who are drunk with it never fall but on their backs.

BU'BALUS, (dim. of βοῦς, *an ox*). *Antilope bubalis* Lin. The BUFFALO; called *buffelus*, and *bos Indiana*. It is a kind of ox. This name it hath from the country in Asia from whence it was brought into Europe.

BUBASTECO'RDIUM, the HEART of BUBASTUS, (from *Bubastus*, and *cor*, *heart*). See ARTEMISIA.

BU'BO. A'BUBO, (from βουβών, *the groin*). Vogel names it *bubon* when in the groin; it is also named *cambuca*, *cambuca membrata*, *codocele*; by some it is called *fugile*, and *adin*. It is a tumid gland which is inflamed, or tends to suppuration: but it is generally understood only of those glands which are in the arm pits or the groin. Galen says, in his first book De Diff. Febr. 'a *bubo* is a kind of inflammation.'

Dr. Cullen ranks this genus of disease in the class *locales*, and order *tumores*. He defines it to be the suppurating tumour of a conglobate gland. See his Nosology, edit. 3.

Buboes are distinguished into MILD and MALIGNANT; the *mild* is that without manifest disease; the *malignant*, when excited by some pestilential or infectious disease, as the plague, or lues venerea.

The chief danger is from the bad habit of body, or some attendant disease: if neither of these accompanies the buboes, at the worst they are troublesome, painful, and tedious.

The cure of the mild kind will easily be effected by gentle mercurials externally applied, and occasionally a purge; though, if a suppuration threaten, it is best to encourage it, and proceed as in a common abscess.

A PESTILENTIAL BUBO is known by its appearing at the time of a pestilence, and being attended with its symptoms; though, indeed, the bubo is sometimes the first symptom. The appearance of a bubo, when the plague either prevails or attacks a person, is generally a happy presage, and in the management repellents must not be used, but suppuration encouraged; and as soon as a tumour appears, apply the speediest suppuratives, and second them by the use of cordial antiseptics inwardly. Its most common seat is the arm pit or groin. See PESTIS.

A VENEREAL BUBO very generally occurs in the groin, though, when the poison has been received in the hands or fingers, the arm pits are the seat; they tend very slowly to a suppuration, and are with difficulty healed when suppurated.

In the beginning, these tumours are sore if touched; hard, and gradually increasing, they become painful; if they tend to suppurate, an inflammation appears.

The distinction of bubo is of considerable importance. We shall not enlarge on pestilential buboes, only to urge the necessity of examining, during the prevalence of any epidemic highly asthenic fever, the groins and arm pits. The severity of the regulations in former eras respecting those affected with the plague, has led to the most dangerous concealments. We shall continue to speak exclusively of the venereal bubo.

Swellings in the groin may arise from hernia, from a retention of the testicle at the ring of the muscle, from a general scrofulous habit, or from poison absorbed from any part of the lower extremities. Those who are accurately acquainted with the situation of the lymphatic glands, which receive the absorbent vessels from the penis and from the lower extremities, for their situation is different, will not be easily deceived. It is not, however, usually suspected, that the latter are nearer to the root of the penis than the former. Those also well acquainted with the situation of the ring of the muscles, will not easily mistake a hernia for a bubo. But error is more easy in this, than in the former case. If therefore the tumour be hard, if it does not recede on lying back, if it has not receded in its earlier stages, if it does not force down on coughing or sneezing, and if the state of the bowels have not influenced it, the disease is either a bubo or a scrofulous swelling: the latter, however, is scarcely ever single. A chain of small obstructed glands occupies the groin, and the scrofulous diathesis is, in other respects, obvious. We omit mentioning the previous venereal complaints; for these are often industriously concealed, or it may happen that a bubo is the first symptom. The testicle, when detained, sticks at the ring of the muscle; but, were the situation not sufficient to discriminate the complaint, the want of one testicle would immediately lead to a suspicion and a full examination.

It has been usual to consider buboes as arising from irritation on the glans penis and mouths of the absorbents, or from the absorption of matter. The idea is consoling to the patient that the swelling is not venereal, but we fear it is fallacious. We know of no instance of irritation conveyed from the opening of a lymphatic to a gland, except by poison. No one will trust his health to this idea, and the distinction may be neglected. We know that some buboes yield easily, but we should not, on that account, be less apprehensive of lues following. A secondary bubo, viz. a deposition of venereal virus from the habit of the gland, has certainly no existence. The virus is directed to very different organs, and the opinion has been adopted in consequence of the deceit of patients, who are unwilling to confess the probability of a more recent infection.

It has occasioned some dispute, whether a bubo should be discussed, or brought to a suppuration. Two ideas have influenced either opinion; one, just noticed, respecting the source of the bubo from irritation; the

other, that the virus is there arrested, and if suppuration can be produced, may be evacuated without injury to the system. If, however, we examine injected lymphatics, we shall sometimes find, that of the numerous vessels directed towards a gland, some will not enter its substance, but pass over, or one side; nor can we be certain that, previous to the inflammation, some portion of the virus may not have been carried into the blood. To trust, therefore, to the opinion, that the poison can thus be arrested in its passage, is highly dangerous; and we lose a strong argument in favour of promoting suppuration. It is then reduced to a question of convenience; and there can be little doubt of the propriety of resolution, since in each view a mercurial course is indispensable.

To discuss buboes emetics have been employed. They undoubtedly promote absorption, but the most violent ones are requisite, and they are seldom necessary. Mercurial frictions on the part have been recommended, to extinguish, it is supposed, at once the peculiar virulence of the poison. In general, however, these from their irritation may produce inflammation; and, though for the ease of the patient's mind some part of the ointment should be rubbed on the bubo, the larger portion should be employed on the thigh, the groin, and perinæum. We reserve the discussion of the specific action of mercury at present. Cold applications freely employed have been useful; and the volatile liniment, rubbed *around* rather than *on* the tumour, has assisted the resolution. Leeches have been applied in the neighbourhood when inflammation has begun; and whatever plan be adopted, the patient should be kept on a low cooling diet and at rest, while frequent laxatives are interposed.

When we can thus succeed in discussing buboes, the remaining treatment will be that of syphilis. If, however, we fail, and suppuration is indispensable, we may be apprehensive of fatal effects from too great inflammation or irritation. In this case the most cooling medicines, with opium and bark, are necessary. In general, the irritation proceeds, *pari passu*, with the inflammation; and the cooling plan cannot be carried far, before the latter medicines are necessary. As the disease is before our eyes, we can distinguish the degree of inflammation, and be able to account for the symptoms we perceive. During the suppuration of a bubo, it is the most judicious practice to leave off mercury.

When, however, the suppuration proceeds tardily, a mercurial course will accelerate it; and in such circumstances, wine and other cordials are requisite. In these situations we can often discuss buboes, even when they appear hastening to suppuration. Poultices of the mandragora and mezereum have been employed for this purpose.

Disputes have also arisen respecting the opening of the buboes. We certainly run little risk in suffering them to remain till they are soft, and the fluctuation of matter is evident; but we would then advise opening them, and employing the knife rather than the caustic. The latter is preferable when, from symptoms of irritation, a discharge is necessary before the abscess be quite ripe.

When the abscess is formed, it must be treated according to the usual methods, stimulated, and the constitution supported by bark and wine, if the circulation be languid; but by a contrary plan if irritable and inflamed. In either case mercury is improper; but, in intermediate circumstances, we may begin our mercurial course with little hesitation.

When sinuses are threatened, the stagnation of matter must be guarded against: if formed, they must be opened. We have seen the opening of a single sinus give such a stimulus to the neighbouring parts, that the sore has soon assumed a healthy, instead of a cancerous aspect, without any other application. When mortification threatens, bark, wine, and opium, are necessary; when cancer, hemlock. Yet we suspect that real cancer has never been the consequence of a venereal bubo. We have never at least seen it in a long practice, nor have been informed of such an event by a competent witness. See LUES VENEREA, and ABSCESSUS INGUINIS.

See Heister's Surgery. Astruc on the Venereal Disease, or Chapman's Abridgment of Astruc. Bell's Surgery. Wallis's Sydenham, vol. i. 143. White's Surgery, 20. Plenck on the Lues Venerea; Swediaur and Bell on the Venereal Disease; Hunter; Foot.

BU'BON, (from βουβων, *the groin*).

BUBONOCE'LE, (from βουβων, *the groin*, and κηλη, *a tumour*). It is also called *hernia inguinalis*, or RUPTURE of the GROIN, when the intestines are forced through the ring of the external oblique muscle of the belly. When through the cavity in the thigh, between the *musculus pectineus* and *sartorius*, it is called *hernia femoralis*, or *cruralis*.

The cause may be great distention of the bowels from wind, violent exercise, as leaping, or lifting burdens. A relaxation of the ring of the muscle is not an uncommon cause, and on this account the disease is sometimes hereditary. In lean persons the ring is also frequently relaxed, and in fat people the weight of the parts will occasionally bring them down.

The signs are, a tumour in the groin, or upper part of the scrotum, beginning at the ring of the abdominal muscle, and extending more or less downward, towards or into the scrotum in men, and the labia pudendi in women. This tumour appears different to the touch, according to its contents. If a portion of the ilium forms the tumour, its surface is smooth and elastic, but much more so if the patient coughs and sneezes. If only a piece of the omentum hath slipped down, the tumour is more flabby when felt, its surface is more unequal, and it makes less resistance to the finger. If both the intestine and omentum have descended, the diagnostics will be less distinct, and it requires generally some experience to assist in judging of what can hardly be learnt by description.

The distinction of bubonocele is of considerable importance, and the greatest injury has been done by mistaking it for bubo, for hernia humoralis, for cancer of the testicle, and hydrocele. Of the symptoms distinguishing it from bubo we have just spoken. Hernia humoralis, or a swelled testicle from venereal irritation, is distinguished by the symptoms of its attack; for the latter is preceded by a hardness of the epididymis, followed by a hardness and acute pain of the body of the testicle itself, while the hernia is not equally painful, till external inflammation, and other symptoms of affections of the bowels, sufficiently point out its nature. It could scarcely be supposed that a cancerous tumour

of the testicle could be mistaken for hernia, had we not seen the error committed. The slow progress of the swelling, the scirrhous feel, and the undisturbed state of the bowels, sufficiently discriminate the two diseases. The dropsy of the tunica vaginalis testis is most often mistaken for hernia. This, however, feels more smooth and equable; a fluctuation can be perceived, a transparency, when a candle is placed on the opposite side, is obvious: and if we can observe its progress, we shall find that it begins at the bottom of the scrotum, gradually rising upwards, and the spermatic cord is generally free; while in hernia, the enlargement is felt from above downwards. The increase of the tumour on coughing or sneezing, and the obstructed state of the bowels; above all, its receding or lying back; are fully sufficient, even for the less experienced practitioner, to discriminate the two diseases.

One other complaint should be noticed as sometimes confounded with bubonocele, viz. the varicocele, particularly the varices of the spermatic cord. These are forced down in coughing, and disappear in a recumbent posture. The distinction is not difficult. When emptied from a recumbent posture, if a finger is placed on the ring, and the patient raised, the tumour will reappear should it be from varices, but not if it is a hernia.

The ring of the muscle so often mentioned, is an aperture in the tendon of the external oblique, formed by the splitting of its fibres. Through this passage the testicles in the fœtus, or soon after birth, descend; and the spermatic cord is, by the testicle, drawn down through it. No process, except the occasional accumulation of fat, contributes to close it, and through this aperture the intestines descend. Though authors speak of *the* ring, yet there are two; for another aperture is formed by the tendons of the internal oblique and transverse muscle behind, and a little on the outside of the other ring. Though we have said nature has not closed the aperture, yet the ring is drawn close by the action of the external oblique; and this action, while it often prevents rupture when it has occurred, occasions what is called strangulation. The term is perhaps improper, as the tendon is not capable of contracting. In reality, the distention of the bowels occasions the contraction of the external oblique, which draws the fibres of the tendon closer; while the distention of the portion of intestine filled with air, contributes to fill more completely the contracted aperture. The internal ring is more muscular, and may be spasmodically contracted.

The symptoms of all intestinal herniæ are those of ilius; and in every case of violent colic, the practitioner should always examine whether some hernial tumour can be discovered. The pain is generally most violent at the pit of the stomach, as the omentum, which accompanies the intestine in the sac, is dragged down with it. The pain goes on increasing, incessant vomiting comes on, and what is discharged is at first watery, then bilious, and lastly, feculent; stools are obstinately retained, and mortification closes the scene. Vomiting and hiccough frequently occur in herniæ; and the cause will be obvious when the connection of the omentum with the stomach is considered. The pulse is at first hard, but when mortification and cold sweats come on, it is softer and more regular, but soon becomes small, frequent, and tremulous.

When a hernia comes down, if the patient is strong and plethoric, some blood may be taken, and a clyster injected; the reduction is next attempted.

To reduce the hernia merely by the hand, without cutting or eroding the part, is called TAXIS; and when it is thus reduced by the hand, if the rupture consisted of a portion of the intestine only, it generally slips up at once. The posture of the patient, if laid on his back, with his heels brought near to his buttocks, assists the return of the protruded parts: if a piece of the omentum is the contents, its return is not so speedy; if there are both omentum and intestine, the latter ascends first, and the former feels flabby, but soon after follows also. Sometimes after the intestine is returned, a soft knotty substance remains unreduced, and resists all the efforts to reduction, until the patient's vessels are emptied by bleeding, repeated purges, and a low diet; the varicous feel which this substance hath, seems as if it was the mesentery with its vessels distended.

In infants the reduction is generally easy, and as they acquire strength they are less subject to a relapse. In the vigour of life the return is generally more difficult, and the neglect or bad management more dangerous.

It often happens that raising the buttocks while the body is depending, will alone succeed. Should this not be the case, the surgeon should grasp the tumour with one hand, press it steadily upwards and outwards, while with the fingers he begins to reduce the last protruded portion. Should he succeed in part, the rest soon follows, and the patient is relieved. If he fail, different plans have been advised.

Of the remedies, copious bleeding is the first, and often an indispensable one. When the patient faints, the tumour often spontaneously recedes. Purgatives have been next employed, and absurdly given by the mouth; we say absurdly, because, by increasing the peristaltic motion *above the tumour*, it rather adds to the disease. It has been usual to join the purgatives with opium to relax the stricture, while the purgative contributed to conquer the constipation. In such cases, however, the purgatives are so often retarded by the opium, as to lose their effect; and should this combination succeed, it must be attributed to the opium only. Purgatives injected as clysters are not liable to the same inconvenience; for the increase of the peristaltic motion *below the tumour*, has a tendency to draw back the intestine. Soap, particularly the black soap, is highly useful in this way; and purgatives of the most active nature, and of every kind, have been employed. The most ready and advantageous one, however, is the infusion of tobacco in clyster. From half a drachm to two scruples of tobacco may be infused in ten or twelve ounces of boiling water for ten minutes, and injected as a clyster. It is not only useful as a laxative, but produces so much languor and fainting, as often to occasion the gut to recede without other assistance. The digitalis also seems chiefly useful, by producing syncope.

It has been usual to apply warmth in every form to the hernial sac, with a view probably of relaxing the ring; but it was not considered that even if this effect was certain, that the flatulent contents of the sac would be enlarged in a greater proportion, and even the substance of the intestine itself. We believe it has seldom succeeded; and when useful, the faintness induced by its

continuance has been the chief cause of the relief. The warm bath for the same reasons has sometimes succeeded, but much oftener failed; and we think that, in many cases, it has accelerated mortification. The contrary method is now more advantageously adopted; ice and snow have been applied with success to the hernial sac. When these cannot be procured, the coldest water, often renewed, has been of service; and water cooled artificially has been used. The most ready way of cooling water is to suspend it in a *wet* bladder to a current of air, and the effect will be increased if the outside of the bladder be moistened with æther, carefully purified from the acid. A solution of nitre with sal ammoniac will be equally effectual, in the proportion of eight parts to five; and with management, by further cooling water first artificially cooled, all the effects of ice may be procured even in summer. The constant application of cold has thus often succeeded, and it is one of the most valuable improvements of modern practice.

All will in many cases fail, and the operation, though dreadful, and often fatal, must be attempted. Yet there is one further step to avoid it, viz. to dilate or divide the ring, to prevent strangulation, and suffer the tumour to remain. This is the advice of Dr. Monro, and we think it merits more attention than it has received. This operation is not formidable, is not perhaps highly dangerous; and should it be performed hastily and unadvisedly, does not prevent reducing the rupture at a subsequent period. The danger and the severity of the operation have occasioned its being too long delayed; but though it succeeds in some apparently desperate cases, it fails in others where the prospects were more favourable. The external appearances of mortification are undoubtedly among the symptoms which would render it unsuccessful, since mortification takes place in the intestine before it is communicated to the integuments, and is, of course, more violent in degree in the former than the latter part. Feculent or putrid vomitings have been considered as highly unfavourable to success; yet even in such instances the patient's life has been saved. Mr. Cooper thinks that a general soreness in the abdomen is the chief symptom which should prevent the attempt.

In Mr. Home's opinions, the symptoms are influenced by the state of the gut. If no inflammation has taken place in it, the consequences of obstruction only are observable. When inflammation takes place, there is a general soreness, with constant vomiting, that does not relieve, and considerable depression of spirits. When the stricture produces mortification, all the unfavourable symptoms are observed, and a general coldness comes on. The last symptom is decisive against attempting the operation.

To proceed in the operation, the pubes and groin should be shaved; and, in order to have as much empty space as possible for the return of the protruded parts, the patient should be advised to empty his bladder entirely. The patient being then laid on his back, on a table of a convenient height, with his legs hanging easy over the end of it, with a straight dissecting knife an incision must be made through the skin and membrana adiposa, beginning just above the ring of the abdominal muscle, and continuing quite down to the inferior part of the scrotum. Upon the division of the membrana adiposa, some small tendinous bands appear distinct from each other, lying close upon the hernial sac, which is next to be divided with the utmost caution, as the sac is thinner in some parts than in others: even the external incision of the teguments ought to be made with great care; for although, in by much the greatest proportion of hernial swellings, *the spermatic vessels lie behind the protruded parts, yet on some occasions they have been found on the anterior part of the tumour;* so that, in order to avoid the risk of wounding them, so soon as the skin is divided, the remainder of the operation must be done in the most cautious manner, care being taken to avoid every large blood vessel that makes its appearance. The incision in the sac is best made about an inch and a half, or two inches, below the stricture, and need be no more than such an aperture as will just admit the extremity of the probe. If the probe will pass freely up and down, enlarge the opening with a probe pointed bistoury, sufficient to introduce your finger to divide the whole, remembering to divide it first downwards, which gives more room, and lessens the hazard of the intestines being wounded by the knife, which might easily happen in dividing it in the opposite direction. The fore finger is the best of all directors, and upon that finger a narrow bladed curved knife, with a bold probe point, will be the only instrument necessary to finish the operation. With this knife on the finger the sac should be divided, first downward to the bottom of the scrotum, then upward to the ring. Upon the first division of the hernial sac a fluid is discharged, differing in quantity and colour in different patients. The sac being fairly divided up to the ring, the intestine pushes out, and seems to be more in quantity than it did while in confinement. At this juncture, if the quantity of the protruded intestine is not very great, try to reduce it by first pulling down a little more, for thus, its bulk being lessened, it perhaps may pass without dividing the ring; if this does not succeed, the probe pointed knife, conducted on the fore finger, will immediately divide the upper part of it, and set all free. The sac and ring divided, the contained parts come into view, and, according to their different states, will be variously managed. If SOUND, immediately reduce them, remembering that the parts last protruded should be first returned. Slight adhesions may be separated with the finger, or snipped with the scissors. If the parts are so adherent as not to be capable of being returned, remove the stricture by dividing the sac and ring, and leave the prolapsed parts in the scrotum as you find them; but this case seldom happens. If the contained parts are mortified, death will be the issue; but if the mortification is not very extensive, return them, and trust to the efforts of nature, and the effects of medicine. If the intestine is mortified, make a ligature and fix it to the wound; thus the fæces will pass out at the aperture, and the patient may live many years after.

Herniæ in women are treated as in men, but in them the disease is less common, as the aperture is much smaller, not requiring the passage of a body so large as the testicle, but only the round ligaments. Women, however, more frequently conceal the disease, and we must be more attentive to the cause of every kind of violent colic. One inconvenience arises from not distinguishing in them the inguinal and femoral hernia, since the tumour in each species is not very distant, and the mode of reduction is different. If the operator feel

with his finger the course of Poupart's ligament, and find the neck of the tumour above its edge, the hernia is inguinal; if below, femoral: as, in the male, the intestine is sometimes not protruded beyond the external ring, and the disease may remain undiscovered.

After the operation, the patient must be laid in bed, with his body somewhat raised, and an opiate administered. A clyster should be soon given, and immediately after its operation, a mild but effectual laxative, as manna, castor oil, or the pulv. è senna c. administered. The wound, dressed in the common way, should be secured by a T bandage. The consequent bad symptoms are those chiefly of irritation from air admitted into the cavity of the abdomen, or mortification. Bark and opium are the chief remedies, and must be administered in proportion to the violence and nature of the complaint. The bowels must, however, be kept open with the greatest attention.

When a hernia has been of long continuance, adhesions between the gut and the sac, and between the contiguous portions of the gut, take place. Greater caution must be used in opening the sac when adhesions are suspected; and those between the gut and the sac must be carefully separated. If the disunion of the others be not easy, the intestine should be returned without its being effected. When the separation of the gut from the sac is found difficult, a part of the latter may be separated and returned with the gut.

The omentum often causes much uneasiness. If gangrenous, the diseased portion may be cut off. In general the vessels are small, and little hæmorrhage occurs; but this is sometimes considerable, and it is necessary to tie a vessel, or even two. In this case the ends of the ligature should be brought beyond the wound, and they will soon separate. The method of separating the mortified portion of the omentum by a ligature, is often inconvenient from the irritation it induces, and no injury happens from dividing it.

When a portion of the intestine is mortified, it has been recommended to separate it, and unite the sound portions of the gut by ligatures, or, by placing them in contact, to leave the union to nature. This plan has been suggested by nature occasionally separating a mortified part of some extent, while the canal was not interrupted. It is impossible in this place to enlarge on the minute details which such an operation requires; and the reader will find ample information in Mr. A. Cowper's most excellent work on hernia.

The portion of gut found in hernial swellings is very various, no part of the intestinal canal being entirely exempted from falling down. Hitherto the ileum has been commonly supposed to form the substance of the greatest proportion of such tumours: later and more accurate observation, however, renders it probable that the cœcum, appendix vermiformis, and part of the colon, are more frequently contained in the hernial sacs than any other portion of the gut.

See Pott on Ruptures, Le Dran's Operations in Surgery, Sharp's Operations of Surgery. Lond. Med. Obs. et Inq. vol. iv. Bell's Surgery, vol. i. White's Surgery, 318. Cowper on Ruptures. Monro on Herniæ.

BU'BON GAL'BANUM. See Galbanum.

Bu'bon Macedo'nicum. See Apium Macedonicum.

BU'CCÆ, (from the Hebrew term *bukkah*). The cheeks. Hippocrates terms them *cyclos;* the cheek is also called *gomphale*, *gela*, *maxilla*, *melon*. They are the sides of the face; and reach from the eyes and temples between the nose and ears. The upper prominent parts of the cheeks are called Mala, which see.

BUCCACRA'TON, (from *buccella*, *a morsel*, and κρατω, *to mix*). Morsels of bread sopped in wine, which formerly served for a breakfast.

Paracelsus calls by the name of bucella, the carneous excrescence of a polypus in the nose, because he supposes it to be a portion of flesh parting from the bucca, and insinuating itself into the nose.

BUCCA'LES GLANDU'LÆ, (from *bucca*, *the cheek*). The small glandular bodies on the inside of the cheeks. They open by small holes or orifices through the inner membrane of the mouth. Winslow.

BUCCEA, BUCCELLA. A morsel.

BUCCELATIO, (from *buccellatus*, *cut into small pieces*). A method of stopping the blood by applying lint, cut into small square pieces, upon the vein or artery.

BUCCELA'TON, (from *buccella*, *a morsel*. *Buccella purgatoria*, and *buccellatus*. A purging medicine, made up in the form of a loaf, consisting of scammony, &c. put into fermented flour, and then baked in an oven.

BUCCE'LLA. See Bolus, Buccacraton, and Buccelaton.

BUCCINA'TOR MUSCULUS, *constrictor musculus*. The trumpeter's muscle, (from βυκανον, *a trumpet*). It is thus named because of its use in forcing the breath to sound the trumpet. It has two distinct beginnings on each side, one tendinous and fleshy from the lower jaw, between the last dens molaris and the root of the fore part of the processus coronæ; the other is fleshy from the upper jaw, between the last dens molaris and the processus pterigoides, from whose extremity also it arises tendinous, being continued between these two origins to the pterigo pharyngæus on one side, and the mylo pharyngæus on the other; from thence proceeding with straight fibres, and adhering to the membrane that covers the inside of the mouth, but without touching the gums of either jaw. It is inserted and lost in the angle of the lip. By its substance on each side it constitutes the cheeks, and through its middle the *ductus salivalis superior* passes. Its use is not only to move the cheeks with the lips, but also to contract the cavity of the mouth by bringing them inwards, and so thrust the meat between the teeth for its better comminution.

BU'CCINUM, (from *buccino*, *the trumpet*). So called from its trumpet-like shape. The whelk. Whelks calcined have the same effects as the purple fish, but are somewhat more caustic. The shells filled with salt, then burned in a crude earthen pot, make a good dentifrice. It is a sea shell fish, of which there are many sorts, but the shells are all absorbents.

BU'CCULA, (a dim. of *bucca*). The cheek. The fleshy part under the chin.

BU'CERAS, or BU'CEROS. See Bouceras.

BUCRA'NION, (from βους, *an ox*, and κρανιον, *a head*). So called because it resembles an ox's head. See Antirrhinum.

BU'CTON. See Hymen.

BU'FFALO. See Bubalus.

BU'FFELI. A ring made of the horn of a buffalo, which is worn on the ring finger to cure the cramp.

BU'FO, (from βους, *an ox*, and φονος, *death*). So called because it is death to any cattle which eat them. The TOAD; also called *rubeta*, *rana rubeta*. The *toad* is of the frog kind, and of the number of those animals which have only one ventricle in the heart. It is much like the frog, but its belly is more inflated, and skin more full of tubercles; it is of an ash colour, with brown, blackish, and yellow spots. It does not croak like the frog, but makes an indistinct noise that is obscure, and like the word *geu*, or rather *bu*, from which some suppose it is called *bufo*. It is said to have its name *rubeta* from *rubus*, because it is often found under bramble bushes.

There is a very poisonous species in America called *cururu* by the Brasilians, and *capo* by the Portuguese.

The common *toad* was first introduced into medicine from a cure being performed on an hydropic person, to whom powdered *toads* were given in order to despatch him, but he voided a large quantity of urine after taking them, and soon recovered of his disorder. Since this, *toads*, gently dried and powdered, have been used as a diuretic, but the present practice rejects them. They have also been applied alive to cancers to suck the virus, a method of extracting it said to be fatal to the animal; the plan is, however, disused, probably from its want of success.

BUGA'NTIA. CHILBLAIN. See PERNIO.

BUGLO'SSUM, (from βους, *an ox*, and γλωσσα, a *tongue;* so called from the shape and roughness of its leaf). BUGLOSS; called also *buglossum angustifolium majus*, *buglossum vulgare majus*, *buglossum sativum*. GARDEN BUGLOSS. *Anchusa officinalis* Lin. Sp. Pl. 191.

The *garden bugloss* is a rough plant, resembling borage, and differing from it chiefly in the leaves being narrow, less prickly, not wrinkled, and of a bluish green colour, and in the segments of the flowers being obtuse. It grows wild on waste grounds in the southern parts of Europe, is cultivated with us in gardens, flowers from June to the end of summer, and in winter it dies to the ground, but the roots continue. It is a name of the *borrago*, and as a medicine is nearly similar, but its roots are less mucilaginous.

BUGLO'SSUM RADICE RUBRA. See ANCHUSA.

BUGO'NES, (from βους, *an ox*, and γινομαι, *to be bred*, or *generated of*). An epithet for bees, because the ancients thought them to be bred from the putrefaction of an ox. See APES.

BU'GULA, (a dim. of *buglossa;* and said to be so called from its resemblance). BUGLE. Called also *consolida Media*, *prunella Germanis*, *symphitum medium*, and MIDDLE CONSOUND. The sort used in medicine is the *ajuga reptans* Lin. Sp. Pl. 785.

It is a low plant, with round, creeping, and upright square stalks. They bear loose spikes of blue flowers; the leaves are somewhat oval, soft, and set in pairs about the joints of the stalks. It is perennial, found wild in woods and moist meadows, and flowers in May. It is mildly astringent; the root is the most so.

BULA'T WELA. See BETLA.

BULBOCA'STANUM, (from βολβος, *a bulb*, and καστανον, *a chestnut,*) *agriocastanum*, *nucula terrestris*, *balanocastaneum*, *bulbocastanum majus et minus*, EARTH NUT, HAWK NUT, KIPPER NUT, and PIG NUT. *Bunium bulbocastanum* Lin. Sp. Pl. 349. The *b. flexuosum* of modern authors appears to be specifically distinct, and similar in its qualities.

This root is as large as a nutmeg, hard, tuberous, and whitish. It grows in sandy and gravelly places; flowers in May; is eaten either raw or roasted. It is sweetish to the taste, nourishing, and supposed to be of use against strangury and bloody urine.

BULBOCO'DIUM, (from βολβος, *bulbus*, *bulbous*, and κωδια, *a globe*). So called from its round bulbous root. See NARCISSUS LUTEUS SYLVESTRIS.

BU'LBONACH. (German). Called also *viola lunaris*, *lunaria major*, *leucoium lunatum*, SATIN and HONESTY. *Lunaria rediviva* Lin. Sp. Pl. 911.

The root is knotted, whence the name *bulbonach;* the seeds are large, red, and acrid to the taste. It grows spontaneously in Germany and Hungary, is sown in gardens in England; and is said to be a warm diuretic. Raii Hist. Modern practice, however, rejects it.

BUL'BUS, vel BO'LBOS, (from βυ, a particle of excess, and λαβη, from λαμβανω, *to take*, because it is easily taken hold of from its roundness). Blancard.

BUL'BUS ESCULE'NTUS, such bulbous roots as are commonly eaten.

BUL'BUS VOMITO'RIUS, called also *muscari*, ASH COLOURED GRAPE FLOWER, *muscari obsoletiore flore*, *hyacinthus racemosus moschatus*, *sibcadi*, *dipcadi*, and MUSK GRAPE FLOWER. *Hyacinthus muscari* Lin. Sp. Pl. 454.

It hath a leaf as flexible as leather; the root is bulbous, covered with a black rind, and is emetic and diuretic. It grows in gardens about Constantinople, and in other parts of Asia. Raii Hist.

BU'LBUS SYLVESTRIS. See NARCISSUS LUTEUS SYLVEST.

BULI'MIA, BULIMI'ASIS, and BU'LIMUS. See BOULIMUS.

BULI'THOS, and BULITHUM, (from βους, *an ox*, and λιθος, *a stone*). A stone found in the gall bladder, kidneys, or urinary bladder, of an ox. See CAPRA ALPINA.

BULLA. A BUBBLE; a VESICLE. An elevation of the cuticle of a large size, irregularly circumscribed, and containing a transparent watery fluid. Clear vesicles arising in the eye, or from burns or scalds, are called BULLÆ. Vesicles, with a dark red, or livid coloured base, are usually denominated PHLYCTENÆ.

BULLION, (from the French *billon*). Gold or silver in the ore, or imperfectly refined.

BULLO'SA FEBRIS, (from *bulla*, *a bubble*). An epithet applied to the bullous or vesicular fever, from the appearance of the eruptions attending it. See PEMPHIGUS.

BUME'LIA, (from βυ, a particle of increase, and μελια, *the ash*). See FRAXINUS.

BU'NA. See COFFEA.

BUNIAS, vel BOU'NIAS, (from βουνος, *a hill*, because it delights in rugged places,) called also *actine*, *napus:* NAVEW. It is a plant of the turnip kind, with oblong roots, growing slender from the top to the extremity. Linnæus supposes the wild and sweet *navew* to be varieties only. It is also the *napus sativa*, *napus dulcis*, NAVEW GENTLE—RAPE, FRENCH NAVEW, SWEET

NAVEW, and FRENCH TURNIP. *Brassica napus* Lin. Sp. Pl. 931. Nat. order *cruciferæ*.

It is cultivated in gardens for the kitchen. The roots are warmer and more grateful than the common turnip, and afford a juice supposed to be pectoral.

The seeds of both sorts are warm and pungent, approaching to the virtues of mustard, but much inferior in their efficacy. Water extracts all their virtues. They yield by expression a large quantity of oil, which is sold under the name of rape oil: the wild sort is cultivated for this purpose. The cake remaining after the oil is expressed retains the acrimony of the seed.

There is a species which Galen prefers to the above; is called *pseudo bunium*, or *napus sylvestris cretica*, or CANDY WILD NAVEW; a variety only. Dale.

BUNI'TES VI'NUM, (from *bunium, wild parsley*). WINE of BUNIUM. It was formerly made of *bunium*, two drachms; and must, four pints.

BU'NIUM, (from βουνος, *a little hill;* so called from its tuberosity). WILD PARSLEY; also called *daucus petroselini*, or *coriandri folio; saxifraga montana minor. Seseli montanum* Lin. Sp. Pl. 375. It grows in stony places, and is somewhat warm and diuretic.

BUPEI'NA, (from βυ, a particle of increase, and πεινα, *hunger*). See BOULIMOS.

BU'PHAGOS, (from βυ, and φαγω, *to eat*). The name of an antidote in Marcellus Empiricus, which created a voracious appetite.

BUPHTHA'LMUM, (from βους, *an ox*, and οφθαλμος, *oculus, an eye;* from its resemblance to an ox's eye). OX EYE, or OX EYED, named *boanthemon*. In Myrepsus it is called *crespulum*.

BUPHTHA'LMUM CO'TULÆ FO'LIO, also *cotula flore luteo radiato*, is the camomile like *ox eye*.

BUPHTHA'LMUM GERMA'NICUM, called also *bupthalmum tanaceti minoris folio, chamæmelum, chrysanthemum, buphalmum vulg.* COMMON OX EYE.

BUPHTHA'LMUM VE'RUM, called also *buph. perigrinum, tenuifolium folio mille folii fere, chrysanthemum cotulæ folio, cotula flore luteo radicato, cachlan*, OX EYE.

These are all species of the anthemis or bupthalmum, resembling the camomile flowers. It is unnecessary to distinguish them, as the flowers of the common daisy are sold for them, and they possess no real medical virtues.

These plants have tender stalks, with leaves like those of fennel, and yellow flowers resembling an eye. They grow in fields near towns. All the species are commended in the jaundice, perhaps because they are yellow.

BUPHTHA'LMUM CRETICUM. See PYRETHRUM.

BUPHTHA'LMUS MA'JUS. See BELLIS MAJOR.

BUPHTHA'LMUS. A DISTEMPERED EYE, (from βους, *an ox*, οφθαλμος, *oculus;* from its largeness like an ox's eye). See EXOPHTHALMIA.

BUPLEUROIDES, (from βοπλευρον, and ειδος, *forma*). A plant which much resembles the bupleurum. *Phyllis nobla* Lin. Sp. Pl. 335.

BUPLEU'RUM BUPLEU'RON, (from βυ, *large*, and πλευρα, *a rib;* so called from its having large ribs like filaments on its leaves). HARE'S EAR. *Bupleurum falcatum* Lin. Sp. Pl. 341. Also called *auricula leporis, perfoliata*, and *hysopifolium*. It grows on hilly places in France, flowers in July and August, is detersive and diuretic. Dale. For that called BUPLEU'RON ARBORESCE'NS SA'LICIS FO'LIO, see LASERPITIUM VULGARIUS.

BUPRE'STIS, (from βους, *a cow*, and πραστω, *to burn;* so called because they destroy cattle which eat it). The BURN COW. They are a kind of cantharides, and are possessed in some measure of the same virtues. It is also a name of an herb which was in much esteem among the Greeks as an esculent one.

BURGOUT, a dish composed of oatmeal and water boiled to a moderate consistence, and eaten with butter. —It is a sailor's and a highlander's aliment.

BURHA'LAGA. See EMPETRUM THYMELÆ FOLIIS.

BURI'NA, and BURNEA. PITCH. See PIX.

BURIS, a scirrhous hernia, or a hard abscess. Avicenna.

BURNING, or BRENNING, a disease mentioned by old historians, from which authors have unsuccessfully endeavoured to demonstrate the antiquity of SYPHILIS, q. v.

BU'RRHI SPI'RITUS MATRICA'LIS. Burrhus's spirit for disorders of the womb, is made with myrrh, olibanum, and amber, in spirit of wine.

BU'RSÆ MUCO'SÆ, (from *bursa, a purse*). Called also *bursæ tendinibus subjectæ*, and *sacculi mucosi*.

It is said that Bellini first observed these bags, but Douglas first described them. Their office is to facilitate the motion of the tendons, where they play upon one another, or upon a bone, and for this purpose they contain a lubricating mucus.

Bell's Surgery, vol. v. 479. Monro's Description of the *Bursæ Mucosæ*, and their diseases.

Mr. Gooch, in his Observations, takes notice of a wound in one of these bags on the side of the knee, which, from the discharge, he concluded to have been from the bursal ligament, but it healed kindly, and led him to suspect that these bags may be the seat of disorders not yet noticed. He hath also given the following list of them.

1. DELTOIDES. A large one situated under this muscle, upon the acromion scapulæ.

2. BI'CEPS BRA'CHII. A small one investing the tubercle of the radius, both on the side where the tendon is fixed, and also on the other side where there is no tendon. It adheres strongly to the whole tubercle, and loosely to part of the supinator brevis, under which it lies, as well as under the tendon of the biceps.

3. ILI'ACUS INTE'RNUS ET PSO'AS. A large thin pliable one is found upon the ischium, beneath the tendons of the iliacus internus and psoas, as they pass down to their insertions in the os femoris. It is attached to these tendons, and to the anterior surface of the capsular ligament; and this sacculus sometimes communicates with the joint.

4. LATI'SSIMUS DO'RSI ET TE'RES MAJOR. One is situated between the extremities of the tendons of these muscles, adhering strongly to them.

5. GLU'TEUS MA'XIMUS. A large thin one, firmly connected by a small part of it to the back of the trochanter, immediately under the termination of the gluteus medius, and loosely attached to the rest of the trochanter and the tendon of the gluteus maximus.

6. GLUTE'US ME'DIUS. A small one situated between the termination of its tendon and that of the pyriformis, adhering to both.

7. GLUTE'US MI'NIMUS. A small thin one, attached to its tendon and the trochanter major.

8. GE'MINI. A small one between them and the termination of the obturator internus, connected to both, and to that part of the capsula of the joint which lies under the gemini.

9. BI'CEPS CRU'RIS. One is situated between the end of its tendon exteriorly, and the capsular ligament of the knee, adhering to both.

10. SEMIMEMBRANO'SUS. A small one lies between its tendon, which runs between the inner condyle of the tibia, and the capsular ligament of the joint.

11. CRURA'LIS et VA'STI. Behind the tendons of the cruralis and vasti there is a thin but large one, connected to those tendons before they join, and, after their junction, it is fixed to the patella. It also adheres to the capsula of the joint that expands itself over the bone.

12. GRA'CILIS, SARTORIUS, and SEMITENDINO'SUS. Under the extremities of the tendons of these muscles is a large one, adhering to them on one side, and on the other to the capsular ligament of the knee, and on the side where these tendons play.

13. GEME'LLUS. A large one lies under its inner head, firmly attached to its tendinous origin, also to the extremity of the semitendinosus, and the capsula of the knee near the anterior condyle.

14. SOLE'US. The tendon of the soleus passes over the upper part of the os calcis, between which and the bone lies a large sacculus, and near that is found a glandular body which furnishes a mucous fluid for the more effectual lubrication of these parts, that are in such constant motion in walking.

15. TIBIA'LIS ANTI'CUS. A small one is fixed to the tendon a little before its termination, where it plays on the top of the foot.

16. PERONE'US LO'NGUS. One lies under the tendon of this muscle, where it plays over the os cuneiforme, on the outside of the foot.

BUR'SA TE'STIUM. See SCROTUM.

BURSA'LIS MU'SCULUS; so called from its resemblance to *bursa, a purse.* See OBTURATOR EXTERNUS et INTERNUS.

BUSELI'NUM, (from βυ, *great*, and σελινον, *parsley*). A large species of parsley.

BU'SSII SPI'RITUS BEZOA'RDICUS. The BEZOARDIC SPIRIT of BUSSIUS, an eminent physician at Dresden.

Take the spirit of ivory, saturated with subtile oil and salt, two ounces (a. spiritus C. C.); crude sal ammoniac, four ounces; potash, dissolved in water, eleven ounces; amber, half a pound; oil of juniper, half an ounce; distil them in a retort. A salt rises first, and then the spirit, which dissolves this salt.

BUTEA FRONDOSA of Roxburgh, is supposed to nourish the insect that furnishes the gum lac.

BU'TIGA. See GUTTA ROSACEA.

BU'TINO. See TEREBINTHINA.

BUTHA'LMUM MAJUS. See BELLIS MAJOR.

BU'TOMON, BU'TOMUS, (from βυ, *greatly*, and τεμνω, *to cut*,) so named from their sword like shape. It resembles the palms, and its roots are eaten by the Calmucks as food. Its natural order, *junci*, we have already pointed out. It belongs to the *alismoideæ* of Ventenat. See IRIS PALUSTRIS.

BUTU'A. See PAREIRA BRAVA.

BU'TYRUM, (from βυς, *a cow*, and τυρος, *coagulum, or cream*). BUTTER. See ADEPS.

BU'TYRUM CE'RÆ. See OLEUM CERÆ.

BU'TYRUM CO'CTUM. See AZOM.

BU'TYRUM ANTIMONII. See ANTIMONIUM.

BUXB. An abbreviation of J. C. Buxbaumi Enumeratio Plantarum, 1721, 8vo.

BUXTONIE'NSIS A'QUA. BUXTON WATER. See AQUÆ SULPHUREÆ. *Buxton* is in the Peak of Derbyshire. The *waters* there are the second in degree of heat among those of this island. The *water* of St. Anne's well is so pure, that when a gallon of the *water* was evaporated, the sediment was only fifteen grains; of which one grain and three quarters were sea salt, two and a half selenite, and ten and a half carbonate of lime rendered soluble by an excess of carbonic acid. The specific gravity of this *water* is precisely equal to that of rain water, when their temperatures are the same; but when first taken from the spring it is four grains in each pint lighter. The temperature of the bath is about eighty-two degrees.

The *water* of St. Anne's well contains about one sixty-fourth part of its bulk of azotic gas, in which its efficacy may in part reside, and which is quickly dissipated by exposure to the atmospheric air.

This *water* is alterative, and not evacuant; about a pint in the forenoon is at first taken, and the quantity gradually increased. The cooler the weather, the hotter and more medicinal is the *water*. It increases the vital heat, is useful in the gout, rheumatism, convulsive asthma, and other nervous complaints, indigestion, loss of appetite from intemperance, contractions of the tendons, urinary diseases, and defective catamenia. Its temperature is the highest at which the cold bath has been used. See BATHING.

Short's History of Mineral Waters. Percival's Essays, Med. and Exp. vol. ii. Dr. Hunter's Essay. Dr. Pearson on Buxton Waters.

Besides the tepid mineral *waters* which are so much employed, there is a fine clear chalybeate *water*. Dr. Short evaporated a gallon of it; and a scruple of solid matter, above half of which he says was ochre, remained: the rest was a saline matter composed of sea salt and vitriolated magnesia. This water is drunk for the same purposes as other chalybeates.

BU'XUS. *Búxus sempervírens* Lin. Sp. Pl. 1394, (πυκος, from πυκαζω, *to become hard*; or more probably from the Arabic term *baksa*). The BOX TREE. The Hollanders call it palm tree. It is a well known evergreen, and found wild in some parts of England.

An infusion of the leaves in water hath a fetid smell and a strong bitter nauseous taste, is purgative, and destroys worms. The active matter, or the wood, is of the saline, and not of the resinous kind, consequently differs from the lignum guaiacum, which it is said to resemble as a sudorific and an alterant.

The leaves of the common *dwarf box* dried and powdered are supposed to destroy worms in children. As much as will lay on a shilling may be given at bed time every night. The oil is used as a depilatory.

BUY'O-BUY'O. A sort of pepper in the Philippine Islands. Ray calls it *piper longum monardi.*

BY'ARIS. See CETE ADMIRABILE.

BYNE, (from βυω, *to fill*, because in wetting it swells much). See Brasium.

BYNG. A Chinese name of green tea. See Thea.

BYRE'THRUM, BYRE'THRUS. This word occurs in Forestus, lib. x. obs. 132. Schol. It is a kind of medicated cap or cowl, filled with cephalic drugs, for the head; but no reason or authority can be found for the term, as it appears neither in the Greek nor Latin vocabularies; perhaps the author meant barettum, from the French *barette*, or berettum, from the Italian *berette*, each of which signifies a cap. See Cucupha.

BY'RSA, (from βυρσα, *leather*). See Aluta.

BYRSODE'PSICON, (from βυρσα, *a skin*, and δεψεω, *to curry leather;* because it is chiefly used in tanning). See Rhus.

BYSA'UCHEN, (from βυω, *to hide*, and αυχην, *the neck*). People are thus called who, by elevating their shoulders, hide their necks. The name also of a person who hath a morbid stiffness of the neck.

BY'SMA, (from βυω, *to stop up, obstruct, fill up, constipate*, or *stuff*). The covers, or stopples of any vessels. Some take the *bysma* to be the same with the *amurca*. See Byzen.

BY'SSUS. A woolly kind of moss. It is a name for the *pudendum muliebre*, from its mossy or hairy coat; and a sort of fine cloth worn by the ancients. See also Bombax.

BY'STINI ANTIDO'TUS. An antidote often mentioned by Ætius, which seems to be much like Mithridate.

BY'ZEN. In a heap, crowd, or a throng; called also *bysma*. It is derived from the word βυζω, or βυω, *to fill up by stuffing, to condense;* thus it expresses anything that is sufficiently dense. Hippocrates uses this word to express the hurry in which the menses flow in an excessive discharge.

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C A A

C. See NITRUM.

CAA-APIA. (Indian.) It is a small low plant, with a root about two fingers' breadth long, as thick as a swan's quill, and sometimes as large as a man's little finger. This root is knotty, and covered with filaments that are three or four fingers' breadth long. Outwardly, it is of a yellowish grey colour, but inwardly white. After being chewed a little it is acrid, and hath nearly the same virtues with *ipecacuanha*, whence it hath also received that name. It is a species of *dorstenia*, the plant which furnishes the contrayerva, and is the *d. Brasiliensis* of Wildenow, vol. i. p. 682.

The Brasilians cure the wounds from poisoned darts with the juice of this root, which they pour into the wound. Piso says it hath the same efficacy against the bite of serpents. See BOJOBI.

CAA-A'TAY'A BRASILIE'NSIS. (Indian.) It is a plant which grows in Brasil, of no smell, but bitter to the taste. A decoction of it operates powerfully, both upward and downward. It resembles the euphrasia. Raii Hist.

CAACHI'RA. See INDICUM.

CAACI'CA BRASILIA'NIS. (Indian.) Called also *colubrina Lusitanica*. An herb growing in Brasil, whose leaves resemble those of the male speedwell, somewhat hairy, green above, and white underneath. It is full of a milky juice. When fresh, it is bruised, and applied against venomous bites, Raii Hist. but unknown in the system of the botanists.

CAA'CO. (Indian.) The SENSITIVE PLANT, also called *æschynomene spinosa Brasiliensibus secunda*, *herba viva*, *noli me tangere*, *mimosa casta* Lin. Sp. Pl. 1500.

It is a native of Brasil. If the leaves of this plant are touched, they immediately contract, but soon after return to their former state, a singular appearance seemingly connected with electricity, though with some circumstances which oppose this idea. The tops of this plant are noxious, and the roots are said to be their antidote. A decoction is made of a handful of that part of the root which is under ground, boiled in six pints of water for a few minutes, half a pint of which is to be drunk every hour or two, until the patient is well. The root used in this way is an antidote to several poisons in America.

C A B

There is another species, called *herba viva tertia species*, *æschynomene spinosa tertia; m. pudica* Lin. Sp. Pl. 1501.

CAAETIMA'Y BRASILIENSIBUS. (Indian.) Called also *senecio Brasiliensis*.

It is a tall plant which grows in Brasil; the leaves of which have a hot and acrid taste. A decoction of them cures the itch, by washing the parts affected with it. Raii Hist. Its systematic name is unknown.

CAAGHIGU'GO BRASILIE'NSIS. (Indian.) *Frutex baccifer Brasiliensis*. A shrub growing in Brasil; its leaves are powdered, and then applied to ulcers as a desiccative.

CAA-OPIA. (Indian.) Called also *arbuscula gummifera Brasiliensis*. It is a tree growing in Brasil, from the bark of which, if incisions are made, a juice is emitted, which, when dry, resembles the gutta gamba in all respects, only in being somewhat redder. Raii Hist. It is the hypericum bacciferum of modern naturalists, but not yet introduced into the Linnæan system.

CAAPE'BA. See PAREIRA BRAVA.

CAAPO'NGA. (Indian.) The Brasilian name for *crithmum;* also called *trifolia spica*, *crithmum marinum non spinosum: inula crithmoides* Lin. Sp. Pl. 1240.

The leaves and young stalks are pickled for the use of the table, though they are gently diuretic.

There is another species; it is called *perexyl Lusitanis;* it resembles purslane, and is of the same nature as the above.

CAARO'BA. (Brasilian.) A tree whose leaves are bitter; a decoction of them promotes perspiration, and is useful in the venereal disease. Raii Hist.

CA'BALA, CA'BULA, KABALA, CABALI'STICA ARS. The CABALISTIC ART. It is derived from the Hebrew word *kabbalah*, signifying *to receive by tradition*. It is a science which consists in a mysterious explication of the Scriptures, however they were received. This is the Jewish *cabala;* but, from this original, the word is applied to every mysterious or magical explanation. Paracelsus uses it in a medical sense, saying *cabalistic* signs cannot deceive, *si Dis placet*. Some enthusiastic philosophers and chemists have transplanted it into medicine, importing by it something magical.

CABALA'TOR. See NITRUM.

CABA'LLICA ARS, (from καταβαλλω, *to throw down*). A term in gymnastics, importing among wrestlers the art of foiling, or throwing an antagonist down.

CABALLINE, (from *caballus*, *a horse*). See ALOES.

CABA'SSONUS MASSILIE'NSIUM. A fish found in the Mediterranean sea; also called *lavoronus*.

CABE'LIAU. COD FISH. See ASELLUS MAJOR.

CABULA'TOR. See NITRUM.

CABURE'IBA, CABURII'BA. See PERUVIANUM BALSAMUM.

CACAGO'GA, (from κακον, *excrement*, and αγω, *to expel*). OINTMENTS, that, by being rubbed on the fundament, procure stools. P. Ægineta, lib. vii. ix.

CACA'LIA, (from κακον, *bad*, and λιαν, *exceedingly*, because it is mischievous to the soil on which it grows,) also called *leontice veterum*, *cacamum*, and STRANGE COLT'S FOOT. *Cacalia Alpina* Lin. Sp. Pl. 1170. Nat. order *corymbiferæ*, Jussieu; *compositæ discoideæ* Lin.

It grows in shady places. Paulus of Ægina, and Dioscorides, suppose this to be the cacanum; for their virtues are similar to the common sort, for which see TUSSILAGO. The *c. sonchifolia*, Lin. 1169, is esteemed a febrifuge, an expectorant, and useful in diarrhœas.

CACALIA'NTHEMUM, (from κακαλια, and ανθεμον, *a flower*, because its flower resembles that of the *cacalia*,) so called by Dr. Dillenius: the CABBAGE TREE, and the CARNATION TREE. *Cacalia kleinia* Lin. Sp. Pl. 1168. Originally it was brought from the Canary islands; and another species came from the Cape of Good Hope. See Miller's Dict.

CA'CAMUM. See CACALIA.

CA'CAO, (Indian); called also *cacoa*, *amygdalus similus Guatimalensis*, *cacava*, *cacari*, *quahoitl*, *caravata*, *chocolata*, *avellana Mexicana*, *cacavera*, *cacavata cacao Americæ*; the PEAR BEARING WHOLESOME ALMOND TREE, CACAO, and CHOCOLATE. It is the *theobroma cacao* of Lin. Sp. Pl. 1100. Nat. order *malvaceæ*. The nut is the only part of the tree used; its shape is nearly that of an almond, but of a much larger size. The shell is dark coloured, brittle, and thin; the kernel throughout is of a brown colour. It is produced by a small American tree, which bears a large red fruit like a cucumber; in this fruit is contained from thirty to a hundred of these nuts. A good tree produces a crop in June, and another in December. The principal distinctions among these nuts are the size, and place from whence they are brought: the larger kind from the province of Nicaragua, in Mexico, are most esteemed. The chief of those brought to England are from Virginia and Jamaica.

Cacao nuts have a light agreeable smell, and an unctuous, bitterish, but not ungrateful, taste. Those from Nicaragua and Caracco are the most agreeable; those from the French Antilles, and our American islands, are the most unctuous. They invigorate the stomach, and are supposed to recruit rapidly the exhausted strength. In diseases of the lungs they are commended in their native soil. In this country they require so much heat that they scarcely ever bear any seed.

The principal use of this nut is for making the liquor known by the name of *chocolate;* which is a mild, unctuous, demulcent, and nutritious fluid. In hectic, scorbutic, and catarrhal disorders; in atrophy, malignant itch, and hooping cough; chocolate, made in the usual way, is said to relieve.

Cacao nuts afford by pressure an oil of the same kind as those that are obtained the same way from other kernels and seeds. This oil is anodyne, used in correcting the effects of corrosive poisons, and in relieving hæmorrhoids. It does not contract any smell, dries readily, and is considered as a good cosmetic. It is said to preserve the flexibility of the joints, and prevent rheumatic affections.

OLEUM *seu* BU'TYRUM *è* NUCLEIS. *The* OIL *or* BUTTER *of the* CHOCOLATE NUT. Roast the nuts slightly in an iron pan. When cleared from the rind and levigated on a hot stone, dilute them with a proper quantity of hot water, and keep them in a water bath till the oil rises to the top; which, when concreted, is of a brown colour, and, by repeated liquefactions in hot weather, becomes white. Cacao nuts thus managed, afford sometimes more than half their quantity of this vegetable sebaceous matter. As it is not liable to turn rancid by long keeping, it is a proper basis for odoriferous unguents: but its indigestible property renders it unfit for internal use. The mucilaginous pulp contained in the husks, if pressed, yields a cream grateful to the taste; and an emollient for external application of some efficacy. As we owe our knowledge of the tea plant to China, so we are indebted to the Mexicans for chocolate, but they were unacquainted with the sugar cane, which was only brought to St. Domingo in 1506.

To prepare the kernels of the chocolate nuts for use, they bruised them after having separated their husks, then placed them before a clear fire, by which they are so dissolved as to be fit for making into cakes or rolls. These cakes were rendered more solid by adding the meal of maize, and were flavoured with pimento. Such are still brought from New Spain, but the union of the oil with the mucilaginous parts is not complete, and this chocolate often occasions complaints of the stomach.

The Mexicans now mix with these nuts a portion of Indian corn, a few seeds of rocou, and a little vermilion. The French mix with theirs a little cinnamon, vanilloe seeds, and fine sugar. In Paris they make their chocolate for sale as follows: Take of chocolate nuts, freed from their husks, and fine sugar, of each a pound; of cinnamon, finely powdered, two drachms; and of vanilloes half a drachm; beat them well together, and form them into cakes or rolls. "The chocolate of health" contains, however, only canella; and the chocolate of one, two, or three vanilloes, is denominated from the proportion of this condiment. In Spain six pounds of the cacao nut are mixed with three pounds and a half of sugar, seven vanilloe pods, a pound and a half of maize, half a pound of cinnamon, and six cloves, with a drachm of capsicum. The whole is scented with musk, and coloured with the rocou. The choice of the nut is of importance: that from the Caraccos is too dark and dry; the cacao of the islands too unctuous. The best proportion is three parts of the former to one of the latter.

Chocolate is often adulterated in a variety of ways; sometimes common flour, the farina of rice, of lentils, and of pease, or the starch of potatoes, are added to increase its bulk. If ever any additions become necessary, the gluten of the seeds should be wholly excluded, and the fecula only employed.

Some manufacturers are said, by Parmentier, to purchase at a low price the residuum of the cacao nut,

from which the oil has been expressed, and to supply the latter by animal fats, and the yolks of eggs. Others add roasted almonds and gum arabic. It is not an uncommon practice to purchase the unripe nut, and lower its sharp bitter taste with a large proportion of sugar, which is the cheapest ingredient. Chocolate, without any bad intention, is sometimes injured in the preparation. If the nut is not sufficiently roasted, the taste is disagreeable; if burnt, bitter; and the chocolate is black, without the soft unctuous taste natural to it. If the germ is not separated from the two lobes of the seed, it is found in the chocolate, since it resists the weight of the grinding stone.

Good chocolate should in its fracture present no granulated appearance. It should melt in the mouth, leaving a kind of freshness; and when boiled in water or in milk, the consistence should be moderate. Those who cannot bear milk in any other way, find no inconvenience from it in chocolate.

When chocolate tastes in the mouth like paste, when on the first boiling it exhales the smell of glue, or in cooling becomes a jelly, it has been adulterated with farinaceous matters. If little grains are deposited, it is probable that the nut has not been sifted, that it has been badly cleaned, or the coarsest sugar employed. The smell of cheese shows that animal fats have been added; rancidity discovers mucilaginous seeds; and a bitter or musty taste, that the nut is unripe, or too much roasted. We shall add the receipt for making chocolate from Baume's Elements of Pharmacy: Take of Caracco cacao nuts five pounds, of the islands nut one pound, sugar five pounds, fine canella an ounce and half, cloves twelve in number.

After drinking of chocolate, if it is uneasy in the stomach, relief will be found from drinking a tea cupful of cold water.

An artificial chocolate is made of sweet and bitter almonds of each an ounce, roasted in an iron pan until they are brown, then wiped clean, and bruised in a mortar, gradually mixing four measures of warm milk, two eggs that have been well mixed with a little cold milk, and as much cloves, cinnamon, and sugar, as may be agreeable to the palate.

CACAPHO'NIA, (from κακος, *bad*, and φωνη, *the voice*). See Paraphronia.

CA'CARI, CACAVI'FERA, CA'CAVA, QUAHO'ITL, CACAVA'TA. See Cacao.

CACATO'RIA FE'BRIS, (from *caco*, *to go to stool*). A name given by Sylva to a kind of intermittent fever attended with copious stools.

CA'CAVI. See Cassada.

CACCIO'NDE, a Patronymic, according to Castellus. A pill commended by Baglivi against the dysentery; its basis is the catechu.

CACEDO'NIUM TA'RTARUM. The peccant matter in the human body secreted but not immediately expelled.

CA'CHALOT. See Cete admirabile.

CACHE'XIA, (from κακος, *ill* or *bad*, and ἑξις, *a habit*). A bad habit of body. The bad habit which constitutes cachexy consists of a want of vigour of the solid parts, and appears in universal languor, with every mark of defective digestion or assimilation, attended with diminished heat, strength, and activity. The skin is pale, yellow, or dark, and the white of the eyes often almost transparent. If difficult menstruation is the cause, it is called a *chlorosis*. In Dr. Cullen's Nosology, it is the third class of diseases. He defines it to be 'a depravity of the constitution of the whole or of a great part of the body, without any febrile or nervous disease as the primary one.' This class comprehends three orders; *marcores*, *intumescentiæ*, and *impetigines*.

They are the most disposed to this disease who are naturally of a lax habit, which consists in the softness of the moving fibres, the smallness and number of the vessels, and the slenderness of the tendons. Women are more subject to it than men; men of a phlegmatic habit than those of different one; for such persons are apt to be plethoric, which occasions the liver to be sometimes obstructed: whence the train of consequences which form this disorder.

It is distinguished by a pale white countenance, but oftener by a yellowish or green colour in the skin, a fulness, coldness, a want of elasticity of the muscles, general feebleness, weariness, a difficulty of breathing on the least exercise, swelled feet, an inactive mind, oppression during sleep, urine white and turbid, the pulse slow and soft, the eye lids œdematous. When a difficult menstruation in girls is the cause, besides these symptoms, there is a pain in the head, a frequent palpitation of the heart, and a preternatural longing for things noxious and unfit for food; pain in the back and loins, a plethora either of the sanguineous or phlegmatic kind, and a sense of weight across the eyes. See Chlorosis.

Cachexy is, however, too general an association to be treated of in a single article. It forms with great propriety a natural order of diseases, agreeing in numerous obvious appearances, but differing in their causes. When we speak of it in general, we should say that it is commonly connected with suppressed evacuations, or with causes which influence the digestion and assimilation of the aliment; and, among the latter, scirrhosities of the chylopoietic viscera are the chief. Yet it is a mark of chronic debility in general, from whatever cause it may proceed. One of its distinguishing symptoms is a deficiency of the red globules of the blood. In our examination of the vital fluid we found it difficult to discover their origin, but, like the fibrin, they seem to be connected with tone and strength. The blood without these is of a yellowish hue; and the union of this colour with the red, gives the peculiar tinge styled the flesh colour. It may be considered as a single disease, when unconnected with suppressed menstrua, with jaundice, with scurvy, dropsy, any external tumours or ulcers, or hectic fever. In this view, it is often the effect of long continued anxiety, of 'hope deferred,' of too sedentary a life, indulgence in spirituous liquors, too copious evacuations, particularly those excited by artificial or unnatural means. It is not that the disease differs, but that its cause is not obvious. A scirrhous liver, scirrhous mesenteric glands, an incipient dropsy, impaired digestion, may be produced by all these causes; but it often happens that the symptoms of neither betray the origin of the disease, and our remedies must be directed by general views only.

When the causes of cachexy are obvious, the disease becomes either of those just noticed; nor is the distinction then difficult. We recollect but one instance

in which it is less easy, that is, between cachexy and hectic. In the weak cachectic state, a little fever attends in the evening, which may be easily mistaken for a hectic exacerbation. In hectic, the cough is often trifling and unnoticed, nor is the evening paroxysm strongly marked. In this difficulty, the uneasiness in laying on one side rather than the other, the narrow or deformed chest, the prevailing tendency to consumption in the family, may determine us. But, perhaps, the state of the pulse is the most certain criterion. If in any cachectic state the pulse is generally under 70, and does not at any time greatly exceed 80, we may be satisfied that the lungs are, at least for a time, secure. The young practitioner must, however, recollect, that there is no universal rule in medicine: the most general rules are liable to numerous exceptions. Old age is attended with cachexy, and of a most incurable kind. Indeed, it was long since observed, *senectus ipsa morbus*.

The indications of cure are to correct the bad quality of the juices, to strengthen the stomach, and to invigorate the system.

Hence the diet should be nutritious, cordial, such as nourishes in the least quantities, and repeated often, to afford nourishment adapted to the state of the stomach, without overloading it. No error is more common or more fatal, than, in cases of weakness, to accumulate food. It is not what can be swallowed, but what the stomach can digest, that is serviceable, and it should be of such a nature as to oppose the cause and circumstances of the disorder. Exercise should be constant and regular, but within the compass of the strength. When the primæ viæ are evacuated, medicines which increase the vital heat, as warm bitters, aromatics, and chalybeates, should be given; antimonials relax the stomach, and therefore should be avoided.

It has been usual to give small doses of rhubarb previous to the dinner, that it may digest with the food. This plan, as well as the columbo root given at the same time, may have been useful; but very certainly not in consequence of its being *digested*. Each may give a temporary stimulus, and each may correct the effect of too rapid a digestion of the food, the evolution of an acid. A glass of white wine, previous to the dinner, would be equally, perhaps more, effectual.

Chalybeates are a favourite remedy with many practitioners, and, from their usual effects, they seem well adapted to the disease. We have said that all metallics are apparently tonic, and that chalybeates seem to join an inflammatory stimulus; yet steel is a remedy we have not often employed, and when given, its effects have not been apparently more beneficial than those of tonics and aromatics. But we mean not to set up our opinion as a standard; we are aware on this subject of a little prejudice, and can add, that practitioners of the highest character, and the correctest judgment, recommend chalybeates in this complaint.

In the usual directions, however, there is a want of discrimination which we must endeavour to supply. In every instance of cachexy, visceral obstructions are to be suspected; and we should not accumulate our tonics and stimulants, without relieving overloaded glands by gentle stimulants applied to their excretories, we mean slight laxatives. The warmer resinous purgatives are adapted for this purpose, and among them rhubarb and aloes are the most conspicuous. These may be given in every variety of form, not to purge violently, but to keep up a regular discharge, and on some days to give an additional evacuation to the usual daily one.

With similar views we have often advantageously given small doses of calomel, not exceeding a grain, or, at most, a grain and a half, every night. We have already spoken sufficiently of the general effects of mercury to explain its use in this case; and as there is always some internal obstruction to dread, its probable utility will be obvious.

See Dr. James's Dictionary, the article CACHEXIA. Boerhaave on the Cachexy. Shebbeare's Theory and Practice of Physic. Lewis's Translation of Hoffman's Practice of Medicine, vol. ii.

CACHE'XIA UTERI'NA. See FLUOR ALBUS.

CACHE'XIA ICTERICA. See ICTERIS.

CA'CHLAN. See BUPHTHALMUM VERUM.

CA'CHLEX. A little STONE or PEBBLE. Suidas makes it the name of an animal. Galen says that the cachleces heated in the fire, and quenched in whey, become astringents, and useful in dysentery.

CA'CHORE. See TERRA JAPONICA.

CA'CHOS, (Indian,) or *solanum pomiferum folio rotundo tenui*. It grows only on the mountains of Peru. It is a shrub of an extraordinary greenness: the leaves are thin and round: the fruit resembles the mad apple, is of an ash colour and a grateful taste. The Indians use it as a diuretic, and to expel concretions from the kidneys. Raii Hist. It is, undoubtedly, a species of solanum, but it does not occur in the Linnæan system.

CA'CHOU. See TERRA JAPONICA.

CA'CHRYS LIBANOTIS. Galen says it sometimes means parched barley; called also *canchry*, or *canchrys*.

CACHU'NDE. A compound cordial medicine, much esteemed by the Chinese and Indians. Zacutus Lusitanus says it is made with amber, musk, aloes, wood, pearls, emeralds, granates, hyacinths, galangals, cinnamon, aloes, &c.

CACHY'MIA. A term in Paracelsus, by which he intends an imperfect metallic body, or an immature metalline ore, which is neither a saline substance nor a metal, but yet almost metal. In fact, he means the metallic calces, which the chemists of that period were unable to reduce.

CACOALEXITE'RIA, (from κακος, *evil*, and αλεξιτηριον, *a remedy* or *medicine*). See ALEXIPHARMICA.

CACOCHO'LIA, (from κακος, *bad*, and χολη, *bile*). An indisposition of the bile.

CACO'CHROI, (from κακος, *ill*, and χροα, *colour*). Such as have an unhealthy colour in the face.

CACOCHY'LIA, (from κακος, *bad*, and χυλη, *chyle*). Indigestion or depraved chylification.

CACOCHY'MIA, (from κακος, *ill*, and χυμος, *humour*). For this the barbarous term *kachimia* is sometimes used. A depraved state of the humours.

CACODES. Offensive matter, discharged by the stomach, by stool, or foul ulcers.

CACOE'THES, (from κακος, *ill*, and ηθος, *mos*, *a custom*,) which, when applied to diseases, signifies a bad quality or disposition. Hippocrates applies this word to malignant and difficult distempers. Le Dran explains it to be an evil ulcer, boil, or sore. Galen and some others express by it an incurable ulcer, that is rendered so through the acrimony of the humours flowing

to it. Linnæus and Vogel use this term much in the same sense with Galen, and describe the ulcer as superficial, spreading, weeping, and with callous edges.

CACOPA'THIA, (from κακος, *malus*, and παθος, *affectio*). An ill affection.

CACOPHO'NIA, (from κακος, *bad*, and φωνη, *voice*). See PARAPHONIA.

COCOPRA'GIA, (from κακος, *ill*, and πρατ]ω, *to do* or *act*). A disease in those viscera by which nutrition is performed.

CACORRY'THMUS, (from κακος, *ill*, and ῥυθμος, *order*). An epithet of a disorderly pulse.

CA'COS. EVIL, BAD. Also the name of an Indian herb of a red colour: it is diuretic, and useful against calculous disorders.

CACOSI'TIA, (from κακος, *ill*, and σιτος, *food*). See NAUSEA.

CACOSPHY'XIA, (from κακος, *ill*, and σφυξις, from σφυξω, *to leap* or *beat like an artery*). A disorder of the pulse in general.

CACOSTO'MACHUS, (from κακος, *bad*, and στομαχος, *stomach*). A bad stomach; but it is applied to unwholesome food that is bad for the stomach.

CACOTHY'MIA, (from κακος, *ill*, and θυμος, *the mind*). Any vicious disposition of the mind.

CACOTRO'PHIA, (from κακος, *ill*, and τροφη, *nutriment*). Any sort of vicious nutrition in general.

CA'CTOS, (from καιω, *uro*, *to burn*; because its seed is pungent). See CINARA.

CACULE. The Arabian term for CARDAMOMS, q. v.

CADA'GO PA'LI. See CONESSI.

CADAPALA'VA. See MACANDON.

CADDIS. See CARBASUS.

CAD'JUCT. See PHASEOLUS ZARRATENSIS.

CA'DMIA, (from the Hebrew term *kadam*,) also *chlimia*, *catimia*. Dioscorides meant by it the recrement which arises from brass whilst melting. Galen applied it to the recrement of brass, and a stone found in some mines called *cadmia lapidosa*, supposed to be the *æruginosus lapis*. The calamine stone is now called cadmia, and the Germans have given this name to cobalt; whence Agricola says, that there are three sorts; one *metallic*, one *fossile*, and one of the *furnaces*; instanced in the succeeding.

CA'DMIA META'LLICA. See COBALTUM.

CA'DMIA FO'SSILIS and LAPIDO'SA. See CALAMINARIS LAPIS.

CA'DMIA FACTI'TIA and FORNA'CUM. See TUTIA.

The burnt cadmia receives different names, according to the part of the furnace from whence it is collected; if in its upper part, resembling a cluster of grapes, *botrytes* or *botritis*; if in the lower part, *placitis*. But Schroeder says, that the *botritis* is collected in the middle, the *placitis* in the upper, and the *ostracitis*, which is thin, earthy, and black, in the lower part of the furnace. See also CALAMITIS, and POMPHOLIX, which are truly CADMIAS.

CADU'CA, (from *cado*, *to fall*). See VERTIGO, and DECIDUA.

CADU'CUS MO'RBUS, (from the same). See EPILEPSIA.

CÆCA'LIS VE'NA. See CÆCUM INTESTINUM.

CÆCI'LIA, (from *cæcus*, *blind*). The BLIND WORM or SLOW WORM, also called *cæciliate phlops*, and *cæciliate phlinus*, Græcis. It is a species of serpent, whose bite is similar in its effect to that of the viper.

CÆ'CITAS MI'NOR, (from the same). See AMAUROSIS.

CÆ'CUM INTESTI'NUM. The BLIND GUT; so called from its being perforated at one end only; called also *monomachon*; and by Paracelsus *monocolon*. What we now call the *appendicula cæci*, Rufus Ephesius calls the *cæcum*. But modern anatomists divide the large intestines, which form one continued canal, into three portions. This canal begins by a kind of SACCULUS, or BAG, which is the first of the three portions, and is called *cæcum*. Dr. Hunter says that it lies on the inside of the os ilium upon the iliacus internus, and is only a round short broad bag, whose bottom is turned downwards, and its mouth upwards. This intestine, which is about three fingers' breadth long, is hid by the last convolution of the ileum. It hath the same bands as the colon, which take their origin from the appendicula vermiformis. Winslow observes that this bag lies under the right kidney, and that its diameter is more than double that of the small intestines. Its arteries are from the mesenterica superior. The veins are from the greater mesenteric, and one of the branches Riolan calls the *vena cæcalis*. The nerves come from the posterior and inferior mesenteric.

CÆME'NTUM, (from *cædo*, *to beat together*). See CŒMENTUM.

CÆME'NTUM CUPRE'UM. CEMENT COPPER, called also *ziment copper*. It is copper precipitated from vitriolic waters, by means of iron. The name is derived from a vitriolic water in Hungary called ziment.

CÆSA'REA SE'CTIO. The CÆSARIAN SECTION or OPERATION; also called *hysterotomia*, and *hysterotomatocia*. It is the operation whereby the fœtus is extracted from the uterus through the teguments of the belly. It is called the *Cæsarean* operation, from Julius Cæsar, who is said to have been brought into the world this way; or from Cæso, who was the first thus taken from his mother's womb.

There are three cases wherein this operation may be necessary.—1. When the fœtus is perceived to be alive, and the mother dies, either in labour, or in the last two months. 2. When the fœtus is dead, but cannot be delivered in the usual way, from the deformity of the mother, or the disproportionate size of the child. 3. When both the mother and the child are living, but the same difficulty attends as in the second case.

Many instances have occurred, in which it has been said that both the mother and child have lived after this operation, and the mother borne children by the natural passages. Heister gives a very distinct account of this operation in his Surgery; and of its success in his Institutes of Surgery, p. xi. § 5. cap. 113. See also Mém. de l'Acad. Roy. de Chirur. vol. i. p. 623. ii. p. 308. Edinb. Med. Essays, vol. v. art. 37 and 38.

Notwithstanding the many successful cases given by different authors, still it appears very probable that most of them have been extra uterine, if we consider the very rare success which has attended the operation in cases where the fœtus has been extracted really from the uterus; for in almost every case which has occurred in England, the operation has proved fatal. It was, however, performed by Mr. James Barlow, of Chorley, Lan-

cashire, where the fœtus was taken from the uterus by the Cæsarean operation, the woman was preserved, and recovered her perfect health. See Dr. Haighton's *Inquiry concerning the true and spurious Cæsarean Operation;* and Mr. Barlow's *Account* in the Medical Reports and Researches, 1798. It is singular, that in the old authors it is said to have been performed frequently with success, and, in some instances, repeatedly on the same woman. We must confess, that we feel no little scepticism on this point, though we cannot see what reason there should be for imposition. The dangerous nature, however, of the operation, even in the best hands, with every assistance, forbids us to believe that it could have succeeded by the rudest means.

To determine the necessity of the operation, the size of the pelvis should be carefully examined. It has been supposed, that if the aperture in any direction was less than two inches, or two inches and a quarter, delivery was impracticable. It has, however, been more lately found, that in a pelvis of an inch and three quarters, delivery with the crotchet might be effected, and, in some instances, even through a less aperture. Delivery, therefore, should scarcely in any instance be considered as hopeless; and almost every attempt should have failed before the Cæsarean section is practised.

If the woman is exhausted and in a dying state while the child is alive, we should certainly attempt to save the latter; but, in general, the life of the mother is by far of the greatest importance. When the child is dead, we should at least wait till we find every effort with the crotchet has failed; though in this difficult emergency, we must occasionally balance between the probability of success in delivery, and the only possible chance the woman can have by attempting the operation before her strength is too far exhausted.

It should not be recommended if the woman is living before she falls into labour, and yet it must be attempted before she has suffered much by her ineffectual throes; for when she is much reduced, the operation is almost sure to be fatal.

To perform this operation, having previously injected a clyster, lay the woman on her back, place a pillow under her right side, to turn the uterus as much as possible on the left; then the operator must make a longitudinal incision, beginning as high up as the navel, on the outside of the linea alba; and carrying it down in an oblique direction towards the ileum, he must cut carefully through the muscles of the belly, and through the peritonæum. He must then introduce a finger into the abdomen, which must be carried along before the point of the knife, in order to prevent the vagina from being wounded. The incision is usually directed to be on the left side, for fear of wounding the liver, though there seems to be more danger of the omentum, or a flexure of the intestines; because as the uterus rises up, it carries the viscera above it, and to each side, but the omentum is frequently found lying between it and the parietes of the belly. The incision into the uterus must be longitudinal, and as long as the external wound will admit, taking care not to wound the Fallopian tubes; the child must be taken out at the incision, and after it the placenta and membranes; blood must be absorbed with sponges: the wound in the uterus must be left to nature, for by its contraction it will be brought into about an inch and a half in length. The external wound is to be sutured with the interrupted stitch, and then to be dressed as in general. If any considerable vessels are cut through, they should be taken up. We have already observed, that this operation is highly dangerous and very generally fatal. The danger sometimes arises from its having been too long delayed, often from internal hæmorrhage, but more generally from the inflammation excited, and the irritation occasioned, by the access of the air.

In the Lond. Med. Observations and Inquiries, vol. iv. p. 261, is an instance of this operation, which, though unsuccessful, merits attention. In this case the incision was made on the right side; and it was observed that the woman complained but little during the operation, except when the needles passed through the peritonæum in making the sutures: and that the uterus seemed very little sensible of any injury done to it. It is noticed in the remarks on writers who have described this operation, that there is very little satisfaction to be obtained from them; that all they relate is very vague; and that it is indifferent on which side the incision is made, further than as some present circumstance may determine; that the hæmorrhage spoken of by Heister is not so much to be dreaded as he intimates; that the course of the linea semilunaris, as nigh to the outer edge of the rectus muscle as possible, seems to be the most eligible place for the operation.

Paré, Guillimeau, Rolfincius, Hoorne, Mauriceau, Solingen, and some others, are violent opposers of this operation; but they only object to it in certain cases, where they thought the practitioners too rash in the attempt. As a substitute for it, the section of the symphysis of the pubes is proposed. (See Pubis ossa). Another proposal has been lately offered, that in women whose pelves are distorted, and labour supposed to be impracticable, an attempt should be made to bring on delivery at the end of the seventh month. This, however, is an expedient highly difficult and dangerous, though less so than the operation. It involves, however, many considerations not strictly medical, which we must not pursue in this place. See also an Account of the *Cæsarean Section* by Dr. Vaughan of Leicester. Bell's Surgery, vi. 446. White's Surgery, 451. Osborne's Essays on the Practice of Midwifery. Denman's Midwifery.

CÆ'SARES, CÆSO'NES. Children who are brought into the world by the Cæsarean operation.

CÆTCHU'. See Terra Japonica.

CAF, CA'FA, CA'FAR, (from *caphar*, Arabic). See Camphora.

CAGA'STRUM. Paracelsus used this word to express the morbific matter which generates diseases, and that is not innate, but adventitious. Diseases arising from the *cagrastum* are pleurisy, pestilence, fever, &c.

CA'HVEH, CA'HOUA. See Coffea.

CAI'RA, CAI'TCHU. See Terra Japonica.

CAJAHA'BA. An Indian plant which adheres to trees like ivy; the natives bruise it, and bind it upon fractures. Raii Hist.

CA'JAN, or CA'YAN. *Phaseolus erectus incanus siliquis torosis, thora parou, pisum arborescens; cytizus cajan* Lin. Sp. Pl. 1041. A shrubby plant, with pods containing four reddish peas. A decoction of the leaves restrains the hæmorrhoids when excessive. Raii Hist.

CA'JEPUTIO'LEUM. An oil distilled from the leaves of the *melaleuca leucandron* Lin. not included in his own edition of the species *plantarum*. The tree is of the na-

tural order, *myrtoides*, whose wood is useful from its not corrupting in sea water. Its bark is reproduced like cork. The oil is highly fragrant and aromatic, and a few drops of it inclosed in a box will destroy insects which infest the collections of natural historians, particularly among the papilios. It is of a green colour; its smell resembling turpentine, and its taste peppermint. It is considered as a stimulant, carminative and emmenagogue; is highly commended in flatulent colic, in spasms, and in paralysis. Externally it is applied to piles; to the mouth, in palsy of the tongue; and to diseased teeth, which it is said soon to destroy. In the Moluccas also, it is used externally as an aphrodisiac. The dose is from four drops to ten, frequently in a day, but it is seldom used in this country. It is said to dissolve very perfectly the caoutchouc.

CA'JOU, CA'JUM. See Acajaiba.

CA'LABA. Indian mastich tree; *catophyllum inophyllum* Lin. Sp. Pl. 732. It hath rosaceous flowers, which are followed by a fleshy fruit that includes a nut. This tree is a native of the warm parts of America. From the trunk and branches a gum, called *tacamahac*, or green balm, resembling the gum mastich, issues, which is accounted vulnerary, resolvent, and anodyne. The *c. calaba* affords no balm of this kind, but the seeds are eatable.

CALAMARIÆ, (from *calamus, a reed*). An order of plants of the reed kind.

CALAMA'RY. See Sepium os.

CALA'MBAC, CALAM'BOUR. (Indian.) See Agallochum.

CALA'MEDON, (from καλαμος, *a reed*). A species of fracture which runs along the bone in a right line, but is lunated in the extremity.

CALAMI'NA, CALAMINA'RIS LA'PIS, (from *calamus, a reed;* so called from its reed like appearance). Calamine stone, cadmia, or cathmia; also called *cadmia lapidosa ærosa*, *cadmia fossilis*, calamite, calamy, and calaminaris stone.

It is a metallic mineral, of a whitish or yellowish colour, and, in a state of purity, transparent, variously mixed; it is heavy and hard; of a middle nature betwixt stone and earth, occurring in copper mines, and those of lead and iron; it is found in England, Germany, and other countries, either in distinct mines, or intermixed with the ores of lead or other metals. It is a calx of zinc, and sometimes contains a small portion of iron; its specific gravity 3.5236, electrical by heat, volatile, rising in whitish flowers, with a bluish flame. Dissolved in the nitrous acid, it becomes gelatinous. Haüy thinks the calamine a pure ore of zinc without any carbonic acid; but Mr. Smithson, in the Philosophical Transactions for 1803, analysed the calamine from Bleyberg, from Mendip hills in Somersetshire, and from Derbyshire. In each he found carbonic acid; viz. in the first 0.135; in the second 0.352; in the third 0.348. The calx of zinc was respectively 0.714, 0.648, and 0.652. The electric calamine from Hungary contained quartz and calx of zinc only. It is generally exposed to heat before it is brought into the shops, in order to separate some sulphureous and arsenical particles, which it is supposed to contain, and also to render it more easily reducible into powder.

If this ore is not already calcined, it must be heated to a strong red heat, then quenched in water; and this process must be repeated three times. Before calcination it is frequently of a grey or red colour; but when calcined it is yellow.

It is an error of some writers to say that the *calamy* is a recrement of melted copper, and that tutty is a recrement of melted brass; though it is true that the best *calamine* is what sticks to the iron rods used in stirring the matter in the furnaces while brass is making.

Though the *calamine* stone is an ore of zinc, it is not the only one; for zinc is found in the ore of lead, and of other metals. The principal use of this mineral is for changing copper into brass, which it does by its metallic part mixing with the copper while it is in a state of fusion. See Æs.

For medicinal uses, the *calamine*, after being calcined, should be levigated to an impalpable powder; it is then called *lapis calaminaris*, ppt.; for the mode, see Comminutio. When thus prepared, it is useful in collyria, as an astringent and corroborant, in defluxions of thin acrid humours on the eyes, in obfuscations of the cornea, and in ointments for cutaneous exulcerations. If it is exquisitely fine, it acts as an absorbent or desiccative; but if not, it is an escharotic. In the Medical Commentaries it is recommended, by Dr. Adair, in doses of from five grains to a scruple, in the diarrhœas of cachectic patients as a corroborant.

Cera'tum epulo'ticum. Cicatrising cerate of the London college, now called cera'tum la'pidis calamina'ris. Calamine cerate is made with olive oil, a pint; yellow wax, calamine prepared, of each half a pound: the wax is melted with the oil, and, as soon as the mixture begins to thicken, the *calamine* gradually added and stirred till it is quite cold. This hath been called *cerátum Turneri*. Dr. James says that he remembers to have met with a like cerate in a publication by an old English surgeon who preceded Dr. Turner. The Edinburgh college calls it *ung. lapidis calaminaris*.

The magistery of calamine consists of the muriated calamine, precipitated by the volatile alkali, and carefully washed. In doses from three to seven grains it is emetic and cathartic. See Neuman's Chemical Works. Lewis's Materia Medica, and the Dictionary of Chemistry, 4to.

CALAMI'NTHA, (from καλα μινθη, *good mint*). Calamint. *Melissa calamintha* Lin. Sp. Pl. 827. A perennial plant, that flowers in July and August.

Calami'ntha anglica. Field calamint; called also *calamintha pulegii odore*, *nepeta agrestis*, *calam. fol. ovatis*, and spotted calamint. *Melissa nepeta* Lin. Sp. Pl. 828. The leaves have much of the smell of pennyroyal and spearmint, but hotter, and their virtues are similar to a mixture of both; water by infusion extracts all their virtue, and by evaporation it carries off all the flavour. By distillation with water they give out a large portion of essential oil, pungent to the taste, and strong of the herb: the decoction, after the oil is carried off, is rough, bitter, and aromatic. Rectified spirit of wine extracts the virtues of this herb the most completely.

Calamintha humilior. Ground ivy. See Hedera terrestris.

Calami'ntha ma'gno flo're. Mountain calamint,

with a large flower; MOUNTAIN MINT, the GREATEST, and the more excellent CALAMINT. *Melissa grandiflora* Lin. Sp. Pl. 827. It is a native of the southern parts of Europe, and raised in our gardens; hath a moderately pungent taste, and a more agreeable one than any of the other *calamints*. It is a bitter stomachic.

CALAMI'NTHA MONTANA is the common *calamint*; named also *calamintha vulgaris*, *et officinarum Germaniæ*. *Melissa calaminta* Lin. Sp. Pl. 827.

It is found on the sides of the highways, but it is not so common as the field species, nor are its leaves so powerful in their medicinal qualities, not having the smell of pennyroyal. All the *calamints* are slightly aromatic, less so than the other mints, and are used as stomachic; sometimes, without, however, any foundation, as expectorants.

CALAMI'NTHA PALU'STRIS. See MENTHA CATARIA.

CALAMI'TA. Lee STYRAX and MAGNES.

CALAMI'TIS. A name of that factitious cadmia which, by fixing to iron rods, acquires the figure of a reed. See POMPHOLIX.

CALAMUS, (from the Arabic term *kalam*, or *kelemus*). The stalk of any plant. See CAUDEX.

CA'LAMUS AROMA'TICUS. SWEET SCENTED FLAG; also called *diringa*, *jacerantatinga*, *acorus verus*, *typha aromatica*, *clava rugosa*. It is the *acorus calamus* Lin. Sp. Plant. 463. Nat. order *typhoides* of Jussieu.

The names of *calamus aromaticus* and the *acorus* differ: the first is a stalk of an eastern reed, which is slender, hollow, white, and of a fragrant smell; it is also called *calamus odoratus*, and *arundo Syriaca*, but is probably only a variety of the *acorus calamus*, β. Lin. 463.

The sweet flag is a plant with long narrow pointed leaves, like those of the common iris, and of a bright green colour; they are divided by the longitudinal rib into two unequal proportions, one of which is smooth, the other transversely wrinkled; the flowers are imperfect, and stand thick together, forming an elegant spike; the root, which spreads obliquely under the surface of the earth, is long, crooked, full of joints, about an inch thick, somewhat flatted, externally of a greenish white colour, which changes in drying into a brownish yellow, internally white, and of a loose fungous texture. It is found in rivulets and marshy places in many parts of England and in Holland. The stalk dies in winter, but the root is perennial.

The dried roots are brought from the Levant, but those of our own growth are preferable. Dr. Alston says that this root is aromatic, stomachic, and carminative. As an *aromatic*, though not heating, like the spices, it promotes the fluid secretions, is of use in gangrenes, both internally and externally, agreeably stimulates, and produces a pleasant sensation in the mind. It has been deemed useful as a warm stomachic, and renders other bitters more grateful and carminative. It is recommended in vertigo proceeding from a weakened stomach, and has been said to have cured intermittent fevers after bark had failed: it seems to add to the efficacy of the bark, particularly where the stomach is in a torpid state. The aroma is fixed, and may be preserved many years. When fresh gathered, the scent is not agreeable, but somewhat like that of leeks; by drying, the alliaceous odour is lost. That which is sound, tough, and whitish within when broken, is best.

Water dissolves the bitter part of this root, and spirit the *aroma*. In distillation with water it sends up a very small portion of essential oil, leaving a nauseous bitter in the decoction.

More agreeable bitters supersede its use, but it is sometimes a substitute for gentian, and for other gently warm bitters.

CA'LAMUS AROMA'TICUS ASIA'TICUS is the ASIATIC SWEET FLAG; *acorus calamus verus*, *var.* β. 436. It grows in both the Indies. Its root agrees in virtues with that of our own growth.

CA'LAMUS RO'TANG; *calamus rotang* Lin. Sp. Pl. 463. See SANGUIS DRACONIS.

CA'LAMUS ODORATUS. See CALAMUS AROMATICUS.

CA'LAMUS SCRIPTO'RIUS. A cavity of the brain, near, or in the fourth ventricle, is thus named because it resembles a quill.

CALBIA'NUM. The name of a plaster in Myrepsus.

CALCA'DINUM. See VITRIOLUM.

CALCA'DIS. See VITRIOLUM ALBUM, and ALCALI.

CALCA'NEUM, CA'LCAR, CA'LCIS OS, (from *calx*, *the heel*). PT'ERNA. The HEEL BONE. It is the largest bone in the foot, of which it is the posterior part, and in some measure the basis. The large tendon, called tendo Achillis, is inserted into this bone.

If injured in its fore part, it may safely be amputated.

CALCA'NTHOS, CALCANTHUM, (from χαλκος, *brass*, and ανθος, *flores*, *flowers of brass*). See VITRIOLUM.

CA'LCAR. See CALCANEUM.

CALCA'RIUS LAPIS, (from *calx*, *lime*). See CALX.

CA'LCATAR. See VITRIOLUM.

CA'LCATON. See ARSENICUM ALBUM.

CALCATRE'POLA. See CALCITRAPA.

CALCE'NA, CALCENO'NIUS, CALCE'TUS. Paracelsus uses these words to express the tartarous matter in the blood; or that the blood is impregnated with tartarous principles.

CALC. MUS. An abbreviation of Museum Calceolaralium Veronense.

CALCE'TUS. See CALCENA.

CA'LCEUM EQUINUM, (from *calceus*, *a shoe*, and *equus*, *a horse*; so called from the figure of its leaf). See TUSSILAGO.

CALCHI'THEOS, (from καλλιον, *purple*). See ÆRUGO ÆRIS.

CALCHOIDEA OSSICULA, (from χαλιξ, *a chalk stone*, and ειδος, *forma*). See CUNEIFORME OS EXTERNUM.

CALCI'DICUM. The name of a medicine in which arsenic is an ingredient.

CA'LCIFRAGA, (from *calx*, *a stone*, and *frango*, *to break*). BREAKSTONE. An epithet given to the herb *scolopendium* or *spleenwort*, in Scribonius Largus. See LINGUA CERVINA.

CALCIGRADUS, (from *calx*, *the heel*, and *gradus*, *a step*). Hippocrates means by it, one who, in walking, lays much stress upon the heels.

CALCINATIO, (from *calx*, *to burn to a calx* or

friable powder). Also, *concremátio*, *deflagrátio*, *combástio*, *combustúra*, *ambástio*. The *calcination* of a body is, properly speaking, its exposure to the action of the fire which produces some change in it. This change is generally effected by separating the more volatile from the more fixed parts of any compound body; or the destruction of any principle capable of inflammation.

Bodies are deprived of their volatile parts by *calcination*, in the instances of burning calcareous stones to convert them into quick lime, which is effected by the separation of the carbonic acid and water; in the exposing gypsum, alum, borax, and several other salts, to the fire, which deprives them of the water that is necessary for their crystallization; and in the roasting of minerals, which carries off their sulphur, arsenic, and other volatile contents.

It was formerly supposed, that an inflammable principle gave to metals their distinguishing splendour, and other properties. As this was consumed in the fire, they were said to be reduced to the state of a calx. It is now, however, found, that the calx is the compound body containing air; but, as the change is produced hy fire, we still use the term calcined.

There is an evaporation of volatile parts, and a change to the state of a calx, without any sensible combustion, in exposing imperfect metals, combined with vitriolic and nitrous acids, to a due degree of heat; in this process the acid rises, and is at the same time decomposed, giving to the metal the oxygen necessary to reduce it to a calx. In the same way acids act by solution, calcining metals without the aid of fire, by being themselves decomposed.

Calcination is said to be actual, when effected immediately, and only by the action of fire; and potential, when a solvent is used to corrode the metal.

To this head belongs the burnings of vegetable and animal matters; otherwise called USTIO, INCINERATIO, or CONCREMATIO.

There are several species of calcination, by which different degrees of the same effect are produced, and thus *calcination* is perfect or imperfect: the first is where the utmost change, except vitrification, is brought about; the second is where the circumstances of the process are limited in proportion to the change intended.

The *calcination* of metallic bodies, gold and silver excepted, is promoted by nitre. This salt exposed to the fire in conjunction with an inflammable substance, extricates the inflammable matter, but bursts with it into flame, accompanied with a hissing noise: this process is called DEFLAGRATIO, or DETONATIO. To understand the principle of this operation it must be observed, that the afflux of air is necessary to the support of fire; and that nitre, or any thing containing its acid, will supply the air.

The manner of operation varies according to the nature of the matter to be *calcined*, and may, according to the principle on which it is performed, be distinguished into three kinds, COMBUSTION, CALEFACTION, and DETONATION.

CALCINATION by *combustion* is where the body kindled supports, with the assistance of the air, the fire which *calcines* it, as in the instance of coals in the culinary fire. Vegetables are thus *calcined;* and the operation is sometimes alled INCINERATION.

CALCINATION by *calefaction* is where the *calcining* heat is not generated in the body itself, but imparted to it from external fire. The methods are as various as the different kinds of matter thus treated; and in the management, regard must be had to the substance of the containing vessel, for some should be made of iron, others of glass or clay; and the heat must be differently regulated, or else vitrification, instead of *calcination*, may ensue. *Calcinations* of this kind are expedited by the increase of surface which is given to the calcined matter, and the copious admission of air through that part of the furnace where the matter is placed, by stirring it with a spatula, by previous pulverisation, and by raking off the calx from the surface of the metal, as fast as it appears. It should be further observed, that if any coal, or other inflammable matter, that does not contain a mineral acid, be suffered to fall on the calcining matter, *calcination* will be prevented; and part of what is calcined will be revived or reduced, that is, it will return into its metallic form again.

CALCINATION by *detonation* differs from combustion only in this: in the latter the assistance of air is necessary; in the former this want is supplied by the nitre that is added to the matter, which, producing a quicker and more intense fire, both shortens the operation, and, in some instances, renders it more perfect. Detonation is thus performed: a proper quantity of nitre is mixed with the matter to be calcined, a crucible is heated red-hot, then the matter thus mixed is gradually thrown in, an explosive effervescence soon follows. When it has ceased, another portion must be projected, till the whole is calcined. The crocus antimonii, and some other medicines, are thus prepared. A portion of the alkaline basis of the nitre sometimes joins with the calcined matter; but it may be separated by repeated washing with warm water: this is called EDULCORATION.

The metals which melt before ignition, are calcined by keeping them in fusion for some time. Those metals which require a strong fire to melt them, calcine with a much less heat than is sufficient to make them flow; hence the scorification, or burning, of such iron or copper vessels as are long exposed to a considerable fire without defence from the air.

In *calcination* the metals visibly emit fumes; yet the weight of the calx proves greater than that of the metal employed from the oxygen absorbed. Metallic calces are revived into their metallic state by fusion with any animal or vegetable inflammable matter.

Except those of lead and bismuth, all the metallic calces require an addition to make them melt in the strongest fire that can be made in common furnaces; and the additions, called fluxes, chiefly consist of a mixture of fixed alkaline salt with some inflammable matter. As these fluxes not only fuse the calx, but also revive it into metal, they are sometimes called reducing fluxes; of which the following is one of the chief, called the BLACK FLUX.

Take of nitre one part, and salt of tartar two parts; grind them well together, then set the mixture on fire, by throwing in a bit of red hot coal; cover the vessel, and suffer them to burn until the whole is changed into a black alkaline coaly mass.

Metallic calces mixed with twice their weight of this black flux, and exposed to a proper fire in a close covered crucible, melt and resume their metallic form. But though the calx was heavier than the metal of which it was formed, on reviving to its original metallic state its weight is less than at the first.

See Newman's Chem. Works, Lewis's Materia Medica, the Dictionary of Chemistry.

CALCINA'TUM, also CINIFICATUM. Terms applicable to calcined substances.

CALCINA'TUM MA'JUS. This term is applied to whatsoever is dulcified by the chemical art, such as dulcified mercury, lead, and the like substances, which are very speedily consolidated.

CALCINA'TUM MA'JUS POTERII, is mercury dissolved in nitrous acid, and precipitated by salt water. Poterius used it in the cure of ulcers.

CALCINATUM MINUS. Any thing sweet by nature, as sugar, manna, tamarinds, &c.

CALCINO'NIA. See CALCENA.

CA'LCIS VITRIOLA'TÆ CATAPLA'SMA. CATAPLASM OF PLASTER OF PARIS. Mix plaster of Paris with water to a proper consistence, and, whilst soft, apply it to the ulcer, where it will harden, and must be suffered to remain for two or three days before it is removed: where want of vigour is apparent in an ulcerated part, it is considered as useful. The principle upon which it is employed has never been well explained, nor has experience yet confirmed its utility.

CA'LCIS A'QUA. See CALX.

CA'LCIS VIVÆ FLO'RES. See AQUA CALCIS, under CALX.

CA'LCIS OS. See CALCANEUM.

CALCITA'RI. See ALCALI.

CALCITE'A. See VITRIOLUM.

CALCITEO'SA. See LITHARGYRUM.

CA'LCITHOS. See ÆRUGO ÆRIS.

CALCITRA'PA. COMMON STAR THISTLE; STAR KNAPWEED; *carduus stellatus*, *jacea ramosissima*, *stellata*, *rupina*; *centaurea calcitrapa* Lin. Sp. Pl. 1297.

It grows near highways, on commons, and flowers in June. The leaves are bitter; a drachm of the seed, in a glass of wine, is said to expel viscid matter which obstructs the urinary passages: the root is used against the gravel, and the stone in the bladder; and the bark of the root is extolled in the nephritic colic. It should be gathered about the end of September, and, when dried, the dose is a drachm. It scarcely differs, however, in its effect from other bitters, and is now little used. Dale.

CALCITRA'PA OFFIC. ST. BARNABY'S THISTLE; called also *carduus stellatus lutea*, *carduus solstitialis*, *spina solstitialis*, *jacea stellata*, *jacea lutea capite spinosa minori*, and *leucanthe veterum*. *Centaurea solstitialis* Lin. Sp. Pl. 1297.

It is commended as an anticteric, anti-cachectic, and lithontriptic, but is in reality only a weak tonic, perhaps an antacid. Dale.

CALCOI'DEA OSSICULA. The same as *chalcoidea ossicula*. See CUNEIFORME OS.

CA'LCOTAR. See VITRIOLUM.

CALCULI'FRAGUS, and CALCIFRAGUS, (from *calculus*, *a stone*, and *frango*, *to break*). The scolopendrium or the pimpernel is thus styled, but they have no lithontriptic power.

CALCULO'SUS. Afflicted with the stone.

CALCULUS, (from *calx*, *a lime stone*). The GRAVEL and STONE. The Greeks call this disorder *lithiasis* and *adamitum*; the Latins name it *calculus*; and in English we understand by *gravel*, small *stones* that pass from the kidneys through the ureters in a few days; and by the *stone*, a calculus concretion in the kidneys, or in the urinary bladder, which is too large to pass, or at least without great difficulty. *Nephritis*, in modern practice, is confined to an inflammation of the kidneys. See NEPHRITIS.

When a disposition to form minute calculi exists, we often find nephritic paroxysms, as they are styled, which consist of pain in the back, shooting down through the pelvis to the thighs; sometimes a numbness in one leg, or a retraction of either testicle; symptoms arising from the irritation of a stone passing through the ureters as these cross the spermatic cord, or the nerves passing to the lower extremities. These pains, often violent, are terminated by the painful discharge of small stones through the urethra; and the patient is for a time easy. What, however, is meant by the STONE, is a more serious and violent disease. It is singular that these discharges of small gravel do not usually terminate in stone. Many have experienced them during a long life, without any more serious inconvenience: while the latter is a disease chiefly of the young, and seemingly depending on a seminium, not easily explained. If the stone attacks persons more advanced in age, it is often the consequence of paroxysms of gout, long protracted, and terminating imperfectly. Of nephritic paroxysms we must again speak, and shall now confine ourselves to *calculus*. It is not, like nephritis, usually attended with sickness of the stomach, unless the stone is confined in the cavity of the kidney, called its pelvis; for it is with affections of this part that the stomach seems to sympathise. Its commencement is marked only by frequent inclination to make water, pain during the discharge, and the stream often suddenly interrupted. It is a remark of Le Dran, that if there is pain while the first portion of the urine is discharged, the stone is small; if when the last, it is large: if, during the whole time, it does not proceed from a calculus. It is singular, also, that the pain is not in proportion to the size of a stone, for a small calculus will produce violent fits of pain; a large one often very inconsiderable inconvenience. The pain from calculus is by no means constant: it comes on in violent paroxysms, which induced Hoffman to suppose it owing to spasm. All the parts adjoining are forced down, particularly the rectum, giving the sensation of an urgent necessity of having a motion. In many instances the patient can lie most easily on one side, and on turning feels a weight rolling to the opposite side. In the intervals of the paroxysm he is often perfectly easy. These symptoms will generally ascertain the existence of a calculus; but we have often better evidence by the introduction of a catheter. With this instrument we can search through the bladder, and feel a stone. Yet it is sometimes so small as to escape it; and, by some unaccountable accidents, after many trials it is not

felt. It is then in a moment caught, again escapes, and can be discovered no more. It is equally singular that an inexperienced surgeon will sometimes discover it, when the most able operator has been foiled. The stone is sometimes covered with a membranous coat, and then the catheter does not convey the proper sensation to the operator's hand: and it has happened, that when the stone has been once felt, at the moment of the operation it could not be again discovered. This may have been owing to its having forced its way through the fibres of the bladder, carrying with it the internal coat, which thus formed a covering for it on the outside of its cavity: and this, we were informed by the late Dr. W. Hunter, was the case with one of the persons on whom Mrs. Steevens' medicine was tried, previous to her receiving the parliamentary reward. The stone, after taking the medicine, was not to be found; and, on the death of the patient, it appeared not to have been dissolved, but to have escaped detection in this way.

The nature and source of the calculus have been long unknown; nor, at this moment, is either indisputably ascertained. Calculi differ in all their external properties; they differ also in the facility with which they yield to different solvents, but their component parts are singularly uniform. The calculus, when single, is usually oval; when there are more, the shape is more irregular, and still more so in proportion to the number in the bladder. They are usually laminated; the laminæ of different thickness, and irregular in their direction. The colour is occasionally white or brown, or resembling that of a mulberry in this respect, as well as in irregular points. The white laminæ are usually on the outside, the brown in the middle, but the colours never alternate.

The calculus was always concluded to be sand or stone; nor was a hint beyond this idea started till the time of Van Helmont, who, catching a ray from the meteoric visions of Paracelsus, concluded it to be a coagulation of the urine by means of a volatile spirit. Hales undoubtedly threw a considerable light on its nature; but the first regular analysis was made by Scheele; and, about the same time, Bergman exerted his penetrating genius in the same pursuit. They were followed by Morveau, Fourcroy, Woolaston, and Pearson. To pursue the history, which, on the whole, would be neither unentertaining nor uninteresting, would, however, fill a disproportioned space in this work. We shall, therefore, give the analysis of Fourcroy as contained in the latest publication on the subject, the first volume of the Annales du Museum National, p. 93, &c. and add the experiments of Dr. Pearson, which differ from Fourcroy's in some essential respects.

M. Fourcroy found, on analysis, twelve different substances in the various calculi found in the body:— the lithic acid, first discovered by Scheele; urats of ammonia and soda; phosphat of lime; acid phosphat of lime; ammoniaco magnesian phosphat; oxalate of lime; carbonate of lime; flint; spermaceti; bezoardic animal resin; and gelatine. The *uric acid* is of a yellowish colour, from the light straw to the reddish yellow colour of bark. It is in fine laminæ, but brittle, though susceptible of a beautiful polish. It is pure only in human urine, and forms the red sediment deposited after fevers, paroxysms of gout, &c. It is insoluble in cold, scarcely soluble in hot, water; softened, and in part dissolved, by alkalis, at least with the assistance of a little water; but unaffected by acids, except that the oxygenated muriatic acid changes it into the malic acid.

The *urat of ammonia* was first discovered by Fourcroy: it differs little in appearance from the acid, except that its laminæ are less sensibly streaked. It sometimes forms the whole of a calculus. It is scarcely soluble in water, except with excess of ammonia, and is decomposed by all the acids, rapidly by the fixed caustic alkalis.

The *urat of soda* was first discovered by Mr. Tennant in arthritic concretions, but is not an ingredient in urinary calculi. It consists of friable fragments, without any regular arrangement, and certainly combines some animal and gelatinous matter.

Phosphat of lime is a very frequent component part of urinary concretions. It appears in three different forms, viz. a granulated, bony substance, susceptible of a fine polish, like the pretended calculi of the pineal gland, the salivary, lachrymal, or bronchial glands; secondly, in thin strata, which are concentric and of a dead white, friable like the urinary calculi themselves; thirdly, of a more uniform texture like ivory. This ingredient is not affected by acids; and, with the blowpipe, exhales the smell of animal matter, becoming white and friable. It is soluble in the nitric and muriatic acids, but insoluble in the vitriolic. The solutions afford also a calcareous oxalate, from which the existence of the lime is ascertained.

The *acid phosphat of lime* is chiefly confined to the bezoars, of which it is the principal substance. It is formed in thin strata, with little adhesion, and very brittle. In fusion it gives out a slight aromatic odour.

The *ammoniaco magnesian phosphat* is most easily recognised among the ingredients of calculi, though for a long time unknown. It sometimes occurs in white prismatic crystals, semitransparent, or in tables whose edges project, and form the little points on the surface of some urinary calculi, as well as on the intestinal bezoars of the elephant and the horse. At other times it is in sparry, lamellated strata, semitransparent, of different thickness, covering another primitive calculus, consisting of the uric acid, or some other body. The resemblance to calcareous spar is so strong, that Daubenton and Vicq. d'Azyr had nearly confounded it with this fossil. This salt is smooth to the eye and to the touch, easily reduced to a white light powder of a sweetish, insipid taste, without the dryness of phosphat of lime. This ingredient is easily dissolved in acids and alkalis, but contains some animal matter; and, when decompounded, leaves some soft, light, transparent, membranous flakes, more nearly approaching the primitive forms of the calculous fragments than those from the phosphat of lime, which also contains, though less strongly marked, similar membranous substances. It generally forms the external strata of urinary calculi, and the greater proportion of the intestinal bezoars of the horse, the elephant, and the larger mammalia; but is never discovered in *their* urinary calculi. After having been ascertained in the analysis of calculi, it was found in the urine; at first in the form of the magnesian phosphat, and, when the urine began to purify,

in that of the ammoniaco magnesian phosphat. This is the triple salt, formed in hexaedral prisms on the sides of the vessels in which urine has been suffered to stand, till it undergoes a spontaneous decomposition.

The *oxalate of lime* long eluded the investigation of chemists; but it is constantly found in the mulberry calculi, so called from their resembling that fruit in colour and pointed projections. This substance is hard like ivory; and, when sawed, exhales the faint odour of bones rubbed against each other. It consists of concentric laminæ applied in rounded scales, or like caps; which, successively covering each other, produce the projecting points. It contains an animal jelly, and is exclusively discovered in human urinary calculi.

Carbonate of lime, long supposed to be the only basis of the human urinary calculi, is not found in them. It only occurs in the urinary calculi of the other mammalia, particularly, horses, oxen, and pigs. It is neither in strata nor in crystals, but in confused irregular masses, consisting of granulated molecules.

Flint occurs very rarely. M. Fourcroy only found it twice in six hundred calculi, and then in small quantities, mixed with other substances. It is apparently accidental.

The *spermaceti* Fourcroy calls *adipocire*, as a medium between fat and wax, but not perfectly the same with that from the whale, as it is more dry and fusible. This substance often occurs in pure white, shining, talcy laminæ, or covered with a brown colouring matter. It is sometimes found only like little straws, passing through these concretions, occupying their centre, or deposited, on cooling, by the alcohol, in which the calculi have been immersed. It is soft and fat to the touch. When rubbed and warmed, the smell resembles that of suet, or the spermaceti of the whale: it is very light and swims on water. It is fusible in nearly the same temperature as the spermaceti, resembling, when melted, a yellow oil. It sublimes, like wax, at a temperature above its melting point. By distillation it affords water and acetous and sebacic acids, as well as carbonated hydrogenous gas. Its kind of fusibility renders it less readily decomposed in an open fire than fat. It is not affected by acids, but forms a soap with alkalis. It is insoluble in water, soluble in alcohol, and in a larger proportion in hot than in cold spirit. The solution of the adipocire separates in shining crystals when cooled, and is decomposed by the addition of water. It dissolves in fixed oils, and in volatile ones slightly warmed. It is found only in the biliary calculi of men; often separate and pure in those calculi which are white and crystalline. It is not discovered in the biliary calculi of the ox and other mammalia hitherto examined.

The *animal bezoardic resin* we have already noticed, as much as its importance in this work merits.

The *gelatine* accompanies almost every ingredient. It is the connecting medium of the other bodies mentioned; and is discovered by the fetid odour they exhale in the fire by forming carbon frothing in water, which thus acquires an animal smell, and in being precipitated by tanin.

We have given this abstract of the more important parts of M. Fourcroy's Memoir, not only to illustrate this subject by the latest chemical investigations, but to contrast it with the experiments of Dr. Pearson, perhaps to reconcile the discordant observations.

Dr. Pearson, neglecting the more violent methods of analysis, dissolved the calculi in caustic alkalis, and precipitated the dissolved portions by acids. The precipitate, when well washed and dried, was a light micaceous crystalline substance, consisting of nearly one-half of the original calculus. It is without smell or taste; scarcely soluble in cold water; does not unite to any alkaline substance, except when uncombined and caustic; it is at least not *an acid*. It cannot be sublimed without decomposition, and consequently cannot be *the lithic or succinic acid*. It does not form a viscid solution with water, and consequently cannot be an animal mucilage. As in every trial it shows marks of an animal nature, Dr. Pearson styles it an animal oxide: according to this author, it is not putrescent or crystallizable, insoluble in cold water, producing a pink or a red residuum on evaporating its solution in nitrous acid. As an oxide he attempted to acidify it, but could only change it into ammonia and carbonic acid. He found that when the nitric solution of this animal oxide was evaporated, the inflammation which took place was owing to the production of nitrat of ammonia. The white, impalpable, tasteless, heavy powder left on the filter after the union of caustic soda, contained $\frac{175}{300}$ of animal oxide; $\frac{95}{300}$ of phosphat of lime; of ammonia, perhaps with phosphoric acid, mucilage, &c. $\frac{29}{300}$. Dr. Pearson afterwards separated the lithic acid of Scheele, and found its properties wholly different from the animal oxide. On examining two hundred specimens of urinary calculi, thirty-two out of thirty-three contained this oxide, but its proportion varied usually from 0.40 to 0.70; and it sometimes was found in the exterior, sometimes in the interior, laminæ. It was not, however, found in the urinary concretions of any animal but man. It is found also in the human arthritic calculi, but not in the concretions of the teeth, stomach, intestines, lungs, or brain. This animal oxide Dr. Pearson calls uric oxide.

On comparing the experiments of these two chemists, it will, we think, be at once obvious, that the more operose and violent operations of the former produced new compounds; and, in confirmation of this idea, we must remark, that in every ingredient obtained by M. Fourcroy, animal matter was conspicuous: we have carefully pointed out its appearance in each. We may, therefore, safely conclude, that the animal oxide is the chief ingredient of the calculus, and that its component parts are the principles already described from the Annales du Museum National.

We should not, perhaps, wholly pass over the concretions of other animals; yet, not to distract the attention, we shall finish the subject of human calculi.

Notwithstanding the labour of the chemist, we are almost equally at a loss respecting the source of calculi, and what has been styled the diathesis calculosa. It is not hereditary: it is not acquired. No constitution is peculiarly subject to it; yet we think the fair complexions, with light hair and blue eyes, have been the most common victims. This may be fanciful; for if one of ten has been of this description, let it be recollected that not one of a million of this description has suffered from calculus. The remote causes, usually assigned, are equally without foundation. Hard water is certainly not a cause, for selenite is not an ingredient in calculi: wine does not occasion it, for the calculus does not

resemble tartar. Cyder is equally harmless; and beer has been accused, only because, as a more general beverage, an unusual proportion of beer drinkers must be affected. It has been said, and generally believed, that a nucleus was only required to form a stone from the depositions of the urine; but gravel almost constantly occurs in the bladders of many persons, and yet no stone is formed. In short, it is one of those arcana which, after all our investigations, must still remain such. We know that our glass falls to the ground from gravity; and, though we know not the cause of gravity, we can, however, preserve it. We know not the source of calculi, but we can often mitigate their symptoms; relieve, perhaps, in some, though very rare, instances cure. If chemistry, however, does not assist us, we may perhaps draw some useful hints from analogy.

The connection of calculus with gout is well known; and the latter is certainly in a great degree depending on a weakened or disordered stomach. If animal matter is formed, but in a state not adapted for nutrition, it must be carried out of the body as an injurious substance, and it may be deposited on the kidneys or joints. We shall here be accused of inconsistency, and told that we are supporting the doctrine of morbid matter as a cause of gout. It is not, however, the cause, but the effect of the cause; in reality, the first in the chain of effects or symptoms. In the constitution that has long suffered from the gout, it seems to be determined to the kidneys with the phosphoric acid retained in the early period of the paroxysm; and its concretion is assisted by the long confinement on the back, which the pain of gout often demands. In relaxed constitutions of the scrofulous kind, it may also be occasionally deposited in different parts, though the kidneys seem to yield it the most ready outlet. This appears to us a step, at least, towards the explanation of the cause. If fanciful, or unfounded, it has detained the reader only for a very short time.

The calculous diathesis is so imperfectly known, and calculus of the bladder so rare a disease, that little has been attempted to prevent it. As stone, however, when once extracted, will sometimes recur, preventives, at that time, should be employed. In this class, general tonics will be found useful; and if there is any whose action is more particularly directed to the kidneys, these should be preferred. The uva ursi has been supposed to have this effect, and it may be employed with the decoction of the bark: at the same time, a mild diet, with every plan that will dilute the urine, without stimulating the urinary vessels. The free use of watery fluids; some of the diuretic vegetables; fruit, of which Linnæus seems to prefer strawberries; are proper, though with an admixture of mild animal food. The acidulous soda water will be an useful drink. If the danger is apparently more urgent, the use of the bitters may be occasionally intermitted; and soap, with lime water, given for six weeks or two months, when the bitters may be again resumed. The patient should never suffer the urine to stagnate, but use himself to discharge it at stated times in the day and night, which will soon bring on the habit of doing so, whatever the quantity in the bladder may be. This, however, must not be too often practised. Once in the night, and three times in the course of the day, at least, the discharge should be encouraged. If his life is a sedentary one, it should be more frequent.

A calculus, however, at last shows itself by symptoms somewhat equivocal, differing, however, according to its seat. Gravelly concretions in the kidneys, which seem to consist almost exclusively of the uric acid, we must consider under the article Nephritis; and a stone occurring in the ureter cannot be easily mistaken. Acrid matter in the urine, a coagulum of blood, or gluten, will sometimes occasion violent pain, which will be mistaken for a fit of stone, and nothing can ascertain the complaint but the catheter, unless the offending cause should be discharged. An abscess of the prostate, or in the rectum, pressing on the bladder, has been said also to imitate the pain of a calculus; yet, as these are easily ascertained by an examination per rectum, the error can neither be long continued nor dangerous.

When a calculus exists in the bladder, it produces pain chiefly by paroxysms. There are intervals, often long ones, of the most perfect ease, but the paroxysms are extremely severe. These are relieved by emollient oily clysters, followed by opiates in the form of clyster, and by the mouth; the doses of which must be such as to meet the pain, whatever quantity may be required. We may notice, in this place, that the proportion of opium which is employed in relieving the pain, has no effect on the constitution in general; it is the excess of this dose which is felt.

The disease, however, remains; and it must then be considered whether the operation should be hazarded, or the solution of the stone attempted by internal medicines. The operation, though severe, is not peculiarly dangerous; yet, to attempt it on exhausted arthritic constitutions would be highly improper: if firm, no period of life is an obstacle. Another consideration must, however, stop us. We do not remove by the operation the disposition to form stone; and the disease has been known to recur. It does not, however, always return; and, within our observation, it has not returned in the greater number of instances. We remember an observation of Mr. Justamond, that the operation does not succeed if the patient has previously used lithontriptics. But this we have not found supported by experience. If, therefore, the constitution of the calculous patient is firm, if the paroxysms are frequent and severe, if lithontriptics are not found in three or four months to greatly relieve, the operation is advisable. See Lithotomy.

Many, however, will not submit; and, in all, we think lithontriptics should be tried; for, though we have no decisive evidence of their dissolving stone, they greatly mitigate the pain, render the paroxysms more distant, as well as more mild. It has been seen from the experiments of Fourcroy, that almost every ingredient in calculi is dissolved by the caustic alkali; and various experiments have shown that the whole calculus yields to its powers. Lime water has been found also a solvent of calculus out of the body; and on these our hopes have chiefly rested. It is obvious, however, that what is taken by the mouth, has not only a circuitous route to reach the bladder, but is subject to many chemical changes; nor, indeed, are there many well-

authenticated facts of the urine being so changed, as to become a menstruum for the stone. Almost the only instance, except the case of Dr. Newcombe, recorded by Dr. Whytt, is that of Mr. Holme. Yet, though it may not be so accumulated in the urine as to render it an active solvent, it may destroy the animal oxide in it, or prevent its tendency to concretion; and it may have sufficient powers to soften the surface of the stone so as to lessen the irritation, and, of course, the spasmodic symptoms, which are its consequence. It is, we believe, an incontrovertible fact, that, where the stone has been unchanged, the paroxysms of pain have been greatly mitigated; and, to lessen pains so violently excruciating, is surely an object of no little importance.

Lime was long known as a solvent of stone, and different methods were employed to administer it with safety. One of these plans fell into the hands of Mrs. Joanna Steevens, daughter of a gentleman of a respectable family in Berkshire, and her success occasioned a considerable anxiety to discover the secret. At last, parliament bought it for 5000*l.* after different trials had been made of it with advantage. In many instances, stones, which had been sensibly felt, were no longer to be discovered; and, as the *same* persons were examined by surgeons, men of the greatest skill and eminence, both before and after the exhibition of the medicines, it is fair to conclude that in some instances they were dissolved, though we have recorded the singular mode which, in one case, occasioned the deception. Mrs. Steevens, it is said, first gave the calcined egg-shells only, but finding these produce costiveness, she added soap. In time she rendered her process more complicated, adding snails burnt to blackness, a decoction of camomile flowers, parsley, sweet fennel, and the greater burdock. When we consider the effects of bitters, we shall not perhaps think, with Dr. Hartley, these additions to have been wholly useless. It is singular, however, that the egg shells, though calcined, were exposed to the air till reduced to a fine powder. No one seems to have carefully examined them in this state; and it is only presumed that they retained some portion of the caustic acrimony. Various other ingredients were confessedly used as disguises.

As soap was with reason supposed to add considerably to the virtues of the lime, it led to the use of the caustic alkali, softened by a more pleasing mucilage, veal broth. Since that time it has been used alone.

The following is the best mode of preparing and administering it:

Take of kali prepared, eight ounces; of fresh quicklime, four ounces; of distilled water, a quart: mix them well together in a large bottle, and let them stand for twenty-four hours; then pour off the ley, filter it through paper, and keep it in well stopped phials for use. Of this the dose is from thirty drops to two drachms, which is to be repeated two or three times in a day. Mix the quantity to be used in the day with three pints of plain broth, which has been made with the lean part of veal, all the fat or oily parts being separated from it, by putting it, when made, into a large bowl, and skimming them off with a spoon when cold, and let the patient drink within an hour a pint of this broth three times a day, early in the morning, at noon, and in the evening: continue the use for three, four, or more months, living during this course on such things as least counteract the course of this medicine.

Various other lithontriptics have been employed; but the calculus seems a more uniform concretion than has been supposed, particularly by Dr. Dawson in the London Medical Transactions, vol. ii. p. 105. The common fixed alkali, or, in stricter language, the carbonated alkali, has been employed; and, more lately, the alkaline carbonated water, viz. the alkali with an excess of carbonic acid. Some cases have been related, in which this remedy has been employed with success, and we may easily find a foundation for its use.

Honey has been used also with success; and Mr. Home, surgeon at the Savoy, has recorded its utility in his own and his father's cases. It was an ingredient in Mrs. Steevens' farrago, but in too small a proportion to be of advantage. Bitters have been also employed, and we have already mentioned their use as preventives: we have reason to think that they may be serviceable in mitigating and protracting a fit. When we reflect on these different means, we shall perhaps find only the pure alkali and the lime water adapted for the solution of the calculus; and, when the circuitous course of each is considered, we may suspect that they seldom reach the bladder without impaired virtues. We have, indeed, two instances in opposition; but, without offence to either, may we not suspect a little predilection in favour of the remedy to have influenced the observation? It once happened in a clinical ward, that the urine was reported to effervesce with alkalis. Some of the elder students, in private, suggested that they could perceive no effervescence but the slight separation of air, occasioned by the mixture of any two fluids. On the next day it was reported that no effervescence *had* taken place, nor could it, adds the professor, for the alkali was caustic. What adds to our scepticism on this subject is, that from the use of lithontriptics the symptoms have been often relieved, though the stone has remained without any change.

When we reflect on the connection of stone with gout, on the weakness of the stomach, apparently the origin of each, and the utility of bitters, stimulants, and antacids, we own that we rest with more confidence on the idea of the whole originating in imperfect digestion, and the production of an animal oxide not admitting of application as a nutritious substance. But, whatever becomes of the theory, lime water and soap, acidulous soda water, caustic alkali, or bitters, are highly useful. Of the soap as much must be taken as the stomach will bear, or as much as will prove gently laxative; but of the lime water few can take more than a pint daily. The acidulous soda water may perhaps be taken in larger quantities, as it is more agreeable; and the acidulous salt is now prepared, so as to produce this water extemporaneously. It must, however, be swallowed while dissolving, as the carbonic acid gas rapidly escapes. Of the liquid caustic alkali, from thirty to a hundred and twenty drops may be taken in veal broth two or three times a day.

The inconveniences arising from the use of large quantities of soap and lime water are, impaired digestion, and, consequently, debility and emaciation. With the superfluous, the necessary acid seem to be destroyed. This effect has not, however, followed the soda with an

excess of carbonic acid; though the bitters are suspected, by long continuance, of diminishing the tone they were intended to preserve. Generally speaking, therefore, these remedies should not be continued long without intermission: yet they will not soon produce a change; and a trial of three months is at least necessary. If no benefit is then obtained, they should be relinquished or changed. If any amelioration of the symptoms should be observed, they may be pursued longer; yet in no case, probably, beyond nine or twelve months, without some intermission, or interposing a warm tonic for a few weeks. As the management during the paroxysm has much engaged the attention of physicians, we shall add the outlines of what has been directed.

During a fit, if the habit is plethoric and sanguine, *bleeding* both guards against and removes inflammation. Those persons who are subject to regular returns, may lose blood a little before the expected period.

Diuretics should never be of the stimulant kind; the emollient and oily are the most proper; and after these, the diluents should be freely employed. In general, the more painful the fit, the gentler should be the diuretics, and the less copiously given. The aged and weak should be allowed the use of cordials with their diuretic medicines. When the pain and spasms are very violent, and yet there is hope that the stone will pass the urinary ducts, gentle diuretics, mixed with mild anodynes, do the greatest service: for the latter relax the parts and ease the pain, and the former more easily and safely propel the stone. When gravelly matter hath been seen to be discharged with the urine, and to subside presently after it is made, light steel waters, either of the purging or of the diuretic kind, very safely and effectually expel it, and strengthen the kidneys: the water should be continued some weeks, and repeated at proper intervals. But if a stone in the kidneys is so large that there are little hopes of its passing through the ureters, which is known from the continuance of the disease, the steel waters should not be used.

Of all the *purging* medicines the oleum ricini is to be preferred in *calculous* disorders; whether a stone, or other cause of inflammation, produces gravelly symptoms. To relax the passage for the calculus to pass from the kidneys to the bladder, this oil is preferable to any other known medicines, either by the mouth or clyster. Oil, manna with nitre, or vitriolated magnesia with the oil of almonds, may be used in its stead; for they empty the intestines, take off all pressure upon the ureters, moderate the heat of the body, lessen the inflammation, and relax the spasm which the pain occasions. If the ol. ricini is taken in the fit, so as to keep the belly lax, and the aqua kali puri at proper intervals, mixed in any suitable vehicle, *their efficacy in calculous disorders will equal that of the most boasted remedies used in these cases.* In slighter attacks, a mixture of soap four parts, and rhubarb one part, twice a day, in doses sufficient for keeping the bowels easy, will be sufficient.

The use of *clysters* is singularly beneficial. The colon forms an arch over both the kidneys, is sometimes joined to the left; and, consequently, a warm emollient decoction thrown up, may, by its heat and moist vapour, relax and soften the kidney like a fomentation. Hence we see why flatulent or other accumulations usually occasion a fresh fit; and why the left kidney is more subject to complaints than the right. The ol. ricini is peculiarly useful in emollient clysters; but turpentine should make no part of their composition. Two drachms of the tinctura opii may be thrown up, after the operation of the laxative clyster, when the pain is great.

When the vomiting abates, the stomach and bowels are freed from their contents; then it is proper to give opiates, which, by easing the pain, and relaxing the spasm, most effectually open a passage. Their repetition can only be determined by the attending physician. When the pain is of very long continuance, and accompanied with great prostration of strength, especially if these occur in advanced age, and with a weak state of the pulse, Hoffman forbids the use of opiates, as of a poison; and says that, in such cases, gentle cordial waters, as those of mint, balm, and cinnamon, with the addition of a few grains of saffron, and the moderate use of wine, are the best means of supporting nature. Yet, if the loss of strength is caused by the violence of the pain alone, opiates will be necessary.

The SEMICUPIUM is an useful assistant when the pain is violent, for it powerfully relieves the stricture of the part. After sitting a sufficient time in it, ten or twenty of the soap pills may be taken.

Vomiting is sometimes a troublesome symptom; but if not very severe, it is rather useful, and ought not to be suddenly checked. Whilst moderate, it rather prevents the cohesion of the gravel, and promotes its expulsion. When it is necessary to remedy this complaint, the patient may drink freely of some warm aqueous liquor to unload the stomach of its contents; and the saline draught in the act of fermentation, followed by an opiate, may be given.

If a stone stick in the kidney, or the ureter, stimulating medicines are unsafe, and diluents are thrown up without producing any advantage; but when the anodynes have considerably abated the spasms, when the pulse is grown calm and soft, and the whole body is of a moist and equal heat, then the expulsion of the stone or gravel may be expected, often without further assistance.

Bloody urine is sometimes a symptom attending the gravel, in which case a dose of manna may be taken as a purge, in a quart of milk whey, at several draughts. (See Wallis's Sydenham.) To quicken its operation, and render it easier in the stomach, a slice of lemon may now and then be sucked. This may be repeated every day, or every other day, for it both eases the pain and moderates the discharge of blood. After its operation, a dose of opium may be taken at bed time. If the bloody urine is from the bladder, and attended with spasms there, or an ulcer, warm external applications are useful just above the pubes.

When CALCULOUS COMPLAINTS ATTEND DURING PREGNANCY, which very seldom happens if the pain is violent, a slight bleeding may be admitted, with oily laxatives, and afterwards opiates. If a stone is perceived in the bladder, it should be extracted before pregnancy; but if the woman is already pregnant, we should wait until her delivery. During the time of labour, the stone should be pushed and kept up above the child's head, if possible; if this cannot be done, the assistant

must pass up his hand as soon as the os internum is sufficiently dilated, and, breaking the membranes, turn the child, and bring it away by the feet. There will then be room for the stone to be raised by the catheter, to prevent the child's head from pressing it against the urethra, which would give the woman great pain, and perhaps lacerate the parts.

See Boerhaave, Aretæus, Alexander Trallian, Lommius, Hoffman, Wallis's Sydenham. Lobb on the Stone and Gout. Medical Museum, vol. i. and iii. Bell's Surgery, vol. ii. 9, &c. White's Surgery, 348. Memoirs of the Medical Society, vol. i. 225.

A stone is sometimes forced from the bladder into the urethra, and sometimes it is generated in this passage. Boerhaave observes, that if recent urine be placed in a heat no greater than that of a healthy man, it soon throws off a stony matter to the sides of the vessels; a calculous matter, by too long a detention of this fluid in the bladder, may therefore be soon and easily formed; and a little of it may on its passage with the urine be so entangled in the urethra, as not readily to be extricated, but become the basis of a larger stone. Mr. Warner observes, that the urethra, in cases of this kind, becomes a cyst, which acquires a great degree of hardness, remaining compact and whole till an inflammation is produced by its no longer admitting any further distention. The inflammation is then soon communicated to the teguments, by which means they become painfully tender, and are easily lacerated.

If a stone is obstructed in its passage through the urethra after bleeding, an emollient clyster and an anodyne draught will be proper; common emulsion should be drunk freely, and if the patient is placed in a warm bath presently after the clyster is administered, the stone often escapes.

If the stone stick in the neck of the bladder, and require an operation for its extraction, introduce two fingers into the anus, to detain the stone until the incision is made through the perinæum upon it. After the operation, as well as for some days before, Heister advises the patient to drink as sparingly as possible, that the wound may not be irritated by the urine. To guard against this inconvenience, a canula may be introduced beyond the wound, and kept in the urethra until it is healed. In whatever part the stone is lodged, the incision must be made in the course of the urethra, and the wound in the skin parallel to that in the urethra. When the stone is extracted, close the wound, and keep its lips together, by first laying on it a pledget of lint spread with some digestive ointment, then secured with slips of plaster, as directed for the dry suture.

It has been lately recommended to inject the caustic alkali into the bladder, diluted in any mucilaginous fluid; and experiments have been adduced to show, that the bladder can bear, without inconvenience, a sufficient quantity to render the urine an active solvent of calculus. On this subject, however, we would lay down no precise rule; for the bladder differs greatly in irritability in different persons, and it will be proper to begin with a small proportion. The plan is too obviously useful to be neglected, and experience may enable us to give a further account of its success in some future article. We may add, however, in this place, that weak vinegar, which may with safety be injected into the bladder of a horse, is found, from the experiments of Vauquelin and Fourcroy, an effectual solvent for the calculus of that animal.

We shall conclude this article with some comparative remarks on the human and animal calculi, from a second Memoir of M. Fourcroy, in a subsequent volume of the Annals of the National Museum, and with an analysis of the other human calculi.

The difference between the human urinary calculus, and those of other domestic animals, is truly singular. The renal and vesical calculi of the horse, the ox, the hog, and even of the rat and rabbit, in whom calculi are frequently found, consist only of carbonate of lime, connected by an animal gluten. Once M. Vauquelin suspected that he discovered the uric acid in the calculus of a tortoise, but it was not in sufficient proportion to render it certain. M. Fourcroy and his associates constantly found a striking analogy between the nature of the urine, and that of the calculus of the domestic mammalia. But, though the urine of horses does not contain phosphat of lime, they found it in the sweat, when dried on the hair; and, from Mr. Hatchet's experiments, it will appear that nature is uniform in her productions. The same substances are formed in the animal economy, deposited only on different organs.

Many of the bezoars of different forms and colours chiefly consist of calcareous phosphat, but they seldom contain the acid phosphat, and are consequently formed in the intestines; which is sufficiently proved by their nuclei, which are often the kernels of fruit, and sometimes small branches. In these animals, therefore, the substance, not carried to the kidneys, concretes in the intestines.

In the domestic animals, and those wild ones confined to the menageries, intestinal concretions, from the size of a large hen's egg to that of an ostrich, are often found in the cœcum. Those in the horse are of a greyish colour, formed of prismatic radii, without any distinct strata: the surface consists of irregular crystals worn down by attrition, with cavities between them. All these bezoars are composed of an ammoniaco magnesian phosphat, a substance lately discovered in barley and oats, as well as in some of the legumina, though in a less proportion. We thus find the source of these concretions; and their nuclei are generally some undigested seed, or a bit of straw. This salt does not naturally concrete in man; and it requires some additional substance or circumstance to assist its appearance, when it is discovered in the calculi of the kidneys and bladder. Nor is it easy to say, why some of the bezoars of wild animals should consist of the ammoniaco magnesian phosphat, while others contain the phosphat of lime only.

Dr. Pearson has analysed also the calculi of many animals. That of a dog was found, by him, to contain phosphat of lime and ammonia, with some animal matter: that of a rabbit yielded chiefly carbonate of lime, with common animal gluten, and perhaps a small proportion of phosphoric, but no uric acid: those of horses, whether vesical or intestinal, afforded phosphat of lime and ammonia, with animal matter, which melted like super phosphat of lime, after separating the animal substance and ammonia by burning. A large quantity of matter found in the bladders of horses not crystallized, each of several pounds weight, was carbonate of lime with the animal fluid. Bertholdi found

the calculus of a pig, which was nearly twice as heavy as distilled water, to consist of phosphat of lime.

Arthritic calculi were once supposed to be chalk, then to resemble the earth of bones; to be insoluble in acids, to be soluble in them, or to be soluble only in the nitrous acid. Various other discordant opinions were entertained, till Dr. Woolaston, in the Philosophical Transactions for 1797, gave us more distinct ideas on the subject: he found them to consist of the lithic acid and soda. We thus find the foundation of the use of antacids, and perhaps of bitters, in cases of gout.

The *calculi of the pineal gland* were supposed by many authors to be imaginary. Sabulous concretions, however, in this part have been often discovered; and Dr. Woolaston, by a delicate chemical test, has discovered them to consist of phosphorated lime. This is, however, a refinement only, for these concretions are not connected with any concurrence of symptoms so as to form a disease.

The *calculi of the prostate gland* also consist, according to Dr. Woolaston, of phosphorated lime.

Calculi of the salivary glands, calculous incrustations on the teeth, ossifications in the larger vessels of the heart, between the muscles, in the corpora cavernosa penis, and in the *pancreas*, resemble the earth of bones. Those of the *bronchial glands* we have found to be similar: those from the uterus have not been examined. See Heister's Surgery, Warner's Cases in Surgery, Gooch's Treatise on Wounds, and the Med. Mus. vol. i. and ii. Bell's Surgery, vol. ii. 9, &c. Baillie's Morbid Anatomy. Woolaston's Phil. Trans. 1797. Pearson's Phil. Trans. 1798. Annales de Chimie, xvi. 63. xxiii. 123. xxviii. 52. xxx. 57. xxxii. 185, 213.

CA'LCULUS BILIA'RIS, (from *bilis*, *bile*). GALL STONE.

Though we have spoken of these stones at sufficient length, yet some facts, chiefly of a chemical nature, remain. Biliary calculi are divided by Walker into the striated, lamellated, and cortical; and by Vicq. d'Azyr into those which consist of a yellowish bilious matter, whether filamentous or not; those composed of crystalline matter of different degrees of lustre, with or without a covering, and into calculi consisting of both substances. Externally they are usually laminated; internally, radiated: the greater number have no taste, but many are intensely bitter. From their chemical properties they are divided into two species; those consisting of a shining, foliated, crystalline substance, analogous to spermaceti, and those which resemble inspissated bile, in which the former seems to have crystallized. In every instance, the crystalline matter resembled spermaceti; though, in a calculus analyzed by Gren, it seemed to approach more nearly to wax. The hepatic calculi have not been examined.

They often lie quiet in the gall bladder; and, until dissection after death, are not known to exist: but, when they are prevented from passing through the gall ducts, they generally obstruct the passage of the bile into the intestines, and produce many other distressing symptoms.

The diagnostics of this disorder are often obscure and uncertain; for other causes produce similar symptoms. An instance occurs in Mr. White's Treatise on the Disorders of the Bile: the usual symptoms, however, are, a loss of appetite, a sense of fulness in the stomach, sickness, vomiting, languor, inactivity, sleeplessness, and, if the obstruction continue a few days, a wasting of the flesh; a yellowness of the eyes, skin, and urine; whitish stools; a pain at the pit of the stomach, without any change in the pulse. The last symptom is considered as peculiarly distinguishing this affection. This pain, which in some is extremely acute, in others light, is felt about the region of the liver, and its particular seat is in the gall duct, just where it enters the duodenum. In some patients the yellowness does not appear; in others it is observed for several months. It is a disease peculiarly painful, and as frequent as any disorder of the liver; it receives much relief from art, and is not immediately dangerous.

In the cure, pain is the first object of attention; and, when it is considerable, opium is the only resource: a dose may be taken as soon as the patient perceives its approach, and repeated every hour or two until a remission is procured. The vomiting, which generally attends, is nature's effort to dislodge the gall stones; and, whether it is present or absent, as soon as the pain begins to abate, an emetic should be administered, and repeated if required. After its operation an opiate may be given. Purging medicines are equally necessary; and of these, such as act with the most ease, and may be most safely continued, as manna, castor oil, the waters of purging springs, and neutral salts, are preferable. These may be repeated every other day for several months, without palling the appetite, or lessening the strength. A little rhubarb may also be taken occasionally. See London Med. Transactions, ii. 123. Memoirs of the Med. Society of London, i. 373.

The juice of grass and the decoction of its roots in the spring, are supposed, from a fanciful analogy, to be powerful solvents. Mr. White says that he hath given alcohol saturated with the oil of turpentine, and advantageous effects have been soon manifested.

See Dr. Coe on Bilious Diseases. Gooch's Cases and Remarks, p. 163—169. Lond. Med. Trans. vol. ii. p. 105, &c. Mr. White's Treatise on the Diseases of the Bile. Lewis's Translation of Hoffman's Practice of Medicine. Annales de Chimie, v. 186.

CA'LCULUS HUMA'NUS. See BEZOAR MICROCOSMICUM.

CALDA'RIÆ ITA'LICÆ. Hot baths near Ferrara, in Italy, useful in difficulty of urine.

CALDA'RIUM, quasi *calidarium*, (from *caleo*, to *make hot*). See BALNEUM.

CA'LDUS, for CA'LIDUS, is frequently used by Scribonius Largus; and *calda*, by many authors, for warm water.

CALEFACIE'NTIA, (from *calefacio*, *to make hot*). Such medicines as warm the habit. They belong to the class of stimulants, and, from the effects they produce, are called calefacients. See STIMULANTIA.

CALEFA'CTIO. See CALCINATIO *by calefaction.*

CALE'NDULA, so called—*quod singulis calendis*, i. e. *mensibus florescat*—because it flowers every month. GARDEN MARIGOLD, called also *caltha*, *calendula sativa*, *chrysanthemum*, *sponsa solis*, SINGLE MARIGOLD. *C. sativa* Lin. Sp. Pl. 1304. Nat. order, *compositæ discoideæ; corumbiferæ* of Jussieu.

Of the many sorts of marigolds, this is the only one generally received in medicine. It is so common in

our gardens, that a particular description is needless. It is annual, propagates itself by seeds, and flowers from May to the end of autumn.

The leaves have more virtue than the flowers, their expressed juice contains most of their pungent matter: it is thought to be aperient, and to promote the secretions in general. The flowers are a slight cordial.

CALE'NDULA ALPINA. See ARNICA MONTANA. Lin. Sp. Pl. 1245. β.

CALE'NDULA ARVENSIS, the WILD MARIGOLD, also called *caltha arvensis*, *caltha minima*; *c. arvensis* Lin. Sp. Pl. 1303. These leaves are stinking and bitter, and if burnt in the candle they crackle like nitre.

It is sometimes preferred to the former. Its juice is given from one to four ounces in the jaundice and cachexia; and the leaves are commended as a salad for children affected with scrofulous tumours.

CALE'NDULA PALUSTRIS. COMMON SINGLE MARSH MARIGOLD. *Caltha palustris* Lin. Sp. Pl. 784. Also called *populago*, *caltha palustris*, *pseudo helleborus*, *ranunculoides pratensis*. Grows in marshes, and is very acrid. It is so caustic that cattle avoid it, for it excites an inflammation if they chance to swallow it.

CALENTU'RA, (from *caleo*, *to make hot*). It is a violent ardent fever, in which a delirium comes on both early and suddenly. It happens to those who sail into very hot countries. Dr. Oliver gives the history of a case in the Philos. Trans. Abr. vol. iv. in which he observes, that when the delirium came on, the patient imagined that he was in green fields; that after a free bleeding he slept, and waked without any other complaint than weakness from the loss of blood, and soreness from struggling during his delirium. He further adds, that this fever attacks in the night, whence the patient, under the notion of green fields, runs into the sea before any one is aware, so that few of these cases occur to observation. Dr. Shaw advises, that the patient should indulge in rest, be bled freely, take a few hours afterwards an emetic; dilute plentifully with barley water, and that a blister should then be applied. It is probably a species of phrenitis, though of the milder kind, and of the nature of the *coup de soleil*. C. Stubbs in the Philos. Trans. N° 36.

CALE'SIUM. (Indian.) A tall tree, which bears clusters of berries like grapes or currants. These berries contain a flat stone with a kernel in it. It grows in Malabar. Of the wood is made sheaths for knives and swords. The bark, made into an ointment with butter, cures convulsions from wounds, and heals ulcers. The juice of the bark cures the aphthæ; and, taken inwardly, the dysentery. Raii Hist.

CA'LI, (from *kali*, Arab.). See CLAVELLATI CINERES.

CALICHA'PA. See SPINA ALBA.

CA'LIDRIS BELIO'NII. The French call it *chevalier*, from the length of its legs and swiftness of its motion. This bird is of the bigness of a pigeon; met with in meadows where there are pools and rivulets. It is the scolopax of Latham, and all the species afford a nourishing food.

CA'LIDUM INNA'TUM is an expression borrowed from the Stoical philosophy to express the natural heat of animals, which, as connected with life, has been also called βιολυχνιον, *the lamp of life*. By the ancient philosophers in general, heat was considered as connected with life, as the peculiar distinguishing property of living animals, or as the effect of divine interposition:

Est Deus in nobis, agitante calescimus ipso.

The ideas of Hippocrates on this subject were not very different; and, though Galen deviated somewhat from his master, no attempts were made to explain its source, till the chemical schools attributed it to effervescence and fermentation; the mechanical philosophers to friction—either of the particles of the blood on each other; or of these on the vessels; or of the solid parts themselves. Each of these theories is, however, wholly inconsistent with the appearances, or with the functions, of the animal economy; nor need we in this place enter into arguments to refute opinions which no one at present adopts.

Dr. Franklin supposed that fire, or, in modern language, caloric, was combined with our aliments; and, in the progress of the circulation, when the alimentary substances were decompounded, again separated in an active state: an idea simple and ingenious, in reality the basis of more modern systems. When phlogiston was in fashion, Dr. Black supposed that the air acting on the blood, separated the inflammable principle; and since it was apparently changed in the same manner as it would have been by a burning body, a similar process probably occasioned the change. Dr. Duguid Leslie, in his Thesis, afterwards published separately, opposed this idea; and suggested an opinion not very different from Dr. Franklin's, that the phlogiston contained in all our fluids, was separated during the circulation; and, as in every other circumstance where this principle was separated, heat ensued. This doctrine was, we believe, taught by Dr. Duncan in his class about that time: at least we have good reasons to attribute it to him. Yet each of these opinions must fall with phlogiston; but, though terms alter, we shall find that the principle of each has been retained, and that the same or similar ideas, in different forms, approach very nearly the solution of the problem.

The facts, however, have not been ascertained with accuracy. The heat seems to be almost uniform in every part of the body; and a thermometer under the tongue, in the axilla, in the rectum, in the urethra, and in a sinous ulcer, has pointed to nearly the same degree.

There is, undoubtedly, a difference in the degrees of heat of different persons, and probably in different parts. The earlier observations, as the construction of the thermometer was less correct, we shall omit; but, in general, the heat appears to vary from 96° to 98°. Dr. Martine and Dr. Hales found the urine to be 99° and 103° when the skin was 97°. Mr. Hunter observed the heat of the rectum to be 98°, and that of the bulb of the urethra 97°. A thermometer, two inches within the rectum of a dog, was at 100°, in the left ventricle of the heart 101°, in the substance of the liver 100¾°, and in the stomach 101°.

De Haen, however, remarks, that if a thermometer be applied under the arm for half a quarter of an hour, its height is 95° or 96°; if for a quarter of an hour, 97°, 98°, and 99°; if for half an hour, 100°, and 101°; if for an hour, 101°, and 102°. This passage has been little noticed, though we suspect it is alluded to by an author, who remarks, that the irritation produced by any body confined so long to a part, must

increase the heat above its natural standard. To ascertain the fact, the author of this article put a very accurate and sensible thermometer, made by Dr. Wilson, of Glasgow, under his arm, when in perfect health; and, confining the humerus loosely, so as not to produce the slightest inconvenience, sat down to read. The pulse, as usual with him when sitting still for some hours, sunk to 56°, were the same in both arms, and the feelings in each arm continued the same for three hours, during which the experiment lasted. In a quarter of an hour the thermometer was 97°, in about an hour 98°, and in two hours after 99°. It never rose higher. We must add, that in other trials, when the author's heat has been compared with that of different persons, it has always been found at least a degree lower; so that, perhaps, the real heat of the human body should be considered as 100°. This fact is, we think, of importance, when, with the accuracy of modern chemists, the capacity of the blood for heat in different situations is estimated.

Another fact, for which we are indebted to De Haen, is, that in putrid fevers the heat at the moment of death has been considerably increased, and that it even continued to increase after death, till, if we recollect rightly, it amounted to 104°. To this meagre catalogue of facts we can only add one other, which we think should be again examined, viz. that the venous blood of the internal organs is hotter than the arterial.

Observation, which ought to have preceded theory, should have furnished many additional circumstances to assist our enquiries; and it would have been of advantage to have ascertained the comparative capacity of heat of the blood in the vena portæ and the hepatic veins, perhaps of the blood in the splenic artery and the vasa brevia; nor would it have been wholly useless to have determined the capacity of heat of the different component parts of the vital fluid, with more accuracy than has yet been attempted. We must proceed, however, to explain the modern theories of Dr. Crawford and M. Lavoisier, taking the liberty of changing the language of the former; for, though phlogiston is no more, the language only, so far his theory extends, is changed.

We must anticipate a little the doctrines of an approaching article (Caloric), by explaining some terms essentially necessary to the proper comprehension of Dr. Crawford's system. If we suppose at this moment the existence of heat as a separate principle admitted, *absolute heat* is the real quantity of this principle; *relative heat* that quantity only which is obvious to the senses, or can be measured by a thermometer. Thus, according to the common instance, a pound of water and as much calx of antimony have the same temperature to the thermometer; but the water contains four times as much heat as the calx. The capacities of bodies for retaining this principle, are also different and measured by the degrees of sensible heat in each, after being exposed to the same temperature. Thus, if water and mercury are exposed to the same heat for a given time, while the temperature of the water is raised one degree, that of the mercury is raised 28°. The capacity of water then to that of mercury, is as 28 to 1. These two qualities, absolute heat, and capacity for heat, are often confounded, and particularly by Dr. Crawford, who was not aware, that in the diaphoretic antimony the heat was really a component part of the calx.

In pursuance of the general distinction between absolute and relative heat, Dr. Crawford examined the arterial blood compared with water, and found it to be as 1.03 to 1.00. He consequently suspected, that the blood absorbed heat from the air in the lungs; and this idea was confirmed by the intimate connection between the increase of temperature and the frequency of respiration, as well as the extent of the respiratory organs. On pursuing the enquiry, he found that the absolute heat of atmospheric air was changed by passing through the lungs; and, in general, air contained absolute heat in the same proportion that it was adapted for respiration. On examining the state of the blood in the pulmonary vein and artery, he found the heat greater in the former than in the latter. The colour of the venous blood resembles more nearly that of arteries in a warm than in a cold atmosphere, for less heat is of course absorbed; and, in general, the heat absorbed by air is nearly the quantity produced by burning a wax taper, for the air is vitiated in nearly the same proportion by both processes. The absolute heat of different animal substances he ascertained to be as follows. Supposing water 1.0000, inflammable air was 21.4000, oxygen gas 4.7490, atmospherical air 1.7900, aqueous vapour 1.5500, carbonic acid gas 1.0454, azote 0.7936, arterial blood 1.0300, venous blood 0.8928, fresh cows' milk 0.9999, hide of an ox with the hair 0.7870, lungs of a sheep 0.7690, lean beaf 0.7400.

To apply these facts to the subject before us, he found that the absolute heat of pure air, at the common temperature of the atmosphere, was equal to 1550°. The heat of fixed air and aqueous vapour being one third less, pure air changed to the two latter, would give out $3 \times 1550° = 4650°$. Many causes concur to reduce this quantity, but it will be evident that a large proportion of heat must be absorbed by the blood, as so little sensible heat is produced.

The capacity of the heat in venous blood, appears to that of arterial as about 23 : 20. If venous blood be therefore converted to arterial, there will be this proportional loss of heat; but venous blood contains 1580°, and consequently the loss from the change of venous into arterial blood, would be very nearly 200°, if the deficiency were not supplied from the air. We now know, also, more clearly than at the period Dr. Crawford wrote, that oxygen contains a considerable proportion of caloric, and its abstraction is of course connected with a diminution of this principle. As oxygen, therefore, disappears in respiration, heat is lost to our senses, but recovered again in the increased capacity of the blood, after it has circulated through the lungs. The blood in circulation becomes replete with azote, and, of course, its attraction for oxygen is diminished. Heat, therefore, escapes in every part of the circulating system, and supports an equable warmth; till the blood, returning to the lungs, again absorbs a fresh proportion of oxygen from the air, to be again partly separated for the support of animal life: we say partly, for the capacity of the remaining fluids being increased, a portion is absorbed, and becomes of these a component part.

This doctrine is recommended by its simplicity, its conformity to other appearances, and the ready application it affords to different phenomena; particularly

the connection of animal heat with the extent of the respiratory organs, and the frequency of respiration. It explains also some other facts which require a more ample consideration.

The heat of animals, at whatever degree it may be placed, is uniform. We see that the lower the surrounding temperature is, the separation of the oxygen from the air will be more complete, and, of course, the separation of heat in the circulation. The arterial and venous blood will, as we have said, differ nearly in the same proportion in their colour. Thus the changes balance each other; and in warm countries, where putrefaction powerfully vitiates the air, breathing has a proportionably less effect.

This balance of the effects of heat in the air, and of the production of animal heat, goes further; for, when heat is increased beyond its due bounds, the same principle produces cold. Mr. Tillet found that a girl could live for some time in an oven heated to 220°; and Dr. Fordyce observed that a dog could live, with little inconvenience, in a heat of 260°; and he himself endured the heat of 230° for fifteen minutes, while the thermometer under his tongue pointed only to 100°. Dr. Crawford proved, that when a living and a dead frog were exposed to a great degree of heat, in air or water, the former acquired the heat of the surrounding temperature more slowly than the latter. These facts are readily explained from our author's system. It appears, from what we have observed, that the blood brings with it to the lungs such an increased capacity for containing heat, that if its temperature were not supported by the oxygen of the air, it would sink 200°: but, in great heats, this capacity is supplied, and a small proportion only is absorbed; in very high degrees of temperature, probably none: and when, from the changes produced by the circulation, this extraordinary proportion of heat is separated, as it will be by the more rapid increase of the animal process, the superabundant heat is lost in the aqueous vapour, and in the evaporation, or rather the change of that vapour into air. Thus we see, also, why the heat in putrid fevers is so considerable, and why it may even increase after death; for the putrid fluids, having a less capacity of heat, lose whatever they contained in consequence of their former capacity, and putrefaction, hastening on rapidly after death, indeed more rapidly than the heat can be carried off, occasions its apparent increase.

The opinion of MM. Lavoisier and Seguin is more simple, but by no means meets so satisfactorily the phenomena, as the theory of Dr. Crawford. They consider respiration as a kind of combustion, in which pure is converted into fixed air, and the heat separated as the cause of animal heat. This, however, establishes a focus of heat in the lungs. This part must be the warmest, and the extremities the coldest, in the body, while the heat of the intervening parts must vary in proportion to their distance from the centre of inflammation. They avoid this difficulty, however, by alleging the rapidity of the circulation; and they elude the consequence of extraordinary heat in the lungs, by its diminution in consequence of evaporation; but, if examined, neither would be found equal to the effects. Lavoisier, however, adopts part of the idea of Crawford; and, when we recollect that the work of this latter author appeared in 1779, and the improved system of Lavoisier in 1780, we shall not doubt to whom this addition is owing. On the whole, the system of Dr. Crawford is apparently the true one. In the first edition there were some errors, both in the experiments and calculations; nor is the second, perhaps, though much more perfect, wholly free. Modern discoveries have, indeed, added to Dr. Crawford's system, and confirmed it; for, whether we consider the formation of carbonic acid gas from the addition of carbon, or that of water by the union of hydrogen, we shall find that in each change the vital air must lose a part of its specific heat. Yet it may be alleged, that Dr. Crawford, by ascertaining the capacity of aqueous vapour and of venous blood, has given a solution, though not so particular, equally satisfactory.

Various modifications of these opinions have been published. M. Girtanner, in the Journal de Physique for the year 1790, has suggested an opinion, that a part of the oxygen of the atmosphere unites with the arterial blood; a part with the carbon in the carbonated hydrogenous gas, which escapes from venous blood, forming carbonic acid gas; a part with the mucus, which is constantly decomposing; a part with the hydrogen gas of the blood to form water; and a part only remains in the blood to supply the animal heat. The effects of respiration will, therefore, be very numerous and different; but, when the products are examined, they will, he thinks, be found the same with those of combustion. If Dr. Crawford's system be considered with attention, it will not, we suspect, be found to require such a complicated process.

De la Grange adopts the opinion of Dr. Duguid Leslie, or rather of Dr. Duncan, putting it only into a modern dress; and Hassenfretz does not greatly differ.

Dr. Gren, in the Annales de Chimie, supposes that no oxygen is communicated to the blood; but that the change from the venal to the arterial is owing to the separation of carbon and hydrogen, with which the oxygen forms carbonic acid, and the water expired in respiration. M. Metheric, in the Journal de Physique, will admit only of the combination of oxygen as *one* cause of animal heat, recurring as assistants to muscular motion and fermentation. Respiration, he thinks, conducts the electrical fluid to the blood, as the air of an apartment in which a person has long breathed, is electrified negatively; but this proves nothing, as all our excrementitious fluids possess a negative electricity. Linnæus hints at a similar cause of the heat of animals, when he observes, in his concise, energetic language, *Flagrat electrico pulmonibus hausto.*

Dr. Menzies' experiments are connected rather with the subject of respiration than with animal heat; and we need only remark, that he thinks all the heat observed in the animal system may be explained from the quantity of pure air vitiated in the lungs; thus referring the heat of animals, like Lavoisier, to a species of combustion. The conclusion is, however, more correct in a chemical than in a physiological view. It will undoubtedly explain the heat of the blood in the lungs; and if Mr. Hunter's experiments, formerly mentioned, be admitted, for a little increase of the heat in those organs; but it will not explain the nearly uniform temperature in different parts. Indeed, we know of no system which so readily meets all the physiological and pathological facts as that of Dr. Crawford, and it is, we believe, generally adopted. See Respiration.

To this system, however, one objection remains, viz. the heat, which the embryos of animals, and particularly of oviparous ones, possess, independent of the parent. As the blood, however, of the fœtuses of vivaparous animals passes regularly through the lungs of the mother, it may be supposed to convey sufficient heat for the embryo; and, in confirmation of this idea, the blood of pregnant women seems to be highly oxygenated. No blood from the mother, however, can reach the embryo inclosed in an egg; and, though nature has provided a reservoir of air at one end, it is too inconsiderable to supply the young animal with warmth. It is singular, however, that the nature of this air has not been examined; nor has it been ascertained, though the quantity is known to be diminished in the progress of incubation, whether it undergoes any chemical change. Yet, as the yolk by which the chick is nourished, and the albumen itself, contain oxygen, this may be gradually evolved and impart its caloric; nor is this change merely imaginary, for we know that the mild fluids of the egg are gradually changed to azotic ones, whose capacity for heat is of course diminished.

There are, however, many arguments which lead to Dr. Cullen's opinion, that the warmth of animals is connected with their life, and the effect of the principle which distinguishes them as living beings. It is certain, also, that vegetables which possess life, possess also some innate heat; though the change respecting the air, the inhale and exhale, is reversed; for they expire oxygen as an excrementitious fluid, while they draw in carbon at the radical fibres, and absorb hydrogen probably from the leaves. At present, however, we know too little of the vegetable economy to suffer a system, otherwise highly probable, to be disturbed by its apparent anomalies; and, while we thus put our readers in possession of all the facts, we shall leave the ultimate decision for the result of further investigation.

See Haller's Elementa Physiologiæ; Hale's Statical Essays; Dr. Duguid Leslie's Philosophical Enquiry into the Cause of Animal Heat; Girtanner sur l'Irritabilité (Journal de Physique, 1790); Gren (Annales de Chimie, vol. xxiv.); Crawford's Experiments and Observations on Animal Heat, 2d edition, 1788; Mémoire sur la Chaleur, par MM. Lavoisier and De la Place; Mémoires de l'Academie, 1790; Menzies on Respiration, 1796.

CALIE'TA, or CALIE'TTE, (from *καλιη, a nest*, which it somewhat resembles). See JUNIPERINUM LIGNUM.

CALI'GO, (from *caligo, to be dark*). A growing darkness of the eye, or dimness of the sight, from a manifest cause; as in cases of the cataract, &c. Dr. Cullen places this genus of disease in the class *locales*, and order *dysæsthesiæ*. He defines it to be sight diminished, or wholly abolished; from a dark barrier between the object and the retina, in the eye itself, or in the eye lid. He also enumerates five species; viz.

1. CALI'GO LENTIS; the *glaucoma Woolhousi, maître Jean St. Yves;* this he denominated the cataract, and Sauvages calls it the true cataract, it is caused by a thickening of the coats of the crystalline lens. See CATARACTA.

2. CALI'GO CORNEÆ, from an opacity of the cornea. See ACHLYS and ALBUGO.

3. CALI'GO PUPILLÆ, from obstruction in the pupil. See SYNIZESIS; called also *amaurosis et synchysis a Myosi.*

4. CALI'GO HUMORUM, GLAUCOMA VOGELII, from a fault in the humours of the eye.

5. CALI'GO PALPEBRARUM, from a disorder in the eye lids. See Cullen's Nosology, edit. 3.

CALIHA'CHA. See CASSIA LIGNEA.

CALLÆO'N, (from *καλλυνω, to adorn*). The GILLS OF A COCK, a food neither to be praised nor condemned. Galen.

CALLE'NA. A kind of SALTPETRE. See NITRUM.

CA'LLI, *πορα*. Nodes in the gout. Galen.

CALLIBLE'PHARON, (from *καλος, beautiful*, and *βλεφαρον, an eye lid*). Medicines appropriated to the eye lids.

CALLICOCCA, Lin. Gen. Pl. Schreber, 316. Nat. order *rubiaceæ*, Juss. See IPECACUANHA.

CALLICRE'AS, (rom *καλος, good*, and *κρεας, meat*). See PANCREAS.

CALLI'GONUM, (from *καλος, beautiful*, and *γονυ, a joint*, or *knot;* so named from its being handsomely jointed). See POLYGONUM.

CALLIOMA'RCUS. See TUSSILAGO.

CALLIO'NYMUS, (from *καλος, good*, and *ονομα, a name*). See URANOSCOPUS.

CALLIPHY'LLUM, and CALLITRI'CUM, (from *καλος, beautiful*, and *φυλλον, a leaf*, or *θριξ, a hair*). See ADIANTHUM NIGRUM.

CALLOSITAS, CALLOSITY. See CALLUS.

CALLUS. From *calx, the heel*, or *calco, to tread;* because it used to be applied to the thick skin at the bottom of the heel, hardened by pressure; but it is a cutaneous or osseous hardness, either natural or preternatural. Generally it means the *callus* generated about the edges of a fracture. Sometimes it means a corn on the toes, the hardness in the hands produced by labour, or the hard edges of ulcers. See Bell's Surgery, ii. 326. Kirkland's Med. Surgery, ii. 246.

This term and callositas are, in a special sense, spoken of the eye lids, both by Galen and Scribonius Largus; and callus has a particular signification, in which it means the *corpus callosum* of the brain. Paracelsus gives the name of callus to an abscess, or ulcer, caused by acrid juices which excite violent itching. For callus on the hands and feet see CLAVUS.

The retraction of the part divided is a common symptom in wounds; and the stronger the contractile force, the more the sides of the wound recede from each other. The skin of the head is thick and strong, and equally tense on all parts of the skull, and under it lays a cellular membrane; so that when the skin of the cranium is divided, the lips of the wounds are far retracted, and are called callus, consequently wounds of the forehead generally leave large scars behind them.

As the growing vessels in wounds of the soft parts are tender in consequence of their not being pressed by the skin, they may degenerate into fungous flesh. The same holds true in the callus of the bones, which may become luxuriant when the vessels which constitute the substance of the growing bone are distended, either by a redundance, or too strong impetus of the fluids.

Dr. Nisbet and Dr. Hunter imagine a callus of the bone is not formed by the inspissation of any fluid, but from a regeneration, or, as it were, granulation from the fibres of the bone.

CA'LMET. See ANTIMONIUM.

CALOCA'TANOS, (from καλος, *beautiful*, and καθαρον, *a cup*; so called from the beauty of its flower and shape). See PAPAVER RUBRUM.

CALOMELA'NOS TURQUE'TI. So Riverius calls a certain purgative medicine which he often used. It is thus prepared.

℞. Merc. dulc. ℈ j. gum. scammon. cum sulph. impregn vel rez. jalap. ℈ ss. mucilag. è gum. trag. q. s. f. pil. mediocr.

CALOME'LAS, (from καλος, *good*, and μελας, *black*). It used to be called Ethiops mineral. But *calomelas* is, in common acceptation, the *mercurius dulc. sexties sublimatus*, which, if ground with the volatile spirits, becomes black: it is called also *aquila alba*. See ARGENTUM VIVUM.

CALOMO'CHANUS, or CALOMOCHNUS. See ADARCES.

CALO'NIA. So called from the place where it was procured. CALONIAN MYRRH. Hippocrates often prescribes it.

CALORIMETER. An instrument contrived by Lavoisier and De la Place, to measure degrees of heat separated. Mr. Wedgewood, Philos. Trans. 1784, has offered some objections to this instrument, which M. Berthollet replies to in Chemical Statics, vol. i. p. 404.

CALORICUM, (from *calor*, *heat*). CALORIC. Lavoisier, in giving his reasons for the adoption of this term, says, "All bodies are either *solid*, *liquid*, or *in a state of aëriform vapour*, according to the proportion which takes place between the attractive force inherent in their particles, and the repulsive power of the heat acting upon them; or in proportion to the degree of heat to which they are exposed. It is difficult to comprehend the phenomena, without admitting them as the effects of a great and material substance, or very subtile fluid, which, insinuating itself between the particles of bodies, separates them from each other. This substance, whatever it is, being the *cause of heat;* or, in other words, the sensation, which we call *warmth*, being caused by the accumulation of this substance; we cannot, in strict language, distinguish it by the term *heat*, because the same name would very improperly express both cause and effect." He therefore gave it the names of *igneous fluid*, and *matter of heat*. These periphrastic expressions, however, lengthen physical language, render it more tedious, less distinct and correct, so that the cause of heat, or that fluid which produces it, has been distinguished by the term CALORIC, *considered as the respective cause, whatever that may be, which separates the particles of matter from each other*. See Elements of Chemistry, p. 5.

There is, however, an intermediate state of water in air, or rather approaching the form of air, which M. Lavoisier has not considered, viz. *vesicular vapour*. It contains a greater degree of specific heat than water, and less than either of the permanent elastic gases. Its form, however, does not seem wholly to depend on its heat, but on its electricity; by which it is repelled from the higher regions, and does not descend in rain. This is the state of water in fogs and in clouds; but as this subject admits of no application to medicine, we need not pursue it in this place.

We have anticipated the distinction of absolute and relative heat in our article on CALIDUM INNATUM, q. v. and shall now pursue its other effects.

When we speak of heat and its effects, we measure a very small part of an extensive scale. It is computed, though on no very secure foundation, that at about 1500° below the scale of Fahrenheit, it no longer exists; and we have in our power a degree equal to 32277° of that scale, the highest heat measured by Wedgewood's pyrometer. *Our* limits are between the 32d and the 120th degree of Fahrenheit, scarcely 88 degrees, yet even the effects of these changes are interesting.

Expansion is one of the first and most striking effects. So far as it is applicable to the human body, we have noticed it under the article of BALNEUM, and may again advert to it under that of HEAT. We there mentioned the blood as one of the least expansile fluids; but, as in the experiment some gas must escape, a little inaccuracy might be suspected. We had then in our view the experiments by Lavoisier, Prony, Guyton, and Prieur, on the expansility of different gases; of the considerable and equable expansility of carbonic acid gas; and the very great expansility of azotic gas in high temperatures. We find, however, from a Memoir of an ingenious chemist, Guy Lussac, an abstract of which occurs in the Annales de Chimie for 1802 (Thermidor, an X.), that when every cause of error is removed, particularly the presence of water, atmospheric air, oxygen, hydrogen, azote, nitrous, ammoniacal, carbonic, sulphureous, and muriatic acid gases, as well as the vapour of sulphuric æther, are dilated equally by the same degrees of heat; and that in the centigrade thermometer, from 0 to 80°, each dilated about $\frac{1}{3}\frac{1}{1}_3$ of its bulk for each degree. Of the fluids, the most expansile is nitric acid, then linseed oil, sulphuric acid, alcohol, water, and mercury, in their order. Of the metals, the expansility is nearly in the order of their fusibility, viz. zinc, lead, tin, pewter, brass, copper, bismuth, iron, steel, antimony, and platina. Of liquids the expansion is different, but few expand equably, viz. in equal degrees with equal increments of heats. Those which approach nearest to an equable expansion are mercury and alcohol, and are consequently preferred for filling thermometers. This effect of heat admits but of little application in the practice of medicine. Cold applications in hernia and in topical inflammations, are the principal remedies which act in this way; though the latter admit of a somewhat different explanation.

Another effect of caloric, is the equilibrium which it affects: but this admits of modifications which we have already explained. The heat which raises one body a given degree, very slightly affects another; but to the touch and the thermometer the heat is in time the same. This law of heat chemists have found it difficult to explain. The popular idea, though not a correct one, may be the usual allusion of a sponge, which suffers the superabundant fluid to escape when its pores are filled. This allusion also explains another effect, viz. when any body is dilated, heat is absorbed, when compressed, it escapes. Thus, in an exhausted receiver, if the air is humid, a cloud is formed on exhaustion. In a condensing engine we find heat escape sometimes rapidly; and, when suddenly dilated before the air can again absorb the free heat, even inflammation has taken place. We must repeat, however, that this allusion to the sponge is by no means correct. The equilibrium of heat depends rather on affinity, though apparently subject to some peculiar laws, and is little connected with physiology, as it relates to free caloric, and not to absolute or specific heats.

The laws of heat, most interesting to the chemical physiologist, relate to the powers of different substances in conducting heat. The motion of heat is slow, particularly when the conductors are fluids. Some authors, confounding heat with light, have given the former the velocity of the latter. They are, however, essentially distinct; and when air and water are interposed between small filaments of a solid, its motion is peculiarly slow. This renders feathers, eiderdown, and boiled mashed apples, bad conductors of heat: metals of every kind are, for the opposite reason, good conductors. We preserve the heat of the body by fur and eiderdown, and apply rasped potatoes to burns, which keep the part constantly cool. Count Rumford endeavoured to show that water was a non-conductor of heat, and that it boiled in a vessel over the fire by successive currents coming in contact with the bottom. Such currents evidently exist, and explain the common paradox of the bottom of a kettle being cold while the water boils; but that water is a non-conductor of heat, can be by no means concluded from the experiment. On the contrary, Dr. Thomson has shown in Nicholson's Journal, vol. iv. p. 159, that water really conducts heat. Metals we have said are good, indeed they are the best, conductors. Of these, silver is better than gold, and this last metal excels copper and tin, which do not greatly differ. Platina, iron, steel, and lead, are greatly inferior, and nearly in this order. Next follow stones, then glass, and afterwards dried woods, fine sand, charcoal (Annales de Chimie, xxvi. 225,) feathers, silk, and wool, in the inverse ratio of their fineness. Of fluids, Dr. Thomson found an equal bulk of mercury to be twice as good a conductor of heat as water; and linseed oil somewhat better. It is highly probable, that the conducting power of bodies is in the ratio of their affinity for heat.

Bodies of different colours convey heat also differently. The difference between white and black is well known; and the more intense colours, as red, orange, &c. convey it more readily than the blue or indigo. If heat and light are distinct bodies, as is now generally supposed, and light only excites the action of caloric, we can easily understand why bodies which reflect all, or the greater proportion of light, excite little heat. Count Rumford, in the Philosophical Transactions for 1804, has shown, that blackening a cylinder expedited the cooling of water in it: in fact, the communication of heat from bodies to air is slow, and an intermede of less density, if no air is interposed between its particles, facilitates it. Another reason of this unexpected effect is the destruction of the polish. Polished surfaces communicate heat slowly; and this is an additional reason for the warmth of furs, whose fibres possess a high polish. For this reason silk clothes are cold; and even black clothes, in this author's opinion, *in the shade*, are cooler than those of other colours.

Of specific and absolute heats we have already spoken at sufficient length. Specific heat, however, depends on the affinity between the body and caloric; and consequently is in the inverse ratio of their conducting power. We shall add, therefore, a table of the specific caloric of different bodies, collected from the tables of Mr. Kirwan, M. Meyer, and some others, by Dr. Thomson.

TABLE *of the Specific Caloric of various Bodies, that of Water being* = 1.0000.

Bodies.	Specific Gravity.	Specific of equal weight.	Caloric of equal volumes.
I. GASES.			
Hydrogen gas	0.000094	21.4000	0.00214
Oxygen gas	0.0034	4.7490	0.006411
Common air	0.00122	1.7900	0.002183
Carbonic acid gas	0.00183	1.0459	0.001930
Steam		1.5500	
Azotic gas	0.00120	0.7036	0.000952
II. LIQUIDS.			
Water	1.0000	1.0000	1.0000
Carbonate of ammonia		1.851	
Arterial blood		1.030	
Cows' milk	1.0324	0.9999	1.0322
Sulphuret of ammonia	0.818	0.9940	0.8130
Venous blood		0.8928	
Solution of brown sugar		0.8600	
Nitric acid		0.844	
Sulphat of magnesia 1 / Water 8		0.844	
Common salt 1 / Water 8		0.832	
Nitre 1 / Water 8		0.8167	
Muriat of ammonia 1 / Water 1.5		0.779	
Tartar 1 / Water 237.3		0.765	
Solution of potash	1.346	0.759	1.2216
Sulphat of iron 1 / Water 2.5		0.734	
Sulphat of soda 1 / Water 2.9		0.728	
Oil of olives	0.9153	0.710	0.6498
Ammonia	0.997	0.7080	0.7041
Muriatic acid	1.122	0.6800	0.763
Sulphuric acid 4 / Water 5		0.6631	
Alum 1 / Water 4.45		0.649	
Nitric acid 9⅓ / Lime 1		0.6181	
Nitre 1 / Water 3		0.646	
Alcohol	0.8371	0.6021	0.4993
Sulphuric acid	1.840	0.5968	1.120
Nitrous acid	1.355	0.576	0.780
Linseed oil	0.9403	0.528	0.4964
Spermaceti oil		0.5000	
Oil of turpentine	0.9910	0.472	0.4132
Vinegar		0.3870	0.3966
Lime 9 / Water 16		0.3346	
Mercury	13.568	0.3100	4.123
Distilled vinegar		0.1030	0.1039
III. SOLIDS.			
Ice		0.9000	
Oxide with the hair		0.787	
Lungs of a sheep		0.769	
Lean of ox beef		0.7400	

Bodies.	Specific Gravity.	Specific of equal weight.	Caloric of equal volumes.
Pinus sylvestris	0.408	0.65	0.265
Pinus abies	0.447	0.60	0.268
Tilea Europæa	0.408	0.62	0.252
Pinus picea	0.495	0.58	0.287
Pyrus malus	0.639	0.57	0.364
Betula alnus	0.484	0.53	0.256
Quercus robur sessilis	0.531	0.51	0.270
Fraxinus excelsior	0.631	0.51	0.321
Pyrus communis	0.603	0.50	0.301
Rice		0.5050	
Horse beans		0.5020	
Dust of the pine tree		0.5000	
Pease		0.4920	
Fagus sylvatica	0.692	0.49	0.358
Carpinus betulus	0.690	0.48	0.831
Betula alba	0.608	0.48	0.291
Wheat		0.4770	
Elm	0.646	0.47	0.321
Quercus robur pedunculata	0.668	0.45	0.300
Prunus domestica	0.687	0.44	0.302
Diaspyrus ebenum	1.054	0.43	0.453
Barley		0.4210	
Oats		0.4160	
Pitcoal		0.2777	
Charcoal		0.2631	
Chalk		0.2564	
Rust of iron		0.2500	
White oxide of antimony washed		0.2270	
Oxide of copper nearly freed from air		0.2272	
Quicklime		0.2199	
Stoneware		0.195	
Agate	2.648	0.195	0.517
Crystal	3.189?	0.1929	0.6151
Cinders		0.1923	
Swedish glass	2.386	0.187	0.448
Ashes of cinders		0.1885	
Sulphur	1.99	0.183	0.3680
Flint glass	3.3293	0.174	0.5792
Rust of iron nearly freed from air		0.1666	
White oxide of antimony ditto		0.1666	
Ashes of the elm		0.1402	
Oxide of zinc nearly free from air		0.1369	
Iron	7.876	0.1264	0.993
Brass	8.358	0.1141	0.971
Copper	8.784	0.1121	1.027
Sheet iron		0.1099	
Oxide of lead and tin		0.102	
Gun metal		0.1100	
White oxide of tin nearly free from air		0.0990	
Zinc	7.154	0.0981	0.735
Ashes of charcoal		0.0909	
Silver	10.001	0.082	0.833
Yel. oxide of lead nearly freed from air		0.0680	
Tin	7.380	0.0661	0.444
Antimony	6.107	0.0637	0.390
Gold	19.040	0.050	0.966
Lead	11.456	0.0424	0.487
Bismuth	9.861	0.043	0.427

CA'LTHA, or CA'LTHULA, (corrupted from χαλκα, *yellow*). MARIGOLD. See CALENDULA.

CA'LTHA ARVE'NSIS, MI'NIMA. See CALENDULA ARVENSIS.

CA'LTHA PALUSTRIS. See CALENDULA PALUSTRIS.

CA'LTROPS. It derives its name from the form of its fruit, which resembles those instruments of war which were cast in the enemy's way to annoy their horses. This plant is also called *tribulus; tapa natans* Lin. Sp. Pl. 182. The fruit is nutritious and demulcent, of use in diarrhœas from abraded bowels, and it is said in the stone.

CA'LVA, CALVA'RIA, (from *calvus*, *bald;* so called because it is often bald). See CRANIUM.

CALVA'TA. See PHALACRA.

CALVITIES, CALVITIUM, (from *calvus*, *bald*). See ALOPECIA.

CA'LX. This word is applied to whatever is subjected to calcination, or change from burning. It chiefly refers to metals after having sustained the action of fire; and to calcareous earths, which are burnt to lime. See CALCINATIO.

LIME STONE, also called *saxum calcarium*, *abesum*, *algeria*, is a general name for all those stones from which quick lime is commonly prepared. Though the limes prepared from different stones answer many general purposes equally well, they differ greatly in their efficacy in medicine, and in many chemical and other experiments.

When stones of the calcareous kind have been calcined by the fire, they are converted into quick lime, called CALX VIVA, and in some obsolete authors, *anora*, *gir*, *nix fumans*, and *almyzinthra*.

Quick lime dissolves in nitrous, marine, and vegetable acids; unites with the vitriolic into selenite, an earthy salt, scarcely soluble and insipid; produces heat on mixing with water, imparting to it a medicinal quality. If quick lime is exposed to the atmosphere, it falls into a powder, and loses all its distinguishing properties except that it retains its acrimony longer in a moist than in a dry state.

The stones from which quick lime is produced contain a large quantity of air, which, in calcination, is expelled: hence strong quick lime raises no effervescence, and emits no air bubbles during its dissolution in acids.

CA'LX VI'VA, or QUICK LIME, is lime in its most caustic state, with the air wholly separated. When styled *extincta* it has been long exposed, and fallen to powder. When deprived of its acrimony by repeated affusions of water, it is called WASHED LIME.

Calcareous earth is commonly found saturated with aërial acid, which exhibits the appearance of effervescence upon being driven from its basis by a stronger acid. It is found dissolved in most waters by means of a redundant portion of this acid, which by burning is

lost, together with a proportion of water with which it was combined. It also absorbs a considerable proportion of caloric, which on slaking is let loose.

Quick lime is employed for increasing the activity of alkaline salts, for making the milder kinds of caustics, and for destroying the hair on places where it is thought to be unseemly; it dissolves sulphurs and vegetable resins, and produces many effects similar to those of the fixed alkaline salts.

It has been also often employed in paralytic affections; and Cœlius Aurelianus directs us to rub palsied limbs with this earth. Mixed with honey, it is employed as a stimulant by Tissot; and with different ointments in the morbus coxarius by De Haen. Two parts of lime, as much wheat flour, with four parts of hog's lard, are employed in the Bath hospital in tumours of the knees (Falconer on Bath Waters). Severinus recommends a formula of quick lime not strictly chemical as a caustic. He mixes it with soap, and sprinkles it with the sharpest vinegar; which will consequently lessen the acrimony of the former ingredients. Quick lime, however, with soap, was long a favourite remedy; and is spoken of with commendation, by Heister, in warts and tumours of every kind. As promoting suppuration, with flour and lard, it is recommended by Valentine; and is generally useful in destroying the spots on the skin, supposed to be owing to the irregular fancies of the mother's appetite during pregnancy.

Internally it is employed only in its watery solution. In the London dispensatory, twelve pounds of boiling distilled water are added to half a pound of lime, and infused for one hour. The Edinburgh college order four ounces of water to be first added to the lime, or as much as it will absorb. When the lime has fallen into a powder, the remainder of the water is mixed with it, stirring the whole together, and the agitation must be often repeated. There is a little too great refinement in both: distilled water is unnecessary in the first, and the frequent stirring in the second. If, in the latter formula, the remaining water is well mixed, and suffered to remain on the lime in a covered vessel for a night, the water will be as strongly impregnated with the earth as its affinity will permit. If the water is heated, the taste is said to be less disagreeable. The lime, in both formulæ, is greatly in excess, for a very small proportion only is soluble in water; but it is cheap, or rather, in such small quantities, of no value.

The choice of lime is of consequence in agriculture and the arts, but of little in medicine. Mr. Tennant has informed us that limestone, mixed with magnesian earth, is injurious in agriculture; and the tanner is peculiarly anxious that *his* lime should be well burnt. Dr. Whytt thought that the lime from oyster shells was the strongest; but the difference seems only to consist in its being more completely calcined to separate the animal gluten. In general, the deficiency in the calcination, if it exists, is compensated by the quantity; and lime water may easily be made as strong as the stomach will admit.

The *lime water* is a solution of the quick lime in water, and receives no improvement from the ingredients added in the compound sorts which used to be ordered, for they precipitate much of the lime which the water suspended. The taste is acrid and earthy; the smell pungent. With its taste, the lime water loses its virtues. It hath a strong styptic taste, which is followed by a sweetish one: it changes the juices of blue flowers to a green; it precipitates metallic bodies that are dissolved in acids; it tinges silver of a copper hue; it turns red wine to a dark colour; and by those properties its strength may be estimated.

The specific gravity of water is increased by the lime more than the weight of the calcareous matter taken up, on account, perhaps, of the water being deprived of its air.

If lime water is close kept, it may be preserved many months; but in open vessels the calcareous matter absorbs carbonic acid, and soon separates from the water, concreting on its surface. The earth which floats upon the surface of lime water fresh made, is called *calcis vivi flores*, but it is in reality only the carbonated lime.

Its virtues are also destroyed by every substance containing fixed air; the vitriolic, phosphoric, oxalic, or tartarous acids, as well as by astringents. Milk covers its acrimony very successfully without impairing its virtues.

Lime has been often employed with olive oil in burns; and when we recollect the changes produced on the acrid serum that exudes in the vesicles, by the calcareous earth in Mr. Cleghorn's poultice, little doubt will remain of its having a good effect. If by uniting with this serum it produces some warmth, it will not on this account be injurious.

In the stomach, lime water corrects acidity; but, though out of the body it has been found antiseptic (Hales and Macbride), in the stomach it has probably a contrary effect; for when acids abound, putrefaction is checked. In hot bilious habits, by destroying the natural corrector of bile, acidity, it is also injurious; nor do we think it can strengthen the stomach or assist digestion, as some authors have supposed, except where acids greatly abound. Perhaps, from its antacid power, though its astringency in the primæ viæ is by no means equivocal, it relieves old diarrhœas; and in some cases of dysentery has been successful. Grainger, in the Edinburgh Essays, mentions its having succeeded after being continued three weeks, when the patient took three pints daily. Xavier mentions its utility, with milk, in destroying the poison of arsenic in the stomach, or counteracting its effects. We have already mentioned the expectation we had entertained of its dissolving the viscid mucus in this organ, and our disappointment. Some experiments, recorded by Gaber, in the Turin Transactions, seem to support its utility in this respect; but they were not made on the mucus of the stomach. In leucorrhœa, it has been supposed to be very beneficial.

Perhaps the idea of its dissolving viscid fluids occasioned its being employed in intermittents, in pleurisy, in mesenteric and other scrofulous tumours, in rheumatism, and gout. We see Kempf seriously engaged in examining its solvent power on the pleuritic crust of the blood; and the step from calculous to arthritic concretions was too obvious to be overlooked. We cannot deny its utility in gout; but in the other complaints it is certainly of very little importance. If it possessed any power in dissolving viscid mucus, it would very probably be a more useful anthelmintic than it has been found.

From its astringent power it has been an useful ap-

plication in old ulcers; and from thence it seems to have been supposed serviceable in scurvy, in cancer, and in internal ulcers, when swallowed. Names of uncommon celebrity have given a sanction to its use in these complaints; and Vogel, in a dissertation published at Gottingen in 1769, speaks of its efficacy in cancer, given in the quantity of six and eight ounces of lime water, with as much common water, boiled with sarsaparilla or guaiacum; interposing, every four or eight days, Beecher's balsamic pills.

In Germany it has been very generally employed in internal ulcers of the uterus, the bladder, and even in ulcers of the lungs. In the latter, however, we are informed by Quarin that it is useless or hurtful. Girtanner recommends it as an injection in gonorrhœa; and, from the time of Hippocrates, it has been used as a lotion in all the variety of chronic cutaneous eruptions, especially if attended with exudations. For this purpose it is also taken internally; and it has been recommended to nurses, to prevent the child from being affected. Indeed, cutaneous eruptions are very intimately connected with a disordered state of the stomach, and often with a redundant acid. As an astringent it has been applied externally with a sponge to dropsical swellings; and Fabricius, *ab Aqua pendente*, informs us, that he cured an ascites by frequently applying a sponge moistened with lime water to the abdomen, and confining it with a tight bandage. Of its lithontriptic power we have spoken at some length in the article Calculus, q. v.

We find numerous cautions in various authors respecting its use in different situations where they suppose it to be injurious. We have already mentioned, however, the inconveniences that might result where the stomach and bowels are loaded with bile; and we should suppose it likewise improper in all cases of hectic fever. We are told, however, that it must be also avoided in all fevers; in hot climates; in dry and hot temperaments; in congestions of blood, either affecting the head or kidneys; in spasms; in the early stages of dysentery; 'in orgasms of the blood, and discharges depending on them;' in inflammatory habits and tense fibres; in obstructions of the bowels, or any diseases in them arising from scybala, till these are removed. Caution is at all times requisite; but we do not think it a medicine of so great power as to require so much attention. The last remark, we would, however, wish to enforce.

See Creta; Neumann's Works; Experiments, &c. on Quick Lime, by Mr. Henry; Macbride's Essay on the dissolving Power of Quick Lime; Percival's Essays, Med. and Exp. edit. 2. p. 328; Lewis's Mat. Med; and the Edinb. Ess. Phys. and Lit. vol. i. art. 13. and vol. ii. art. 8. Dr. Whytt on Oyster Shell Lime Water.

CA'LX ANTIMONII. See Antimonium.

Ca'lx cum ka'li pu'ro. See Causticum commune fortius.

Ca'lx hydra'rgyri alba. See Argentum vivum.

CALY'PTER, (from καλυπτω, *to hide*). A carnous excrescence covering the hæmorrhoidal vein.

CALY'PTRA, (from καλυπτω, *to hide*). A veil. It is the thin involucrum or cover of some seeds, used by former botanists to express that which Linnæus means by *arillus:* also a thin cup which covers the *antheræ* of some of the mosses.

CA'LYX, CALIX, or EMPALEMENT, (from καλυπτω, *tego, to cover*). The first of the seven parts of fructification, by Linnæus defined to be the outer bark of the plant present in fructification. In general it is that green cup which supports the bottom of the corolla, and is otherwise called *perianthium* or cup, *involucrum*, *amentum* or katkin, *spatha* or sheath, *gluma* or husk, *calyptra* or veil, *volva* or curtain, as it happens to be differently circumstanced. It is generally single; in some plants double; and in others entirely wanting. It is commonly divided into the same number of segments with the corolla. The calyx commonly withers when the fruit is ripe, which distinguishes it from *bracteæ* in dubious cases. It is generally less in point of height, but more substantial than the corolla.

CAM. An abbreviation of Joach. Camerarius de Plantis Epitome.

CA'MARA, or CAMA'RIUM, (from καμαρα, *a vault*). The fornix of the brain. Likewise the vaulted part of the auricle leading to the external foramen.

Ca'mara. See Viburnum.

CAMARO'MA, CAMARO'SIS, CAMERA'TIO, (from καμαρα, *a vault*,) an arched roof; a fracture of the skull, which appears like an arch of a vault.

CA'MARUM, vel CA'MMORUM, (from καμαρα, *a tortoise*). A species of shrimp of the crab kind, which has a shell like a tortoise; also the *aconites*, and, according to some authors, *cicuta*.

CAMBING, a tree of the Molucca islands, whose genus is unknown, but whose bark has been recommended in dysenteries.

CAMBO'DIA, CAMBO'GIA, CAMBO'GIUM, (from *Cambogia*, from whence it is brought). The Indian yellow orange of Malabar, *coddam pulli*. It is the *garunia Cambogia* of Gærtner, the *Cambogia gutta* Lin. Sp. Pl. 728. The fruit is slightly acid, and supposed to be astringent. See Mangoustan.

CA'MBRO BRITA'NICA. See Chamæmorus.

CAMBU'CA, or CAMBU'CA MEMBRA'TA. *Bubo, ulcus*, or abscess on the pudenda; also a boil in the groin.

CA'MBUI. The wild American myrtle of Piso and Marcgraave. There are two species. Their fruit, flowers, and leaves, are fragrant and astringent. One species is low and bushy, the other very tall. Ray says there is a third species which is white, but is very rare.

CAMELI'NA, (from καμηλος, *a camel;* because they are fond of it). See Erysimum.

CAMERA'TIO. See Camaroma.

CA'MES, or CA'MET. See Argentum.

CA'MINGA. See Canella alba.

CAMI'NUS. A furnace and its chimney. In Rulandus it signifies a bell.

CAMI'SIA FŒ'TUS (from the Arabic term *kamisah, an under garment*). See Chorium.

CA'MMARUS. The lobster, or cray fish; so named from the shape of its shell. See Cancer fluviatilis.

CA'MMORUM, (quia homines κακω μορω perimat,) nightshade; because if eaten it destroys in a deplorable manner. See Camarum.

CAMO'TES I'NDICA. See BATTATAS HISPANICA.

CAMO'MILLA, corrupted from CHAMÆMELUM, which see.

CAMPA'NA. A BELL; so called because Paulinus, the bishop of Nola in Campania, first used bells for religious purposes. In chemistry it is a receptacle for the gas of sulphur, where it is concentrated and collected together into a fluid, the *oleum sulphuris per Campanam*, which is only the modern sulphuric acid.

CAMPA'NULÆ, (a dim. of *Campana*). See CERVICARIA.

CA'MPE, (from καμπτω, *to bend*). A flexure or bending. It is also used for the ham, because it is the part usually bent; and for *a joint*, or *an articulation*.

CAMPECHE'NSE LI'GNUM; brought from the bay of Campeachy in America. LOGWOOD; also called *Acacia Zeylanica*, *lignum Campescanum*, *sappan lignum*, *tsiam pangam*, *lignum Campechianum*, *Indicum montanum lignum*, *lignum tinctile Campech*. CAMPEACHY, BRASIL, or JAMAICA WOOD.

It is the *wood* of a prickley pod bearing tree, a native of Campeachy island. It is brought to Europe in large compact logs of a red colour. Its fruit resemble cloves in their quality. It is the *hæmatoxylon campechianum* Lin. Sp. Plant. 549. Nat. order *lomentaceæ*. HÆMATO'XYLON, (from αἱμα, *blood*, and ξυλον, *wood*,) also called *erythroxylon*.

This *wood*, of which the tree is a native of Honduras, is chiefly brought for the dyers, but used medicinally as an astringent or corroborant. It is peculiarly efficacious in diarrhœas, and in the last stages of dysentery. When the obstructing causes are removed it restrains the discharge, without contracting the fibres like astringents: it sheaths acrimony, and its astringent taste is combined with a sweetish mucilaginous one; strengthens the bowels, and perhaps the general habit. It is an agreeable medicine, being free from any thing disgusting to the taste, and almost void of smell.

The London college direct a pound of the shavings of *logwood* to be boiled in a gallon of distilled water to one half; this must be repeated four times. The fluids must be mixed, strained, and boiled to a proper consistence. The shavings are ordered to prevent it from being mixed with the Jamaica, or other cheaper woods; which might be the case if bought in powder. The dose is from ℈ i. to ʒ ss. repeated according to the urgency of the symptoms.

Rectified spirit of wine takes up more from this *wood* than water; therefore it is better to digest its powder in as much spirit as will cover it three or four fingers' breadth above its surface, then boil the residuum in water, as directed above. The watery menstrua are first evaporated to the consistence of honey, then the spirituous extract, formed by drawing off the spirit, is mixed with it.

The *decoction of logwood* is made by boiling three ounces of powdered *logwood* in four pints of water to two, at the end of which two drachms of cinnamon are added, and boiled together a few minutes. When cool the decoction is strained.

Both the extract and decoction are agreeable, mild, and safe, when stronger astringents are less advisable; and may be used with equal safety whether a fever attends or not. These preparations make the stools and urine appear like blood. The decoction may be taken in the quantity of four ounces three or four times a day.

The preparations of this wood are chiefly held in esteem for their astringency, and may be given safely in fluxes and at the close of dysentery; but in the beginning they are hurtful. Cullen.

When flatulencies attend in diarrhœas and dysenteries, a few grains of the cortex elutheriæ is a proper addition to each dose of the above extract or decoction. See Lewis's Mat. Med. Neumann's Chemical Works, and Cullen's Mat. Med.

CA'MPHO'RA, (from the Arabic term *caphura*). CAMPHOR; called also *caf*, *cafar*, *ligatura veneris*, *caphora*; *capur*, *alkosor*, *altefor*; CAMPHOR. It is a solid concrete, chiefly obtained from the woody part of some trees which are met with in the island of Borneo in the East Indies, and in Japan; it is only from the latter that it is brought into Europe. The Indians have a species, which they distil from the roots of the true cinnamon tree, that they call *baros*; (see CINNAMOMUM;) and also a species which separates from the *camphoræ oleum* on re-distilling it. It sometimes oozes from the bark of the root of the cinnamon tree in the form of oily drops, which insensibly concrete into white grains: these are called *caphura baros Indorum*. In the state camphor is extracted from the roots of the camphor tree, it is named *camphora rudis*. The Japanese cut the wood of the roots and branches in small pieces, and boil them with water in an iron pot. The camphor sublimes in a clay head in friable, granulated masses of a yellowish or dark colour, like the coarsest sugar, mixed with straw, &c. The Chinese macerate the branches in water, and then place them in a pot over the fire: the contents are stirred with a willow rod, on which the camphor concretes. It is obtained chiefly from the *laurus camphora* Lin. Sp. Plant. 528. Nat. order *oleraceæ*. In smaller quantities it is obtained from several other vegetables. The thyme, the rosemary, the peppermint, the root of the canella, many of the labiated plants, and the whole tribe of the laurels, afford it.

As first sublimed or distilled from the wood, it is of a brownish colour, and composed of semi-pellucid grains, mixed with some impure matter; in this state it is imported by the Dutch, then called unpurified camphor. It is purified by a second sublimation, but after a manner only known to themselves, except the Venetians, who formerly were the only refiners of it. Bomare discovered in Holland that it was purified by sublimation. The last process in the management is so contrived, that the head of the subliming glass is kept warm enough to make the camphor run together into a mass of its own figure, in which form it is brought into the shops. Dr. Lewis says, that it may be purified in sp. vin. rect. by solution, and recovered from the spirit by distillation, the spirit all rising before the camphor; and after this it may be formed into loaves by fusion, with a gentle heat, in a close vessel.

The ancient Greeks do not mention camphor: it was first used in medicine by the Arabians.

Camphor is a vegetable concrete, white, semitransparent, brittle, of a shining fracture, and of a crys-

talline texture, unctuous to the touch, with a fragrant smell, somewhat like that of rosemary, and a bitter, aromatic, pungent taste, accompanied with a sense of coolness on the tongue: it is volatile like essential oils, but without their acrimony; it also differs both from them and from the sebaceous oils, in suffering no sensible alteration from long keeping, in being totally volatile in a warm air, without any change or separation of its parts, and subliming unaltered in the heat of boiling water. It is lighter than water, burns in it without receiving any empyreumatic impressions, nor is it decomposed by any degree of fire to which it can be exposed in close vessels, though readily combustible in the open air. It combines with concentrated vitriolic, nitric, and acetic acids, rectified spirit of wine, oils, resins, balsams, alcohol, and æther. Of resins, balsams, and oils, it considerably diminishes the consistence. It does not dissolve, except in a very small proportion, and by the assistance of sugar, in water, in the weaker acids, or alkaline liquors. It melts into an oily appearance with a less degree of heat than that of boiling water; laid on a red hot iron it totally evaporates in a bright white flame and copious fumes, which, condensing, form a soot.

As camphor is found in so many different vegetables, it has been generally recognised as a vegetable principle. It contains an acid united with an oil, and the former may be separated by means of nitric acid. In the best camphor some of the essential oil is separated, and the jets of this oil occasion the peculiar motions of the camphor when swimming in water, described by Prevost and Venturi in the Annales de Chimie, vol. xix.

Camphor is known to be good, if, when it is put upon hot bread, it turns moist; if it becomes dry it is adulterated: it should be kept close in a bottle or a bladder, not to prevent it from losing its quality, but to preserve the whole of it from being lost by evaporation.

As camphor is so useful a medicine, it is necessary to examine its effects on the human machine in the clearest point of view. The first question is, whether its power is of a stimulant or sedative nature? Dr. Cullen seems clearly to have proved the last when taken into the stomach: externally it is certainly stimulant, for when taken into the mouth it has an acrid taste, and, though by its evaporation it excites a sense of cold air, what remains is a feeling of heat in the mouth and fauces. When taken into the stomach it often occasions pain and uneasiness, which Dr. Cullen imputes to the action of the acrimony upon the upper orifice. When applied to any ulcerated part, it perceptibly irritates and inflames. When thrown into the stomach of brute animals, it operates there by its effluvia; for though it has produced considerable effects on the body, neither the bulk nor weight is found sensibly diminished; hence he concludes the operations have been upon the nerves of the stomach, and to be entirely that of a sedative power. The sudden death of many animals occasioned by it, as experimentally proved, show still more evidently its sedative effects on the sensorium, destroying the mobility of the nervous power, and extinguishing the vital principle. Camphor first operates by inducing stupor and sleep, and the different symptoms of delirium; convulsions soon follow, and are a part of the same series of sedative effects. It evidently shows no stimulant power on the sanguiferous system; for the pulse, where it has been observed, has been slower than before its effects took place by ten strokes in a minute. It is in general also softer and fuller, and a gentle diaphoresis is excited on the skin.

As camphor then seems to repress inordinate or irregular actions in the sanguiferous and nervous systems, while without any very striking or perceptible stimulus it determines to the skin, we may expect to find it highly useful in those affections where the action of either system is disturbed. If, however, we were to judge from its effects in diseases, we should pronounce it to be rather a stimulant than a sedative antispasmodic; since, when the actions are irregular and excessive, it requires more caution, and some additions of a refrigerant nature. No stimuli, on the contrary, are apparently required when the irregularity is attended with defective energy. It has been long since employed in *inflammatory fevers*, particularly when attended with delirium; but, in this state, the addition of nitre has generally been found necessary. When the delirium is violent, the doses which may be given, after due evacuations have been procured, are considerable; but, in general, an equal dose of nitre is necessary. This medicine is more convenient, as in the state which connects the more inflammatory with the lower or more putrid periods of the disease it is well adapted to each, if, on the one side, the nitre is omitted, and on the other, cordials are avoided. In the irregular delirium of the *nervous* and *putrid* fever it is highly useful; and while at any period its effects are assisted by the antimonial powder, so in these it may be advantageously combined with the aromatic confection, or, in a later stage, with volatile alkali. In short, we know no medicine that, with different additions, is so well adapted to every period of fever: it is soothing, calming, and composing. It prevents opium from producing irregular action in the brain; it prevents bark from inducing stricture on the skin; and stimulants from exciting a dry and uncomfortable heat. In the *lowest pestilential fevers* it is said to act as a cordial: in fact, it relieves the internal accumulations by its tendency to the surface, and seems to give strength when it only takes off oppression. These are its effects, not collected from books, but from experience; not suggested by theoretical speculations, but from attentive observation at the sick bed. Yet camphor has been said to be useless; an opinion which must be the result of prejudice, since it has been offered by those not without discernment, not without experience.

From the same train of reasoning we might suppose it highly useful in inflammatory or putrid sore throats. It has undoubtedly been found so, but the topical stimulus in the first instance has occasioned it to be swallowed with difficulty; and in the second, the necessity of giving the most active tonics and stimulants in the largest doses that can be taken, has often precluded the use of camphor. Yet it has been employed with success, though, for the reasons just assigned, we cannot speak of it from any very extensive experience.

If we pusue *inflammations* to the *chest*, we shall still find it an useful auxiliary. In *pleurisy* we seldom want its aid; and in the earlier stages of *peripneumony* the most active refrigerants are necessary. Yet, when the excess of inflammation is diminished, when the skin

remains dry, and expectoration does not come on, camphor, with antimonials, is highly useful. Common practice prefers, as we have formerly said, the kermes mineral, perhaps with reason; for should it not act as an expectorant, it will not so readily prove laxative; an effect always to be dreaded in peripneumony, as it checks expectoration. In the *putrid peripneumony*, camphor is the chief remedy. Though this disease is uncommon, it has been the author's fortune to witness four extensive epidemics of this kind; and camphor was among the most generally useful remedies.

We find little room for this medicine in *gastritis* or *enteritis;* but in the *peritonitis puerperarum* it is highly beneficial. This inflammation is not, however, confined to the puerperal state: we have often seen it, with no very dissimilar symptoms, in each sex, unconnected with parturition; and have found the camphor equally useful. In *inflammations of the kidneys and bladder* it seems a very efficacious medicine; yet chiefly applicable to that chronic inflammation of the neck of the bladder which often takes place from acrimony, or sometimes from abraded mucus. On the bladder and the genital system its sedative power is considerable, without the slightest mixture of stimulus; and, not to return again to the subject, we may remark, that in that weakened, irritable state of the genital powers, from excessive or unnatural indulgencies, it is essentially useful. In inflammations of the joints it has been commended, particularly in *gout* and *rheumatism;* yet we know of no very decided instances of its efficacy. In *inflammatory rheumatism*, with nitre and antimonials, it may be useful.

In the *exanthemata*, camphor is a medicine of singular utility. In *confluent small pox*, and particularly in repressed eruptions, it is peculiarly useful from its determination to the skin, without any injurious stimulus. In *scarlatina*, that equivocal disease, which, with the most violent external heat, is often putrid, it is equally advantageous: and, in *plague*, it has been highly extolled by those who have had more numerous opportunities of observing its effects than have been offered to us. In the *putrid measles* we should suppose it, from analogy, to be useful; but we recollect no instance of its employment in this disease, and it has never occurred to us.

We have said, that, with its power of diminishing irregular action, it leans rather to the side of a stimulant than a sedative power. Thus, in *mania*, where it has been employed with success, it is necessary to add nitre or the acetous acid. In convulsive disorders it is seldom trusted alone, but it has been advantageously joined with the metallic tonics. In *convulsive asthma* it has not been often employed; and the stimulus of its oil on the cardia has often rendered it inconvenient in *hysteria*. United, however, with the warm gums, it has been, in our hands, very useful.

When joined to other medicines, it adds to their efficacy, or corrects the inconveniences they might otherwise produce. Thus, in fevers, as we have said, it greatly assists the action of opium: it promotes the solution of gum resins, resins, and oil. By this power it may probably mitigate the acrimony of drastic purgatives, a quality assigned to it by many authors. By the same effect it assists the absorption of mercurial ointment; and sometimes seems to render it, by external friction, an useful antispasmodic. It has been said to mitigate its action; but this is probably unfounded. Camphor has also been supposed to correct the inconvenient stimulus of cantharides; yet we suspect that it rather, by its sedative power, relieves the inflammation they excite. When united with them in the blistering plaster it seems not to prevent strangury.

It has been said, by a French author, that camphor may be given in a clyster, in a dose of two drachms, in inflammations, or other irritations of the bladder or uterus. We once injected a drachm, and at another time, half that quantity, but from each an alarming coma was produced. The patients were, indeed, relieved; but at the expense of such anxiety, that we have never dared to repeat the practice.

Externally applied, it has been useful, in very small proportions in ophthalmia; and in external tumours, united with spirit of wine. In this form, also, it has been used with fomentations to gangrened parts with success.

The dose of camphor has been variously directed. It has been said that it should either be given in large doses not under twenty grains; or if in smaller, that they must be repeated at short intervals, should any sensible effects be expected. This, however, is too violent. In fevers, such large doses would be injurious from too great irritation, and we can seldom venture above six or eight grains. In nervous disorders this dose may be doubled: and in mania, twenty grains will not be too much. It may be divided and rubbed with nitre or sugar, and a few drops of spirits of wine; or united with mucilage of gum arabic, the camphor previously dissolved in a little spirit of wine, or expressed oil. Camphor, mixed with equal quantity of myrrh, makes an uniform solution in aqueous fluids; and this is the best mode of giving camphor in a liquid form, where myrrh may not be thought an improper combination with respect to the intent which we wish to produce. With the gum pills it readily unites, and it may be also formed into a convenient mass with the conserve of hips or stiff mucilage. This conserve most effectually covers it, if the form of a bolus is preferred.

An imprudent dose of camphor produces coldness of the extremities, vertigo, a small weak pulse, drowsiness, uneasiness about the precordia: but these effects are relieved by an emetic, followed with small doses of vinegar or other vegetable acids; and sometimes by mucilaginous drinks.

The camphorated emulsion may be prepared by adding a drachm of camphor to a pint of the almond emulsion, now called *lac amygdalæ*, ALMOND MILK; to mix the camphor, it will be necessary to use an additional quantity of the mucilage of gum arabic: a large spoonful, or more, may be given every two hours. Nitre, or acids, may be added, as the occasion may require. In the camphorated julep, little more than the smell of camphor is retained. The dose, in its best state, does not exceed a grain and a half.

The London college direct the following preparation of the *camphorated mixture*.

Take of camphor one drachm; rectified spirit of wine, ten drops; of double refined sugar, half an ounce; of boiling distilled water, a pint. Rub the camphor first with the rectified spirit, then with the sugar; lastly, add the water by degrees, and strain the mixture. This

is better made by mixing the *camphor* with double its quantity of gum arabic, for thus it is less apt to irritate the stomach; a large spoonful contains about a grain of camphor. Vinegar may be added instead of water; as it renders the camphor more agreeable to the stomach, improves its antiseptic power, and renders it, according to Mr. Parteger, more successful in mania.

The emulsion and the mixture of camphor are useful in low and putrid disorders, being, in these cases, the lightest and best cordials, especially for women or feeble men affected with spasmodic symptoms; and this effect shows, that the medicine may be useful in the smallest doses.

The London college also order the following *camphorated spirit* for external uses:

Take of camphor, four ounces; of rectified spirit of wine, a quart; mix them so that the camphor may be dissolved. This is often successful in removing pains, inflammations, numbness, or palsy, by rubbing the part affected with it. An ounce of camphor will dissolve in an equal quantity of spirit; and in these solutions it does not evaporate, for the spirit must all be evaporated before the camphor will exhale.

The spĭritus cámphoræ tartarisátus, is made by mixing equal parts of camphor and salt of tartar in a proper quantity of proof spirit, and drawing off one half. But this preparation does not possess any advantages above the sp. *camphoratus*.

The college of London used to add ʒ i. of camphor to ℔ i. of the white ointment, and called it ung. alb. *camphorat.*; but have now rejected it, though it is esteemed as cooling, emollient, and discutient, and useful against cutaneous heats, tettery, or serpiginous eruptions.

Different preparations are called oils of camphor, several of which may be seen in Neumann's Chemical Works, and other writers; but they do not appear to possess any peculiar advantage above the crude camphor.

CA'MPHORÆ LINIME'NTUM AMMONIA'TUM. See Ammonia.

Ca'mphoræ elix. Hartma'nni, i. e. *Spt. Camphoræ* cum pauxillo croci Anglicani.

Ca'mphoræ flo'res. The subtile substance which first ascends in subliming camphor.

Ca'mphoræ flo'res comp. The compound flowers of camphor, made by subliming eight parts of camphor with one of the flowers of benjamin.

Ca'mphoræ o'leum. See Cinnamomum.

CAMPHORA'SMA, (from *camphora*, so called from its smell). See Melissa turcica.

CAMPHORA'TA, (from *cámphora*, so called because it resembles it in smell). Stinking ground pine, called also chamæpeuce, and *camphorata hirsuta*. *Camphorosma Monspeliaca* Lin. Sp. Pl. 178. It is a low plant, a native of the warmer parts of Europe, smelling like camphor, but more disagreeable. It is much esteemed in fomentations against pain, and commended in gouty complaints. Miller's Bott. Off.

CA'MPHORATS, (from *camphora*). Camphorats. Salts formed by the union of the camphoric acid with different bases.

CAMPHORA'TUM O'LEUM. A mixture of olive oil, two parts, with one of camphor: of use in inflammatory swellings of the throat, if mixed with a proper cataplasm and applied to it. In ascites, when the abdomen is much distended, if rubbed on freely every night and morning, it is supposed to be useful.

See Neumann's Chemical Works, Lewis's Mat. Med. Alexander's Exper. Essays, Rieger and Hoffman on *Camphor*.

CAMPHO'RICUM A'CIDUM. Camphoric acid is produced by distilling the nitric acid, six or eight times, from camphor. It is a crystallized salt, which reddens syrup of violets and the tincture of turnsole; of a bitter taste, and differing from the oxalic acid in not precipitating lime from the muriatic acid.

CA'MPSIN. The Egyptian name for the south wind. See Ætesiæ.

CA'MPULUM, (from κάμπτω, *to twist about*). A distortion of the eye lids, or other parts.

CA'NABIL. See Eretria.

CANABI'NA AQUA'TICA. See Bidens.

CA'NABIS I'NDICA and PEREGRINA, (*kanaba*, from *kanah*, *to mow*). See Bangue and Cannabis.

CANADE'LLA. See Channa.

CANADE'NSE BA'LSAMUM. See Balsamum and Abies.

CANALI'CULUS, vel CANALIS ARTERIO'SUS. Dim. of Canalis. See Arteriosus ductus.

CANA'LIS, (from *canna*, *a reed*). A canal. It is also a round hollow instrument for embracing and holding a broken limb. Hippocrates speaks of its use, and Scultetus represents different sorts in his Armamentarium, part. i. tab. 23. According to Gorræus, *canalis* signifies the hollow in the spine, which contains the medulla.

Cana'les semicircula'res. The *semicircular canals* of the ear.

They are three in number, one superior and perpendicular, one posterior and perpendicular, and one horizontal; their size is nearly the same, but generally the superior perpendicular is the largest. They begin in the vestibulum, wind round the bone, and terminate in the vestibulum again: each at its origin has a separate orifice, but the two perpendiculars meet and return into the vestibulum by one common orifice. That these ducts contribute to hearing, appears from their being found in birds and fishes, though the cochlea is not found in either.

Cana'lis semis. petros. The bony half canal. See Auditus.

Canalis veno'sus. The vein of the funis umbilicalis proceeds from the placenta to the navel of the child, and thence to the vena porta, with which it communicates by its main trunk, where there is a canal, which goes to the vena cava hepatica. It is called canalis, and ductus venosus; it runs between the lobulus Spigelii, and the left or small lobe of the liver. This duct enters the vena cava hepatica of the left side, just where it pierces the great trunk of the vena cava inferior.

CANA'NGÆ O'LEUM. (Indian.) Hoffman mentions this oil as being scarce, and brought from India, adding that it is distilled from the flowers of the lime tree. It is in reality from those of the *uvaria* Lin. Sp. Pl. 756. The species *u. aromatica* is not found in his system. See Hoffman's Obs. Physico Chim. and in his Med. Rat. Syst. vol. i. § ii. cap. 6.

CA'NCAMUM Græco'rum. See Courbaril.

CANCE'LLUS, (dim. of *cancer, a crab).* The WRONG HEIR, also called *Bernhardus eremita, cancer in testes degens.*

It is a small species of cray fish, which the French call BERNARD THE HERMIT, because it shuns others, and retires into the first shell it meets with. It is found in the slime near the rocks, but commonly in a shell of a conic figure, and as large as a nut. There is a larger species in the American islands: it is three or four inches long. They call it the SOLDIER, because it fortifies itself in a shell which is not its own. Father Du Tertres says, half its body is like a grasshopper.

When hung in the sun they dissolve into a kind of oil, which is supposed to cure rheumatism if rubbed on the part.

CA'NCER. The CRAB, (καρκινος, from καρχνος, *rough*, because of the roughness and sharpness of its claws. *Cancer* in Latin corresponds with καρκινος, the αστακος, or the καμμαρος of the Greeks, and to the *crab* in the English).

CANCER MARI'NUS, (from *mare, the sea).* Is that called the SEA CRAB; named also *pagurus, cancer mænas* Lin.

CANCER FLUVIA'TILIS, (from *fluvius, a river).* The RIVER CRAB, or CRAY FISH; *cammarus* and *gammarus; cancer astacus* Lin. See ASTACUS MARINUS.

The black tips of the claw of *sea crabs* are levigated and used as an absorbent under the name of pulv. è. chel. cancrorum ppt. The London college direct a compound powder, made with *crabs'* claws, red coral, and chalk; but they all consist of the same calcareous animal earth.

Púlvis è chélis cancrórum compósitus, is made by uniting a pound of the tips of *crabs'* claws prepared to three ounces of chalk, and as much red coral.

The composition has been considered to be inelegant, for the *chelæ cancrorum* consists of a calcareous earth, part of which is combined with the phosphoric acid and glutinous matter; the corallium rubrum contains the same, and these are mixed with chalk, a somewhat more pure calcareous earth. The preparation is therefore far from a pure absorbent. The creta and testæ ostreorum will better supply the place; and if calcareous earth is desired to be combined with phosphoric acid, it may be found in the cornu cervi ustum. Observations on the Sp. Alterum Pharmacop. Londinensis, 1788.

The college of Edinburgh in a former edition directed the following preparation called *púlvis testáceus compósitus.*

Take of oyster shells prepared, one pound; and of white chalk prepared, half a pound. Mix.

The use of all the absorbent earths, and preparations of shells, is to absorb acidities in the primæ viæ; and this prescription from the Edinburgh dispensatory is equally valuable as a medicine with any other preparation of the kind, however attended with pompous epithets. If they meet with no acid to dissolve them, they should be accompanied by gentle purges. They are suspected of promoting putrefaction, but produce this effect only by absorbing acid, as we have already explained. If oyster shells form with a very weak acid a mucilage, like that which lines the inner surface of the stomach, bladder, and blood vessels, this mucilage may supply in some measure the want of the natural mucus when abraded.

See Lewis's Materia Medica, and Neumann's Chemical Works.

CANCER, (from καρκινος, *a crab).* By the term *cancer*, the Roman writers understood what the Greeks called gangrene and sphacelus; but the disease which is now called *cancer* is what the Greeks and Romans meant by *carcinoma* and *carcinos.* It is called also *lupus*, because it eats away the flesh like a wolf. See Celsus, lib. v. cap. xxviii.

Galen observes, that, as the *crab* is furnished with claws on both sides of its body, so in the carcinoma, or carcinos, the veins, which are extended from the tumour, represent with it a figure like a *crab;* hence is the disease called CANCER. Boerhaave adds, that if the stagnating matter of a scirrhus is put in motion, so as to inflame the vessels situated in its margin, it becomes malignant, and then is called a cancer.

With Hippocrates we may, perhaps, most properly consider all the species as comprised in the occult and open cancer. A cancer then is, according to P. Æginета, a hard unequal tumour, with or without an ulcer. Hippocrates calls that an occult cancer that is not yet burst; and that an open one which is ulcerated.

Mr. Pearson says, when a malignant scirrhus, or a warty excrescence, hath proceeded to a period of ulceration, attended with a constant sense of ardent and occasionally shooting pains, is irregular in its figure, and presents an unequal surface; if it discharges sordid, sanious, or fetid matter; if the edges of the sore be thick, indurated, and often exquisitely painful, sometimes inverted, at other times retorted, and exhibit a serrated appearance; and should the ulcer in its progress be frequently attended with hæmorrhage, in consequence of the erosion of blood vessels; there will be little hazard of mistake in calling it a cancerous ulcer.

Dr. Cullen places this genus of disease in the class *locales* and order *tumores.* He defines it a painful scirrhous tumour, terminating in a fatal ulcer.

Any part of the body may be the seat of this disorder, though a gland is generally, if not constantly, its immediate situation. The obstruction is in the minuter vessels, and the adjacent parts are affected in consequence.

"It is probable," according to Mr. Pearson, "that any gland in the living body may be the seat of a cancerous disease; but it appears more frequently as an idiopathic affection in those glands that form the several secretions, than in the absorbent glands; and of the secreting organs, those that separate the fluids, which are to be employed in the animal economy, suffer much oftener than the glands which secern the excrementitious part of the blood. Indeed it may be doubted whether an absorbent gland ever be the primary seat of a true scirrhus. Daily experience evinces that these glands may suffer contamination from their connection with a cancerous part; but, under such circumstances, this morbid alteration being the effect of a disease in that neighbourhood, it ought to be regarded as a secondary and consequent affection. I never yet met with an unequivocal proof of a primary scirrhus in an ABSORBENT GLAND; and if a larger experience shall confirm this observation, and establish it as a general rule, it will afford a material assistance in forming the diag-

nosis of this disease. The general term scirrhus has been applied, with too little discrimination, to indurated tumours of the lymphatic glands. When these appendages of the absorbent system enlarge in the early part of life, the disease is commonly treated as strumous; but as a similar alteration of these parts may, and often does, occur at a more advanced period, there ought to be some very good reason for ascribing malignity to one rather than the other. In old people the tumour is indeed often larger, more indurated, and less tractable, than in children; but when the alteration originated in the lymphatic glands, it will very rarely be found to possess any thing cancerous in its nature." However, in men, a *cancer* most frequently seizes the tongue, mouth, or penis; in women, the breasts or the uterus, particularly about the cessation of their periodical discharges; and in children, the eyes. Sometimes at the breast there is a hard and unequal tumour, attended with pain, which is not quite constant, and a burning heat much like what happens in cancer, whence it is called ZARUTHAN, a *spurious cancer*.

Celibacy, as well as the cessation of the menses, conduces to the production of cancers in women, and consequently antiquated maids are the more subject to them: next are those mothers who have not suckled their children; then follow women who are past child bearing; and the least so are men, and those women who have borne children and nursed them with their own milk. Hollerius observes, that girls are subject to glandular tumours whose menstrual discharges are scanty.

A hard unequal tumour that is indolent, and without any discoloration in the skin, is called a SCIRRHUS; but when an itching is perceived in it, which is followed by a pricking, shooting, or lancinating pain, and a change of colour in the skin, it is usually denominated a CANCER. It generally is small in the beginning, and increases gradually; but though the skin changes to a red or livid appearance, and the state of the tumour from an indolent to a painful one, it is sometimes very difficult to say when the scirrhus really becomes a cancer, the progress being quick or slow, according to concurring causes. When the tumour is attended with a peculiar kind of burning, shooting pains, and the skin hath acquired the dusky purple or livid hue, it may then be deemed the malignant scirrhus, or confirmed cancer. Mr. Pearson further adds, when thus far advanced in women's breasts, the tumour sometimes increases speedily to a great size, having a knotty unequal surface, more glands becoming obstructed, the nipple sinks in, turgid veins are conspicuous, ramifying around, and resembling a crab's claws. These are the characteristics of an occult cancer on the external parts; and we may suspect the existence of one internally when such pain and heat as hath been described succeed in parts where the patient hath before been sensible of a weight and pressure, attended with obtuse pain. A cancerous tumour never melts down in suppuration like an inflammatory one; but when it is ready to break open, especially in the breast, it generally becomes prominent in some minute point, attended with an increase of the peculiar kind of burning, shooting pain, felt before at intervals, in a less degree, and deeper in the body of the gland. In the prominent part of the tumour, in this state, a corroding ichor sometimes transudes through the skin, soon forming an ulcer; at other times a considerable quantity of a thin lymphatic fluid, tinged with blood from eroded vessels, is found on it. Ulcers of the cancerous nature discharge a thin, fetid, acrid sanies, which corrodes the parts, having thick dark coloured retorted lips; and fungous excrescences frequently rise from these ulcers, notwithstanding the corrosiveness of the discharge. In this state they are often attended with excruciating, pungent, lancinating, burning pains, and sometimes with bleeding.

Though a scirrhus may truly be deemed a cancer as soon as pain is perceived in it, yet every painful tumour is not a cancer; nor is it always easy to say whether a cancer is the disorder or not: irregular hard lumps may be perceived in the breast; but, on examining the other breast, where no uneasiness is perceived, the same kind of tumours are sometimes found, which renders the diagnostic uncertain. Yet, in every case, after the cessation of catamenia, hard unequal tumours in the breast are suspicious; nor, though without pain, are they to be supposed indolent or innoxious. We think, with Mr. Pearson, that the absorbent glands are seldom or never the seat of cancers; and, could we distinguish in the breast these from the true secretory organs, our distinction might be more correct. Lymphatic glands are, however, found in the breast, though not numerous. A few distinct tumours, traced in a chain to the axilla, are perhaps lymphatic glands, and will never become cancerous; yet no prudent physician will offer such a decided opinion even to the patient's friends.

The nature of cancer is unknown. It has long been disputed, whether it was a general disease, a portion of the fluids, determined by different causes to the affected part, or whether any accident to the organ diseased altered its former habits, so as to produce a poisonous corrosive fluid instead of the usual salutary one. Much serious argument, and, we may add, much idle jargon, have been employed on both sides. We shall endeavour, at least, to place the question on its proper footing; and, though we may not greatly elucidate the subject, yet we trust we may be able to direct the arguments and observations more conclusively in future.

If cancer were a general disease, we might expect it to be distinguished by a determined appearance in the look, or decided marks in the constitution: it might be sometimes hereditary, or perhaps contagious. We suspect that there are striking appearances in the complexion; for we have found cancers more frequent in the dark cadaverous complexions than in the fairer kind. The complexion we mean is distinct from the darkness of the atrabilious or melancholic habits: a blue tint seems mixed with the brown, and is chiefly conspicuous under the eyes, or in the parts usually fair. This may, perhaps, be a refinement without foundation, but we think we have often observed it. There is certainly no constitutional symptom by which it can be predicted, if, in women, a scanty and a dark coloured catamenial discharge be not a prognostic of the future disease. We would not, however, disseminate alarm; and can truly add, that in such cases the woman is by no means peculiarly liable to cancer; yet cancer sometimes follows the cessation of such a discharge. Cancer has certainly been traced in females of the same family; and those who have escaped, suf-

fer from irregular anomalous pains, and different, often unaccountable, complaints. That cancer is contagious we have not the slightest reason to believe: we mean from effluvia; for the matter inserted under the skin, or touched with the tongue, *has been said* to produce the complaint.

Such arguments will scarcely establish the general nature of the disease; but others, drawn from its history, may be more decisive. It is not uncommon to find a cancerous sore heal by the efforts of nature only; and it is equally common to find soon afterwards, diseases in different organs, as if some morbid matter had been deposited on them. We have seen an enteritis, with peculiar symptoms, follow; and we have, in more than one instance, found an apoplectic attack at no great distance. Fixed pains in the limbs, and an unconquerable sciatica, have been frequent followers. It may be asked, do cancers so often heal as to give such an extent of observation? We have seen six instances of this kind, and one or other complaint has followed: in one an apoplectic attack occurred twice, and the last was fatal. It is with pain we add another source of similar observations, we mean the extirpation of a cancerous tumour. Were the disease local only, the operation should be expected always to succeed; and indeed in the early stages, in tumours which have yet assumed no very decided character, which are moveable, and the constitution otherwise sound, no return is found often to take place. In other circumstances, however, a return is common. The blood then may be at last affected; and, if so, why not at first? Why should not a blow in the breast in every instance produce a cancer, if it does in any, but that the constitution is previously diseased? Thus a blow on the knee will produce a white swelling; but ten thousand children receive blows on the knees, and unless a scrofulous disposition should concur, no inconvenience arises.

If, however, the matter is generated in the constitution and determined to a gland; if, again absorbed and carried to another organ, various questions will arise.—Is the whole deposited on the part first affected? Does the poison possess an assimilatory power, or when one part is diseased, is it the focus in which all the matter is concentrated? We find it is fashionable to deny cancer to be a general disorder, and complaints, previous or subsequent to it, are explained away; yet, while we do not triumphantly urge difficulties on the opposite side, we trust that they will not be pressed against what we suggest only as the more probable opinion. We will, however, explain our own ideas of the state of the poison in this complaint.

In all cases of cancer, either a morbid matter seems to float in the constitution, or the fluids are in a depraved state, from which such a matter may be derived. The last is seemingly more often the case. When, then, a cause of inflammation supervenes; when a wound or a bruise occasions the necessity of a discharge; this wound will assume what is styled a bad aspect, any suppuration will become cancerous. In fact, what might be a mild, salutary suppuration in a healthy constitution, will thus be of an opposite kind. While the sore continues open, there is not always an absorption; for in the irritable, inflammatory state of ulcers from specific contagion, we see few, if any, instances of the fluids being absorbed. Yet in cancer, after some time, we know that absorption does take place; and, when inflammation abates, and the sore is healed, we have every reason to think that the impediment to the action of the lymphatics is removed. The matter then, thus accumulated, and thus changed, may be taken up and again deposited.

If this reasoning be admitted, and we *know* that it will meet very accurately all the phenomena, we shall find that the fomes in the blood is not really cancerous, but capable of becoming so in consequence of its being subject to the process of suppuration in the injured part. Supposing, therefore, the injured part to be removed before suppuration has contributed to the change, the patient may remain safe; and supposing these depraved fluids not again to be brought to a suppurated gland, the disease may not recur. The whole of this reasoning may be pronounced theoretical. Admitted: it will, however, explain every appearance; it will elucidate every part of the best founded practical conduct. Let it be for a moment supposed fallacious; it will afford a clue to connect numerous facts and discordant directions.

But what, it may be asked, is this depraved state of the blood which will produce such a destructive enemy? We can answer, that it is an excess of ammonia, with a more copious development of an ingredient in the animal fluids which we have so anxiously pointed out, sulphur. The discharge from cancer, Dr. Crawford has informed us, is an hepatised ammonia; and we find in no secreted fluid any ingredient that does not exist in the blood. Its component parts may be varied in form, in proportion, in consistence, and acrimony, but they are still the same; and this position, not hastily hazarded, we trust will be kept in the mind of our readers. It shall at a future period be developed.

In this reasoning we have laid a particular stress on the changes produced by suppurated glands: it was not without reason; but the explanation of the reason would lead us from the point. In fact, there are few instances of glands suppurating, as the surgeon style it, kindly. Suppuration chiefly takes place in the cellular substance; and, when the glandular parts are affected, whether conglobate or conglomerate, the wound does not heal readily. When, however, in a cancerous habit a tumour or a wound assumes a peculiarly unpleasant appearance, if the part is not glandular, the wound may either heal, or the whole be taken out, if accessible, with little danger of returning; and we think it a strong proof of what we have alleged, that, when not in a gland, but in the lip or nose, the operation generally succeeds: in fact, the peculiar matter is not further contaminated by the unkindly suppuration. We have spoken also of cancers chiefly as a female complaint. It is not their peculiar misfortune; but in them it chiefly attacks the glands; in men, other parts. In women the operation does not often succeed; in men it seldom fails.

We must not, however, rest so strongly on the system just stated, to neglect the sentiments of other authors. It is certainly, as we have said, the more general and the more fashionable opinion that cancers are local complaints. This idea has not, however, been expanded so as to meet all the appearances, unless by

referring it to putrid or scrofulous tumours, except by the pathologists of the school of Mr. Hunter, who have spoken of diseased, and, more lately, of acquired actions. We purposely omit the opinion of Mr. Adams, which we shall afterwards consider more at length.

If the idea of 'taking on diseased action,' be any thing more than saying that a part is diseased, it has not been explained. If it is no more, it says nothing: a cancerous mamma is a diseased mamma, and of course has taken on diseased action. A new step has, however, been lately added, and a part has been said to acquire new actions. Thus, when nature cannot unite a fracture by a bony callus, she supplies its place by a cartilaginous medium. When the coat of an artery is weakened, a lamina of bone supplies the defect; "and in scirrhous formations or changes, a marked and very extraordinary attempt is very frequently evinced to correct the deranged state of things, by reducing the whole into one insensible and homogeneous mass: and here, at the same time, is afforded the most direct evidence of the disease of cancer arising and depending on simple altered organisation only. The very source and supply of the disease is an assimilation of various and unequal structures, giving rise to dissimilar actions. What then could nature do better (when all her attempts have failed to restore an equilibrium of parts) than what she very often effects, viz. reducing the whole into a bony mass? Here all discordancy of action is at once destroyed, and an attempt at natural cure in scirrhus is clearly evinced, which shuts out the idea of a 'specific virus.' This attempt at natural cure is frequently exemplified in the examinations of true scirrhi, a progressive change into bone being often evident; in many, the centres are completely ossified. Such attempts have been still more succesfully accomplished in the ovaria, these parts having often been found wholly converted into bone by the cancerous action. See Baillie's Morbid Anatomy.

"Confused, therefore, as the cancerous mass may appear, yet more of arrangement would seem to exist than one might at first be aware of. Such would appear to be evinced with respect to the membranous intersections, or septa, most commonly observed in scirrhi; as particularly noticed by Dr. Baillie.

"Query:—In the view of natural cure, may not these septa serve as a surface of extension for bony actions, similar to what we see in the formation of the bones of the head?" Young on Cancers, p. 51, &c.

We have thus selected the author's words, as we were apprehensive of mutilating or misunderstanding his reasoning. According then to this author, if any part is diseased, or, to come nearer the point, if any gland is obstructed so that its usual actions are disturbed, it acquires other actions; chiefly, as it should seem, to supply the deficiency, to obliterate the part, or to restore it to a healthy state.

If we were to examine the changes attributed to these acquired actions in the passage quoted, we should find a more ready mode of explaining them; nor should we require so recondite a foundation, as Mr. Young's fundamental axiom, that 'the essence of organic life is immutable.' We should not, however, object to this reasoning, were the terminations of cancer ossifications; or indeed were there any acquired actions which would restore the organisation of the parts, or compensate for its injured functions: on the contrary, by cancer the part is indeed destroyed, but sound parts suffer, and life itself is lost. We perceive, also, no explanation of the phenomena of cancer in this system of acquired actions, and, of course, need not dwell on it. Mr. Young's work is the latest on this subject; but, in the same school we have found nothing more satisfactory. We agree, however, with him, that scrofula and cancer are distinct diseases.

The only other system which it is necessary to notice is that of Mr. Adams, who considers cancers as owing to animals of the hydatid kind. To find them penetrating all the intricate convolutions of minute arteries, is, at first view, a striking objection to this system; yet they appear in the liver, in the ovaria, and other organs, where the access is equally difficult. This subject, of course, we must resume when we speak of this animal, and can only add, that the cause is highly probable; and were the opinion we have offered no longer tenable, we should not hesitate to adopt that of Mr. Adams. A singular case of cancer, strongly corroborative of the disease arising from hydatids, occurs in Dr. Hamilton's Observations on Scrofulous Affections, with Remarks on Scirrhus, &c.

The parts usually affected by cancer are, the mammæ of females, the uterus, the testes, the glans penis, the tongue, the stomach, cheeks, lips, and angles of the eyes. These are not always glandular parts; nor, though a cancer of these is a more dangerous disease, though extirpation more seldom succeeds, yet in a depraved state of the fluids, any organ may suffer if a cause of suppuration occurs. The ovaria are said to be affected with cancer: more commonly, however, they become scirrhous; or enlarged by hydatids, forming local encysted dropsy. Of the prostate gland, also, cancer is a rare complaint, though in advanced age this part often becomes scirrhous. The breasts of females are seldom cancerous before the cessation of the menstrual discharge, *for whatever may be the appearance, a* MILK ABSCESS NEVER BECOMES A CANCER. We have seen it continue beyond the period of the cessation of the catamenia without any bad consequences: it has healed at last.

It is not easy to say why the parts mentioned should be peculiarly subject to the disease. The cause has been referred to a complicated structure; but there is no such structure in the tongue, in the lips, in the angles of the eyes. The sexual parts are certainly most subject to the complaint. Is it that the circulation is slower; that congestion is more likely to happen; and that any accidental cause of inflammation may excite the action of the obstructed portion? In every view of the disease the same difficulties will recur.

Of the causes of cancers we can say little. In the stomach, the dram drinker has been supposed more liable to the disease; and in general what induces a depraved state of the fluids, as irregularity in diet, ebriety, a sedentary life, and confined air, predispose to it. Celibacy, as we have observed, seems to be a predisposing cause; and we have suspected that when marriage has taken place at a late period, the disposition to cancer has been accelerated.

The progress of cancer is various; in some cases rapid, in others slow. In almost every stage nature seems to attempt relief, and granulations occasionally

spring up, giving hopes of a cure, which are soon disappointed. The discharge is not highly putrid, but has a peculiar hepatic smell, sufficiently well known. The taste is said not to be acrimonious, but insipid and 'mawkish.'

A cure is rarely made but with the knife or caustic; when these methods of relief are not used, the treatment is only palliative. If the tumour firmly adheres to the subjacent part, it can neither be extirpated nor wasted away by a caustic: if it is moveable, it may generally be taken away, cautiously avoiding such blood vessels as would endanger life by being wounded. In general, the larger are more dangerous than the less, the painful than the indolent, and the ulcerated than the occult. When a breast is once scirrhous, it seldom continues long in a state that threatens a cancer without affecting the axillary glands, occasionally the other breast, or the uterus. When a cancer in any part is attended with a hardness of the adjacent glands, success hath rarely followed an attempt to cure. In habits not otherwise disordered, an occult cancer should not be exasperated by emollients, stimulating application, or intemperance, for then it may remain a long time without inconvenience; though at the cessation of the menses in women they will be exasperated. If then it can be conveniently done, it may be most proper to extirpate early.

The remedies employed in this disease have been various; and, though we cannot always boast of success, we can often arrest the progress of the complaint, and, without curing, can, for a series of years, render it harmless. Our former explanations will at least connect the remedies, and perhaps render their application more clear.

If, in a cachectic habit, a tumour is formed on any of the external parts mentioned, indolent, discoloured, and occasionally painful, we have reason to suspect the approach of cancer. If in the breast of women about the cessation of the menstrual discharge, should there be even no pain, danger is to be apprehended. This is perhaps the period for topical, refrigerant applications, for topical discharges, and for internal alterative medicines. Leeches should be repeatedly applied, the parts bathed with saturnine lotions, the diet limited to the mildest nutriment, and wine avoided. In short, at this period, every thing that can prevent or lessen inflammation should be employed, while the activity of the smaller vessels may be gently stimulated to prevent or relieve congestion. We combine the stimulant and relaxant power very successfully in the form of Plummer's pill, to which a slight opiate may be added, taking care that no constipation of the bowels should increase the heat. After a short period, the external applications may be more stimulating. The aqua ammoniæ acetatæ may supersede Goulard's lotion; a small proportion of mercurial ointment with camphor may be gently rubbed in, *around* rather than *upon* the tumour, or a mercurial plaster applied. At the same period, issues have been sometimes formed in distant parts, but we have had little experience of *their* utility; yet the measure certainly merits a trial.

Internal cancers, however, give no certain index of their existence till they are advanced much further. Yet, if in a cachectic state, there are irregular and dark discharges of blood from the vagina, shooting pains in the lower part of the belly, a sense of weight on turning in bed sensibly felt to fall on the lower side; above all, if, on examination, the uterus feels heavy, the ostineæ hard, and with irregular projections; there can be little doubt of the cause. When the discharge becomes more decidedly of a cancerous nature, every doubt must be removed. Cancer in the vagina, an uncommon case, but of which we have seen an instance, can be easily felt: in the rectum also the distinction is not difficult. In the stomach it is very doubtful, and is seldom ascertained till after death. Yet, whenever cancer is suspected in the internal parts, if no discharge has yet taken place, the same plan of internal remedies may be followed.

A question will arise, whether this (we now allude to the state of external cancers in the early period) is the proper time for the celebrated deobstruents, hemlock and arsenic? Were our own experience to guide us, we should say, that, in this state, we have found neither useful. Of the former we would speak with some hesitation. It seems to have been first given in a random trial, and continued from the confident promises of those who had apparently used it with success. Of the integrity of Van Swieten, Storck, and Colin, we would not insinuate the slightest suspicion; yet we know that those who are willing to believe in the powers of a medicine, will always find some facts apparently to support them. We dare not say that hemlock is of no use; but if called on for facts to justify any assertion in its favour, we should find them with difficulty. After these observations we need not return to this remedy, but shall only add, that the doses, gradually increased, of the extract, soon become a cold inert mass on the stomach. The seeds are more active in a smaller bulk; but, in whatever form it is given, it should be increased till it exerts some evident power on the general system, either by affecting the head or stomach with giddiness or nausea.

We may, indeed, be asked, by what links we connect the effects of the hemlock with the accounts we have given of the disease? We see no connection; but may observe, in general, that all the poisonous plants excite a commotion in the system, with a design probably of counteracting their deleterious effects. When this commotion is general and considerable, the obstructions of a diseased part may experience some salutary change. This is the case with the aconite, the foxglove, the hemlock, and the whole tribe; and the suspicion receives no inconsiderable support from this circumstance, that these medicines are only serviceable when raised to such a dose as to produce violent effects. Few practitioners will, probably, doubt that hemlock has done infinitely more mischief in supposed cancers, than it has done good in real ones.

It may be asked, also, to what period of the complaint the internal use of arsenic should be confined? We suspect it is not proper in this early stage: at a later period it certainly acts as a tonic, and a moderately gentle stimulant. We have seen, from its use, an extensive sore filled with the most healthy granulations, the complexion become clear, the appetite improved, and the general health increased. Unfortunately, these good effects have not been permanent. By increasing the dose, we have gained a little more, but at last every advantage was apparently lost.

We have been led, however, from our path, by pursuing the effects of remedies not adapted for the stage of the complaint we were considering. When an accidental tumour is excited to suppuration in a diseased habit, and the plans formerly mentioned neither discuss it nor prevent inflammation, the sore appears to arise from distinct points in the manner described, which soon unite, and form one large, foul, ragged ulcer, with retracted or inverted edges. This ulcer is painful and irritable; but the sedative applications do not then succeed, and moderately stimulant ones seem to relieve. In fact, the inflammation is of the erysipelatous kind, and requires warmer applications than truly phlegmonic sores. At this period, medicines, we fear, are useless. The arsenic, the hemlock, the aconite, the bella donna, with innumerable other poisonous plants, have had their supporters, but success has not procured many imitators. The carrot poultice was thought useful: it corrected the fœtor, but did no more. The carbonic acid air had its day of triumph in many different forms, but is no longer remembered. Hemlock has been used in fomentations and in tepid baths, in which the patient has been directed to sit for twenty minutes, at times with some apparent utility, but often without effect. Toads have been induced to suck the sore, and it has been said that they expire in agonies, while the appearance of the ulcer is meliorated. If this were, however, the case, the practice would not have been abandoned. We have witnessed the experiment, but it was at an age when our observations could scarcely be trusted. At this period, mercury is, we think, injurious; but arsenic, which unites a tonic with an inferior stimulating power, will often produce temporary benefit.

We have described the effects of arsenic given internally, as well as the disappointment which often followed its continued use. Another metallic tonic has been employed, it is said with some success, in cancers, viz. the ferrum ammoniacale, formerly the flores Martiales. With this remedy we have had little experience; but have reason to believe, that, like the arsenic, its advantages are temporary only. It is assisted by a tincture of iron, united probably with æther; but which is imitated, with sufficient advantage, by mixing the tinctura ferri muriati with an equal portion of spirit of wine.

Before we speak more fully of external and other remedies, we may mention one form of cancer which does not essentially differ from the usual appearances of the disease but in its very rapid increase. It has been called the *occult cancer*, probably because it was supposed to be a sudden deposition of matter before concealed. The swelling is rapid, and increases soon to an alarming size, with very considerable hardness. Whether this be a real deposition from the blood, or whether peculiar causes assist its rapid increase, is of little consequence to enquire, as the treatment is the same, and the success, though not greater, certainly not less.

When a tumour in any part has not ulcerated, when attended with little pain, and freely moveable, extirpation is an operation equally easy and successful. In parts apparently not glandular, as in the cheeks, the lips, the glans penis, &c. it very often succeeds completely. In the breast, the disease is more likely to return; yet, in the state just described, even this is not very common. The further we recede from it, the less favourable is the prognostic. The first Monro gives, in the Medical Essays of Edinburgh, a very unfavourable statement of the operation; but Mr. Hill, of Dumfries, seems to have been more successful. It may be, indeed, remarked, that a large proportion of the cancers he extirpated were from the lips and other parts; those of the breast were not equally numerous.

When female timidity refuses to submit to the knife, a caustic has been proposed, and the substance chosen has been arsenic. We have already spoken of this substance and its preparations, but, by accident, omitted one very commonly employed, the magnes arsenicalis. The omission was the more singular, as it stood in our list of arsenical preparations, and we mentioned the plasters formed from it. The preparation was first described by Hollandus about the latter end of the fourteenth century, and afterwards by Crollius, Angelus Sala, and Vitalis. It is made by melting together arsenic, sulphur, and antimony. The preparation has been improved by Mr. Justamond, who used it as a caustic, under the name of arsenicum antimoniatum, and was prepared by melting two parts of antimony with one of arsenic. The sulphur of the antimony supplies a sufficient portion in this instance to lessen the virulence of the metal.

We think, however, that arsenic is improperly called a caustic. This acts by destroying the part to which it is applied. Arsenic, on the contrary, separates the sound from the diseased portion, not by any action on the part itself, but by exciting the powers of nature; and a caustic is added to it to destroy the integuments. The effect of arsenic may be very properly illustrated by what takes place in mortifications. When, by warm fomentations, stimulants, and tonics, the disease is conquered, a red circle is observed at some little distance from the mortified part, which, by degrees, suppurates, separating the diseased from the healthy portion. Arsenic acts in the same way. No part is destroyed, but, by the inflammation excited, the diseased mass is separated from the sound. In this action, it coincides with what we have observed of its general effects, which we found to be those of a stimulant and tonic; and the opinion is supported by the similar effects of a remedy, whose powers we found greatly to resemble those of arsenic; we mean mercury. In the *bay sore*, which is a true cancer, occurring on the coast of Honduras, we are informed, by Dr. Moseley, that an effectual cure is obtained by an application of corrosive sublimate. About a scruple is sufficient for a cancer, which a plaster of diachylon, about the size of a crown piece, would cover. Mr. Justamond, in some instances, joins the corrosive sublimate with arsenic. Opium, added to both applications, mitigates the pain without injuring the efficacy of the remedy. The argentum nitratum, with opium, is sometimes applied the day before the arsenic, to destroy the integuments, in which it supplies the place of the crowfoot in Plunket's receipt.

When ulceration has begun and is spreading; when the tumour is fixed to the ribs; the glands leading to the axilla swelled; art can no longer promise relief. To ease the pain and lessen the fœtor of the discharge, are all its pretensions, and these objects are often attained by opium, hemlock, the carrot poultice, oxygenated muriatic acid, goose grass, and fixed air. Opium and hemlock may be given for the relief of pain.

internally, and applied externally in poultices or washes: the others are applied externally only. The fixed air has been thrown against the sore from an elastic bottle, or a bladder armed with a proper pipe; or the part has been bathed by the acidulous water. Mr. Justamond, for a similar purpose, advises the powder of the calamus aromaticus, or of the flowers of zinc; to either of which as much crude sal ammoniac as the state of the ulcer will allow may be added. Even in this state, however, the ulcer sometimes suddenly heals; but, it is, as we have said, to carry its destructive influence to other parts; and this unexpected change has given credit to the numerous nostrums so industriously recommended.

Mr. Bell, in his Treatise on Ulcers, edit. 3. p. 299, &c. observes, that *cancers* are most frequently in the lips in men, and the breasts in women. The sooner, we have remarked, the operation is performed, the greater is the chance of the extirpation proving effectual. This, however, is contradicted positively by Mr. Pearson. "If," says he, "the removal of the morbid part were equally complete in two patients, one of whom had been afflicted seven months, and the other seven years, with a cancer, I should esteem the latter in less danger of a relapse than the former. For example, when the breast is affected by a cancer, distant parts of that gland may become the seat of the morbid alteration about the same period. These several diseased portions may not advance with equal celerity; but, while one part acquires a considerable bulk, the other altered parts may be scarcely objects of attention. Under such circumstances, the more obviously morbid parts may be removed; but, the disease being only in progression, no man can be certain, without removing the whole breast, that he has not left some diseased fibres. If, however, the disease shall continue without increasing during several years, one may in general conclude that its boundaries are more accurately defined." Conscious that such accidents may occur, Mr. Bell therefore advises, when the complaint is on the breast, although part of it only may be affected, the whole should be always taken off. But, although it be proper to extirpate every part that is really diseased, none of the sound external teguments should be ever unnecessarily destroyed, nor should more of them be taken away than is requisite. A little before the sore heals up, an issue should be established, so as to discharge freely before the cicatrix is formed. If scirrhous or cancerous disorders appear in several different parts, the removal of any or all of them would not probably be effectual. If *cancers* adhere to another adjacent part, they rarely can be extirpated with safety; a cancerous tumour may be attached to a circumjacent muscle or tendon, and may admit of an operation: however, much prudence is requisite in attempting a desperate case. See also Bell's Surgery, vol. ii. 434, where he directs how to amputate cancerous breasts. See Amputatio.

When tumours of the axillary glands occur, their extirpation also is generally recommended. We have, however, suspected that this is unnecessary, for we have found them remain indolent for years after the operation has succeeded. Yet it is a prudent precaution.

Cancer on the face is generally seated on the lips, nose, or eye lids. When these ulcerate, they are always attended with a hardness, which extends in proportion as that which formed the first tumour is destroyed by erosion, and is always preceded by a change in the colour of the skin, which, before it indurates, turns red; and, in extirpating, all that is thus florid must be cut away, as well as the part that is manifestly cancerous. See Le Dran's Observations. When a *cancer* on the lip becomes ulcerous, it appears at first like a crack, and then gradually widens. In extirpating cancerous lips, the operation is best performed as for the cure of the hare lip. Mr. Sheldon observes, that *cancer* in the cheek, which no operation can cure, proceeds from a polypus.

Cancer in the intestines. In this case the patient is continually afflicted with a highly acrid and obstinate discharge from the bowels resembling dysentery; which corrodes all the parts it touches, and is attended with frequent convulsions and fixed pains.

Cancer in the testicle. The most powerful means may be tried; great advantage hath followed the internal and external use of hemlock, but castration is generally the *sad* but safest resource.

Cancer in the womb. This disease, we have said, happens generally about the time of the menses disappearing, but may occur at any other period of life. It is known by tensive lancinating pains in the pelvis and womb; indurations in the part, sensible to the touch, a preceding immoderate discharge of the whites, sometimes of the catamenia, or both. Ætius remarks, that "there is a violent pain in the groins, upper part of the belly and loins, whilst the parts originally affected can hardly bear to be touched: but, if the *cancer* is ulcerated, besides the pain and hardness about the neck of the womb, there are ulcers with tumid, sordid, and whitish lips, and from them a fetid sanies flows." The discharge from these ulcers is very various, being sometimes bloody, sanious, or accompanied with sloughs. If the indurations are not ulcerated, the discharge is sanious and acrid. In time the labia swell, and are œdematous; and if, as sometimes happens, the inguinal glands are obstructed, the œdema extends along the thigh.

In this unhappy case, besides the general methods, a close adherence to the extract. or semina cicutæ must be insisted on; beginning with a small dose, and increasing it gradually. This sometimes moderates the pains better than opium. Mr. Justamond, in this case, depends much on the bath and injections of hemlock. See Cancer.

Mr. Le Febure recommends, in case of *cancerous* ulcers in the womb, that injections should be frequently thrown up of a decoction of carrots and hemlock, having four grains of opium, and as much arsenic, dissolved in every pint. When in the bone or bones of a limb a *cancer* takes place, the amputation of that limb will be necessary.

The peculiar advantages of Mr. Fearon's mode of excision of the breast, and his after treatment, merit attention.

The patient being seated conveniently with her head supported upon a pillow, by an assistant behind, and her arms held by one on each side, the surgeon makes a horizontal incision, in the direction of the ribs, a little below the nipple; the assistants then draw the teguments as far asunder as possible, and press their fingers

on the bleeding arteries, whilst the surgeon is dissecting the diseased mass from the skin above, and the pectoral muscle or parts below: after which, the wound being carefully examined, every small indurated part is to be removed.

The hæmorrhage by this time generally ceases; but if an artery still bleeds freely, it must be secured by means of the tenaculum and ligature, the ends of which are left a proper length out of the wound. The whole is then cleaned; and the parts and edges of the wound are laid in even and perfect contact, and retained so by two, three, or more sutures of the interrupted kind, according to the extent of the wound, and by the applications of slips of adhesive plaster, in the intermediate spaces, across the line of incision.

About the third or fourth day the serous discharge appears through the bandages, and the slips of plaster grow loose and require to be removed: the stitches in the teguments are then to be divided with a pair of scissors. The incision is afterwards dressed daily with small slips of lint, spread thin with a mild cerate made of the purest oil and wax. The ligatures by which the arteries are secured, are gently drawn every day after the first inflammation is abated, and taken away in due time for the secondary union, or what is termed adhesive inflammation, to take place. The cure is greatly accelerated by repeatedly supporting the edges with a few slips of adhesive plaster.

When the skin is ulcerated or diseased, a second incision is made in as straight a line as the inclusion of the diseased part will admit, down to the extremity of the first; and the edges are brought together in the same manner as in the first incision. The incision is to be made below the nipple, because the natural position of the part more readily assists the union, and the breast is less subject to deformity.

Thus the cure is generally completed in a fortnight or three weeks; nay, sometimes in as many days as weeks, where the suppurative process has been allowed to take place. A large, thick, soft compress made of linen, which has been in use, is to be applied after each mode of dressing; and a linen, or rather a flannel roller, about five inches broad, and six or eight yards long, bound gently tight over all. The arm on the affected side is to be supported in the bent position by a handkerchief tied round the neck. It has been a former custom to suffer the wound to remain long open, with a view to drain off the remaining virus; but this has been found tedious and useless.

We have omitted mentioning one remedy, which, if we recollect rightly, is recommended in the Memoirs of the Royal Society of Medicine at Paris; we mean lizards. This remedy was said to have been used in South America; and, though a particular species was mentioned, it was added that almost every other had a similar effect; and we find, in some authors, the lacerta agilis recommended for this purpose. The whole lizard tribe, dried and powdered, is recommended as sudorifics and alterants. The lizards, in cancers, were said to promote a considerable discharge of yellow, offensive sweat, which relieved the pain and diminished the tumour. We know of no species that is poisonous.

See Le Dran's Operations, Med. Mus. vol. i. p. 81, &c. and 338, &c. Lond. Med. Trans. vol. i. 75. Gooch's Med. Obs. vol. iii. Hill on *Cancers*. Bell on Ulcers, edit. 3. p. 299. Justamond on *Cancers*. Bell's Surgery, ii. 434. Pearson's Principles of Surgery, vol. i. 209, &c. and Practical Observations on Cancerous Complaints. White's Surgery, 52. Fearon on Cancers. Mosely on Tropical Diseases.

CA'NCER MUNDITO'RUM. *Chimney sweeper's Cancer.* See SCROTUM.

CA'NCER O'SSIS. See SPINA VENTOSA.

CA'NCHRY, or CA'NCHRYS. See CACHRYS.

CANCINPE'RICON. Hot HORSE DUNG. See ANHELATIO.

CANCRO'RUM LAPIDES, (from *cancer, a crab*). See OCULI CANCRORUM.

CA'NCRUM O'RIS, (from *cancer, a spreading ulcer*). CANKER OF THE MOUTH; called also *aphthæ serpentes, librisulcium, gangrena oris*, by Le Dran *cheilocace*. It is a deep, foul, irregular, fetid ulcer, with ragged edges, which appears upon the inside of the lips and cheeks; and is attended with a copious flow of offensive saliva.

This disease is seldom seen in adults, but it most commonly attacks children. When the ulceration begins at the inner part of the lip, it exhibits a deep, narrow, sulcated appearance, and quickly spreads along the inside of the cheek, which becomes hard, and tumefied externally. The gums are very frequently affected, the teeth are generally loose and diseased; matter is often found in the sockets, and abscesses sometimes burst externally through the cheek, the lip, or a little below the maxilla inferior: and it is not uncommon to see an exfoliation of the alveolar processes, or even of the greater part of the lower jaw. Among the children of poor people, where this disease is often neglected or mismanaged, a gangrene will sometimes supervene.

In order to the cure, it will be proper to remove any diseased teeth or bones if possible; to prescribe a milk and vegetable diet, and to allow a prudent use of fermented liquors; to give the Peruvian bark, sarsaparilla, elm bark, and mineral acids.

External applications may be preparations of copper: a diluted mineral acid: burnt alum: decoction of bark, with borax, or tincture of myrrh. See APHTHÆ: also Pearson's Principles of Surgery, vol. i. p. 262.

CANDE'LA. A CANDLE, (from *candeo, to shine*). Exhalations from candles are salutary or hurtful, according to the materials of which they are formed. Old tallow often sends off bad fumes; wax, though white, creates the head ach, and often hurts weak lungs; hogs' fat is very offensive; beef tallow alone is not good; that of sheep affords the best.

CANDE'LA FUMA'LIS, or *candela pro suffitu odorata;* called so from *fumus, smoke*, from their odoriferous effluvia; called also *tæda, avis*, and *avicula Cypria*. These are made of odoriferous powders, mixed with one third or more of the charcoal of willows or lime tree, and reduced to a consistence with turpentine, labdanum, &c. Resinous substances alone may be mixed with balsamics; they give out a grateful odour, purify the air, and raise the spirits. They were formerly burnt in times of pestilence: they are also, from their form, called *bacilli*, and *massæ ad fornacem*, because they are usually applied to a hot grate or chimney to diffuse their smell without lighting them. See Cho-

mel's Dict. Œconomique: for *Candela, medicáta*, see Bougie.

Cande'la regia, and candelaria. See Verbascum.

CA'NDUM, a corruption of *canthum;* Sugar candy. See Saccharum.

CANE'LA, (from *canna, a reed*). A word used by the ancients for cinnamon, or rather cassia.

CANE'LLA, (from the same). See Cinnamomum.

Cane'lla a'lba, (from the same; because these barks have a reed like appearance, from being rolled up in that form). Called also *canella cubana; Malabarica; winterana; Jamaicensis; tubis minoribus alba; cinnamomum album; Malabaricum; aromaticum lignum; aromaticus cortex; caminga; caryophilli suavis odoris; winterania canella; cortex winteranus spurius; cassia lignea Jamaicensis; arbor Jucadice;* wild cinnamon tree. *Winterana canella* Lin. Supplem. 247. *Canella alba* Murray Syst. Veg. 443, and Swartz. Lin. Trans. v. i. p. 96. *Canella alba* Lin. Sp. Pl. Wildenow, vol. ii. p. 851. Nat. order, *oleraceæ*.

The bark of this tree is commonly, but falsely, called *cortex winteranus*. It is a large tree, whose bark consists of two parts, an outward and an inward; the outer is as thin as a milled shilling, of an ash grey colour, with whiter spots here and there, and several shallow furrows of a darker colour running variously through it; the taste is aromatic. The inner bark, which only is employed, is thicker than that of cinnamon, being as thick as a milled crown piece, smooth, of a whiter colour than the outward, inclining to yellow, and of a more biting and aromatic taste, resembling that of cloves, and not glutinous when chewed, but dry, and crumbling between the teeth. It is called the West India cinnamon tree. The bark is of different thickness, according to the age and size of the branch from which it is taken.

It grows in Jamaica, Antigua, and other of the Caribbee islands. The bark is the chief part in use, the poor natives employ it instead of all other spices; its virtues, though similar, are very weak. It is sold in England for the cortex winteranus, for its virtues are the same: it yields a heavy oil, which, when mixed with a little oil of cloves, is sold for it; and Dr. Brown adds, the adulteration is no prejudice to the credit of the oil of cloves. It is a pungent, bitterish aromatic, not very agreeable in taste. Water extracts only the bitter, but proof spirit both the bitter and aroma. It is used in dyspepsia, and to warm some of the less agreeable or narcotic bitters. See Miller's Bot. Off. and Dr. Brown's Natural History of Jamaica. Woodville's Med. Botan.

Canella Javensis, Malabarica. See Folium, and Cassia lignea.

Canella sylvestris Malabarica. See Folium.

Canella cuurdo, Zeylanica. See Cinnamomum.

CANELLI'FERA MALABA'RICA, (from *canella*, and *fero, to bear*). See Cassia lignea.

CANICA, a spice used in the island of Cuba, probably the pimento; or from some of the species of myrrhs.

CANICÆ. Coarse meal was anciently thus called, from *canis, a dog*, because it was food for dogs. Hence *panis canicaceus*, very coarse bread.

CANICIDA, (from *canis, a dog*, and *cædo, to kill*, so called because they are destroyed by eating it). See Aconitum.

CANICI'DIUM, (from *canis, a dog*, and *cædo, to cut*). A dissection of living dogs.

CANICULA'RIS, (from *canicula, the dog star*). Dog days. This is the time when the canicula, or dog star, rises and sets with the sun. Some centuries ago they began about the middle of July, or somewhat later, and ended about the latter end of August or beginning of September; but the heliacal rising and setting of this star are now at a different period: these days, however, still retain in our almanac this appellation, and the idea of the dog days is connected with extreme heat. In some countries they continue to maintain the opinion, that bleeding and other evacuations are not efficacious in this season, or rather in very hot weather, because of the unusual languor of the patient; and probably with reason.

CANI'NA APPETE'NTIA, (from *canis, a dog*, and *appetens, hungering*). *Fames*. See Boulimus.

Cani'na bra'ssica. See Mercurialis sylvestris.

Cani'na l'ingua. See Cynoglossum.

Cani'na ma'lus. See Mandragora.

Cani'na ra'bies. See Hydrophobia.

CANI'NI DE'NTES, called also *dentes cynodontes*. The teeth betwixt the incisores and the grinders, of which there is one in each side, both in the upper and lower jaw. See Dens.

Mr. John Hunter, in his Natural History of the Human Teeth, names these *cuspidati*, because, though made somewhat like the incisores, they have the two sides of the edge sloped off to a point, and this point is very sharp. Their fangs are longer than those of the incisores, and, therefore, from the fangs of those in the upper jaw being supposed to extend the greatest part of the way to the eye, they have been called the eye teeth. Their use seems to be to hold what is caught or taken. In Varro and Pliny they are called *columellares*.

Cani'ni minores. The incisorii laterales musculi sometimes send a few fibres to the musculii canini, to which Winslow gives the above name.

Cani'ni musculi. Winslow says that each of the two musc. *canini* are fixed above the socket of the dens *caninus*, and terminate in the arch of the orbicularis labiorum.

CANI'NUS SE'NTIS, (from *canis, a dog*, and *sentis, a thorn*, from its being prickly like a thorn). See Cynosbatos.

CANI'RAM. (Indian.) Called also *malus Malabarica*. It is a large tree, bearing a smooth gold coloured apple, whose pulp is white and mucilaginous: this fruit is remarkably bitter, and so are its seeds, and indeed the whole tree. The root is cathartic, the bark restringent. Raii Hist. The root of the *strychnos nux vomica* Lin. Sp. Pl. 271.

CANIRU'BUS, (from *canis*, and *rubus, a bramble*). See Cynosbatos.

CA'NIS, also *cy'on*. A Dog. Gloves made of dogs' skins are worn in summer to keep the skin smooth and cool. The external surface of these skins

is smooth, and, as is common with polished bodies, reflect the heat. The white dung of this animal was formerly in esteem, but is not now used. See ALBUM GRÆCUM.

CA'NIS. See PE'NIS.

CA'NIS INTERFECTOR. See CEVADILLA.

CA'NIS PONTICUS. See CASTOR.

CANI'TIES, (from *canus, grey headed*). Greyness of the hairs, or grey headed.

CANNA, (from the Hebrew *kanna, a reed*, or *hollow cane*). It is applied to many substances, from some similarity in their appearances; viz. *cánna doméstica májor cruris*, and *cánna májor*. See TIBIA.

CANNA FI'STULA. See CASSIA FISTULARIS.

CANNA INDICA. See SAGITTARIA ALEXIPHARMICA.

CANNA MI'NOR CRU'RIS. See FIBULA.

CANNABI'NA, (from *canna, a reed*, so named from its reed like appearance). See ACMELLA.

CANNABI'NA AQUA'TICA. See BIDENS.

CANNABI'NUM. See EUPATORIUM.

CA'NNABIS. HEMP, or SEED BEARING HEMP; *cannabis sativa* Lin. Sp. Pl. 1452. It is a tall annual herb with digitated leaves, cultivated in the fields on account of the mechanic uses of its tough rind. Some of the plants, called male, produce flowers composed of yellowish stamina set in five leaved cups; others, called female, produce seeds moderately large, covered with a shining dark grey coloured shell, under which is lodged a white kernel.

This plant hath a rank smell of the narcotic kind, which is supposed to injure the health; the effluvia of the fresh herb are said to weaken the eyes and affect the head; and the water in which the herb hath been steeped, for facilitating the separation of the tough rind, is thought to be a violent and sudden poison. Both in smell and taste it is highly deleterious.

The leaves of an oriental *hemp*, called *bang* or *bangue*, and by the Egyptians *assis*, are said to be used in the eastern countries as a narcotic and aphrodisiac. See BANGUE.

The faint smell of the seeds goes off in keeping; their taste is unctuous and sweetish, accompanied with a slight warmth. On expression, they yield much insipid oil, which unites with water by trituration into an emulsion. Decoctions of them in milk are commended in coughs, heat of urine, and in all cases where the mucus has been abraded: their use, in general, depends on their emollient and demulcent qualities. Miller's Bot. Off.

CA'NNABIS I'NDICA PEREGRI'NA. See BANGUE and CANABIS.

CANNA'CORUS RADI'CE CROCE'A, (from *καννη, a reed*, and *ακορυς, a flag*). See CURCUMA.

CA'NNULA, (a dim. of *canna, a reed*). A name for several instruments in surgery: they are tubes of different shapes and sizes; introduced into openings for the conveyance of a fluid from the part.

CANO'NIAI, (from *κανων, a rule of measure*). Hippocrates, in his book De Aëre, &c. gives this appellation to persons who have not prominent bellies. He would intimate that they are formed as it were by a straight rule: hence the term. This word, *canoniai*, is corruptly used for *canonii*.

CANOPI'TE. The name of a collyrium mentioned by Celsus.

CANO'PUM. In P. Ægineta it is both the flower and the bark of the elder tree.

CANSCHE'NA-POU. See MANDARU.

CANSJA'VA. See BANGUE.

CANTA'BRICA, also called *convolvulus minimus spicæ foliis; convolv. linariæ folio; convolvulus cantabrica* Lin. Sp. Pl. 225. Pliny says it is an herb that was discovered, in the time of Augustus, in the country of the Cantabri in Spain. It grows wild in the field, flowers in June, and is commended against worms. Like all the convolvuli it is actively cathartic. See CONVOLVULUS CANTAB.

CANTA'BRUM, (from the Hebrew word *kanta*). See FURFUR.

CA'NTACON. GARDEN SAFFRON.

CA'NTARA. See NUX VOMICA SERAPIONIS.

CA'NTHARI FIGULI'NI. Cucurbits made of potter's ware. See CUCURBITA.

CANTHA'RIDES, (from *κανθαρις, a beetle*, to whose tribe it belongs). FRENCH FLIES, *Muscæ Hispanicæ*, SPANISH FLIES, *cantharis major Meloe vesicatorius, alatus viridissimus nitens, antennis nigris*. Lin. Another kind is called BUPRESTIS. In the system of La Treille the cantharis is separated from the genus *meloe;* and the insects with filiform horns, or antennæ, half as long as the body, composed of eleven joints, are united into one family, styled the *cantharidæ*. The genus *cantharus* contains twenty-two or twenty-three species. After the blistering cantharis, the most known are the c. dubia and Syria. Those in general use were formerly brought only from Spain, whence they were called *Spanish flies;* but they are met with in France, Italy, Germany, and other countries. Neumann says that they are ound chiefly in the spring season, and on poplar and ash trees; but they occur also on nut, rose, and other trees, whose leaves they devour; and when this food fails, they attack corn and grass, in which they make the most destructive ravages.

They are an insect of the beetle kind, known by their shining gold green colour, which is also of a bluish cast. They have a strong and sickly smell; when tasted they make no impression on the tongue at first, but presently an acrimony and pitchy flavour are perceived.

The largest and best are brought from Italy; they should be chosen fresh coloured, entire, and free from dust. Neumann says, that after long keeping they fall into a grey brown powder, and in this state are unfit for use, their intrinsic qualities perishing with their external form. Experience, however, contradicts this idea.

Baglivi supposed that cantharides were introduced into medicine by the Arabian physicians, though they were evidently known to Hippocrates; but the animal appears to have been different. From the description of Dioscorides, the ancient physicians apparently employed the *mylabrum cichorci*. The Chinese, at this moment, use the same insect for the purpose of blistering; and the mylabrum is very common in the east, where Dioscorides lived. The attention paid to the cantharis has occasioned the other kinds to be neglected. Many of the species are perhaps equally active, and others may, from a less degree of acrimony,

be adapted for internal use. Of the other genera, which may be equally useful, the meloe, the mylabrum, the scarabæus, tenebrio, cicindela, and coccinella, may be suggested as subjects of trial. Many of the caterpillars contain on their bodies an acrid dust, which, dispersed in the air, irritates the skin and the eyes.

Cantharides appear in troops or swarms, and are discovered by their fetid smell. They are usually shook from the tree into a cloth, and exposed in a sieve to the vapour of vinegar; or they are collected in a fine cloth, and repeatedly immersed in vinegar. Another method is, to spread cloths under the trees and boil vinegar around: they are then placed for a little time in jars before they are exposed to the air to dry. They are dried in the sun, though more frequently in an airy place, from whence the sun is excluded, or covered with paper. In turning them, the workmen wear gloves, as they would otherwise experience troublesome heats of urine, ophthalmies, and pains in the neck. Cantharides, when well dried, are so light that fifty scarcely weigh a drachm.

Every animal has its enemy, and even this acrid insect is preyed on by another. Cantharides do not lose their virtue by keeping, or by having been for a long time powdered. When kept, some insect reduces them to dust, which is, however, equally efficacious with the cantharis recently powdered, for the animal seems to devour only what we shall afterwards distinguish as the parenchyma.

The chemical history of cantharides has not been sufficiently examined; and what is known has not yet been published in any English work. We have only received tolerably accurate accounts from MM. Thouvenel and Beaupoil; but, as the last, though not perfectly satisfactory, are more so than the former, we shall chiefly rest on his experiments from the 48th volume of the Annales de Chimie; premising, however, very shortly the conclusions of Thouvenel, which we have only seen in the first volume of the History and Memoirs of the Royal Society of Medicine at Paris, p. 333. These insects, it is observed by M. Thouvenel, besides the parenchyma, which forms one-half of their weight, affords, 1st, An extractive matter of a green yellow colour, resembling that of ants (see Formica); 2dly, A yellow insipid oil, resembling the spirituous tincture of these animals; 3dly, A green oily concrete matter examined with much care, not unlike wax, but of a pungent taste, and resembling the insects in smell; and affording, by analysis, the same component parts. In this, M. Thouvenel thinks the chief virtue of cantharides resides; and he seems to be convinced that the extractive matter envelopes the oily, so as to prevent the latter from being wholly soluble in vinous spirits. He was thence led to employ proof spirit; and this menstruum dissolves all the green active matter with so little of the extractive, as not to impede its virtues. This tincture M. Thouvenel has employed in his medical experiments; and, when applied externally, he found it a tonic, a resolvent, useful in rheumatisms, sciatica, wandering gout, and pains in the side.

M. Beaupoil has engaged in the subject at a greater extent. He has described the specific characters of the cantharides, the means employed to collect them, and the preparation they undergo previous to their introduction as objects of commerce. In the second part he has slightly glanced at their use, from the time of Hippocrates to the present. In these parts there is nothing new. The third part relates to their analysis; and the fourth to the effects of the cantharides entire, or their component parts, on himself and different animals.

In his chemical examination he found the same ingredients as M. Thouvenel; but he examined them separately, and in this the merits of his labour consist.

The extractive matter reddened the tincture of Tournesol, but appeared of an animal nature, quickly putrefying, with a strong smell of ammonia. In distillation the black portion, not soluble in alcohol, swelled, gave out an acid fluid, a thick oil, and carbonate of ammonia, leaving a dry, shining, friable coal. The portion which alcohol dissolved, preserved, when inspissated, the smell and taste of the extract; it dissolved perfectly in water combined with potash, without separating any ammonia. In distillation it afforded similar ingredients with the insoluble portion, but in less quantity. On examination of the acid, it approached in its properties the phosphoric, though it differed from it, and seemed of a peculiar nature. It was certainly not derived from the vinegar, with which the animals are generally killed.

The green matter is not changed by the air; is insoluble in cold water, and melts in hot water, swimming on the surface like oil. Alcohol and ether dissolve it, and water separates it from these menstrua. The oxygenated muriatic acid gradually decomposes it. The substance loses its smell and colour; becomes thick and glutinous; preserving, notwithstanding repeated affusions of water, the smell of the oxygenated acid. Weak nitrous acid gives it a brown red colour, a rancid, pungent smell; adding greatly to its consistence. Caustic soda unites with it, without separating any ammonia; and the compound is disunited by acids. In a high degree of heat it forms an oily, slightly transparent fluid, which, on cooling, soon becomes solid. When urged by heat it separates into a yellow oil like that from distilled wax, and an acid water without an atom of ammonia. The parenchyma, left after the different macerations, infusions, and decoctions, when examined by caustic potash, gives a very sensible smell of ammonia. When this disappeared, the addition of muriatic acid formed a precipitate wholly of an animal nature. In the cinders, when burnt, were found carbonate of lime, calcareous phosphat, sulphat, and muriat of lime, with oxide of iron. An ounce of cantharides, in this way, afforded one drachm two grains of the black insoluble matter; as much of the yellow; about six grains more of the green matter; four drachms thirty-six grains of parenchyma; an indeterminate quantity of acid; twelve grains of calcareous phosphat; of carbonate of lime and oxide of iron two grains each, with four grains of sulphat and muriat of lime.

M. Beaupoil found from his experiments, that cantharides, given without any preparation, chiefly affected the œsophagus, the stomach, and the small intestines. Animals not killed by them suffered great pain and violent inclination to vomit; 2dly, The watery extract produced the same effects in less doses, and showed a more decided action on the urinary organs; 3dly, The black insoluble matter is less active than the extract;

and, though it produced the former inconveniences, was seldom fatal; 4thly, The green matter seemed in no respect deleterious, and the yellow was scarcely more active; 5thly, The extract, the green and the yellow matter, applied to the skin, produced blisters in nearly the same time; but the yellow matter seems not to act till it is divided by wax in the form of a cerate. The author repeated these experiments on himself, and found the vesicatory properties of the cantharides resided essentially in the extractive and green part of the insect, but that the extractive exclusively acted on the urinary and genital organs.

M. Deyeux, to whom we owe this abstract in the Annals, very properly observes, that it is by no means complete. He particularly remarks it as singular, that the green matter should act as a blister, while it produces no effects on the animal economy. The author has promised to examine the subject again, and we may find some room for his further elucidations in a subsequent article.

It has been thought that they peculiarly affect the kidneys and urinary passages, proving diuretic; though whether they affect the former may be doubted, if we can believe the evidence of Dr. C. Smith and Dr. Cullen, to which our own experience may be added. Werlhof, however, gives a remarkable instance of the diuretic powers of cantharides; and tells us he had frequently experienced them in dropsy and other diseases. He gave a grain of the powder in a dose, repeating it every four hours; and it was only after the third dose, in a case of suppression of urine of many days standing, that it began to yield: still Werlhof discontinued the use of cantharides in dropsy and other diseases; and, as when the strength decays suppression spontaneously yields, we suspect that weakness rather than the remedy occasioned the flow. A blister to the loins has increased a flow of urine, but this remedy seems to act on another principle. Externally they are caustic, and are used to raise blisters, for which end Aretæus first rubbed them on the head.

In nephritic cases with inflammation, in calculus of the kidneys and bladder, occasionally in pregnancy, their use is not to be admitted.

However used, they are apt to produce a strangury and inflammation of the urinary passages. When blisters are applied, the assistance of nitre, oily drinks, mucilaginous soap, and camphor, in large doses, are required. Pressing a piece of gauze into the plaster will often prevent strangury, or removing it when the blister is first raised. Washing the blistered part, when dressed, with warm milk, greatly relieves these symptoms. When imprudently taken into the stomach, they cause great heat, inflammation, bloody urine, a priapism, thirst, and a cadaverous breath. Nitre, camphor, milk, oil, mucilage of gum arabic, and copious diluting drinks, are the antidotes.

A dose of the powder may be from half a grain to six grains; and of the tincture from five to fifty drops, twice a day. By gradually increasing a small dose, a much larger quantity may be taken.

The powdered flies, the spirituous extract, or the watery one, applied to the skin, blister it equally; but the best preparation for internal use is the tincture. Mead recommends them in cutaneous complaints; and in the moist tettery eruptions of old people they have, we think, been serviceable. In incontinence of urine, cantharides are useful medicines; and in blenorrhagia and leucorrhœa, they are sometimes employed, it is said, with effect. When not used to raise blisters, they are beneficial as topical stimulants; and the tincture is occasionally employed for this purpose rubbed on paralytic limbs.

The London college directs the following preparation of the TINCTURA CANTHARIDIS.—Take of cantharides bruised, two drachms; of cochineal, half a drachm; of proof spirit of wine, a pint and a half; digest for eight days, and strain.

Balsams are sometimes added; and the tincture, with this addition, is thought more useful when the kidneys, womb, or bladder, are ulcerated, or the urethra is corroded; but additions are best joined extemporaneously, or interposed by themselves at proper intervals. The diuretic power of the flies is much improved by the addition of sps. ætheris nitrosi.

The UNGUENTUM CANTHARIDIS, formerly *unguentum ad vesicatoria*, is made by boiling two ounces of cantharides in eight ounces of water to four. To the strained liquor add eight ounces of the ointment of yellow resin. Evaporate this mixture in a water bath, saturated with sea salt, to the thickness of an ointment.

Its use is to dress blisters that must be kept constantly open.

EMPLASTRUM VESICATORIUM. Now *emplastrum cantharidis*.—Take of Spanish flies, one pound in powder; plaster of wax, two pounds; prepared hog's lard, half a pound: having melted the plaster and lard, a little before they coagulate, sprinkle in the flies. Most skins are softened by bathing them with warm vinegar; and if a blistering plaster is applied immediately after, in some instances it produces a speedier effect. Complaints have been often made of the failure of blisters, which have arisen from neglect or ignorance: the apothecary, therefore, should be careful to have the flies good, but not in too fine a powder; and the plaster must be neither made in too great quantity at once, nor spread with too hot a spatula.

CERATUM CANTHARIDIS, is made by mixing one drachm of Spanish flies with six drachms of cerate of spermaceti softened by heat.

In cases where the common plasters are thought to be too active, Dr. Percival commends the following composition and manner of application. It is chiefly used to keep up the discharge from blisters.

EMPL. VESICATOR. MITIUS.—R. empl. vesicat. Ph. Lond. p. i. vel ij. empl. stomach. p. i. vel ij. camphor in spt. vin. solut. ʒ i. vel ij. m.

If a plaster of this composition be moderately warmed before the fire, then covered with a fine soft piece of gauze, it will occasion much less irriration than the usual one, produce no strangury, or but in a slight degree, and when to be removed will separate from the skin with great facility. Nor will this covering prevent its vesicating effects. Blisters may be thus applied when the skin is disposed to erysipelatous inflammation from its great sensibility, or when the evacuating power is wanted without the stimulus. See BLISTERS.

See Lewis's Mat. Med. Percival's Essays Med. and

Exp. edit. 2. p. 183, 248. Mémoires de la Societé Royale de Médecine, v. 1. Annales de Chimie, v. 48.

CA'NTHI, CA'NTHUS. Κανθὸς, a primitive in the Greek. AN ANGLE OF THE EYE. *Anguli oculi*, also *epicanthides*. The cavities at the extremities of the eyelids, called the corners of the eyes; the greater canthus is next to the nose; the lesser canthus lies towards the temples.

CANTIA'NUS PU'LVIS. The Countess of Kent's powder. It is made with the rad. contrayervæ; coralium album crystal. terra Lemnia cerussa antimonii; mosch. ambergrise and saffron.

If cochineal be added, it is called *pulv. cant.* rub.; if calcined toads, *pulv. cant.* niger.

CA'NTION. A term for saccharum, sugar; but in conjunction with it, for sugar candy. See SACCHARUM.

CA'NTIUM, or CA'NTUM. A word used by the Greeks to signify angular, and applied to crystallized SUGARS, particular sugars in more regular crystals, *candy*.

CANTUARIE'NSES A'QUA. CANTERBURY WATERS. At Canterbury there are five wells not far from each other; they are strongly impregnated with iron, sulphur, and carbonic acid gas. Their taste is somewhat hard and austere; their smell is sulphureous. They are said to succeed in disorders of the stomach, in gouty complaints, the jaundice, diseases of the skin, and chlorosis.

CA'OVA. See COFFEA.

CAOUTCHOUC. (French). INDIAN RUBBER, or ELASTIC GUM. Called also *Cayenne resin*, and *cautchuc*. It is prepared from the juice of a tree in Cayenne or other parts of South America. The Mexicans call it *olin*, or *olli*; the Spaniards of that kingdom, *ulé*; Aublet, *hevea Guianansis*; Jacquin, *echites corymbosa*; and Linnæus, in his Supplementum Plantarum, *iatropha elastica*. The hevea is the proper genus; though it is procured also from the urceola, described in the Asiatic Researches. v. 5. the artocarpus, the Indian, and probably our own, fig tree. The hevea is a monoicous plant of the family of the tithymaloides, nearly allied to the croton. The Indians obtain the juice of this tree by incisions made through the bark in its lower part, from whence it oozes out, under the form of vegetable milk, and is received in a vessel placed under the incisions. The milk, on exposure, gradually inspissates into a soft, reddish, elastic resin, and is commonly brought to Europe in the form of pear shaped bottles. It is soluble in rectified oil of turpentine, oil of wax, and of lavender, but more perfectly in ether. M. Bernard, in the Journal de Physique for 1781, has given many experiments on this substance, and has shown it to consist of a fat oil, insoluble in water or ardent spirit, but soluble in any oily fluid. The volatile alkali which it contains, is apparently furnished by the smoke in which the bottles are dried. The distinguishing properties of the substance are, its solidity, flexibility, and elasticity, and its quality of resisting the action of aqueous, spirituous, saline, oily, and other common solvents: from these properties it becomes extremely fit for *bougies*, *catheters*, *syringes*, and *pessaries*; to which purposes it is only medically applied.

CAPELI'NA, (from *capeline*, *a woman's hat*, or *bandage*; French). Or *capitalis reflexa*, CAPELINE DE LA TETE, *deligatio*, species 8.

A REFLEX BANDAGE. It is a double headed roller, about twenty-four feet long, and the breadth of four inches, sometimes narrower; the middle is fixed to the occiput, and, after two or three circular rounds, the rollers intersect each other upon the forehead and occiput; then one roller being reflected over the vertex or sagittal suture to the forehead, the other is continued in a circular tract; they cross each other upon the forehead, after which crossing the first head is carried back obliquely towards the occiput, and reflected by the side of the other; the last is continued in a circular direction, but the first is brought again over the sagittal suture, backward and forward, and so continued till the whole head is covered. It must be applied smooth and even upon the part which it surrounds, or on which it reflects. It is used in the hydrocephalus, but is not of any advantage.

CA'PER, and CA'PRA, (from *carpo*, *to crop*; because they are apt to crop the fruit and twigs from every plant and tree which they can come at). The HE and SHE GOAT; or *capra domestica*.

Dr. Cullen, in his class of *nutrentia*, reckons the milk of animals, amongst which he enumerates that of goats, and sets them down in proportion to their solid contents: thus, *women's*, *ass's*, *mare's*, *cow's*, *sheep's*, and *goat's*; and says, that the first three agree very much in their qualities, having little solid contents; and, when evaporated to dryness, having those very soluble, containing much saccharine matter; of very ready acescency; and, when coagulated, their coagulum tender, and easily broken down. The last three are different, but the gradation is more obvious. Cow's milk comes nearest to the former milks: goat's milk is less fluid, less sweet, less flatulent; has the largest proportion of insoluble parts after coagulation, and indeed the largest proportion of the coagulable part. Its oily and coagulable parts do not spontaneously separate: they never rise in cream, or allow butter to be readily extracted. Hence the virtues of these milks are obvious, being *more nourishing*, though at the same time *less easily soluble in weak stomachs* than the first three, *less acescent than these*, *and so more rarely laxative*, and *peculiarly fitted for the diet of convalescents without fever*. The first three *are less nourishing*, *more soluble*, *more laxative*, *more acescent*, *and adapted to convalescents with fever*. Mat. Med. p. 112. Lond. 1772. See also LAC.

Goat's whey is *aperient*, *attenuating*, and *laxative*; it is generally preferred.

CA'PHURA BA'ROS INDO'RUM. See CAMPHORA.

CA'PHURÆ OL. An aromatic essential oil distilled from the root of the cinnamon tree.

CAPICATI'NGA. (Indian.) Species of acorns which grow in the West Indies, larger and more useful than those of Europe, with the same qualities in a greater degree. See CALAMUS AROMATICUS ASIATICUS.

CAPILA'CTEUM, (from *capillus*, *a hair*, and *lacteum*, *milky*). See APHROGALA.

CAPILLA'CEUS, (from *capillus*, *a hair*,) resembling hairs or threads.

CAPILLAME'NTA. *Capillaments* are those slender filaments that spring up within the leaves of a flower, and are more usually called the stamina; whence a capillaceous flower is also a stamineous one. Again, by *capillaments* are meant those slender parts which resemble hairs, and are produced from vegetables; as, for instance, from seeds or roots.

CAPILLAME'NTUM. The hairy or villous integuments belonging to animals. Called also *capillitium*, when applied to the hairy scalp in the human subject.

CAPILIA'RES VERMI'CULI. See CRINONES, and DRACUNCULI.

CAPILLA'RIA VA'SA, (from *capillus*, *a hair*). CAPILLARY VESSELS. The smallest vessels in our bodies are so called, because they appear as small as hairs.

CAPILLARIS. Any thing that resembles hairs, applied to LEAVES that are longer than the setaceous, or bristle shaped leaf; to GLANDS resembling hairs; to FILAMENTS; to the STYLE; and to the PAPPUS or DOWN affixed to some seed. Capillary plants are those which have leaves of this description; and they are all supposed pectoral or demulcent. See ADIANTHUM.

CAPILLATIO, (from *capillus*, *a hair*). A capillary fracture of the cranium. See TRICHISMOS.

CAPILLI'TIUM. See CAPILLAMENTUM, and TRICHIASIS.

CAPILLORUM DEFLU'VIUM, (from *capillus*, and *defluo*, *to fall off*). See ALOPECIA.

CAPI'LLUS, (quasi *capitis pilus*, *the hair of the head*,) also *crinis*. The HAIR. *Capillus*, though strictly the *hair* of the head, is used also for hair in general. The *hairs* are hollow, and furnished with vessels; are knotted at certain distances, like some sorts of grass, and send out branches at their joints. The disorder called *plica polonica* proves them to be hollow. The branching of the hair is visible at the extremities with a microscope, and the hair is apt to split if worn long and kept dry. Each of these hairs has a bulbous root of an oval shape, which is lodged in the skin. It has been supposed, that as long as any moisture remains about the roots of the hair it continues to grow, though the body be dead and mouldering to dust; but this is a popular superstition, wholly without foundation.

Dr. Cheyne observes, that the strength of the hair is proportional to that of the constitution.

For its principal disorders, see ALOPECIA.

CAPI'LLUS VE'NERIS CANADE'NSIS. See ADIANTHUM CANADENSE.

CAPI'LLUS VE'NERIS. See ADIANTHUM VERUM.

CAPIPLE'NIUM, (from *caput*, *the head*, and *plenus*, *full*). See CATARRHUS. It is a barbarous word, but Baglivi uses it to signify that continual heaviness or disorder in the head which the Greeks call *carebaria*.

CAPISTRA'TIO, (from *capistrum*, *a bridle*). See PHIMOSIS.

CAPI'STRUM. The name of some chirurgical bandages about the head, resembling a bridle, or rather a horse's head stall. See also TRISMUS.

CAPI'STRUM A'URI. The soldering of gold. It is a name given to borax, because of its use in soldering this metal. See BORAX.

CAPI'STRY. See FASCIA, N° 6.

CAPITA'LIA, (from *caput*, *head*). See CEPHALICA.

CAPITA'LIS REFLE'XA. See CAPELINA.

CAPITA'TÆ PLA'NTÆ, are plants whose seeds, with their down, being included within a squamous calyx, are conglobated into a roundish figure resembling a head. Hence are called *cephaloïdes*, or *cephalótos*.

CAPITE'LLUM, (from *caput*, *head*). The head or seed vessels, frequently applied to mosses, &c. as in capitulum. Some suppose it to signify soapy water; others a lixivium.

CAPITILU'VIUM, (from *caput*, *the head*, and *lavo*, *to wash*). A bath or lotion for the head.

CA'PITIS OBLI'QUUS INFERIOR and *major*. See OBLIQUUS INFERIOR.

CA'PITIS PAR TERTIUM FALLOPII. See COMPLEXUS MINOR.

CA'PITIS POSTICUS. See RECTUS MAJOR.

CA'PITIS RECTUS. See RECTUS MINOR.

CA'PITIS VENA. See CEPHALICA VENA.

CAPI'TULUM, (a dim. of *caput*, *the head*). In botany, a species of inflorescence, in which several flowers form a kind of ball. In chemistry it is an alembic. (See ALEMBICUS.) In anatomy it is a smaller process or protuberance of a bone received by another bone.

CAPI'VI BA'LSAMUM. (Indian.) BALSAM CAPIVI, called also *copaiba*, *capivus*, *album balsamum*. The tree which affords it is called *arbor balsamifera Brasiliensis*, *copaiba Brasiliensibus*, and *baccifera arbor Brasiliensis*, *fructu monopyreno folio sesquepedali*. The tree grows spontaneously in the woods of Brasil, St. Vincent, and other of the British American islands. Deep incisions are made into the trunks of this tree during the hotter summer months; and one tree sometimes is met with that affords five or six gallons of balsam, but the same tree never yields it twice.

This balsam is at first limpid and colourless, and smells like calambour wood; as brought into Europe it is generally yellowish, and somewhat thicker than olive oil; by long keeping it becomes still thicker, but does not dry. In all states of its consistency, it continues clear and transparent. To the smell it is grateful, to the taste bitterish and biting; not intensely so, but durable.

To prove its genuineness, *drop it on paper; if it spreads not, as oil, nor penetrates, it is good;* on the contrary, if it spreads or sinks through, it is adulterated. It is also esteemed genuine *when a drop, falling from the point of a needle into cold water, sinks to the bottom, or is suspended in the middle;* but if it is suspended at the top, or spreads, it is spurious. If genuine, it is said that it does not give the violet smell to the urine of those who take it.

Distilled with water it yields half its weight, or nearly so, of essential oil; the remaining resin is tenacious and inodorous. If it is distilled in a retort, without any addition, by a fire gradually raised, it sends over first a light yellow oil, which smells strongly of the juice; then a dark coloured oil, and after it a fine blue oil, both which are pungent to the taste, having also an empyreumatic flavour, but not an ungrateful one. For its other properties and its use, see BALSAMUM COPAIBÆ.

CAPI'VUS A'LBUS. See CAPIVI BALSAMUM.

CAPNELA'ION, CAPNELÆUM. In Galen's works it is said to be a resin that flows spontaneously from some tree in Lacedæmon. In Cilicia it is called *capnelaion*, from καπνος, *smoke*, and ελαιον, *oil*, *smoky oil;* so called from its smoky exhalations when exposed to heat; but in Lacedæmon, and in some other places, it is called πρωτοβρυτος, *the first product*. Fœsius says it seems to be called *capnelaion*, because of the smoke it gives when placed near the fire.

CAPNI'STON, (from καπνος, *smoke*). A name of an oil prepared of several kinds of spices and oil, by kindling the spices, and thus impregnating the oil.

CAPNI'TIS, (from καπνος, *smoke;* so called from its smoky colour). See TUTIA.

CA'PNOS. (Greek). SMOKE; so called, because if its juice is applied to the eyes, it produces the same effect as smoke. See FUMARIA.

CAPO, CAPUS. A name of the American TOAD. See BUFO. Also a CAPON, quia *testiculi ejus sunt capti*. The design of castrating a cock is to render him a fit leader for the other poultry, more fleshy, and more easily fattened.

CA'PO MOLAGO. See PIPER INDICUM.

CA'POLIN MEXICANO'RUM HERNA'NDEZ. (Indian). SWEET INDIAN CHERRIES, called also *cerasus dulcis Indica*. The bark is restringent. There are three species, the *xitoma capolin*, the *helocapolin*, and the *tolacapolin*. Raii Hist. We cannot discover this plant in any system.

CA'POTES. See COVALAM.

CA'PPARIS, (from the Arabic term *cabar*). *Capparis spinosa* Lin. Sp. Pl. 720. The CAPER BUSH. It is a low prickly bush, grows wild in Italy, Spain, and the southern parts of France. Those of Provence are the best; those of Tunis, where they also grow, are very inferior. The plant, however, is originally an Asiatic one. The bark of the root is bitterish and acrid to the taste, and is ranked among aperients and diuretics. The green buds of the flowers are pickled in vinegar and salt, and are used at the table to assist the appetite. In Holland and Germany they substitute the buds of the flowers of the *cytisogenista scoparia vulgaris flore luteo* for the *capers*, and pickle them in the same manner. The plant grows in the crevices of the rocks and of old walls. The buds are numerous, and daily gathered, as they soon grow too large. Those which escape, and when the fruit becomes the size of a gerkin, are preserved in sugar. Capers are separated according to their different sizes by sieves, with suitable apertures: the small and green ones are preferred, which has led to a suspicion that an artificial colour is sometimes given. See CONDIMENTS.

CA'PPARIS FABA'GO, CA'PPARIS PORTULA'CA, C. B. See FABAGO.

CA'PRA ALPI'NA. The CHAMOIS, called also *rupicapra* and *dorcas*, the ROCK GOAT. It is met with on the Alps belonging to Switzerland, and in Germany. It is a species of wild goat, in shape and size resembling the tame one, with short horns, the ends of which are hooked. The balls found in their stomachs are called *ægagropila* and *bezoar Germanicum*, formed of hairs which they lick. Such are found also in the stomachs of cows, hogs, and stags with us: when taken from ruminating animals, they are called *bulithum*, or *cow's bezoar;* from stags, *elaphopila*.

CA'PRA DOME'STICA. See CAPER.

CA'PRA MO'SCHI. See MOSCHUS.

CA'PRA STREPSI'CEROS, (from στρεφω, *to turn;* so named from his crooked horn). See ANTILOPUS.

CAPREOLA'RIS, CAPREOLA'RIA, (from *caprea*, *a tendril of a vine*). See SPERMATICA CORDA.

CAPREO'LUS, A TENDRIL; in anatomy, is the HELIX of the ear (see AURICULA); and in zoology the ROE BUCK, which is also called *capræa Plinii*, and *dorcas*. It is found in Scotland and other parts.

CAPRICE'RVA OCCIDENTA'LIS, (from *caper*, *a goat*, and *cervus*, *a stag*). A West Indian deer participating both of the nature of the deer and stag, affording the West Indian bezoar.

CAPRICE'RVA ORIENTA'LIS. The deer in which the East Indian bezoar is found.

CAPRICO'RNUS. See PLUMBUM.

CAPRI'FICUS, (from *caper*, *a goat*, and *ficus*, *a fig;* because they are the chief food of goats). See FICUS SATIVA.

CAPRIFO'LIUM, (from *caprea*, *a tendril*, and *folium*, *a leaf;* so called from its tendrils). HONEY SUCKLE or WOODBINE. Also called *matrisylva*, *periclimenum*, *chamæcerasus*. It is the *lonicera periclymenum* Lin. Sp. Pl. 247; and is a climbing shrub, common in shady places; for the beauty and sweetness of its flowers it is cultivated in gardens: its medical properties do not recommend it in practice, though some attribute extraordinary efficacy to it. The seeds are highly acrid; and, as their colour is alluring, children are often injured by eating them.

CAPRIMU'LGA, (from *capra*, *a she goat*, and *mulgeo*, *to milk;* so called because it was supposed to suck the milk from the goats in the night time). It is a large kind of viper, not poisonous.

CA'PSICUM, CA'PSICUM A'NNUUM, (from καψτα, *a bag*, from the shape of its pods). See PIPER INDICUM.

CA'PSULA, (a diminutive, from *capsa*, *a little bag* or *case*, or *chest*). In surgery it is a bag made of the broken or distended membrana cellularis, or other membrane, formed by nature to inclose or lodge some extravasated juice, or other matter contained in those tumours called encysted; the same with *cystis*. But in botany it is the short pod, or husk of a plant, containing the seed. According to the number of cells for seed, the pod is called unicapsular, bicapsular, &c. It has several membranes of which it is composed. 1st, The outer coverings called *valvulæ*. 2d, The partitions, *dissepimenta*. 3d, Central pillar, *columella*. 4th, Cells, *loculamenta*.

CA'PSULA COMMU'NIS GLISSO'NII, VE'NÆ PO'RTÆ. It is a production of the peritoneum, including the vena porta and biliary duct in the liver. It is also called *vagina portæ*. Glisson first described it particularly.

CA'PSULA CO'RDIS. See PERICARDIUM.

CAPSU'LÆ ATRABILA'RIÆ, RENA'LES. Also called *glandulæ supra renales*, *et renales; renes succenturiati*.

They are two little, oblong, flat bodies, lying at the upper end and inside, or the extremity of each kidney;

the right behind the vena cava, and the left behind the spleen and pancreas, being attached by vessels to those of the kidneys. When cut into, there seems to be a small cavity, containing a deep green fluid; and if viewed when fresh, a white substance where the vessels ramify; the inner part is a tender substance like the liver, so that it readily breaks down. Both the external and internal parts are vascular, and two or three large vessels may be observed in the middle. Eustachius was the first who described these glands. They are larger in the fœtus than in the adult, but their use is not certainly known.

CAPSULA'RES ARTE'RIÆ, (from *capsulæ*). The arteries of the renal glands are thus called, because they are inclosed by a capsule; and arise from the aorta, above the arteria renalis, and give out the arteriæ adiposæ, which go to the fat of the kidneys. Sometimes they come from the trunk of the cœliaca. The right *capsular artery* comes, most commonly, from the arteria renalis, of the same side, near its origin; the left from the aorta above the renalis.

CAPSULA'RES VENÆ, are branches from the emulgents, and go into the renal glands.

CAPSULA'RES SEMINALES. The extreme parts of the vasa deferentia, which have their cavities dilated like *capsules*. Their use is to transmit the semen from the testes to the vesiculæ seminales.

CAPSULA'RIA LIGAME'NTA, (from the same). CAPSULAR LIGAMENTS, also called *mucilaginosa ligamenta*, as they contain many glands to separate the synovia. Every articulating bone is furnished with a capsular ligament, composed of two layers; the external is the stronger, being made by the periosteum; the inner is thin and uniform.

The use of the capsular ligament is, 1st, to connect the bones, which is performed by the outer lamella; 2dly, to confine the synovia, which is the office of the inner layer.

They are long and large in those bones that are designed for rotation, to give room for motion; and tendons are frequently inserted into them, that by their action they may draw them outward, and prevent their being compressed.

They are generally of an equal thickness all round in the enarthrosis and arthrodia; but in the ginglymus they are thick on the sides, and thin on the fore and hind parts, as in those places their thickness would have been inconvenient, by hindering the due flexion and extension of the joint; but the tendons strengthen the joint in that part, and partly compensate for the weakness of the ligament. In complete luxations, the capsular ligament is generally, if not always, ruptured. That of the os femoris is extended from below the neck of the bone, to admit of a more extensive rotation.

The capsular ligament of the head of the humerus proceeds from the edge of the glenoid cavity in the scapula; is continued over the head of the os humeri; fixed near its edge towards the muscular surfaces of the great and small tuberosities, and runs down on the neck of the bone, below the lowest part of the cartilaginous hemisphere. In all this course, the capsular ligament is closely fixed in the bone, except a small portion, where it passes over the inner articular tendon of the biceps muscle.

The capsular ligament always includes the whole joint. On collections within the capsular ligaments of the joints, see Bell's Surgery, vol. v. 485. On concretions and preternatural excrescences within the capsular ligaments of the joints, see Bell's Surgery, vol. v. 491.

CA'PUR. (Arabic.) See CAMPHORA.

CA'PUS. See CAPO.

CA'PUT, (from the Hebrew term *kabah, an helmet*). The HEAD. The parts in the lower cavities are the seat of the vital, and in the upper, of the animal powers; the latter is the seat from whence all sensation is derived. See CEREBELLUM and CEREBRUM.

Besides the external integuments of the head, there is an aponeurotic expansion which covers it like a cap. It is also spread round the neck and on the shoulders like a riding hood; for which reason Winslow calls it COIF, and the superior portion of it the APONEUROTIC CAP. It is very strong, and appears to be made of two strata of fibres crossing each other; as it spreads to the neck it becomes thinner, and is lost insensibly on the clavicles. It sends out a production on each side from above downward, and from without inward, which having passed over the superior extremity of the musculus mastoideus, runs behind that muscle toward the transverse apophysis of the vertebræ of the neck, where it communicates with the intertransversalia ligamenta. See PERICRANIUM.

The head comprehends the cranium and the face; the cranium is distinguished into the upper and lower parts. The base of the skull externally is very uneven; internally it is divided into three pair of cavities, and one azygous cavity. The first pair are above the orbit, in which the anterior lobes of the cerebrum are placed; and the next pair contains the middle lobes; the posterior pair are placed behind the foramen magnum occipitale, where the posterior lobes of the cerebellum are lodged. The azygous cavity is situated upon that part of the sphenoid bone called the ephippium, or sella turcica, where the glandula pituitaria lies.

The bones of the upper part of the cranium are nearly of the same thickness. Where the bone is thick there is a larger space occupied by the meditullium, which consists of cancelli, formed by the interlacing fibres, as in the heads of the long bones; where they are very thin there is no meditullium, whence in the latter case the cranium is transparent, in the former opaque. The cranium is laterally depressed, which serves to enlarge the sphere of vision, and to increase the strength of the skull on its fore and hind parts, by making them more convex; which is a necessary contrivance to prevent injuries from falls, for we seldom fall on the sides. See FACIES and CRANIUM.

The best way of forming a perfect idea of the bones of the head is to have a skull, the bones of which are separated by art; and another, in which they are connected in their proper articulations.

The nerves from the fifth pair, and the portia dura, so called from its former consistence, of the seventh, are distributed through the external parts of the head.

Through the small foramina of the os ethmoides the

filaments of the first pair of nerves pass to the nose, and are called olfactory nerves.

In the os sphenoides, immediately behind, is the foramen opticum, through which the second pair of nerves, called the optic, pass. This hole, which is seated below the anterior clinoid process, likewise admits the branch of the carotid artery that goes to the eye.

The foramen lacerum superius on each side lies between the transverse spinous, and orbitar processes of the os sphenoides: through this hole the three pair of nerves, called motores oculi; the fourth pair or pathetic; the first branch of the fifth pair; the whole sixth pair, except one reflected branch; and an artery from the internal carotids, pass to the orbit.

Behind the last mentioned hole, in the same bone, is the foramen rotundum, through which the second branch of the fifth pair of nerves, called the superior maxillary nerves, pass to the bottom of the orbit.

Between the pars petrosa of the os temporis, and the process of the os sphenoides, is an oblong aperture, through which the carotid artery passes, running inwards and upwards to the sella turcica, and thence to the clinoid processes, where it passes through the dura mater.

The portio mollis of the seventh pair of nerves, called the auditory nerve, is distributed to the meatus auditorius internus; the portia dura comes out by the aqueduct. The eighth pair of nerves, called the par vagum, pass out by that common hole, between the temporal and occipital bones; where likewise the internal jugular vein, which is a continuation of the transverse sinus, goes out of the cranium.

The ninth pair of nerves pass through the holes of the occiput above the condyles.

The tenth pair of nerves pass through the foramen magnum, where likewise the vertebral arteries enter.

The external eminences are, the two mastoid processes, the two styloid processes, the two condyloid processes, the two pterygoid, the two arches called zygomata, the external spine of the occiput, the condyloid and coronoid apophyses of the lower jaw.

The principal uses of the bones of the head are, to contain the brain, to be the seat of the organs of sensation, to serve for mastication, respiration, and the formation of the voice. There is sometimes a disorder of the head, which draws it to one side, called *contorsio*.

Eustachius' tables of the bones of the head are good. See Winslow's Anatomy, and Monro's Osteology.

Ca'put. See Capita, and Processus.

Ca'put concu'tiens. See Intertransversales colli.

Ca'put gallina'ceum. See Onobrychis.

Ca'put mo'nachi. See Dens leonis.

Ca'put mo'rtuum. A dead head. In chemistry it imports the dry fæces left in a vessel after the moisture hath been distilled from it. It is also called *terra damnata*, and *mortua terra*. The earthy part of moist bodies serves as a basis to the other principles; it is that which unites and gives them solidity. When the active principles are extracted, it is consequently called *caput mortuum*.

Ca'put obsti'pium. See Cervix.

CA'RA BRASILIE'NSIBUS, called also *igname inhame; battatus Hispanica*. It is a name given by the old Roman authors to a plant with large and esculent roots. The soldiers of Cæsar are said, in some of their marches when distressed for provision, to have made a sort of bread of this root; and P. Ægineta and Dioscorides inform us that this plant was of the *pastinaca*, or parsnip kind. It was probably the *elophoboscum*, or wild parsnip, which has roots long and thick, and of as good a taste as those cultivated in gardens, only they were not quite so tender. It is supposed that our word carrot is derived from this cara.

CA'RAB. See Siliqua.

CARABA'CCIUM LI'GNUM. The wood tastes like cloves, but very mild, and quite grateful, of a cinnamon colour. It is brought from India, but not much known in practice. Baglivi thinks that it corrects acrimony, and a scorbutic dissolution of the blood. See Cassia caryophillata.

CA'RABE, (from *carab, to offer*, Pers). See Succinum.

Ca'rabe fu'nerum. See Bitumen.

CA'RABUS, (from κάρα, *the head;* from παρὰ τὸ κάρα βαίνειν, according to Schrevelius, *it walks upon its head*). This word is variously understood; with some it signifies an insect of the beetle kind, or those which are bred in dried woods, and belong to the scarabæi; with others, the cray fish; and sometimes it is used for the locusta marina.

Ca'rabus, chrysoce'phalus, and ferru'gineus of Fabricis. These insects have been recommended for the tooth ach. They must be pressed between the fingers, which must then be rubbed on the gum and tooth affected.

CARACO'SMOS. A name of the sour mare's milk which the Tartars are fond of.

CARA'GNA. See Caranna.

CARA'MBOLOS. (Indian.) *Averhoa carambola* Lin. Sp. Pl. 613. This tree bears fruit three times in a year. It grows in the East Indies. To its different parts are attributed as many medical virtues. The fruit is agreeably acrid, and recommended in bilious fevers and dysenteries. Raii Hist.

CARAME'NO. See Hyboucouhu Americanus.

CARA'NNA. (Spanish.) Also called *caragna; brelisis*. It is a concrete resinous juice brought from New Spain, and other parts of America, in little masses, rolled up in the leaves of flags, outwardly of a dark brown colour, inwardly brown, with a cast of red, variegated with irregular white streaks, somewhat soft and tenacious as it first comes over, but in time growing dry and friable. The whiter the gum, the better it is, especially if of the consistence of a plaster. Its virtues are the same as those of *tacamahaca*, but more active. It hath an agreeable smell, with a bitter and slightly pungent taste. Rectified spirit dissolves three-fourths of it, and water dissolves the rest, except the impurities. By distillation it affords much essential oil of an orange colour. It is fragrant, and to the taste moderately pungent. If the spirituous tincture be inspissated, it yields a tenacious resin, and an oily matter, which separates and floats on the surface: it is considerably aromatic, and moderately bitter. Etmuller says, that this gum is useful against pains in the stomach, and in the joints, if applied in the form of a

plaster. The tree which affords it is unknown. It is suspected to be a palm. See Lewis's Mat. Med.

CARA'NTIA. See SILIQUA DULCIS.

CARA-SCHU'LLI. (Indian.) *Frutex Indicus spinosus.* An Indian shrub like the caper bush. A decoction of the root provokes urine. Raii Hist.

CARAVA'TA. See CACAO.

CA'RBASUS. (Greek.) Scribonius Largus uses this word to signify the thin linen, or soft threads, on which the surgeons spead their ointments, viz. LINT; called also *achne*, *carpia;* in France, *charpie;* in Scotland, *caddes.* It is called likewise *linteum*, *linen*, *tents*, *rollers*, *compresses;* MOTOS is an appellation for *lint*, whence *diamotosis*, the introduction of lint into a wound or ulcer. Where lint is applied to absorb the matter from a wound, pledgets of fine sponge are more effectual, and should be preferred where any inconvenience is apprehended from the sharpness of the matter.

CA'RBO, (from the Hebrew term *charak*, *to burn*, or *charbah*, *burnt).* But charcoal is generally understood by this word when *fossilis* is not joined with it. It is also a name of the *carbunculus.*

CA'RBO FO'SSILIS, (from *charbah*, *burnt).* PITCOAL, or SCOTCH COAL. Hoffman says, that when it is analysed by distilling in a retort, over an open fire, it first yields a phlegm, then an acrid sulphureous spirit, then a subtile oil, then a grosser oil, which falls to the bottom of the receiver; then, by a brisker fire, an acidulated salt, like that of amber; in the retort there is left a black earth that is light, and which, on the application of fire, emits neither flame nor smoke. The gross empyreumatic oil contains a quantity of mineral sulphur: thus coal, as all bitumens are, is an oleo sulphureous acid, with a light calcareous earth.

These *coals* are only used for the advantage of their heat by burning them in stoves; but for purposes not connected with medicine, they undergo a process previous to their being used, that is, they are charred, or reduced to COAKS or CINDERS: this is effected by a method similar to that of making charcoal of wood: by this operation they are deprived of their phlegm, their acid liquor, and much of their fluid oil.

CARBO VEGETABILIS, or CHARCOAL OF WOOD, is the coal into which wood is converted by the process of charring.

Pieces of wood are so disposed as to form a pile, generally conical; this pile is covered with turf, to prevent the too free draught of air, by which the wood would be reduced to ashes, and not to coal. The pile is then kindled, and the fire continued till the watery and the more volatile parts of the wood are dissipated, that is, till no more smoke arises, at which time the wood is thoroughly red hot. The external air is then to be totally excluded by covering the pile with earth, and thus the fire is extinguished.

In chemistry, by the word *coal* is understood any substance containing oil, which hath been exposed to fire in a close vessel so that it can sustain a red heat without further decomposition; but the use of these coals or coaks in smelting iron is scarcely a part of our subject, and must not detain us at this time. Charcoal is of very considerable service in many processes connected with diet. From the indestructible nature of charcoal, charring the inner surface of casks renders them more fit for preserving water; and, from some late experiments, it appears that water may be kept at sea without any change for an indefinite period, by this simple previous operation on the staves. Honey is cleared from its bad colour, and occasionally offensive taste, by its means; ardent spirits are deprived of an empyreumatic, or other bad flavour, and rancid oil by an admixture of charcoal is restored to its former state of purity. Vinegar concentrated by freezing, and afterwards distilled from powdered charcoal, becomes highly pure and fragrant. Crystals of tartar are whitened, and many of the neutral salts crystallize more perfectly, by previously digesting their solutions with this substance.

Heated charcoal absorbs air very completely, and forms a more perfect vacuum than the best air pump. In other circumstances it absorbs it in part only, preferring the oxygenous part to the azote. Cold charcoal absorbs atmospheric air without any decomposition. Fresh made charcoal absorbs water very copiously, and deposits a great part of the air it had taken up. It is an excellent conductor of electricity.

In medicine it is used as an application to cancers, and to putrid ulcers; occasionally also as a dentifrice, but it appears to possess little peculiar merit.

Charcoal from different woods are preferred in different arts, but its use in medicine and pharmacy is the same from whatever source it be obtained.

The vapours that arise from charcoal are extremely pernicious, producing a species of apoplexy in those persons who are exposed to them. They produce at first a sense of uneasiness, a chilliness, nausea, and headach. These are followed by a loss of sense, a fixed look, a rigidity of the whole body, a ghastly countenance, a small, frequent, and irregular pulse, and death.

In this case the noxious vapours act on the brain and nerves, through the medium of the lungs; these vapours, and those from fermenting vegetables, putrefying animal substances, or from caverns, operate in the same manner; and as accumulated and confined, their effect is more or less instantaneous. They attack the vital principle, and extinguish it at once if copious: a less quantity produces the symptoms of debility in the nervous system. To prevent suffering from this cause, close rooms where these substances are burning must be avoided; they are only safe when a candle will continue to burn in them. The vapours of deep wells are of this kind, but those of mines are different, and consist of hydrogenous gas. In some kinds of azotic gas, which are highly deleterious, a candle will burn freely.

When affected, the patient must be exposed to the open air; if he can swallow, acidulated liquors may be given: if he is insensible, cold water must be thrown on his face; strong vinegar rubbed about his nostrils, and held under them; stimulating clysters are also necessary. To remove the spasms, the sps. ætheris vitriolicus compositus will be useful. If these fail, let a strong healthy person breathe forcibly into the mouth of the patient so as to distend his lungs, or they may be distended more advantageously by oxygenous gas.

CARBON, or CARBONE. This substance has not yet been procured in a separate state; the idea of it is an abstract, not a sensible one: yet it is not, like phlogiston, an imaginary principle, for though on the whole

the evidence of its existence is not more strong, it does not by its presence involve any contradictory quality.

The essence of carbon has been thought to consist in its absorbing light, and appearing of a black colour; but the purest form in which it is offered to our observation is that of the sparkling diamond. In the carbonic acid gas it is combined only with oxygen, for Lavoisier found that this gas contained 28 parts of carbon, and 72 of oxygen. Charcoal itself, is supposed to be carbon, with a smaller proportion of oxygen; and diamond approaches still nearer to the carbon: so that charcoal has been called an oxide of diamond.

Carbon unites with many bodies, which are denominated carbonates and carburets. It does not, however, combine in the form of charcoal with oxygen gas, till its temperature be raised to 370° of Fahrenheit, its point of ignition. It then burns in this gas with a brilliant flame, and the carbonic acid gas is the result. This gas also escapes in respiration, and in many other animal processes. In the form of carbonic acid, it exists copiously in the earth, united with limestone, and is found in many other bodies. It occurs alone in caverns, and particularly in the grotto del Cani in Sicily.

It particularly engages our attention in this work, as it is the distinguishing ingredient in vegetable bodies, while the azote equally discriminates animal substances. It is derived from the earth, for of whatever kind manures are, they all contain carbon, or greedily extract it from the air. From thence it is introduced into the animal system; and, combining with oxygen, is discharged in respiration in the form of carbonic acid gas. We have already noticed this change, particularly under the article of Calidum innatum, and shall return to it under that of Respiration. In the system it produces no particular effect. In the stomach, as we have seen under the head of Aquæ minerales, it acts as a stimulant, and relieves vomiting.

CA'RBONAS. Carbonate. Salts formed by the union of carbonic acid with different bases; as *carbona cupri, carbonate of copper.*

CARBO'NICUM A'CIDUM. Carbon united with a larger proportion of oxygen than in charcoal, see Aer.

CA'RBOS. Canal coal. See Ampelitis.

CARBU'NCULUS. A Carbuncle, (from *carbo, a burning coal*). It is called *carbo, rubinus verus; codesella, erythema gangrænosum, granatristum, anthrax, pruna*, and Avicenna names it *Persicus ignis*, particularly that species which is attended with pustules and vesications. Paulus Ægineta says it is a crusty ulcer, beginning, for the most part, with a pustule like a burn, and sometimes without it; at first, the patient scratches the part, whence arise one or more pustules, small as a grain of millet, which, breaking, become a crusty ulcer, as if it was produced by an actual cautery; the crust is rather of an ash colour or blackish; it adheres, and is fixed on its base to the part, and spreads by its phagedenic property; the flesh all around is inflamed and black, and shines like bitumen. Heister says, a carbuncle is an inflammation, which, in pestilential times, rises with such vesicles as are the usual effects of a burn; this inflammation, for the most part, suddenly degenerates into a sphacelus, and corrupts the subjacent parts to the bones, rendering them as black as a coal; and this seems to be the reason why the Latins call them *carbunculi*, and the Greeks *anthraces*.

In the Edinb. Med. Commentaries, vol. vi. p. 165, it is observed that carbuncles are a gangrenous spot upon the skin, having the appearance of a burn with red, livid, or black vesicles, bounded by an inflammatory ring, which soon terminates in a hard black eschar. The anthrax, an affection of the same nature with the carbuncle, only the former is more prominent, penetrates deeper into the adipose membrane, and occasions a higher degree of inflammation.

Dr. Cullen places it as a variety of phlogosis erythema, on account of its violence, making it synonymous with anthrax, and the erythema gangrænosum of Sauvages. Carbuncles generally break out suddenly and unexpectedly, in an hour or two at the most, and are attended with pain and heat. The inflammation proceeds so quickly to mortification, that there is seldom any evident tumour raised, the parts turning black, and ending in real gangrene, often in the course of twenty-four hours from the first attack. But when a tumour does arise, as soon as it is opened, it discharges a livid sanies, or sometimes limpid water. It is black within, which shows that a sphacelus has seized the subjacent flesh, and is making rapid progress. In those that recover, a separation is made betwixt the sound and the disordered flesh, by means of a suppuration. There is no part of the body but what may be their seat; and they are generally attended with buboes. The proximate cause is the inflammation from pestilential contagion, with a putrescent state of the system. Danger is great when the colour is livid; the milder sort are first red and then yellow. When they are seated on the face, neck, breast, and arm pits, they are generally fatal. When they occur, as they sometimes do, internally upon any of the viscera, they must, in every instance, probably prove fatal, as we are not acquainted with any remedies which can ever prevent their progress to mortification. Externally, indeed, when they are not very extensive, nor seated on any of the large blood vessels and nerves, they are frequently conquered, that is, by the destruction of the part affected.

Van Swieten describes another sort of carbuncle in his Comments on Boerhaave's Aphorisms; and says, it is an ulcer, which, when after a violent and commonly very painful inflammation, there happens a rupture of the skin in several places, and fragments of the corrupted paniculus adiposus are discharged at its orifices.

In the view we have thus given, carbuncle appears as a putrid, irritable sore, whose origin is in the cellular substance, and which is intimately connected with putrid or pestilential diseases, the production of a hot climate, or the attendant of weak debilitated constitutions. Anthrax, however, as observed in this country, assumes a different form. A hard substance forms in a fleshy part, often in the back or thigh, with a violent throbbing pain and a burning heat. It frequently happens to old persons, and sometimes seems to be a critical deposition, an effort of nature to discharge some morbid fluids. This hard body suppurates with difficulty, and imperfectly; but if the constitution is sufficiently strong to carry on the process, the whole is separated, and the cavity fills with healthy granulations; the constitution regaining its strength, often with reno-

vated vigour. It happens, however, frequently in the weak and aged; in persons loaded with fat, and often breathing with difficulty. The latter can seldom bear the tonic powers of bark without suffocation, and to the former any dose of bark or any cordial is generally insufficient. They yield to the discharge, or sink more rapidly from sphacelus.

The substance of this hard tumour seems to be a congeries of the sebaceous glands under the skin, for if on the first appearance of the tumour, the point, which is obvious, be opened, and the tumour gently pressed, a quantity of sebaceous matter is forced out. The throbbing and heat, however, soon return, and the operation must be often repeated. We have frequently, in this way, checked anthrax in its germ.

It more often happens that the tumour is suddenly formed of a considerable size. If this be the case, or the pressing out be neglected, suppuration goes on; not indeed in the tumour, for the sebaceous matter does not admit of this change, but in the parts around, and the tumour is then thrown out like a cancer by the effect of arsenic. The cavity is generally large, and the discharge considerable: few constitutions are equal to it, especially when debilitated by age, the previous fever, and the violent pain.

Every stimulant application externally, and the warmest tonics, with wine and opiates internally, are requisite. Yet these, as we have said, are often useless, or unequal to support the patient under circumstances so violent and distressing. It has been proposed to make incisions into the tumour, and to fill it with stimulating substances; but we have never found this plan of service, for the tumour itself never suppurates. Might the application of corrosive sublimate or arsenic succeed?

See Heister's Surgery, Bell on Ulcers, edit. 3. p. 97—99. Kirkland's Med. Surgery, vol. i. 320, vol. ii. 280, 389. Pearson's Principles of Surgery, vol. i. 136. White's Surgery, 15.

CARCA'PULI FRU'CTU MA'LO AU'REO Æ'MULO; CODDAMPU'LLI. (Indian.) The INDIAN YELLOW ORANGE TREE of MALABAR, called also *ghoraka*.

It is a tall large tree, with yellow flowers, and large round fruit, that is ribbed and whitish, when ripe of an agreeable acid and sweetish taste, and with seeds of an azure blue colour. This fruit recovers lost appetite, and is restringent. The same tree, however, affords the GAMBOGE, q. v.

CARCA'PULI LINCO'TANI. This differs from the above in its flower and fruit. The fruit of this species is sweet, round, and of the size of a cherry. It is also called *kanna ghoraka*. They both afford the gamboge, but this latter the best.

CA'RCAROS, (from *καρκαιρω, to resound*). See PHRICODES.

CA'RCAS. See CATAPUTIA, under RICINOIDES.

CA'RCAX, (from *καρα, a head*). A species of poppy with a very large head.

CA'RCER. Paracelsus means by it a remedy proper for restraining disordered motions of body and mind, as in curing the chorea sancti Viti.

CARCHE'SIUS. The name of some bandages noticed by Galen, and described by Oribasius. Properly, a rope which goes round the top of a ship's mast, and keeps it steady on both sides.

CARCINE'THRON, (from *καρκινος, a crab*, so called from its being jointed like the claws of a crab). A name in Oribasius for the *polygonum*, or common knot grass.

CARCINO'DES, (from *καρκινωμα*, and *ειδος, forma*). A tumour resembling a cancer.

CARCINO'MA, and CARCI'NOS. See CANCER. It sometimes signifies the cancer only in its ulcerated state; or cancerous ulcer, however produced.

CARDAMA'NTICA, (a dim. of *καρδαμον, nasturtium*). See CARDAMINES.

CARDAME'LEUM. (Greek.) The name of a medicine mentioned by Galen.

CARDAMI'NDUM MINUS, (from *καρδαμον*, and *ινδος, Indian cresses*). See NASTURTIUM INDICUM.

CARDAMI'NES, (from *καρδια, the heart*, because it comforts and strengthens the heart). Also called *cardamantica*, *nasturtium aquaticum*, *culi flos*, *iberis*, *herba veteribus ignota*, *sophia*; MEADOW CRESSES, LADIES SMOCK, and CUCKOW FLOWER. The *cardamine pratensis* Lin. Sp. Plant. 915. Nat. order *siliquosæ*.

The cardamine was formerly esteemed as a diuretic and sudorific, and then was supposed to be a powerful antispasmodic. It grows in meadows, and flowers in April.

Sir Geo. Baker, in the Lond. Med. Trans. vol. i. p. 442, relates a case of a spasmodic asthma, that after resisting all other means, was cured by taking the flowers of this plant, at first ℈ i. twice a day, and afterwards ʒ ss. in each dose. The chorea sancti Viti was cured by ʒ ss. twice a day. The case was obstinate while other means were used, but soon gave way to these flowers. To these he adds a case in which palsy, a difficulty of swallowing, and convulsions, were complicated; and though these disorders had been of long standing, relief was obtained by ʒ ss. of these flowers taken twice a day. He further observes, that they improve the appetite, that ʒ i. hath succeeded as an antispasmodic, where opium, camphor, and valerian failed; and that they have been given to ʒ iss. three times a day.

Greeding, though he tried this medicine in large doses in a great number of cases, experienced its good effect only in one. We have never experienced them *in* one.

Linnæus observes, that these flowers are pungent to the taste, but their pungency is inconsiderable; and they have scarcely ever succeeded in our hands as an antispasmodic, nor have they seemed to possess any medicinal powers. Dioscorides says, they are warm and diuretic; Galen, that they resemble water cresses in taste and virtues; Dale, that they are antispasmodic; and Dr. T. Robinson, that they are powerfully anti-epileptic.

Dr. Cullen mentions this plant, and particularly its flowers, to be far inferior to several others of the siliquosæ in its sensible qualities; and he noticed them only on the authority of Sir Geo. Baker, referring to his paper on this subject above quoted.

CARDAMO'MUM, (from *καρδαμον*, and *αμωμον*, because it participates of the nature of both). The COMMON OR LESSER CARDAMOMS, called also *elettari*,

cardam. minus. The lesser cardamom seeds are the produce of the *amomum cardamomum* Lin. Sp. Plant. 2. But later authors have referred it to another species, the *a. repens* of Wildenow, vol. i. page 9. Nat. order *scitamineæ*.

Cardamoms are a dried pod with seeds, brought from Malabar in the East Indies: the best come from Comagene, Armenia, and the Bosphorus. They grow also in Arabia. These pods are divided internally into three cells, in each of which are two rows of triangular seeds, of a brownish colour on the outside, and white within. The plant grows in the form of our reeds.

The lesser cardamoms have short triangular husks, scarce half an inch long. The seeds freed from these husks are a grateful aromatic, warm, but not fiery, and not subject like pepper to create immoderate heat. The husks should only be separated when used; for the seeds lose much of their flavour if taken out. They give out all their virtue to spirit, and nearly so to water. In distillation with water, a large quantity of essential oil rises; it is pungent to the taste, and smells strong of the seeds; the remaining decoction is bitter and mucilaginous, but void of the flavour and warmth of the seeds. A spirituous tincture, when evaporated, leaves the virtues of the seeds almost wholly in the extract, which is more grateful than the seeds themselves. They are considered as gentle stimulants of the stomach, cordial, carminative, and antispasmodic; without that irritation and heat which many other of the spices are apt to produce. All the spirituous preparations are more agreeable than the watery.

The TINCTURE OF CARDAMOMS is made by digesting three ounces of the bruised seeds in a quart of proof spirit for eight days. It possesses all the virtues of the seeds; and among all the aromatics there are none that answer so well, in general, as this tincture, for rendering mineral waters and other saline liquors easy and agreeable in the stomach. The dose is one drachm to three.

COMPOUND TINCTURE OF CARDAMOMS, *formerly tinctúra stomachica*, is made of smaller cardamom seeds husked, carraway seeds, cochineal, of each powdered two drachms; cinnamon bruised, half an ounce; raisins, stoned, four ounces; proof spirit, two pints; digested for fourteen days, and strained. This is often ordered by itself, or in draughts, from two drachms to half an ounce, joined with æther, and tinct. opii, in gouty and other spasmodic affections of the stomach and precordia.

CARDAMO'MUM MAJUS. The GREATER CARDAMOMS. The *amomum grana paradisi* Lin. Sp. Pl. 2. Their pods are about an inch long, triangular, and with two rows of seeds in each. The husks are tough, and thicker than those of the lesser kind. They grow in Java and the East Indies.

CARDAMO'MUM MEDIUM, grows in pods of a round figure. These two, though of the same nature, are weaker than the first kind, and consequently disused. See Cullen's Mater. Medic. Woodville's Medic. Botany.

CARDAMO'MUM PIPERA'TUM. See PARADISI GRANA.

CARDAMO'MUM SIBERIE'NSE. See ANISUM INDICUM.

CARDE'GI I'NDI. See FOLIUM.

CA'RDIA, (from κιαρ, *cor*). By this term the ancients meant the heart; but we call the upper orifice of the stomach cardia, from its vicinity to, and consent with, the heart. See COR, CARDIALGIA, MEDITULLIUM, and LIPOTHYMIA.

CARDI'ACA HE'RBA. MOTHERWORT. It is also called *agripalma gallis*, *marrubium*, and *cardiaca crispa* Ruellii; *leonurus cardiaca* Lin. Sp. Pl. 817.

It is called *cardiaca* because it is supposed to relieve in fainting and disorders of the stomach, particularly in children and in hypochondriacs. It is biennial, grows waste in wild grounds, and flowers in July.

It hath been celebrated in disorders of the stomach, proceeding from thick phlegm. It is said to loosen the belly, promote perspiration, urine, and the catamenia. The leaves and tops have a strong, rather a disagreeable, smell, and a bitter taste, and it has probably been useful in hysteric affections. By keeping, or by boiling, the disagreeable smell is dissipated. An extract of a pungent bitter quality is obtained by evaporating the watery decoction. But an infusion of the tops before it flowers is the best preparation. See Dale, Miller's Bot. Off. Lewis's Mat. Med.

CARDI'ACA, CORDIALS, (from καρδια, *the heart and upper orifice of the stomach*, because they act on the heart by their application to the stomach). In pharmacy it signifies CORDIAL, and is also named *cordialia*, *analeptica*, *resumptiva*, and by Paracelsus, *defensiva*.

The word *cordial* is of a large extent. Things of very opposite natures may prove cordials by relieving the same symptoms when produced by opposite causes. To understand their operation, it is necessary to consider that a languor or faintness may be the consequence either of what oppresses or of what exhausts the vital powers; what retards the progress of the vital principle, or impedes its influence, produces the same sensation as its diminution. In both these cases, medicines of opposite natures produce the same effect, by adding force to the fibres: thus, under an oppression of spirits, from heat, when no extraordinary action or indisposition of body hath exhausted them, a glass of cold water is a *cordial*, for it stimulates the fibres, and rouses them to their wonted action; and when, from violent exercise or a tedious disease a person faints, warm medicines, or aromatic and spirituous liquors, are also *cordial*, by producing the same effect. But in general, by *cordials*, is understood those preparations whose warm and active parts, immediately on being received into the stomach, produce a cheerfulness, and are suited to increase the strength and vigour of the heart. Valcarengus observes, that a *cordial* is whatever destroys, or at least blunts, the force of a morbific cause, restores the lost tone of the solids, and gives due motion to the fluids; by that means procuring a just equilibrium.

CARDI'ACA PA'SSIO. The CARDIAC PASSION is a disorder frequently mentioned by the ancients; but by the moderns it is mostly treated of under the name of SYNCOPE, and, indeed, from the description of the ancients, it may well be referred to that article. The name *cardiaca passio* is from the part supposed to be affected. Cœlius Aurelianus says, "that this disorder, according to some, derived its name from the part affected; for they imagined that the heart is the principal seat of it." Soranus declines giving a

definition, and says, "that there is no perceptible sign of any tumour about the heart," which some suppose; and he asserts, "that it is a quick and instantaneous solution, or relaxation." Hippocrates mentions this disorder in his first and second books of Epidemics. Erasistratus also speaks of it in his books concerning the belly. Artimedorus Sidensis says, it is a tumour about the heart: but from the description of Cœlius Aurelianus, in his De Acut. Morb. lib. ii. the syncope is very clearly and accurately described. See LYPOTHYMIA.

CARDI'ACÆ ARTE'RIÆ, et VE'NÆ. See CORONARIÆ ARTERIÆ, et VENÆ.

CARDI'ACUS MO'RBUS. (Falconer in the Memoirs of the Medical Society, vol. vi.) See NERVOSA FEBRIS.

CARDIA'LGIA. The HEARTBURN, or rather a pain and uneasiness at the upper orifice of the stomach; (from καρδία, *the left orifice of the stomach*, and ἄλγεω, *to be pained*). Called also *ardor ventriculi*, and properly so, when attended, as it sometimes is, with considerable heat; likewise *cordolium*, pain or uneasiness about the upper orifice of that organ, and *cardiogmus*.

Dr. Cullen ranks it as synonymous with *dyspepsia;* and considers it as arising either from a disease of the stomach itself, or from an affection of some other part, or of the whole habit. SYNOP. NOSOLOG. METHOD. Gen. 45.

This disorder is called SODA, *heartburn*, or *spurious cardialgia; pain in the stomach*, or *the true cardialgia*, also *cardimona*. In the SPURIOUS kind the pain is not so great, nor does the strength fail, nor is there any remarkable inquietude. In the TRUE, there is pain in the stomach, or about its upper orifice, but generally about the pit of the stomach: it is sometimes attended with great anxiety, difficulty of breathing, want of strength, inquietude, retching to vomit, coldness, and trembling of the extremities. Sometimes the uneasy sensation extends the whole length of the œsophagus, with a pressure or constriction, and usually attacks by fits.

The upper orifice is the usual seat of this disorder; it is sometimes in the lower; and is occasionally the disorder of the whole viscus. In those who have died of this disorder, on dissection the right orifice only hath appeared to be in an unnatural state.

Were we to be minutely exact, we should refer every cause of cardialgia to the weakened powers of digestion; since, if these are strong, no inconvenience arises from any aliment: so true is the axiom, *sanis omnia sana*.

To avoid, however, all minute disquisition, we shall refer the causes to a disease of the stomach and its contents, to a disorder of distant parts, or the whole system, with which this organ sympathises. The disease of the stomach, we have said, is weakness; and the disordered contents, from this cause, are acid, oily, acrid, or bilious substances, which its debilitated powers are unable to combine with the alimentary mass. Acid is generally accused, and the anti-cardialgics are generally alkalis and absorbent earths. It is, indeed, the most frequent cause, whether the disease be idiopathic or symptomatic. The acid swims on the surface of the contents of the stomach, and gives the sensation of burning heat to the cardia. It arises from acescents, rather than acids; from fruit, vegetables, and saccharine substances. Oily foods are, however, an equally frequent cause. A red herring, for instance, will often produce it; the fat of meat, butter, and every similar matter will, in many constitutions, bring on the complaint, particularly if the process of digestion is disturbed in its commencement. Acrid is a term too general, yet it is meant to include highly seasoned dishes, pepper, and various spices, which have been long acknowledged as causes, though not frequent ones, of cardialgia. That bile in the stomach is a cause, we cannot so confidently affirm; yet it has been enumerated as such: and if heartburn is attended with a putrid taste on the back part of the tongue, the disease may be pronounced to arise from bile. We suspect, however, that the opinion has arisen from its being an attendant on jaundice; and we well know, that when bile, the usual neutraliser of acid, is absent, it may probably abound. In any circumstance, if the usual mucus of the stomach be abraded, or the organ inflamed, the most common and salutary aliments may occasion this impression from the increased sensibility of the organ: thus it seems sometimes to arise from corrosive poisons; we have seen it from swallowing, by mistake, the volatile sal ammoniac; and in this way it is found to be the effect of inflammation and abscess in the stomach.

In general, as Dr. Hunter has supposed, it is the fumes of these substances rather than the substances themselves which occasion the complaint. The stomach is seldom perfectly full; and, though its action may sometimes raise the contents to the cardia, the contact must be only occasional and temporary.

The more general causes which affect the stomach by sympathy are gout and nephritic complaints. From a fact recorded by Van Helmont, it seems, that any affection of the joints may in this way disorder the stomach. Violent passions have equally produced it. Cold feet seem sometimes to have the same effect, and the relief is then generally preceded by a return of perspiration in the extremities. A recession of eruptions has been supposed to be a cause; and, as in such cases the stomach generally suffers, not without some reason.

To relieve the complaint, the diet should be light, generally of the animal kind: what is drunk should not be apt to ferment; brandy and water, or water in which toasted bread is steeped, will generally agree; or camomile tea, which soothes the spasmodic motions of the stomach. Lime water, the mineral alkaline waters, and distilled water, are proper for common drink.

The cure depends on the cause. As in every instance the stomach is weakened, bitters, and perhaps chalybeates with aromatics, should accompany the appropriate remedies. We need not repeat what we have said of antacids; but, in the heartburn from oily or acrid substances, immediate relief is obtained from sucking gum arabic. If it *should* arise from bile, vegetable acids will almost immediately remove it. Vomits are often advantageously premised.

When not arising from the contents of the stomach, general warmth, particularly of the feet, is essentially useful; and even rubbing them with flour of mustard has produced good effects. Tonics of every kind are

indispensable additions to the other remedies; and, when from gout, aromatics should be joined. In every species, also, the bowels should be kept free, and the warmer resinous purgatives are best adapted to the complaint. Any external applications that may be thought necessary should be placed on the pit of the stomach.

CARDIA'LGIA INFLAMMA'TORIA. See INFLAMMATIO VENTRICULI.

CARDIA'LGIA SPUTATORIA. See PYROSIS.

CARDIME'LECH, (from *καρδια*, *cor*, and the Hebrew term *melek*, *a governor*). A fictitious term in Dolæus's Encyclopedia, by which he would express a particular active principle residing in the heart, appointed to what we call the vital functions.

CARDIMO'NA. See CARDIALGIA.

CARDINAME'NTUM, (from *cordo*, *a hinge*). A hinge-like articulation. See DIARTHROSIS.

CARDIO'GMUS, (from *καρδιωσσω*, *to have a gnawing pain at the mouth of the stomach*). Synonymous with *Cardialgia*.

CARDIO'NCHUS, (from *καρδια*, *the head*, and *ογκος*, *a tumour*). See also ANEURISMA PRÆCORDIORUM.

CARDIOTRO'TUS, (from *καρδια*, *the heart*, and *τιλρωσκω*, *to wound*). One who hath a wound in his heart.

CARDI'TIS, (from *καρδια*, *heart*). See INFLAMMATIO CORDIS.

CAR'DO. A HINGE. See GINGLYMUS.

CA'RDONET. See CINARA SYLVESTRIS.

CARDO'NIUM, in the phrase of Paracelsus, is wine medicated with herbs.

CARDOPA'TIUM. See CARLINA.

CARDUO-CNI'CUS, (from *carduus*, *a thistle*, *κνικος*, *carthamus*, *the distaff thistle*). See ATRACTYLIS.

CA'RDUUS, (from *κειρω*, *to abrade*; so named from its roughness, which abrades and tears whatever it meets with). The THISTLE. The general characters of which are as follow: the leaves are set alternately on the branches, and are prickly; the heads are mostly squamous and prickly; prickles are on most or all parts of the plant, and they are mostly lactescent.

CA'RDUUS BENEDI'CTUS. See BENEDICTUS. The BLESSED OR HOLY THISTLE; also called *cnicus sylvestris*. It is the *centaurea benedicta* Lin. Sp. Pl. 1296. Nat. ord. *Compositæ capitatæ*. *Cynarocephali* of Jussieu. It is a native of Spain and some of the Archipelago islands, and is annually sown with us in gardens.

The leaves have a penetrating bitter taste, not very strong or durable in the mouth; when fresh they are more pleasant than when dry. The plant should be hung up loosely in an airy place after it is well dried; for, if pressed close, it rots. The best time for gathering it is when in flower.

This plant obtained the name benedictus from its being supposed to possess extraordinary medical virtues; but it is not found to excel several other of the simple bitters; though Bergius considers it as antacid, corroborant, stomachic, sudorific, diuretic, and eccoprotic. See AMARA.

Camomile flowers are now generally substituted for the carduus benedictus, and are thought to be of at least equal value.

When this herb is used to excite vomiting, a decoction of it in water is preferable, for thus its more nauseous parts are extracted: cold water, in an hour or two, imbibes a light grateful bitter; but if the infusion be continued much longer, the nauseous part is also taken up. Rectified spirit extracts only the agreeable bitter, and, though heated, it does not easily take up the offensive parts.

A light, cold, watery infusion, with fresh lemon or orange peel, improves the appetite, and is useful when the digestive powers are weak: it sits easy on the stomach, and no bitter is less heating. Dr. Cullen thinks this plant a simple and pure, though not a very strong, bitter; and that, therefore, it possesses none of the extraordinary virtues ascribed to it. An ounce of the dried leaves may be infused two hours in a pint of cold soft water, and it may be flavoured at pleasure with any aromatic. It may be made stronger by returning the liquor on fresh parcels of the leaves or tops. It affords nothing valuable by distillation. See Lewis's Mat. Med. Miller's Bot. Off. Dale.

CA'RDUUS HÆMORRHOIDA'LIS. So called because it relieves the pains of the hæmorrhoids, if beat into a poultice and applied; also called *carduus vinearum repens*, *sonchi folio*, *cirsium arvense*, *ceanothos*; *serratulu arvensis* Lin. Sp. Pl. 1149. The COMMON CREEPING WAY THISTLE.

Its roots are whitish, but now and then are of a darker hue, and have a strong smell: it sends forth fibres that creep on the ground, and propagates itself to a great distance: it is common in tillage ground and highways, flowering in July and August.

CA'RDUUS LACTEUS, also called *carduus Mariæ*, *carduus Marianus* Lin. Sp. Pl. 1153. *carduus albis maculis notatus vulgaris*. C. B. COMMON MILK THISTLE, OR LADY'S THISTLE. It is distinguished from all other thistles in England, by having its leaves cut in several laciniæ, full of hard sharp prickles, having all the upper part spotted with long and broad white spots. It grows on banks, and flowers in June. The leaves and seeds have similar virtues to those of the carduus benedictus, but in an inferior degree. It is said to be efficacious against pungent pains. Miller's Bot. Off.

CA'RDUUS LACTE'US SYRIA'CUS, Lin. Sp. Pl. 1153. also called *carduus albis maculis notatus exoticus*. *Bedeguar Arabum Rauwolfii*, *cnicus albis maculis notatus*. The SPANISH MILK THISTLE.

This and the next species are perennial, have long, narrow, deeply jagged leaves, that are prickly and laying on the ground; in the middle of the plant grows a large roundish head, without any stalk, encompassed with smaller leaves, which may be eat like an artichoke; the flowers issue from the middle of the head.

CA'RDUUS PINEA THEOPHRASTI; *carlina aulos gummifera*, *chæmaleon albus Dioscoridis*, and PINE THISTLE; *atractylis gummifera* Lin. Sp. Pl. 1161. Its flowers are composed of purplish flosculi, like those of the common thistle. It is a native of Italy and of Candy. Its roots are larger than those of the carline thistle, and smell stronger; if wounded when fresh they yield a viscous milky juice, which concretes into tenacious masses, at first whitish, and resembling wax, when much handled, growing black; supposed to be the *ixion*, *ixia*, and *acanthina mastiche* of the ancients; the people of

Apulia gather this gum, and name it *cera di cardo*. It was formerly chewed for the same purposes as the mastich gum: the root hath the same virtues as the carline thistle roots.

CA'RDUUS SPINOSISSIMUS *sphærocéphalus rígidis aculeis armata*; C. B. *cárdui Arábici*, PARK. THEAT. *spina Arábica offic.* ARABIAN THISTLE. *Carduus nutans* Lin. Sp. Pl. 1150. It seems to have qualities similar to those of the spina alba.

CA'RDUUS A'CANTHUS. See ACANTHUS.

CA'RDUUS BRASILIA'NUS FO'LIIS A'LOES. See ANANAS.

CA'RDUUS A'LTILIS; *domesticus*; *sativus*, *non spinósus*; *satívus*. See CINARA.

CA'RDUUS HUMILIS GUMMIFERA. See CARDUUS PINEA.

CA'RDUUS LUTEUS. See ATRACTYLIS.

CA'RDUUS SOLSTITI'ALIS. See CALCITRAPA OFFICIN.

CA'RDUUS SATIVUS. See CARTHAMUS.

CA'RDUUS STELL'ATUS. See CALCITRAPA.

CA'RDUUS STELL'ATUS LUTEUS. See CALCITRAPA OFFICIN.

CA'RDUUS ESCULENTUS; *spinosissimus elátior*. See CINARA SPINOSA.

CAREBA'RIA, (from κάρη, *the head*, and βάρος, *heaviness*). See CAPIPLENIUM.

CARE'NA. The twenty-fourth part of a DROP.

CARE'TTI. See BONDUCH INDORUM.

CA'REUM, CA'RI. (See CARUM.) From *Caria*, the country from whence they were brought.

CA'RICA. A DRY FIG, (from *Carica*, the place where they were cultivated). See FICUS SATIVA.

CA'RICUM, vel CA'RYCUM, (from *Caricus*, the inventor). The name of a medicine for deterring ulcers, prepared of the black hellebore, cantharides, and several other ingredients.

It is also the name of an oil mentioned in Athenæus, lib. ii.

CA'RIES, (from χείρω, *to abrade*, or from *karah*, *to dig in*, a Chaldee word); according to Mr. Sharp, it is a partial mortification of the bone, which separates from the sound part sooner or later. Dr. Cullen places this disease in the class *locales* and order *dyalyses*, and names it *exulceratio ossis*. But as every species of *caries*, attended with loss of substance, may be termed an ulcer, Mr. Bell, to prevent confusion, considers *caries* as an accidental symptom of ulcers, and speaks of it under the general name of CARIOUS ULCER. It is an ulcer, however, of a gangrenous kind, but differing from mortification of the bone, which will be considered under the term NECROSIS. In short, these diseases bear the same relation to each other as a foul putrid ulcer and a sphacelus.

This disorder, called *caries*, *sphacelus*, *teredo*, or *tredon*, happens when the bone is deprived of its periosteum, and, having lost its natural colour, becomes oily, yellow, brown, and at last black. This state, which is the first degree of the disorder, was called by the ancients OS VITIATUM, OSSIS NIGRITIES. When the disease advances the bone is corroded, discharging a sanies which consumes the adjacent flesh. Of the many names given to the *caries*, which are collected under *spina ventosa*, the following are only necessary: When the cause is external, it is the SPINA VENTOSA; or, with Severinus, when it happens to children, it may be called PÆDARTHROCACES: when the cause is external, *caries*.

That an inflammation of the periosteum is tending to a *caries* of the bone, is known, first, *from the signs of inflammation preceding*; secondly, *a freedom from pain in the affected part, without a manifest cause, and from a dense, slow, increasing, and not very painful, tumour of the incumbent parts*. But among the signs of a beginning caries, the sudden removal of pain is fallacious; for this happens in inflammation of the periosteum, when this membrane is corroded so as to admit the matter to escape betwixt the muscles, though, in general, when pain is relieved by a resolution of inflammation, it goes off gradually only; for a perfect resolution hardly, if ever, happens after a violent inflammation. Again, when a caries is threatened, the taint is propagated through the cellular membrane, which, by slight causes, is often raised into a large tumour: but, as all the symptoms of an inflammation lessen when a caries is present, the tumour will not have the hardness and resistance observable in a phlegmon, but will be flaccid, and hardly sensible of pain. If the incumbent part changes to a livid colour, or a dark sanious discharge issues from a part in the direction of a bone, the bone is then, without doubt, in a mortifying state.

Celsus, the best ancient author, at least on the cure of caries, observes, lib. viii. cap. 3. "We may soon, by means of a probe, discover a *caries* of the bone, since the probe will penetrate less or more, according as the *caries* is superficial or deep." When the probe comes to the sound part of the bone, it is resisted. Wiseman, vol. i. p. 296. edit. 5. says, "If the bone be bare, its corruption is easily discerned, though sometimes it be covered with a grumous or viscous matter, which rubbed off, the bone appeareth white, brown, or black. If the white be porous, the *caries* may be deeper and more dangerous than if it were black and hard. If the bone lies so hid as that you cannot feel it with your probe, yet you may judge it carious from the quantity or quality of the matter. If the bone lies near, and the flesh is lax and white, it is strongly suspicious that the bone is carious: but if the matter stinks, or is oily, it is a more certain sign of rottenness. Ulcers of long continuance near a bone do also foreshow a caries, according to Hippocrates. Also the difficulty of cicatrizing them, and the frequent and sudden eruption of them after they are cured, give a suspicion of a foul bone. But if the bone is much corrupted, the matter is fetid, and the probe will penetrate into it."

The friability of carious bones is occasioned by the acrimony of their humours, and chiefly of their corrupted medullary oil; for since its separation destroys the cohesion, by decompounding the bony substance, the peculiarly disagreeable fetid smell, which arises from carious bones, is from this corrupted medullary oil.

When *a caries is under an ulcer*, the flesh over the caries is soft, flaccid, and fungous; the lips of the ulcer inverted, the sanies clear, fetid, and full of small black scales. The ulcer heals only superficially, and soon breaks out again. Ulcer has been accused of producing caries, but the latter is more frequently the cause of the former. See ULCER with a *caries*, under ULCUS.

In the Edinb. Med. Essays, Dr. Monro gives a par-

ticular account of several species of this disorder, viz. 1. The DRY or GANGRENOUS CARIES, which is, where the bone is smooth and firm, and throws out little matter; its surface at first is not of a very dark colour, but before exfoliation it turns very brown or black. This kind exfoliates with less difficulty than any other. 2. The WORM EATEN CARIES, or ULCER of the BONES, hath not such a dark colour as the former, it discharges more matter; the cavernous or spongy texture of the bone becomes conspicuous. 3. The CARNEOUS CARIES, or ulcer of the bones with hypersarcosis: this sort differs from the worm eaten caries only in the addition of spongy flesh growing in the cells of the bone; this spongy flesh often bleeds, if touched with the greatest caution. 4. The PHAGEDENIC CARIES with hypersarcosis: in this case the periosteum is thickened, the bone softened, and its surface is eroded, a yellow red spongy substance sprouts out; the difference betwixt this and the carneous caries is, that in the latter the spongy flesh grows out of the caverns, while their grey or brown coloured spongy bony sides still remain; but in the former, the bony fibres disappear wherever the spongy flesh comes, so that one can scarcely determine by the probe whether or no the bone is carious: upon scraping away the flesh, so destructive to the bone, its surface appears rough indeed, but not much eroded, nor greatly altered in its colour. 5. The SCROFULOUS CARIES is sometimes observed when an abscess is opened; the bone at the bottom of it appears white and smooth, without its periosteum or any connection to the neighbouring parts, except by its ligaments at the extremities; and this kind of caries most commonly happens in scrofulous habits. 6. The SCIRRHO-CANCEROUS CARIES: in one species of exostosis the tumefied bone is softer in one part than in the other, and is not composed of regular fibres, nor cavernous, but as if the ossifying juice had been thrown out irregularly, over which a cartilaginous or tendinous substance had spread; and from this a firm shining smooth flesh grows out, which, after the teguments are removed, sends forth a thin stinking acrid sanies. The patient complains often of throbbing pains in the part, and sometimes considerable hæmorrhages are made from imperceptible vessels on its surface. 7. The SPREADING CANCEROUS CARIES: in the spreading eating cancers the bones are wasted, as well as the soft parts, and the appearances are the same in both, unless that the bones do not consume quite so fast. 8. The SYPHILITIC CARIES affects chiefly the tibia, frontal bone, the ossa nasi and palati, and the sternum. 9. The ANEURISMATIC CARIES affects any bones in the neighbourhood of an aneurism.

In considering a caries of the bones, we should remember, that the bones have their vessels and circulating fluids, and the same general texture which the soft parts have; so that solidity, and a stronger cohesion of parts, are their only evident distinguishing characters.

Caries of spongy bones is cured with greater difficulty than of compact ones. Caries of the bones of the carpus and tarsus is, from their vicinity, easily communicated to the neighbouring ones. The disease, when it occurs in the deeper seated bones near the trunk, is seldom to be relieved or cured. It partakes also of the danger of its cause; since, as cancer and scrofula are incurable, little expectation can be entertained of caries from either source. In young persons also it is more easily cured than in old.

Heister observes, that the cure of a caries depends on removing easily and speedily all the corrupted parts of the bone, and that in the gentlest cases this is done by *rectified spirit of wine* being applied by means of lint dipped in it; or *alcohol caryophillatum*, made by mixing alcohol. ʒ iij. ol. caryoph. ʒ i. This applied upon lint to carious bones quickens the exfoliation. Vinegar used in the same manner has been thought to answer the purpose equally well. In more violent cases, *a solution of mercury in aqua fortis* is required, and in the most malignant *the actual cautery* will be necessary: but these hinder suppuration, and retard the operation intended. See EXFOLIATIO.

An exfoliation of the carious laminæ of the bone sometimes takes place in two or three weeks, and in other instances the laminæ are not removed in a year.

It is necessary to examine strictly all circumstances, and to discover, if possible, what cause, either general or topical, may have induced the disease, that endeavours may be used to remove it, if it still subsist: the *lues venerea*, *scrofula*, *scurvy*, *gangrene*, *abscess*, *wounds*, *contusions*, and many other diseases may be the cause.

When the bone is perceived to separate, if the pus which flows from under it is mild and in a due quantity, it will be the best application, and nothing is to be done but to remove the pieces of bone as often as they are perceived to be loose. If the quantity of pus is too small, ung. resinæ flavæ, or a similar digestive, is useful. If the opening in the integuments is so small that the matter detained is either absorbed into the circulation or forms sinous ulcers, the aperture must be enlarged by means of sponge tents, and kept open by dossils of lint. Indeed, if the exfoliation is likely to be tedious, in some cases it may be hastened by the use of a caustic or actual cautery, though in general the suppuration, which contributes to throw off the diseased part, is thereby retarded; or the rasp may be used: if instead of the actual cautery a potential one is preferred, the common caustic is the best.

When caries is accompanied by an acrid discharge, which consumes the surrounding parts, this fluid may be absorbed by dry powders, and pledgets dipped in tincture of aloes and myrrh; or, in more violent cases, in a solution of nitrat of silver. The disease is then reduced to a necrosis. The dried piece should afterwards be moved frequently, and the fungous flesh, which would prevent exfoliation, prevented from rising. Sometimes, however, the strongest caustics will not desiccate the bone. The fluid discharge dilutes and lessens their action, and the actual cautery becomes necessary.

In the WORM EATEN CARIES it is necessary to destroy all the affected part of the bone as soon as conveniently can be done, by rasping, chiseling, or trepanning, according as each instrument can be applied; after which, the method above described is to be pursued. When the ulcer is deep, honey, dissolved in vinegar and water, may be injected into it every day.

In the CARNEOUS CARIES, the fungous and corrupted parts are best destroyed by a caustic; though Gouch, in his Cases and Remarks, vol. ii. p. 359, gives an instance of the inefficacy of caustics in this case, and of

the necessity of using the actual cautery, which he in general prefers.

The PHAGEDE'NIC CARIES may be reduced by one or two applications of the potential cautery to the most simple kind of caries; but sometimes great difficulties attend it.

In the SCROFULOUS CARIES, the teguments which cover the abscess formed on the bone must be destroyed with a caustic; the eschar cut through the middle to evacuate the matter; and to save the eschar as long as possible, mild applications only should be laid on the sore; then, to assist the discharge of the matter, it should be washed with water; but if fetid, with vinegar and water.

In general a mild treatment is to be preferred. In the slighter cases we must endeavour to excite and continue a degree of inflammation in the adjoining sound part of the diseased bone, so that it may be the means of separating the mortified part. This is done by making a number of small perforations all over the surface of the carious bone, to such a depth as to give the patient a very little pain, and no further: this operation may be renewed in different parts every third day, or thereabout; thus suppuration will take place, and a consequent separation of the carious part. But when the disease is extensive, and goes deeper than the second lamella of the bone, instead of little perforations made by the pin which fixes the trepan, it will be advisable to use the small head of a trepan. This instrument, applied at proper distances over the surface of the caries, and carried just so deep as to produce a little uneasiness, will occasion the necessary inflammation and suppuration. As soon as any of the parts loosen at the edges, their final separation may be always hastened by daily insinuating below them the end of a common spatula, so as to press their edges a very little upwards. After the use of those instruments, apply to the ulcer the same dressings as in cases of a simple ulcer; and to moderate the fetor of the caries, they may be covered with lint, moistened with a strong decoction of the cort. Peruv. and fol. juglandis. After the separation, the dressings are the same as in cases of simple ulcers in fleshy parts. If the caries penetrates very deep into the substance of a bone, so that a considerable portion is affected, or, as frequently happens, the disease extends even round the bone, the shortest method is to take out at once all the diseased parts, either with the head of a trepan frequently applied, or by means of a small spring saw. This may be performed on the skull, hands, feet, legs, or arms. See the article TIBIA for the process.

In the SCIRRHO-CANCEROUS CARIES, as in cancers of the glands, extirpation is the only remedy; but here also the disorder is apt to return in another part.

The SPREADING CANCEROUS CARIES seldom heals: it may be dressed with lint, or a cautery may be applied; but it generally breaks out again after a seeming cure.

In the SYPHILITIC CARIES, we must at first check the original disease. To the bones of the head, however, we cannot apply caustics, except to the mastoid process of the temporal bone. The other affected bones must be removed by the trepan. The other bones of the face, as the antrum maxillare from abscess there, or the os unguis from fistula lachrymalis, when carious, readily exfoliate. If the causes are removed the parts heal without any particular management.

Parts of the sternum are from different causes carious; and these may be safely removed, since the pleura thickens and becomes cartilaginous. It may be also defended by a piece of leather or pasteboard. When it is thought dangerous to remove it, the bone may be perforated in a depending part to prevent the confinement of matter.

Some assert that sea water is more efficacious in caries of the bones than in glandular swellings.

A caries of the whole bone or bones, forming a limb, is sometimes productive of the necessity of amputation: particularly when the internal surface of such bones is affected as well as the external, through the whole extent, or near it. In such instances, if the whole bone is not removed by amputation, the patient will perish. It too often happens that in young subjects, with the best health, the whole habit will be so injured by the carious bone, and a hectic fever of the putrid kind, with all its horrid train of symptoms, will quickly destroy the patient.

See Almeloveen's edition of Celsus de Morbis Ossium, p. 539. Petit's Diseases of the Bones. Heister's Surgery. Le Dran's Observations. Wiseman's Surgery. Monro's Account of the Caries, in the 5th vol. of the Ed. Med. Essays. Bell's Treatise on Ulcers, edit. 3.; and his System of Surgery. Pott's Works. London Med. Transactions, vol. iii. p. 25. Boyer on Diseases of the Bones.

CARI'MA. (Indian.) See CASSADA.

CARIM-CURI'NI. (Indian.) *Justicia echolium* Lin. Sp. Pl. 20. An Indian shrub, the bark of which is used in a decoction against the gout; and a decoction of the leaves against a disury. Raii Hist.

CARI'NA. The keel of a boat or ship. In botany it is the inferior petal of a papilionaceous corolla; inclosing the stamens and pistil, usually shaped like a boat.

In zoology it is applied to the first rudiments of the spine of a chicken during its incubation.

CARIO'SSE. See ADY.

CA'RIUM TE'RRA. LIME. See CALX.

CARIVI'LLANDI. See SARSAPARILLA.

CARLI'NA, or CAROLINA, (from *Carolus, Charles the Great;* because it was believed that it was shown to him by an angel; and that by the use of it his army was preserved from the plague). CARLINE THISTLE. The species used in medicine is the *Carlina acaulis* Lin. Sp. Pl. 1160. It is also called *cardopatium, crocodilion, heracantha, ixia, chamæleon albus, acaulos magno flore albo, Carlina humilis*, the LOW CARLINE THISTLE.

The species with the flower, composed of a number of white petals set around a middle disk, is a native of the mountainous parts of Italy and Germany. The roots have a strong disagreeable smell, and weak, bitterish, subacrid, aromatic taste. They are diaphoretic, hysteric, and anthelmintic; used in hysteria, tumours of the abdomen, and diseases of the skin. The dose from ℈i. to ʒi.

CARLI'NA ACAULIS GUMMIFERA. See CARDUUS PINEA.

CARLO SANCTO, RADIX. ST. CHARLES'S ROOT.

It is found in Mechoacan, a province of America: its bark is easily separated from it, and hath an aromatic flavour, with a bitter acrid taste. The root itself consists of slender fibrils. The bark is sudorific, and strengthens the gums and stomach: the Spaniards call it *St. Charles*, and dedicate it to him on account of its great virtues.

CA'RMES, EAU DE. CARMELITE WATER, called also MAGISTERIAL WATER of BAUME'. It hath its name from being invented by the Carmelites at Paris.

Take of fresh baum, six ounces; fresh lemon peel, the yellow part, two ounces; nutmegs and coriander seeds, of each half an ounce; bruise them, and put them into rectified spirit of wine and pure water, of each a pint and a half: let them stand in a moderate heat for three days, then draw off two pints and a half in a vapour bath. Rectify the distilled liquor by a second distillation in a water bath, drawing off only two pints.

Mr. Beaumé observes, that all aromatic spirits ought to be prepared in the same manner; that in this rectification only the more volatile, subtile, aromatic parts, arise; a white, acrid, bitter liquor, loaded with the grosser oil, deprived of all the specific flavour of the ingredients, remains. He further observes, that aromatic spirituous waters have less odour when newly distilled than after they have been kept about six months; and he found that the good effects of age were produced in a short time by means of cold; and that, by plunging quart bottles of the liquor into a mixture of pounded ice and sea salt for six or eight hours, it proves as grateful as that which hath been kept many years. Simple waters also, after having been frozen, prove far more agreeable than they were before. Geoffroy takes notice of this melioration by frost. See Hist. Acad. 1713.

CA'RMINA, VERSES. So called because charms usually consisted of verses. Also INCHANTMENTS. See AMULETA.

CARMINA'NTIA, or CARMINATI'VA. CARMINATIVES. In general, by these words are meant such medicines as are used to expel wind from the alimentary canal. The ancients had much of mystery in their practice, and celebrated these medicines by singing verses when they administered them, as by their frequent speedy relief they seemed to act as by a charm; so from *carmen*, the Latin word for a *verse*, the word *carminative* is derived. Others derive it from *carmino*, *to card wool*, or *cleanse it from foulness*, or from *carmina*, *charms*. They were supposed to attenuate and discuss wind or vapours, and promote their discharge by perspiration. We have already had occasion to mention, that, in the process of digestion, much air is expelled, which is again combined with the alimentary mass, and afterwards separated by the different secretory organs. When this process is disturbed by accident, or not properly carried on in consequence of weakness, the air is not combined, but accumulates in the stomach, producing pain from the distention. But, though the accumulation of wind will alone create great inconvenience, and prevent its own escape, yet it seems seldom to amount to a disease, except the stomach be spasmodically contracted. When such spasms take place, wind, before unnoticed, creates uneasiness. Carminatives, therefore, at present, are confined to such medicines as, by their stimulating and antispasmodic power, increase the action of the primæ viæ, take off spasmodic affections, and thus promote the expulsion of flatulencies.

Our own lighter aromatics, particularly peppermint, are highly useful; occasionally combined with ardent spirits. The fetid gums also, as the asafœtida and galbanum, are employed with great success; but, perhaps, the chief and most effectual carminative is opium.

CARNE'Æ COLU'MNÆ. See COR.

CARNI'CULA, (from *carnis*, the genitive of *caro*, *flesh*). Fallopius uses this word instead of *caruncula*, to signify in particular the flesh which surrounds the gums.

CARNIFO'RMIS ABSCE'SSUS, (from *caro*, *flesh*, and *forma*, *likeness*). An ABSCESS with a hardened orifice, and of a firm substance, or hard consistence, like a shell; not much elevated into a tumour, but broad and expanded, with membranes, fibres, and capillaries, usually interspersed. It generally rises where the muscles are inserted into the joints. Severinus.

CARNI'VOROUS, (from *caro*, *flesh*, and *voro*, *to devour*). FLESH DEVOURING. An appellation of the *assius lapis*. Animals also are thus called whose food is flesh.

CARNO'SA CU'TIS, (from *caro*, *flesh*). See PANICULUS CARNOSUS.

CARNO'SA MUSCULO'SA MEMBRA'NA. See FRONTALIS MUSCULUS.

CAR. STEPH. PRÆD. RUST. An abbreviation of Caroli Stephani Prædium Rust. Paris, 1629.

CA'RO, FLESH. By some it is said to mean, strictly speaking, DEAD FLESH, (from *careo*, *to want*, *quia caret animâ*, *it wants life;* but others think it more properly comes from the Hebrew term *karah*, *food*). In ANATOMY it is only the red part or belly of a muscle. In BOTANY it is the pulp of a fruit.

CA'RO ADNATA. Ad téstem, et ad vása. See SARCOCELE.

CA'RO MUSCULO'SA QUADRA'TA. See PALMARIS BREVIS.

CA'ROBA, (from *charab*, Arabic). See SILIQUA DULCIS.

CARŒ'NUM, (from κάρα, *the head*, and οἶνος, *vinum*, so called because it affects the head). See MUSTUM.

CARO'LI. See CHANCRE.

CAROLI'NA. See CARLINA.

CARO'PI. See AMOMUM VERUM.

CARO'RA, also *cynnia* and *cymia*. The name of a vessel that resembles an urinal.

CA'ROS. See CARUM.

CA'ROS, CA'RUS, Κάρος, or *carus*, synonymous with *sopor*, (from κάρα, *the head*, which is chiefly affected). It is a slight degree of apoplexy, in which some broken incoherent answers are obtained from the patient. When called, he scarcely opens his eyes; yet, if stimulated, he hath feeling enough to manifest his uneasiness. The walnut tree is named from this disease, CARYON, *q. v.*

The *coma lethargus*, *coma vigil*, *coma somnolentum*, *cataphora*, differ only in degree; but apoplexy is the most violent of these diseases. Galen says, that if the *carus* oppresses respiration, as in those who snore in their sleep, it must be considered as apoplexy. See COMA.

Boerhaave observes, that a *carus* is a slight apoplexy from a hot cause, attended with a fever; and a lethargy is a slight apoplexy from a cold cause.

Hippocrates sometimes calls this disorder *aphonia;* Galen, in his Method. Med. lib. xiii. *catoche;* Cœlius Aurelianus, *gravatio;* and Pliny, *gravedo.* Dr. Cullen arranges *carus* as synonymous with *apoplexia.* In a *carus* there are insensibility and sleepiness, with quiet respiration. It sometimes signifies a loss of sense and voluntary motion, respiration remaining uninjured.

The immediate cause of sleepy affections seems to be a defect of, or an impediment to the passage of the vital principle. The remote causes are, whatever diminishes the vis vitæ, or that can obstruct its influence; as tumours pressing on the brain, a turgescency of the vessels from obstructed menses and hæmorrhoids, a too free use of spirituous liquors, exposure to offensive vapours, blows on the head, &c.

Co'ma vi'gil is known by a burning and extensive pain in the head, attended with a sense of ebullition in it. There is a strong inclination to sleep, but the patient either does not sleep, or awakes immediately with little or no relief: there is, however, no delirium. This disorder is always symptomatic, often attends acute fevers, and occasionally is the prelude of a phrensy, sometimes of an hemiplegia.

Co'ma somnole'ntum, (from *somnus, sleep*). In this disorder the patient is languid, and his chief complaint is a constant drowsiness. He often falls asleep at meals, in conversation, and in the midst of business; and, when awaked, he soon sleeps again. Luxurious old men are most subject to it. It is a primary disorder, and unattended with fever, but often the first symptom of apoplexy. This and the former species equally arise from over distended vessels: but, in the coma vigil, the distention is only in a degree to produce irritation; in the second it is increased so as to occasion compression.

Ca'rus is a profound sleep, from which the patient is with great difficulty roused, though he seems sensible of pinching, or pricking him with pins, he either does not speak, or he immediately relapses into the same degree of sleep. This disorder is either idiopathic or symptomatic, and often attended with a fever. When symptomatic, it is said to be of three kinds; but is only the same disease in the different periods of that complaint, of which it is a symptom. The first happens early in acute fevers; and, if convulsions and hiccough come on, is soon fatal. The second appears after acute fevers; and, when the patient is exceedingly weak, the sleep will continue for several days: if it happens in acute fevers on critical days, with a sweat, and the countenance not changed, it is salutary. The third happens a day or two before death, when, the patient's strength being exhausted, he lies deprived of sense and motion, as it were in a profound sleep, and under it expires. In this state the countenance sinks.

Letha'rgus, (from λήθη, *forgetfulness*, and ἀργος, *slothful,*) also called *vetérnus*, a lethargy; is a heavy perpetual sleep, with scarcely any intervals of waking. When awakened, the patient answers; but, ignorant or forgetful of what he said, he immediately sinks into the same state of sleep: indeed it is attended with such a stupidity and forgetfulness, that whatever the patient begins to do, he forgets to proceed in it, and falls asleep. It is attended with a fever, which is chiefly discovered by the frequency of the pulse; and does not invade so suddenly as an apoplexy, nor kill so soon. By some it is considered as generally symptomatic; it is often the attendant of fevers, and usually a very dangerous symptom. In this disease there seems to be an utter loss of all the rational powers, and inaptitude to motion, whence some have named it *desidia oblíviosa.* Dr. Cullen thinks it a symptomatic apoplexy.

Bonetus, in his Sepulchretum Anatomicum, observes, that in those who died of sleepy disorders, a copious serum was found diffused through the substance of the brain, chiefly in the cortical part: in some he found the ventricles replete with serum, and the cortical part unaffected; and these, he says, were never troubled with lethargic diseases. But he observes, that the more this watery fluid penetrated into the medullary part of the brain, the more obstinate was the sleepiness during the life of the patient. In some who died of drowsiness, he found abscesses, tumours, and scirrhosities of the brain; but these were only on its anterior and cortical region. In some he found the vessels of the pia mater very much distended with blood.

The coma vigil should be distinguished from the pervigilium; each of these disorders from one another; and all from apoplexy, hysteric fits, syncope, and hydrocephalus.

In whatever view we consider this disease, it will appear to be chiefly a less violent apoplexy, varying in its degrees rather than its nature or causes. To distinguish the different species from each other, or from apoplexy, is therefore of little practical importance; but these diseases often so nearly resemble a fit of hysteria, syncope, or the advanced state of hydrocephalus, that some little attention will be required.

The previous state of the patient will point out the hysteric paroxysm. In this last disease, however, the pulse assumes every variety both in strength and quickness; but the constitutions which each affects are very different, and the previous indisposition of the stomach, the attack commencing with flatulence, the neck swelling, the absence of either a fulness or redness in the face, which occurs when carus proceeds from over distended vessels, or a peculiar sinking in the features, when from narcotic vapours, sufficiently distinguish the complaint. In an hysteric fit the countenance is little altered.

Nearly the same symptoms distinguish carus from syncope; to which we may add, that the latter, if common, cannot easily be mistaken; if a single occurrence, the cause will point out its nature. The distinction of hydrocephalus is not so easy. In the early state of irritation the disease does not resemble carus: in its latter period, the strabismus, and the slow pulse, sufficiently point out water in the head. Yet there are cases where neither occurs, and where even the pupil dilates and contracts. The history of the complaint must then come in aid, and little difficulty will arise. If we suppose an error, no great harm can result; and, in doubtful cases, the practitioner should act as if it were carus.

A more important consideration is, whether carus be idiopathic or symptomatic. It is often a symptom only of disordered stomach; and, as we have remarked, it

is a symptom of fevers. In the whole course of medical practice, we know no case of greater difficulty than the distinction of complaints affecting the head and the stomach with respect to the primary affection. After a long practice, we are often deceived; nor can any precise limits be drawn. Every case is peculiar to itself; and the practitioner can only be assisted by an attentive examination of the origin and progress of the complaint, the effects of remedies, and the various juvantia and lædentia of the dietetic kind. Even the apparently pathognomic symptom of a noise in the ears is, in elderly persons, more frequently the effect of weakness than of over distended vessels.

When a complaint of this kind occurs in fevers, it is, as we have hinted, a dangerous symptom; and it then seldom arises from over distended vessels, but from weakness. In slow fevers, however, which approach insidiously, this symptom unexpectedly comes on; and all the evacuants, with every method of rousing the patient, are employed, till the powers of life, at once exhausted, yield. We may repeat the metaphor formerly employed, which the young eager practitioner should constantly keep in mind: a gentle gale may animate the flame which a violent wind will extinguish.

An attack of apparent carus, or even of its increased degree approaching apoplexy, often happens in young and strong persons from long exposure to the sun. In such cases we have seen leeches, blisters, and the whole train of evacuants, employed with little success. The disease is in fact a less degree of the *coup de soleil;* and moderately warm stimulants, with tonics, and, above all, rest, with patience, are only adequate to the relief. Its immediate cause is obscure; but, whatever it may be, we are not yet in a condition to explain it. Various preliminary facts must be previously stated.

Narcotic poisons and effluvia are more common causes of carus than of apoplexy. These also require a stimulating plan. Cold water dashed on the surface, oxygenous gas injected into the lungs, volatile spirits applied to the nose, and stimulating cataplasms to the feet, are all necessary. In other respects the treatment does not essentially differ from that of apoplexy.

CARO'TA. See Daucus.

CAROTIDE'Æ ARTE'RIÆ. The carotid arteries; from *καρα, the head*, or *καρος, sleep;* since, when the current of blood is diminished through these vessels, stupor follows.

From the fore part of the curvature of the aorta, just before the trachea, the right subclavian and the *carotid* mostly arise in one common trunk, which runs upwards a little way, and then divides. The left carotid rises singly, and runs upwards on the side of the trachea. Both these carotids run up as high as the side of the larynx, even to the upper part of the thyroid cartilage, before they give off one branch, and there they divide into the external and internal: the latter goes to the inside of the cranium; the former, which is the largest, gives branches to all the external parts of the head.

The external *carotid* is anterior, the internal is posterior; the external situated more inward and nearer the larynx. It is the smallest, runs insensibly outward between the external angle of the lower jaw and the parotid gland, which it supplies as it passes; afterwards it ascends on the fore side of the ear, and ends in the temples. It sends off the gutturalis superior, sublingualis, maxillaria inferior, maxillaria externa, &c. The internal carotid leaving the general trunk is, at first, a little incurvated. It is situated a little more backward than the external, and generally runs up, without any ramification, as high as the lower orifice of the great canal of the apophysis petrosa of the os temporis: it enters this orifice, and the cranium, through an irregular aperture in the sphenoidal bone; and, except one branch, which goes to the eye, it is wholly spent upon the brain. See Winslow's Anatomy.

CA'RPASUS, (so named *παρα το καρον ποιησαι*, because it makes the person who eats it appear as if he was asleep). An herb, the juice of which was formerly called *opocarpason, opocarpathon*, or *opocalpason:* according to Galen, it resembles myrrh; but is esteemed highly poisonous. It is not certainly known what it is; yet Bruce thought he had found it in a species of acacia, called *sassa*, which is *not* poisonous. It differs little from the mimosa Nilotica.

CA'RPATA. See Cataputia minor.

CARPA'THICUM. From the fresh cones of the trees which yield the common turpentine is distilled a fine essential oil, said to be *carpáthicum*, or *Germánis óleum*.

CARPERITA'RIA. See Barbarea.

CARPE'SIUM, (from *καρπος, fruit*). This is an aromatic vegetable; it is often mentioned by the ancients, and is probably the *carpesium cernuum* Lin. Sp. Pl. 1203.

CAR'PHOS. See Fœnum Græcum.

CA'RPHUS, (from *καρφη, a straw*). In Hippocrates it signifies a straw, a mote, or any small substance. It also signifies a small pustule, for the cure of which Ætius, Tetrab. i. recommends rubbing them with dried seeds of the herb mercury.

CA'RPIA, (from *carpo, to pluck off*, as lint is from linen cloth). See Carbasus.

CA'RPIO, (from *carpo, to seize;* so called because of its voraciousness). Called also *carpa, cyprinus*. The carp. Fish of this kind fed in rivers are better than those fed in ponds; and of these the largest and fullest are the best. They live on herbs, slime, and the smaller fishes. They are nutritive, but not highly flavoured, and the fat is indigestible. The head is the finest part of the fish; and of the head, the tongue is the most delicate.

CARPOBA'LSAMUM, from *καρπος, fruit*, and *βαλσαμον, balsam*). It is the fruit of the tree that yields the balm of Gilead. See Balsamum.

CARPOLO'GIA, (from *carpo, to pluck*, or *pull gently*). A delirious motion of the hands; as when a patient seems to be gathering something from off the bed clothes, which yet is imperfectly performed, because of the trembling which affects them. It is usually a fatal symptom in fevers.

CA'RPOS. (Greek.) See Fructus and Semen.

CA'RPUS. *Καρπος*, a Greek primitive, a wrist, called by the ancients *brachiale*. It consists of eight bones; viz. the *os scaphoides, lunare, cuneiforme, pisiforme, trapezium, trapezoides magnum*, and *uneiforme*. The first three make an oblong head, by which they are articulated to the lower extremity of the bones of the fore arm by arthrodia. The articulation of these three bones, with the bones of the inferior row, is such

as allows of motion, especially backward and forward, to which the arthrodia of the os magnum with the scaphoides and lunare greatly contribute. The trapezium on the one side, the pisiforme and cuneiforme on the other, being raised above the rest of the bones of the carpus, make a sort of arch for the secure passage of the flexors of the fingers; and the transverse ligament being extended from one side of the arch to the other, binds them down to their proper place. Lyserus gave the eight bones of the wrist their respective names. The four bones of the second row are all in a line, the first being articulated with the thumb, and the rest with the metacarpus. These bones are very spongy. See Winslow's Anatomy.

CA'RTHAMUS, (from the Arabic term *kartham*). Bastard saffron. Called also *cnicus; crocus Saracenicus; carthamum officinarum; carduus sativus*, saffron flower; *carthamus tinctorius* Lin. Sp. Pl. 1162. Nat. order *cynarocephali* of Jussieu. It agrees with the thistle in most of its characters, but its seeds are destitute of down. The leaves are oval and pointed: on the tops grow scaly heads, with saffron coloured fistulous flowers; these are followed by smooth white seeds, of an oblong roundish shape, yet with four sensible corners remarkably heavy, so as to sink in water.

This plant is annual, a native of Egypt, and cultivated in other places on account of its flowers, which are used in dyeing. It does not arrive at much perfection in England.

The seeds have an unctuous sweetish taste, which on chewing are acrid and disagreeable. With water they form an emulsion by trituration; and to spirit they give out a little nauseous, acrid matter. They are cathartic in doses of one or two drachms; supposed also to be diuretic and expectorant, particularly useful in humoral asthma, and similar complaints. The flowers are difficultly distinguished by the eye from true saffron, when they are well prepared; but they have neither its smell nor taste. They give to spirit of wine a deep saffron tincture, and to water a paler yellow. After the yellow matter is extracted by water, the flowers appear of a red colour, and communicate to spirit of wine a deep red.

Some have the art of preparing the seeds of melons and of cucumbers, so as to resemble the excoriated seeds of bastard saffron; but the genuine seeds are not so white as the artificial.

The carthàmus lanatus is considered in France as a febrifuge and sudorific. (See Carduus and Atractylis). The *carthamus gummiferus* of naturalists is the *atractylis gummifera* of Linnæus. Its juice is milky, and it concretes in the form of a gum.

CARTHUSIA'NUS PU'LVIS, (from the *Carthusian monks*, who were the inventors). See Antimonium.

CARTILAGINO'SUM, (from *cartilago, a cartilage*). See Patella.

CARTILAGO, (quasi *cartilago*, from *carnis*, the genitive of *caro, flesh*). A substance between muscular flesh and bone. A cartilage or gristle, called also *chondros*. Dr. Hunter defines it to be a smooth, solid, diaphanous, elastic, insensible, inorganic substance. He observes, that in the fresh subject it appears uniform, and without any visible fibres; when cut in any direction, its surface appears smooth, like wax or glue. On a cartilage there is no periosteum; but its place is supplied by a similar membrane, styled the perichondrium. Cartilages are the least affected by pressure of all animal substances, while the body is living: their substance is firm and dense, and their texture so fine, that, when cut, they appear only like a very stiff jelly.

Cartilages are distinguished into three kinds:

First, such as supply the place of a bone in an adult, as the *trachea;* secondly, such as supply the place of bones in young subjects, as *epiphyses;* and, thirdly, such as are *common to the fœtus and adult*, and are expanded on the extremities of articulating joints.

Bones, it is supposed, are only cartilages, into which the calcareous phosphat has been secreted; and, when nitric acid has dissolved the latter, the shape of the bone is thought to be preserved by its cartilaginous substance. This, however, is not correct, as we have already shown; and the matter which remains after solution is rather membranous, with a portion of gelatine attached to the membranes.

Cartilages differ greatly from bone. They are insoluble in cold water; but they yield to the water at a boiling heat, forming a jelly, and at last a glue. Yet, even to cold water, they impart a small proportion of gelatine, which becomes sour. The jelly procured by boiling water becomes first sour, and then putrid, but not in a high degree; and the animal matter procured by distillation is much less than from the same bulk of muscular, or almost any other animal, substance.

The articulating cartilages cannot be injected to their middle solid part, though the vessels of its membrane are easily filled. The cartilages are supposed to be supplied with nerves, but they are too minute to be visibly demonstrated.

The uses of the articulating cartilages are, first, to prevent abrasion, as without them the continual attrition of the bones against each other's surface must have destroyed them; secondly, by their elasticity, they break the force of collision; thirdly, they serve as indolent bodies, to admit of motion and friction without pain. They sometimes answer the purpose of ligaments, occasionally of bones.

A disease never affects the cartilages primarily. They are incapable of exfoliation; but when diseased from some preceding disorder of the bone, the whole is generally affected, and the cohesion between the cartilage and the bone in the joint being less than between the parts of the cartilage itself, causes it to separate from the bone. If a part of the cartilage is destroyed, it is never restored.

CA'RUI and CA'RUM, also called *carvi, cuminum pratense, caros;* carawaies. It is the *carum carvi* Lin. Sp. Pl. 378. Nat. order *umbelliferæ*.

It is a native of the northern climes; cultivated in gardens with us; but by chance found wild, and is a biennial plant. Its roots and leaves are esculent.

The seeds are warm and carminative; have an aromatic smell, a warm penetrating taste, and are given in powder from ℈j. to ʒj. They dispel wind, are cordial, stomachic, and assist the digestive powers; recommended in dyspepsia, flatulencies, and some hysterical and hypochondriacal affections. Carui seeds excite the discharge of saliva, and are said to be emmenagogue. They are used in palsies: the oil is supposed

to be advantageous in tooth ach. In the complaints of children, they are boiled with advantage among the laxative ingredients of clysters. Custom even retains them in those of adults. They differ only from anise-seeds in the peculiarity of their odour.

An extract made from a tincture, with rectified spirit, retains all the virtue of the seeds. After infusion in water, spirits extract a strong tincture; watery infusions are strongest to the smell, and spirituous ones to the taste.

When distilled in water, all their aroma rises. They afford an essential oil, which is a warm carminative, and given in doses from one to five drops: and there is also a spirit drawn from the seeds. SPIRITUS CARUI is made by adding half a pound of bruised carui seeds to a gallon of proof spirit, with a little water to avoid empyreuma, and distilling off a gallon. It has been used as a stomachic; but, by such medicines, the pernicious habit of drinking drams is often incautiously introduced.

CARU'NCULA. A CARUNCLE. This word is a diminutive from *caro*, *flesh*. A caruncle is a small piece of flesh, or an excrescence that hath the appearance of flesh. Thus there are the *carunculæ lachrymales* in the corners of the eyes; the *carunculæ myrtiformes*, which are at the entrance into the vagina, formed, or rather discovered, by the rupture of the hymen (see HYMEN); the *papillares carunculæ* of the kidneys; and a caruncle of the urethra at the orifice, which opens from the vesiculæ seminales; besides many others, all which are the productions of nature. The uvula is sometimes called *caruncula*.

Morbid excrescences of flesh are called *caruncles*, as well as small portions of a fleshy substance sometimes discharged in a dysentery by stool, or in diseases of the urinary passages by urine.

Excrescences in the urethra arise from its ulcerated or excoriated sides, by sharp corroding matter lodging there: these are often mistaken for the stone, or occasion nephritic symptoms, but are owing to a stricture in the urethra. In this case, when the urine is discharged, it passes from the urethra divided into two or more streams, sometimes only with pain, and in drops; but the only certain proof is, passing a probe or bougie up the urethra, until the obstruction is met with; and if any is found on this side the valve, at the entrance of the bladder, there is reason to suspect caruncles to be the cause. They are cured by the bougie. Bell's Surgery, vol. ii. p. 188.

CARU'NCULA LACHRYMALIS, is situated between the internal angle of the eye lids and the ball of the eye; it is a small reddish oblong substance, and hath the appearance of being fleshy, though it is thought to be glandular. The ancients call it *glandula lachrymalis*, also *glandula innominata*. It serves to prevent the internal edges of the lids at that part from coming into contact with one another; and the orifices of the lachrymal points are kept open, so that the tears pass freely through them into the sac.

CARU'NCULÆ MYRTIFO'RMES, (from *myrtus*, *a myrtle*, and *forma*, *a likeness*, because they are like the myrtle berry). They are several small knots or protuberances at the entrance of the vagina; they are the remains of the ruptured hymen, and, when large, have been taken for cancers.

CARUNCULO'SA ISCHURIA. A suppression of urine, from caruncles in the urethra. See ISCHURIA, 4th species.

CA'RVA. See CASSIA LIGNEA.

CA'RYA, a walnut, (from *καρα, the head*, because it is round like the head). See JUGLANS.

CA'RYCE, or CARYCIA. Galen says it is a costly food prepared by the Lydians. Varinus supposes it to be thus called, because it was black like the boiled walnuts; from *καρυον, the walnut*.

CARYE'DON, (from *καρυα, a nut*). See ALPHITIDON.

CA'RYL. See CORALLODENDRON.

CARYO'CES. A Portuguese name for the fruit of the Guinea palm tree. See also ADY.

CARYOCOSTI'NUM ELECT. (from *καρυον, caryophillus*, and *κοστινος, composed of costus*, so named from its ingredients). See SCAMMONIUM.

CA'RYON. A NUT. (From *καρα, the head*, from its rotundity.) This word is applied to all such fruit as inclose somewhat eatable within a hard shell. Plutarch says that the ancients called the walnut *caryon*, because it induces a heaviness and stupidity of spirits; probably derived *παρα το καρον*, from its causing sleep. See CAROS.

CA'RYON BASI'LICON. See JUGLANS.

CA'RYON HERACLEO'TICON. A small nut, as a hazle nut or filbert; from Heraclea, in Pontus, whence it was brought into Greece.

CA'RYON LE'PTON. A small nut, as filberts, or hazle nuts; from *λεπτος, small*.

CARYOPHYLLA'TA: also *herba Benedicta*, *caryoph. vulgaris*, *garyophilla*, *janamunda*, *avens*, HERB BENNET. It is called *caryophyllata*, from *caryophillus*, because its smell resembles that of clove July flowers. *Geum urbanum* Lin. Sp. Pl. 716. Nat. order *rosaceæ*.

It is perennial, grows wild in woods and hedges, and is found in flower the greatest part of the summer.

The root is gently styptic, corroborant, and stomachic; hath a moderately austere aromatic taste, a pleasant smell, especially in the spring, and when produced on dry warm soils. It has been said to be astringent, vulnerary, and tonic; to cure intermittents where bark has failed. Indeed, it is strongly astringent with some aroma, when recently raised in the spring, and from a dry soil. There is great reason to doubt its efficacy in intermittents, as the experiments of the Swedish physicians contradict those of the Danes and the Germans, who are the great advocates for this medicine. It gives its aroma chiefly to spirits, and its astringent matter to water or to spirit. In distillation with water it affords a small quantity of an agreeable concrete oily matter; and the remaining decoction, if inspissated by evaporation, is moderately astringent. Lewis's Mat. Med. Cullen's Mat. Med.

CARYOPHY'LLATUM A'LCOHOL. See CARIES.

CARYOPHY'LLI AROMA'TICI, (from *καρυον, a nut*, *φυλλον, a leaf*, and *αρωμα, odour*). The AROMATIC CLOVES; called also *garyophyllus*, *hinka*, and *clous*. It is the unripe fruit, or rather the cups of the unopened flowers, of a tree which grows in the Molucca Islands, of the natural order of the myrtles. In shape, it resembles a short thick square nail, of a rusty colour, inclining to black: in the middle of each clove are found

a stylus or stamina, with their apices; at the larger end shoot out from the four angles, four little points, like a star, in the middle of which is a round ball of a lighter colour than the rest, composed of four small scales or leaves, which seem to be the unexpanded petala of the flower. The tree is the *caryophyllus aromaticus* Lin. Sp. Pl. 735. It, indeed, seems evidently to belong to the class *icosandria;* and modern botanists are said by Dr. Woodville, though we know not on what authority, to refer it to the genus *eugenia*. The clove tree is one of those whose flower is produced above the rudiments of the fruit: the ripe fruit, sometimes brought to England under the name of *anthophyllus*, or *antophyllon*, marked on the top with the remains of the flower, is about the size and shape of an olive, and contains, under a thin blackish shell, one or two hard kernels of the same colour, which hath a deep longitudinal seam on the side, composed each of two sinuous lobes; but this fruit is less aromatic than the immature flower. The cloves are said to be cured by exposing them to smoke, and afterwards drying them in the sun.

The largest, heaviest, most brittle, and darkest coloured, are the best, and those which feel oily when pressed. Another mark of their goodness is, when, on piercing them with a needle, a little liquid matter, like oil, oozes out. Those that are of a light brown colour have had their oil extracted.

Cloves have a strong but agreeable smell, a bitterish hot pungent taste; are one of the hottest, and most pungent and acrid, of the aromatic class; and have all the virtues ascribed to aromatics in general. When good, they have these qualities in a great degree, and almost burn the throat when swallowed. They are remarkably disposed to imbibe humidity; and, when robbed of their active parts, and afterwards mixed with fresh cloves, they regain from them a considerable share both of taste and smell. The Dutch extract the oil from them, and then mix them with others, from which it hath not been separated; but their dryness, less pungent odour, and pale colour, discover the fraud. The Dutch also preserve the fruit with sugar, which they eat in their voyage, to stimulate the stomach and prevent scurvy.

Rectified spirit of wine takes up all the virtue of cloves: an extract from this spirituous tincture amounts to nearly one-third of the cloves used in preparing it, and retains nearly their whole virtue. Infused in water, they give out to it more of their smell than to spirit, but not so much of their taste.

Distilled with water, they give over, very slowly, about one-sixth of their weight of essential oil, at first yellow, and afterwards a reddish brown; but if the fire is very moderate, its colour is pale: it sinks in water, is mild, and not very pungent; but the only way to have it genuine is to distil it ourselves. The Dutch oil is very acrid, and contains near half its weight of an insipid expressed oil. It is probable, that, from an admixture of the resinous part of cloves, this sophisticated oil receives both its acrimony and high colour; or, as fresh cloves are said to yield a high coloured fragrant thick oil upon expression, it may be, that the common oil of cloves, brought from the spice islands, is no other than this oil diluted with an insipid one. In Holland, the oil is distilled by holding the cloves in a moistened cloth over the fumes of hot water. Heat is applied over them; and the oil, dropping through the water, sinks to the bottom.

If the oil of cloves is adulterated with an insipid expressed oil, it is discovered by dropping a little into alcohol; and, on shaking them, the genuine oil mixes with the spirit, and the insipid oil, separating, is discovered.

Cloves are considered to act as powerful stimulants to the muscular fibres; and, in some cases of atonic gout and paralysis, may supersede most others of the aromatic class. In stomach and chlorotic complaints, they are often of considerable service. Though cloves powerfully excite the vital powers, they produce no serous discharges, and are accused of inducing constipation. In humoral asthmas they are said to be useful, and the oil rapidly cures the tooth ach. Its use as a condiment is well known. Both the spice and oil are used as correctors of some of our officinal compositions. The Dutch join it with bark and cream of tartar, in obstinate agues. Twenty cloves are added in powder to half an ounce of each of the other, and ʒ ss. is given every third or fourth hour.

In dyspepsia, also against flatulence, and as a vehicle to other medicines, ʒ ij. of cloves are infused in half a pint of boiling water. The dose, one ounce and an half, or two ounces.

The oil of cloves is made into an agreeable draught by mixing it with a proper quantity of gum arabic, and then with water. See Neumann's Chem. Works. Lewis's Mat. Med. Cullen's Mat. Med.

CARYOPHY'LLI SUA'VIS ODO'RIS, &c. See CANELLA ALBA.

CARYOPHYLLO'IDES CORTEX CARYOPHI'LLON PLI'NII, (from καρυοφυλλον, *caryophyllus*, and εἰδος, *likeness*, from their resemblance to the July flower). See CASSIA CARYOPHYLLATA.

CARYOPHI'LLUS RU'BER, from καρυον, *a nut*, and φυλλον, *a leaf;* so called because it smells like the leaves of the Indian nut or clove tree). Hence it is a name applied to many plants of the pink and July flower kind. GILLYFLOWER; also called *tunica*, *vetonica*, *betonica coronaria*, *caryophillus hortensis*, CLOVE JULY FLOWER; *dianthus caryophyllus* Lin. Sp. Pl. 587.

It is well known in our gardens, is perennial, and said to be a native of Italy. There are many varieties; but those employed for medicinal use are of a deep crimson colour, and an agreeable aromatic smell, somewhat resembling that of the spice; and this odour is not very soon dissipated.

These flowers are esteemed moderately cardiac, diuretic, and sudorific; but they are chiefly used in the form of a syrup, for the beauty of their colour.

The London college directs the following syrup from these flowers.

Take of fresh clove July flowers, with their heels cut off, two pounds; of boiling distilled water, six pints: macerate the flowers in the water for twelve hours in a glass vessel; and in the liquid, strained, dissolve as much double refined sugar as is required to make a syrup. It should be observed, that as the beauty of the colour is a principal quality of this syrup, no pressure of the flowers is to be admitted.

In St. Thomas's hospital a syrup is made from the aromatic clove, coloured with cochineal. See Lewis's Mat. Med.

CARYOPHY'LLUS AROMA'TICUS AMERICA'NUS. See PIPER JAMAICENSIS.

CARYOPHY'LLUS HORTE'NSIS. See CARYOPHILLUS RUBER.

CARYOPHY'LLUS IN'DICUS. See ANTHELMIA.

CARYOPHY'LLUS VU'LGARIS. See CARYOPHILLATA.

CARYO'TI, (from *καρυον, a nut*). See DACTYLUS PALMULA.

CAS GA'NGYTHREB. See VERBENA.

CA'SAMUM. See ARTHANITA.

CASCARI'LLA. CASCARILLA. The Spaniards apply this word to the Peruvian bark, as we apply the word *bark* to distinguish the same material. It is a diminutive of *cascara*, the Spanish word for bark or shell; but is applied by us to a peculiar bark, very different from the Peruvian. See THURIS CORTEX.

CA'SCHU. See TERRA JAPONICA.

CA'SEUS, (from the Arabic term *casah, milk*). CHEESE. When old, it is called *palætyrus*. Aristæus, a pupil of Chiron, is said to have first discovered the art of making it. The ancients were well acquainted with the methods of coagulating milk; and for this purpose they boiled it, mixed it with vinegar, infused the branches of the fig tree in it, or added salt with sour milk.

The curd of milk is more or less dense, according as the whey is more or less perfectly separated from it. Its cohesion is never considerable; but the chief art of making cheese consists in separating as perfectly as possible the whey, for a very small proportion of moisture accelerates fermentation and putrefaction.

Curd or cheese is an albuminous substance, not unlike the white of an egg, or the coagulum of the blood. It dissolves in alkalis, but most perfectly in the caustic mineral alkali; and from its solution a volatile alkaline smell arises. The vitriolic and nitrous acids dissolve it; the marine acid less readily. In hot water it hardens; and cold has no effect on it. If the cheese is good, it melts easily: if poor, it becomes crisp and horny. By distillation, the water which first arises is nearly tasteless, but soon putrefies. In a greater heat the cheese blisters, and yields hydrogenous and carbonated gas, with some ammonia, and a heavy stinking oil. Its ashes contain phosphat of lime and calcareous earth. The curd of goat and cow's milk is solid and elastic; that of the ass and mare less solid; that of the sheep and women almost or entirely fluid. It is a common opinion, that old cheese digests every thing, yet is left undigested itself; but this is without a proper foundation. New cheese digests with difficulty, and when old is acrid and hot. Cheese made from the milk of sheep digests sooner than that from cows, but it is less nourishing; that from the milk of goats sooner than either, but is the least nourishing. In general, it is a kind of food fit only for the laborious, or those whose organs of digestion are strong. See Galen de Alim. Facult.

Dr. Cullen, in his Materia Medica, vol. i. gives a very minute account of cheese, and tells us "the caseous or coagulable part of milk contains certainly a great, if not the greatest part of the nourishment which milk affords, and is in itself the more nourishing the more it is united with the oily parts. When the coagulum has the whey taken from it, it becomes a more nutritious substance than the milk it was taken from, but will probably be of more difficult digestion. Cheese in its dried state, when made from milk previously deprived of its cream, may be still nutritious, though of difficult digestion; but made of entire milk must be more nourishing, and of easier digestion; and made of entire milk, with a portion of cream taken from other milk added to it, will be still more nourishing, but hardly of less easy digestion, as the oil every where interposed between the parts of the gluten must render its adhesion less firm; and if cheese is made of cream alone, that will be certainly the most nutritious, and of the easiest digestion."

But cheese is not only made of cows' milk alone, but also of the milk of ewes and goats, and often of a portion of the two latter added to cows' milk. In all these cases, as the milk of ewes and cows contains a larger portion of the oily and caseous parts, so in proportion as these are employed the cheese becomes more nutritious, but at the same time often occasions inconvenience from its richness.

As cheese is employed not only when recent and fresh, but also under various degrees of corruption, so it acquires new qualities; and, according to the degree of corruption, it becomes more acrid and stimulant, partly by the acrimony thus acquired, and partly by the great number of insects that are very constantly generated in that state. It can then hardly be taken in such a quantity as to be considered as alimentary; and its effects as a condiment influencing the digestion of other food are difficult to explain, though they are commonly admitted. When toasted, it is certainly not easily digested by weak stomachs; as a portion of the oil is separated, and the coagulum rendered horny.

In general, cheese, as an aliment, is, as we have remarked, adapted to the healthy, the strong, and laborious. The coagulum always contains a sufficient degree of moisture to approach the putrid state, which is prevented from advancing rapidly, by the close compression it experiences. Yet, as a medicinal dietetic, it is often useful, even in debilitated stomachs. In those where acid abounds, good cheese is particularly serviceable; and in cases of flatulence it often relieves. It has been recommended as a diet in leucorrhœa; and we can perceive some connection between this complaint and an acid stomach, since absorbents have been recommended for its relief: as a condiment it is well known, and it has been properly said, that cheese digests every thing but itself; in other words, though undigestible, yet by its stimulus, or its antacid power, it contributes to the digestion of the various heterogeneous substances of a modern luxurious dinner, since a redundant acid is its most frequent consequence. It may be of use to know, that soft cheese relieves that unpleasing sensation often the consequence of an acid, which we express by the teeth being an-edge.

With respect to its component parts, cheese chiefly differs from the excess or defect of its oily part. The opposite examples are the cream cheeses of Bath, and the scald-milk cheese of the West. In the former, cream is added, and it is of course in a larger proportion than from the milk which nature offers. The consequence is, that compression is inadmissible; the acid fermentation soon comes on, increased fluidity is the consequence, and from that state it rapidly hastens to

putrefaction. The Bath cheese is nutritious, and we think easy of digestion. The Stilton cheese is not very different; and the Cheshire, the Gloucestershire, and the Bridgewater, follow in the order. Each is more oily and nutritious than its successor: each in the inverse order is more stimulating and indigestible, and still more so the farther the putrefactive process is advanced.

On the opposite side, the scald-milk cheese contains the curd almost wholly without the oil, which is artificially separated by heating the milk to a degree just below the boiling point. It is hard and indigestible; but we may add, that this only is the cheese proper for cements. From its dryness, it does not readily putrefy; though when putrid it is scarcely more indigestible than in its most perfect state.

The Roquefort cheese is soft, mild, and pleasant. The peculiar excellence of this cheese, from M. Chaptal's description, consists in checking the fermentation when it has reached a given point; for if neglected, it contracts a disagreeably sour taste. The milk of goats and sheep are only employed. The Swiss cheese derives its excellence from a similar management. It is cellular; and the cavities are filled with whey, which is in its passage from the acid to the putrid state. The cheese is also rich, and the peculiar poignancy of this whey renders it such a favourite with the epicure. The smell when toasted is so much heightened as to be generally unpleasing, except to the sensualist.—But we cannot enlarge this disquisition: these details belong rather to the economical science than to medicine. See Lac.

CA'SHOW. See Terra Japonica.

CA'SIA, i. e. *Cassia*, (from the Arabic term *katsia*, and this from *katsa*, *to tear off*). Cassia; so called from the act of stripping the bark from the tree.

CASMINA'RIS, CA'SMUNAR. See Cassummuniar.

C. B. An abbreviation for Caspar Bauhine.

C. B. PIN. Caspar Bauhine's Pinax.

C. B. MATTH. Casp. Bau. in Matthiolum.

C. B. PROD. Casp. Bauh. Prodromus Theatri botanici.

CA'SSA, (from the Arabic term *katsa*). See Thorax.

CA'SSADA. (Indian). Called also *cacavi*, *cassave*, *pain de Madagascar*, *ricinos minor*, *maniot*, *yucca*, *maniiba*, *aipi*, *aipima coxera*, *aipipoca*, *janipha*, *jatropha manihot* Lin. Sp. Pl. 1429. Nat. order *tithymeloides* of Jussieu, nearly related to the *crotons*. This plant grows in the warmer parts of the western world. Its root, which is only used, is called *yucca;* by the Mexicans *quanticamotli;* and when prepared into a flour, *cassavi*. Names for the preparations of the root, in order to make it into bread, are various. See Mandiba.

This plant, which is a native, or at least a denizen, of three quarters of the world, is one of the most advantageous gifts of Providence to mankind. It grows in a dry, and in many respects an useless, soil; it is neither injured by seasons nor insects, and the roots of different varieties are fit for use at every period. It is nutritious, and, to those accustomed to the diet, pleasant, though to the European it is insipid. The plant is poisonous; but the poison consists in a volatile oil, which is easily separated by heat, and its congeneres afford us two medicines of peculiar utility, the cascarilla and the castor oil, both however from plants poisonous in some parts. The poison of the cassada root is a white milky fluid, highly deleterious. It is found to act as a sedative on the nervous system; for the substance is apparently unchanged, and neither inflammation nor erosion can be discovered in the stomach.

Among the varieties cultivated, those which have a tinge of red or violet are most common and most highly esteemed. The cassada, when dried, will keep fifteen years with little change: and Aublet tells us, that ten pounds are sufficient for fifteen days' provision. On adding water, it swells considerably.

The liquor that is pressed from this plant is called *manipueira ;* the root macerated in water until it is soft is called *mandiopiba ;* of the sediment of this is made a finer flour, called *vfpeba* by the Brasilians, and by the Portuguese *farinha fresca ;* the undried dressed meal, *farinha relada*.

The soft mandihoca is called *puba :* when dried over the fire, or in the sun, it is called *carima ;* and of this good bread is made, which is called *musam*, or *angu*, or *enfonde*.

The root of the bitter cassada is poisonous when raw: however, it may be deprived of its noxious qualities, which reside in the juice, by heat. Cassada bread is made therefore both of the bitter and sweet, by washing and scraping the roots clean, grating them into a tub or trough, and squeezing out the juice by strong pressure through a hair bag; the thinner part of which is evaporated, and the remainder dried over the fire in a hot stone bason, and afterwards made into cakes. It also makes puddings equal to millet.

The small bits which have escaped the grater, and the clods not passing through the sieve, are dried in the stove after the flour is roasted; then pounded in a mortar to a fine powder, of which is made soup. It is likewise used for making a kind of coarse cassada, which is roasted till almost burnt: this, fermented with melasses and West-India potatoes, forms an intoxicating liquor, a favourite drink of the natives, called *ouycou*. With this liquor the poorer inhabitants and workmen are often intoxicated. It is of a red colour, strong, nourishing, and refreshing; to which the inhabitants are soon and easily accustomed as beer.

Of the cassada are made emulsions, ptisans, &c. which are used in consumptions, dysenteries, fevers, faintings, against poisons and hæmorrhages, both internal and external.

The scrapings of fresh bitter cassada are successfully applied to ill-disposed ulcers.

The fluid pressed from the cassada contains an extremely fine fæcula or starch, of the most beautiful white colour, which, like the starch of wheat, crackles between the fingers—an adventitious quality in the latter, depending, it is said, on spirits of wine employed in the manufacture. The cassada starch is used in the preparation of the most delicate dishes; indeed in every art where we employ the finest flour.

From the cassada, mixed with potatoes, by fermentation, the Americans prepare the *vicou :* it is an agreeable acid liquor, equally pleasant and wholesome. If the juice of a variety of the jatropha, the cachiri, is boiled with rasped potatoes and sugar, and then fermented, a pleasing liquor resembling perry is produced. By a similar method, a kind of white wine (paya) or

cyder (voua-paya) is manufactured. In these processes, the roots of the cassada suffer a degree of decomposition, probably from fermentation, since they are allowed to remain till they are covered with a purple mould. The cassada, boiled with pimento till it acquires the consistence of a conserve, is used as a condiment, and said to be highly agreeable in a variety of sauces.

When the cassada is heated over the fire to separate the poisonous oil, it is usually made into cakes; but it is sometimes broken into small grains, and is then supposed to be the *tapioca*.

The juice of roucou is an antidote to the poison of this plant. Raii Hist. Encyclop. Britannica.

CASSA'LE VU'LNUS. A term signifying a wound in the breast: (from the Arabian word *cassa*, *a breast*).

CA'SSAMUM. The fruit of the balsam tree.

CASSA'TUM, (from κασσα, *a harlot;* so called from being debilitated by too frequent meretricious commerce). Weak, spiritless; blood that is grumous, and hinders the passage of the circulating blood. It is a word of Paracelsus.

CA'SSAVE, CA'SSAVI. See CASSADA.

CA'SSE, EAU DE, OR EAU DE CASSE-LUNE'TTE. It is snow water distilled from the flowers of the cyanus.

CA'SSIA. See CASIA, and also SENNA ALEXANDRINA.

CA'SSIA ALATA, Lin. Sp. Pl. 541. The leaves of this plant are bitter, nauseous in their taste, and supposed to be cathartic. The decoction is recommended in herpes.

CA'SSIA CANE'LLA. See CASSIA LIGNEA.

CA'SSIA CARYOPHYLLA'TA, called also *piper tavasci*, *caryophillus aromaticus fructu rotundo*, *garyophillon Plinii*, *amomum*, CLOVE BERRY TREE, SWEET SCENTED JAMAICA PEPPER TREE. The bark is called *cortex caryophylloides*, CLOVE BARK, and *cassiæ cortex*, CASSIA BARK. *Myrtus caryophyllata* Lin Sp. Pl. 675.

The bark is produced in Jamaica, Cuba, and other of the West Indian islands. It is rolled like cinnamon, but is rather thinner, rougher on the outside, and of a dark brown colour. Cassia bark is warm and aromatic, resembles the smell of cloves, though weaker, and mixt with the flavour of cinnamon; agreeing with cloves in the solubility and volatility of its active principles. Spirit of wine takes up all its aroma, but carries very little of it in distillation. Water takes up its smell, though imperfectly its taste; and, distilled with water, a small portion of an essential oil arises, which resembles that of cloves, but is more pungent.

A similar bark is brought from the East Indies, under the name of *culiltawan* or *culilawan*, a compound Malabarian word, which is translated into the Latin by cortex caryophylloides, or clove bark. That distinguished in Europe by the name of *culilawan* is thicker than the other, and more of a cinnamon colour, but scarcely differs in smell or taste. The *carabacium* of Baglivi is probably not very different, and supposed to be a species of *laurus*. Rumphius observes, that the outer and inner barks of different parts of the tree differ in colour and taste from one another; whence, probably, the differences observed in those brought under different names into Europe.

The unripe fruit is the JAMAICA PEPPER. See PIPER JAMAICENSE.

CA'SSIA FISTULA'RIS, called also *cassia nigra*, *cassia solutiva*, vel *purgatrix*, *chaiarxambar*, *canna*, *fistula*, PURGING CASSIA. *Cassia fistula* Lin. Sp. Pl. 540. The ALEXANDRIAN PURGING CASSIA.

The *cassia fistula* is the hard woody cylindrical pod of a tree called PUDDING PIPE TREE, which resembles the walnut tree: it grows spontaneously in Egypt and the warmer part of the East Indies, and hath been from thence introduced into the West, and is brought to us from the Brasils. The pods are about an inch in diameter, and a foot or more in length; externally of a dark brown colour, somewhat wrinkled, with a large seam running the whole length upon one side, and another, less visible, on the opposite side, internally of a pale yellowish colour, divided by thin transverse woody plates, in a number of little cells, containing each a flattish oval seed, with a soft black pulp.

The pulp is called by some *medulla; cassia cribratra; cassiæ atramentum*, *extractum*, and *flos;* by others, WILD HONEY, because of its sweet taste, which is followed by an ungrateful kind of acrimony; that from the East Indies has a more agreeable sweetness and less acrimony than the West Indian kind. The best pulp is of a shining black colour, sweet taste, with a slight degree of acidity.

The oriental pods are also smaller, smoother, and thinner rinded than the occidental, and its pulp is more shining and of a deeper colour. The dry pods, in which the seed rattles, are generally rejected; but Neumann thinks that they are scarcely worse than the other, as their humidity only is wasted, and it is thus secured from being mouldy or sour. The best sort, if gathered before it is fully ripe, grows mouldy, and becomes sour or harsh.

The pulp of cassia dissolves very readily in water, whether it is moist or dry, but not so readily in spirit of wine. It is usually extracted by boiling the bruised pods in water, and evaporating the strained solution to a proper consistence: the exhaling vapour carries nothing off. The pulp soon turns sour, so that it should be only extracted in small quantities.

Cassia was first used by the Arabians. Where irritating purges would injure, it may be safely employed: in doses of a few drachms it is generally laxative, and particularly useful in costive habits and inflammatory cases. According to Geoffroy, it is peculiarly beneficial in those tensions of the belly which attend an imprudent use of antimonials: as a cathartic, two ounces are required, so that it is seldom used; and, indeed, at present it is rarely given by itself, except to children, or pregnant delicate women. The pulp of prunes is recommended to supply its place, as almost equally pleasant and safe.

It is sometimes quickened by stronger purgatives, or with tartrited antimony, which it decomposes; so that four grains or more of emetic tartar may be taken in a decoction of cassia by those, who, without it, can scarcely bear one quarter of the dose. It is supposed to enhance the purgative virtue of manna: a mixture of half an ounce of cassia with two drachms of manna, is said to purge more than three times the quantity of cassia by itself, or than a yet greater quantity of manna when alone.

Cassia, if repeatedly taken, is said to tinge the urine of a yellow, green, or brown colour, according to the quantity given. Bergius, however, informs us, that an

ounce was taken for three successive mornings without such effect.

The London college directs the following preparation:

Electuárium è Cássia.—Take of syrup of roses, the pulp of cassia, fresh extracted, of each half a pound; of manna, two ounces; of the pulp of tamarinds, one ounce. Beat the manna, and, with a slow fire, dissolve it in the syrup; then add the other ingredients; continue the heat; and reduce the whole to a proper consistence.

This electuary was formerly called *diacassia:* the tamarinds render the taste of it very agreeable, and do not subject it to turn sour. Two or three drachms will prove gently laxative. See Lewis's Mat. Med. Neumann's Chemical Works. Cullen's Mat. Med.

Ca'ssia lig'nea; called also *cassia lignea Malabarica*, *xylo-cassia*, *canella Malabarica et Javensis*, *karva*, *canella Cubana*, *arbor Jucadice*, *cassia canella*, *canellifera Malabarica*, *cortex crassior*, *cinamomum Malabaricum*, *carva*, *calihacha*, and by the ancients *canela*, WILD CINNAMON TREE, MALABAR CINNAMON TREE, or *cassia lignea tree*.

The leaves of this tree are, by way of eminence, called FOLIUM, which see. The bark is called *cassia lignea*, and is brought from the East Indies. This tree is of the cinnamon kind. It is the *laurus cassia* Lin. Sp. Pl. 528; the *cassia*, or *wild cinnamon tree*. Curtis, in his Catalogue of Medicinal Plants, in the London Botanic Garden, calls it *laurus Malabathrum*. This bark (the best species of which are styled *daphnitis*) resembles cinnamon in appearance, but is distinguishable by its breaking short or smooth, while the fracture of cinnamon is fibrous: and by chewing, when the cassia becomes mucilaginous, but the cinnamon austere and dry. It resembles cinnamon in flavour, but is weaker: it contains a mucilage, of which cinnamon does not sensibly partake; if powdered, and boiled in water, the water becomes glutinous, so as to concrete, on cooling, into a jelly. Of the bark, choose that which is small, purplish, easily broken, fragrant, pungent, sweetish, and mucilaginous when chewed.

Spirit of wine extracts the aroma, and water extracts the mucilage. By distillation in water it yields a small portion of oil, which differs not from that of cinnamon; and if care is taken in distilling it with water, no difference can be discovered from what it produces, and that which is drawn from true cinnamon; but if too much heat is continued at the end of the operation, it occasions an empyreumatic flavour, because of the mucilage, which is very apt to burn. As a cordial, it is equal to cinnamon, if twice the quantity is allowed for a dose; but to astringent powers it has no pretension. See Neumann's Chem. Works. Lewis's Mat. Med. Cullen's Mat. Med.

Ca'ssia poe'tica lobe'llii, *cassia Latinorum*, *cassia lignea Monspeliensium*, and *cassia Monspeliensium*. See OSYRIS.

Ca'ssia li'gnea Jamaice'nsis. See CANELLA ALBA.

Ca'ssiæ atrame'ntum et extractum. See CASSIA FISTULARIS.

Ca'ssiæ co'rtex. See CASSIA CARYOPHYLLATA.

CASSIA'NA. See CASSINE.

CA'SSIBOR. See CORIANDRUM.

CA'SSIDA, (from its resemblance to *cassis*, *a hood*, or *helmet*); *Lysimachia galericulata*; *scutellaria galericulata* Lin. Sp. Pl. 835. HOODED LOOSE STRIFE.

Lysimachia cæru'lea galericulata, or *grattola cærulea*, (from *Lysimachus*, the inventor). HOODED WILLOW HERB.

Dr. Turner says it was called *tertianaria*, from its use in intermitting fevers; it is bitter, stinks like garlic, but is never used.

CA'SSIDBOTT. See CORIANDRUM.

CA'SSINA, CA'SSINE; also called *alaternoides Africana lauri serratæ folio*, *Apalachine gallis*, *herba cassiana*, *alaternus*. *Ilex cassine* Lin. Sp. Pl. 181. Nat. order *dumosæ*. It grows in Carolina; the leaves resemble those of senna, blackish when dried, shining in the upper part, and green underneath, with a bitter taste, and an aromatic smell. There are two sorts, and, according to Dale, they are the third and fourth species of alaternus. Miller calls the *cassine* vera Floridanorum, the SOUTH SEA TEA TREE; and the *Paragua*, the CASSIO BERRY BUSH. Some call the Paraguay, or South sea tea, by the name of BARTHOLOMEW'S HERB. It grows near the sea. The trade for this tea is chiefly at Santa Fé, whither it is brought by the river Plata: there are two sorts, the *yerba de palos*, and a finer and a better sort, called *yerba de camini*. It is most probable that the *yerba de camini* is the Paraguay, or South sea tea, and the *yerba de palos* is our cassio berry bush. The leaves of the cassine are considered as stomachic and stimulant. They are sometimes used as expectorants; and, when fresh, are emetic. Miller's Dict.

CA'SSOB. See ALCALI.

CASSOLE'TA. A kind of humid suffumigation described by Marcellus.

CA'SSONADA. See SACCHARUM.

CA'SSU. See ACAJAIBA.

CASSUMMU'NIAR, called also *bengalle Indorum*, *rysagon*, and *casminar*. The root brought from the East Indies in irregular slices is tuberous, an inch or more thick, marked on the surface with circles or joints like the galangal: it is brown on the outside, and of a dusky yellow within. We have no certain account of the plant from which it is taken.

This root was introduced by Marloe as a medicine of uncommon efficacy in nervous diseases; at present it is used as a stomachic, but not so generally as it seems to deserve. It is warm and aromatic, slightly bitter, in smell resembling ginger, or zedoary, from which it differs in being milder. Spirit of wine extracts all its virtue; and, if the tincture is evaporated, it remains in the extract. Lewis's Mat. Med.

CASSU'TA, (from the Arabic term *kesut*). See CUSCUTA.

CASTANEA. CHESTNUTS, (from *Castana*, a city in Thessaly from whence they were brought). Called also *lopima*, *mota*, *glans Jovis Theophrasti*, JUPITER'S ACORN, and SARDINIAN ACORN. *Fagus Castanea* Lin. Sp. Pl. 1416. The coat between the kernel and shell is astringent; the kernel is indigestible, and supposed to be astringent; but if roasted and mixed with honey, it is commended for coughs and spitting of blood. See ALIMENT.

Cast'anea. Fl'ore al'bo, &c. See COFFEA.

Casta'nea equi'na. Horse chestnut. See Hippocastanum.

Casta'nea ca'stjoe. See Terra Japonica.

CASTLE-LEOD WATERS. This mineral water is found at Castle-Leod, in Ross-shire: and at this place a spring of strong sulphureous water has been in great repute for many years. Dr. D. Monro, in his analysis, found a gallon to contain about 59 grains of solid matter; viz. of absorbent earth $1\frac{3}{4}$ grain; of selenite $26\frac{3}{4}$ grains; of saline matter $30\frac{3}{4}$ grains; the greatest part of which is true Glauber's salt, mixed with a little sulphur, and probably a very small portion of marine bittern. This water is said to be sensibly diuretic, and sometimes to increase perspiration. It increases the appetite, and sits light on the stomach; sometimes occasioning a little headach, but of no long duration, nor to any great degree. Dr. Mackenzie has directed people with various complaints to drink these waters; and observes, that cutaneous eruptions have been cleared by their use, the herpes removed, the erysipelas received benefit, and foul ulcers cured. Dr. Monro asserts, that many of those cutaneous disorders called scorbutic have been removed by their means, and that they cure the itch. As this water contains but a small portion of purging salt, and does not operate by stool, all these virtues are very incredible, and are probably the offspring of fancy or superstition. To render them really useful, some purging salt may be occasionally added to the first glass that is taken in the morning; and if equal parts of this and sea water be mixed, they will form a purging sulphureous water, similar to that of Harrowgate. See Monro, vol. ii. Medical and Pharmaceutical Chemistry.

CASTOR, (quasi γαστωρ, from γαστις, *the belly*, because of the largeness of his belly; or from *castrando*, because he is said to bite off his testicles, as the supposed object of his hunters). The Beaver, also called *fiber*, and *canis ponticus*. Castoreum russicum, *materia, in folliculo prope anum sito, collecta*. Pharmacop. Lond. Russian castor, from the *castor fiber* Lin. Systema Naturæ. It is an amphibious quadruped, inhabiting some parts of Prussia, Poland, Russia, and Germany; but the greatest quantities are found in Canada. In the inguinal region of this animal are found four bags, of an oval shape, a large and a small one on each side; in the two large ones is contained a softish, greyish yellow, or light brown substance, which in a warm dry air grows by degrees hard and brittle, and of a darker and browner colour; this is the *castor* used in medicine. The two smaller bags have a smell much like that of the larger, but contain a softer and more unctuous matter of but little value.

On cutting these bags, when dry, and brought into the shops, they are found full of a brittle friable substance, of a brownish red colour, interspersed with fine membranes and fibres, intimately interwoven. Neumann asserts that the best comes from Prussia; all other writers say from Russia, and it is in hard round bags: an inferior moister sort comes from Dantzic. The worst is from New England, which is in thin long bags.

The Russian castor hath a strong but not agreeable smell; the taste is pungent and bitter; the other sorts are weaker and more ungrateful.

Castor is ranked among antispasmodics, and is certainly, on many occasions, a powerful one. It has been useful almost in every case requiring such remedies, when given in doses of from 10 to 30 grains. In slow nervous fevers it takes off the oppression of the precordia, which is often a very troublesome symptom. It is by no means a stimulant, but seems rather to relieve by a sedative power. From this it is probably useful in stomach complaints: and if it be an emmenagogue, as authors have supposed, it must be in the hysteric and nervous habits, where the discharge has been repressed from spasm in consequence of a fright, or any similar cause. It has been styled also, without sufficient foundation, an aphrodisiac; but its quality of correcting the uneasy irritation of opium in those with whom that medicine disagrees, is an effect more firmly established. It is used in spasms and convulsions of every kind, in the flatulent colic, and in typhus. Joined with camphor, we have found it peculiarly useful near the conclusion of the more purely nervous fevers.

Rondeletius seems to have first made the distinction between these bags or glands of the beaver and his testicles, the part supposed to contain the castor. Alb. Seba remarks, that the Siberian castor is the best, and in succession, the Norwegian, the Swedish, the Polish, and the Canadian. But from whatever country it comes, that which is from a full-grown beaver, hath a fetid, disagreeable smell, an acrid biting taste, a brownish colour, and a friable texture, is the best.

It is adulterated with dried blood, gum ammoniacum, or galbanum, mixed with a little of the powder of castor, and some quantity of the fat of the beaver. But to detect the fraud, we may remark that the genuine follicules arise from one common source; that the matter contained in them is of a firm consistence, and too bulky to be introduced in their natural state: the smell is not so strong as the genuine. It is, indeed, sometimes difficult to distinguish the false from the genuine; but the sophistication is undoubted, when the membranes, pellicles, and fibres, do not appear intermixed with the castor.

This drug does not keep well in powder. Rectified spirit, proof spirit, and water, by the help of a little heat, extract its whole virtue. Rectified spirit takes up the less ungrateful parts, and water the more nauseous. Proof spirit acts equally, though with some difficulty, on both; the sp. ammon. compositus is an excellent menstruum, and in many cases improves its virtues.

The London college directs the following *Tinctúra Castoréi*.

Take of Russia castor, two ounces; of proof spirit of wine, a quart: digest for ten days without heat, and then strain. Dose ʒi. to ʒiii. Heat only extracts the grosser part more plentifully than a cold maceration, and proof more than a rectified spirit. If it should be wanted to act more suddenly, the tincture of the Edinb. New Dispensatory, 1789, is preferable. R. Castorei Russici ℥i. asafœtida ʒss. sp. sal ammoniac vinos. ℔i. digere per sex dies.

Ca'stor. See Cataputia major.

CASTRA'TIO, (from *castro, to castrate*). Castration. This operation, called also *celotomia or-*

chotomia, is performed when the testicle is scirrhous or cancerous. When the testicle suppurates, it is only treated as a common abscess. Mr. Barnard says, that out of a hundred patients that he castrated, only three were living three years after: and that when, after the operation, the wound heals nearly, and not completely, it commonly proves mortal. Some of the most eminent practitioners observe, that when a scirrhous is extirpated, it is apt to return like a cancer in the breast.

But if the testicle must be extracted, first examine whether or not the spermatic cord is free. Should it not be so, the operation is useless. If not diseased, it must be laid bare, tied, and cut; after which all the diseased part of the scrotum must be dissected. If the tumour is large, or if it adheres to the skin, an oval incision must be made, begun a little above the tumour, for the better convenience of tying the vessel.

Mr. Gooch (Cases, vol. 2.) first slits the sheath of the cord with the point of a knife, then opens it further with a small pair of crooked scissors, by which method the vessel is fairly discovered, and easily taken up with a crooked needle and ligature. He adds, that if the whole spermatic cord be tied, the consequences are disagreeable, or perhaps fatal: he, therefore, after dissecting the sheath, secures only the artery, and thus an hæmorrhage is prevented, and the usual consequences of tying the whole cord avoided. Dr. Hunter long since advised to secure the artery, and leave the rest of the cord; and, indeed, he suggests a sufficient security though the artery should be left untied; though if it is to be cut close to the ring, he advises to tie it before cutting, that it may not retract too suddenly, and prove troublesome by its discharge. Perhaps the scrotal arteries should be secured previous to the operation. After it, the patient should be kept perfectly quiet, and the wound healed, if sufficient integuments can be saved by the first intention. See Sharpe's Operations. Le Dran's Operations, and his 74th Obs. Heister's Surgery. Bell's Surgery, vol. i. p. 520.

CASTRA'TUS, (from *castro*, *to castrate*). In botany it means having the filament without the anthera, or part which contains the dust of impregnation. In medicine, those unhappy beings who, to preserve the voice from the changes produced by puberty, are thus mutilated in early infancy. In the East, the same operation is practised to qualify them as safe guardians of the women.

CASTRE'NSIS. See Dysenteria.

CA'SUS, (from *cado*, *to fall out*, or *occur*). This word signifies the same as *symptoma*; but sometimes any thing fortuitous or spontaneous; or a fall from an eminence. In Paracelsus it signifies a present distemper, as well as an entire history of a disease.

CATA'BALAM. See Ambalam.

CATABLE'MA, (from καταβαλλω, *to place round*). The outermost fillet which secures the rest of the bandage; also *fimbria*. Hippocrates, *secundum Galenum*.

CATACHLO'OS, (from κατα, and χλοαω, *to make green*). Galen styles it 'a very green colour.' It is applied to stools; and then Catachola, very bilious, will be synonymous.

CATACHRI'STON, (from καταχριω, *to anoint*). A medicine applied by way of unction.

CATACHY'SIS, (from καταχεω, *to pour out*). An affusion.

CATACLA'SIS, (from καταχλαω, *to break* or *distort*). Galen explains it to be a distortion of the eyelids. Vogel defines it to be a spasmodic occlusion of the eye.

CATACLE'IS, subclavicle. According to Galen it is the first small rib of the thorax; from κατα, *below*, κλεις, *clavis*, *the clavicle*.

CATACLI'NES, (from καταχλινω, *to lie down*). See Clinicus.

CATACLY'SMA. See Enema.

CATACLY'SMUS, (from the same). Embrocation. Cœlius Aurelianus also interprets it by *illisiones aquarum*, dashings of water.

CATACONE'SIS, (from καταχεαω, *to irrigate*). Irrigation by a plentiful affusion of liquor on some part of the body.

CATA'CORES, (from καταχρεννυμι, *to supersaturate*). Full, abundant; and when applied to stools, it means that they are purely or intensely bilious. Hippocrates uses it in both these senses.

CATAGE'MU. See Gambogia.

CATAGLY'PHE, (from γλυφω, *to cut in wood or metal*). An excavation, hole, or pit. Hippocrates uses this word, De Art. et de Morb.

CATA'GMA, (from κατα, and αγω, *to break*). A fracture. See Fractura. Galen says, 'a solution of the bone is called *catagma*, and *elcos* is a solution of the continuity of the flesh; that when it happens to a cartilage it hath no name, though Hippocrates calls it *catagma*. See Alphitedon.

CATAGMA'TICA, (from καταγνυμι, κατα, *contra*, αγνυμι, *frango*). Remedies proper for cementing broken bones, or to promote a callus.

CATAGO'GE, (from καταγω, *deduco*.) In Hippocrates' Epid. lib. vii. it means a region, and its circumjacent part.

CATALE'NTIA. See Epilepsia.

CATALE'PSIS, catalepsy, (from καταλαμβανω, *to seize*, or *interrupt*). It is also called *catoche*, *catochus congelatio*; and by Hippocrates, *aphonia*; by Antigenes, *anaudia*; by Cœlius Aurelianus, *aprehensio*, *oppressio*; also *apoplexia cataleptica*, *detentio*, *encatalepsis*, *comprehensio*.

The word *catalepsis* hath many significations, as perception, or the knowledge of a thing; the retention of the breath, as when a person strains at stool; a retention of any humour which ought to be evacuated; an interruption of the blood in the vessels by a bandage, and the disease which is the subject of this article. The catoche is sometimes supposed to be the coma vigil; but most writers mean by it the *catalepsy*.

This disorder, with the carus, may be ranked among the species of apoplexy. Dr. Cullen considers it as such, and adds the following remark: 'I never saw any catalepsy but what was counterfeited; and the same has been seen by others. Therefore from the disease being seldom seen, differently described, and often altogether feigned, I know not in what place to fix it with certainty; but, as I am persuaded in general it does not differ from apoplexy, I have therefore placed it under that head,' viz. *apoplexia cataleptica*, when the muscles are contracted upon being moved by external force. Its seat seems to be in the back part of the brain, from the symptoms of the disease, and the

observations made on dissecting those who die of it. Indeed its subjects, and, perhaps, the symptoms, do not essentially differ from chorea, since the tonic and clonic spasms originate from the same or similar causes; and chorea we shall find to be truly apoplectic.

Women of a melancholy habit and a very active imagination are most subject to it, especially if exposed to bad weather in cold climates after being heated.

The immediate cause of this and other spasmodic diseases, is an irregular distribution of the vital influence from debility. The predisposing cause is an irritable system; and the exciting suppressed perspiration, or a disordered stomach: noxious vapours, and bad smells, have been accused, but, we suspect, without sufficient foundation.

This disorder rarely occurs: the fits generally seize the patient at intervals, and last usually a few minutes, though sometimes they continue for some hours or days. It is rarely preceded by any signs that indicate its approach; in a few instances a stiffness in the neck, or a dull pain in the head, has ushered in the fit. In the disorder the patient is without sense or motion, continuing in the posture in which the fit attacked him, until a recovery from it: the limbs are moveable by another person; but, however they are disposed, the patient never alters their position until the paroxysm is at an end. He neither sees, hears, nor feels, whatever methods may be used to excite the sensations. He swallows greedily all that is given him; the countenance becomes florid; the eyes are open, seemingly fixed upon some object; at the close of the fit he fetches a deep sigh, and then recovers. Other symptoms attend different patients, or the same at different times, such as tears dropping from the eyes, grinding of the teeth, &c. but the above are the most general.

Care must be taken not to confound a *catalepsy* with a tetanus: the latter begins with a stiffness of the neck, which gradually extends to every muscle, and every limb is immoveably rigid.

If this disease proceeds from passions, the danger is not so great as when suppressed accustomed evacuations, or a foul stomach, are the causes: from suppressed evacuations it is mostly fatal. In general the cure will be similar to that of the apoplexy. The indication in the fit is, to relax the spasmodic stricture; and, out of the fit, to remove the material or secondary causes, which contribute to the production of the constriction.

In the fit, pungent acid spirits, such as the acetic acid, or the strongest wine vinegar, may be applied to the nose. Forestus strongly recommends antispasmodic oils to be rubbed on the nape of the neck, and on the back part of the head after shaving it. Strong stimulating clysters may be injected, if the anus is not too much constricted to admit them.

Bleeding is commended, if the face is very red and turgid; but, the heat and strength of the patient will best determine the propriety of this operation. Blisters, though recommended, seem not so eligible an application as sinapisms to the feet. Two or three spoonfuls of the following mixture may be given at proper intervals, either during the fit, or in its absence.

℞. Gum ass. fœtid. ʒ ij. aq. puleg. ℥ iv. sp. ammoniæ fœtid. and tinct. valer. vol. āā ℥ ss. m. The fit is generally transitory, and never fatal.

In the absence of the fit, the remedies will be indicated by the remote causes. The bowels should, in every instance, be kept regularly and freely open. If, however, fears or other passions of the mind are the causes, medicines cannot be expected effectually to relieve; but, in such cases, a change of air, travelling, diverting company, &c. are to be insisted on. Electricity has been recommended, and cures from its employment have been recorded. The metallic tonics have also been recommended, particularly the copper and the zinc, though seemingly from no real trials.

The catalepsy sometimes ends in a melancholy, epilepsy, or fatal apoplexy.

See Cœlius Aurelianus, Acut. ii. x. Hoffman. British Magazine for March, 1800, and the following numbers. Journal des Savans, Jan. 1776. Histoire de l'Academie des Sciences, 1738; and Mémoires pour 1742.

CATALO'NGAY. The plant that bears the *faba sancti Ignatii.*

CATA'LYSIS, (from καταλυω, *to dissolve*, or *destroy*). It signifies a *paralysis*, or such a resolution as happens before the death of the patient; also that dissolution which constitutes death.

CATAME'NIA, (from κατα, *secundum*, *according to*, and μην, *mensis*, *the month*). See Menses.

CATANA'NCE. See Cichorium.

CATANTLE'MA, (from καταντλαω, *to draw*, or *pour water upon*). A kind of lotion by infusion in water. Moschion de Morbis Mulierum.

CATANTLE'SIS, (from the same). A lotion with hot water, expressed out of sponges, recommended by Marcellus Empiricus against irritable running ulcers of the head.

CATAPA'SMA, CATAPA'STUM, (from καταπασσω, *to sprinkle upon*). The ancient Greek physicians meant by this term any dry powder, to be sprinkled on the body; called also *conspersio*, *epipaston*, *pasma*, *sympasmata*, *aspersio*, *aspergines;* their various uses may be seen in Paulus of Egina, lib. vii. cap. xiii. Powders valued for their grateful smell were called diapasms; and these were sometimes added to the drink. Oribasius shows from Antyllus, that *empasmata* were used in order to restrain sweat, or any other evacuation by the pores; or for exciting an itching. *Catapasms*, varied according to the intention of the physician, were sprinkled on ulcers; but diapasms were prepared for the sake of their scent, and were applied to the arm pits, and the inside of the thighs. Cœl. Aurel. in Morb. Acut. lib. ii. cap. xxxviii. says, that *sympasmata* were such powders as, being endowed with an acrid quality, were sprinkled on the body to procure heat.

CATAPA'SMUS. A term used by Cœl. Aurelianus, probably by mistake, for some other word. It implies, according to him, a rubbing of the posterior part of the shoulders and neck downwards.

CATAP'ELTES, (from κατα, *against*, and πελτη, *a shield*,) a grenado, or battery: it signifies also the medicine which heals the wounds and bruises made by such an instrument.

CATAPHI'SMA. A thick poultice of meal and herbs.

CATA'PHORA, (from καταφερω, which, among other significations, implies *to render sleepy*). A pre-

ternatural propensity to sleep. See Caros. Galen calls a coma by this name.

Cata'phora co'ma, i. e. *Apoplexia.*

Cata'phora hydrocepha'lica, i. e. *Apoplexia serosa.* See Hydrocephalus.

CATAPHRA'CTA, (from καταφρασσω, *to fortify*). See Quadriga.

CATAPLA'SMA, a poultice, (from καταπλασσω, *illino, to spread like a plaster,*) also *malagma, epiphasma, epiplasma. Cataplasms* take their name sometimes from the part to which they are applied, or effects they produce, so are called *anacollema*, and *frontale*, when any topical application of this sort is laid upon the forehead; but the *former* were always made of agglutinants. They were styled *epicarpia*, and *pericarpia*, when applied to the wrists; *epispastica*, when the external remedies only inflamed the skin; *vesicatoria*, when it occasioned blisterings; and *sinapismata*, when mustard chiefly composed them, and the consequences were irritation, redness, itching, and tumour, in the parts to which they are applied. See Blisters.

These kind of applications are softer and more easy than plasters or ointments. They are formed of some vegetable substances, and applied of such a consistence as neither to adhere nor run: they are also more useful when the heat is to be preserved, or its access prevented. See Caloric.

When designed to relax, or to promote suppuration, they should be applied warm. Their warmth and moisture contribute to this purpose. The proper heat, when applied warm, is that only which excites a pleasant sensation; for great heat prevents the relaxation for which they are applied. (See Balneum.) They should be renewed as often as they cool. For relaxing and suppurating, none excel the white bread *poultice*, made with the crumb of an old loaf, a sufficient quantity of milk to boil the bread in until it is soft, and a little oil, to prevent the *poultice* from drying and sticking to the skin, and, perhaps, to retain the heat longer than the bread and milk alone would do. The meal of lintseed is often employed, as it contains the oil intimately united with the farina. To preserve the heat longer, the *poultice*, when applied, may be covered with a strong ox's bladder.

When designed to repel, they should be applied cold, and ought to be renewed as oft as they become warm: a proper composition for this end is a mixture of oatmeal and vinegar. Epithems are also a kind of *cataplasms.*

The *emollient poultice* is made by boiling half a pound of the crumb of bread with one ounce of white soap in a sufficient quantity of cow's milk, to reduce the whole to a proper consistence. Amongst the poor, the bran from wheat may be used instead of bread, adding a small quantity of oil or lard to it.

The *discutient poultice* is made with barley meal, six ounces; the leaves of hemlock fresh gathered and bruised, two ounces; crude sal ammoniac, half an ounce; vinegar enough to give the whole a proper consistence. These ingredients should be mixed without heat, and applied cold.

Catapla'sma efferve'scens. Stir into a strong infusion of malt as much oatmeal as will make it of a proper consistence, then add a spoonful of yeast, and mix them well together. By this mode, fixed air is applied to ulcers, cancers, and other local affections requiring powerful antiseptic remedies. In the application, room must be left by the bandages sufficient to permit its expansion, which, from the fermentation, will be considerable, or the bandages must be carefully watched, and occasionally slackened.

Catapla'sma alu'minis. See Coagulum aluminis.

Catapla'sma ace'ti. See Stremma. There are a variety of other cataplasms, all which will be found under the respective ingredients from whence they are denominated; as, catapla'sma ro'sæ, cu'mini, &c. See Rosa, Cuminum, &c.

CATAPLE'XIS, (from καταπλησσω, *to strike*). A sudden stupefaction, or deprivation of sensation in any of the members or organs.

CATAPO'SIS, (from καταπινω, *to swallow down*). According to Aretæus it signifies the instruments of deglutition. Hence, also,

CATAPO'TIUM, (from the same). A pill. See Pilula.

CATAPSY'XIS, (from καταψυχω, *to refrigerate*). A coldness without shivering, either universal or of some particular part. A chillness; or, as Vogel defines it, an uneasy sense of cold in a muscular or cutaneous part.

CATAPTO'SIS, (from καταπιπτω, *to fall down*). It implies such a falling down as happens in apoplexies; or the spontaneous falling down of a paralytic limb, expressed often by *decidentia.*

CATAPULT'ARUM, Aqua. See Arquebusade. It is the same as Catapeltes.

CATAPU'TIA. Spurge, (from καταπυθω, or the Italian term *cacapuzza, to have an ill flavour*). Under this name are ranked the Cataputia major; called also *palma Christi, alkerva, ficus infernalis, pentadactylon, granadilla Peruviana, ricinus vulgaris, agnus castus; kiki, ricinus Americanus, nhambu guacu* of Piso, *cherva major;* common palma Christi, great spurge, Mexico seed, *castor; ricinus communis* Lin. Sp. Pl. 430. It is of the natural order of *tricoccæ*, and nearly allied to the *croton* and *jatropha.* The order of Jussieu is the *tithymaloides.*

This plant sometimes rises in one year to the height of twenty feet, and is spread into many branches; the leaves expand like a hand, with the fingers a little separated: the flowers are small and in bunches. On the body of the plant there are clusters of rough triangular husks, each containing three speckled seeds about the size of small kidney beans, and in their shells are white kernels of a sweet, oily, and sometimes of a nauseous, taste.

These seeds are called *grana ragium*, and were used by Hippocrates, and perhaps before him. If taken in substance they are acrid, and purge violently; but the oil expressed from them acts gently, though generally with effect.

The leaves, when beat and boiled in milk to the consistence of a poultice, are powerful suppurants, used for dressing blisters, and applied to the tinea of children.

The seeds are externally variegated with black and whitish streaks, resembling both in shape and colour the insect called ricinus, the tick, whence the name

ricinus is given to the plant. The oil is the most valuable part, and is obtained both by expression and decoction; the latter is preferred as more mild in its operation.

This oil is known by the names of *ol. ricini*, *alkerva*, *ol. palmæ Christi*, *oleum cicinum kerva*, OIL OF AGNUS CASTUS, and CASTOR OIL. The Greeks call it *Αιγυπτιον ελαιον*, *oleum Ægyptium*.

This oil operates soon after its exhibition, often in two or three hours: it seldom gripes, or gives more than two or three stools. It is particularly suited to the cure of costiveness and of spasmodic colic. It is not heating or irritating to the rectum, and consequently well suited to cases of hæmorrhoids; besides its easily operating as a purge, it is of peculiar use in bilious constitutions, in febrile disorders of the same kind; and, by joining it with proper cordials, may be used in the low and putrid fevers. Its efficacy exceeds all other kind of purging medicines in calculous complaints, and in all such cases as require the bowels to be moved, and yet forbid the use of powerful stimulants. In colics, without addition, it is seldom sufficiently active; and even in fevers, as it does not greatly excite the action of the muscular fibres of the intestines, it often passes over collected scybala. See CATHARTICS.

To children it may be given in the manner of an oleo saccharum. Gooch, in his Medical Observations, commends the following method of administering it to adults, and assures us, that two or three spoonfuls, taken occasionally at bed time, keep the bowels soluble, even when the bleeding piles attend. A larger dose, or the above more frequently repeated, is sufficient for a purge on any occasion.

℞. Ol. ricini ʒ i. ss. vitel. ovi parum, probe contritis adde sensim aq. menth. pip. et aq. cinnam. ää. ʒ ij. syr. rosæ, ʒ ss. m.

In the colic, a table spoonful of this oil may be mixed with a little peppermint water, and repeated every half hour, or every hour, until it promotes the desired evacuation. If the stomach rejects it, the irritability of this organ, should the necessity of a discharge not be urgent, may be previously corrected by opium.

In fevers it is cooling and laxative; but in the lower kind of fevers it requires the addition of an aromatic. In the yellow fever of the West Indies it is very useful. When the belly is already too lax from acrid bile, this oil sheaths the acrimony, and thus restrains the excessive discharge; in dysenteries it relieves by a similar power. If the symptoms of nephritic complaints and the properties of this oil are considered, its use in those complaints will be obvious, for it purges in small quantities, without irritation; it is cooling, and allays febrile heat; it corrects acrimony, and prevents the cohesion of calculous concretions. In gonorrhœas, the fluor albus, the constipation peculiar to studious and sedentary persons, &c. this oil is of singular efficacy. The more resinous purgatives often leave costiveness, but the castor oil, it is said, after little use, acts even in less doses. The best method of preventing sickness or nausea, which it sometimes occasions, is to mix one part of tincture of senna to three parts of the oil. In this state the oil is less nauseous to the taste, and sits more easy on the stomach. It is sometimes taken in coffee, sometimes in mutton broth; frequently in an emulsion, mixed by means of the yolk of an egg, with some spirituous water, or while swimming on peppermint water. The dose is a table spoonful, or ʒ ss; but some require double the quantity. Where the oil is rejected, the seeds may be carefully separated from their shells and the inner white membrane, and formed into an emulsion, as an agreeable substitute for the oil.

The oil of a pale colour, limpid, and rather inclining to a greenish cast, almost insipid to the taste, with but little smell, and of a thickish consistence, is the best. See Lewis's Mat. Med. Lond. Med. Obs. and Inq. vol. ii. Canvane's Diss. on the Ol. Palmæ Christi. Med. Mus. vol. iii. Cullen's Mat. Medica.

CATAPU'TIA MI'NOR. GARDEN SPURGE. Also called *lathyris major*, and *tithymalus latifolius*.

All the *spurges* are acrid: the milky juice, in which their virtue lies, is caustic and cathartic; the root, or bark, prepared by infusion in vinegar, hath been given in the dose of a drachm; three or four of the leaves purge strongly; the milky juice is said to destroy warts; but none of this tribe are now used, because of their excessive acrimony.

Under this article may be ranked the three following, viz.

RICINOI'DES (from *ricinus*, *the tick*, and *ειδος*, *forma*; from its likeness to that reptile). The BARBADOES NUT; *jatropha curcas* Lin. Sp. Pl. 1429. Also called *pinceus purgans*, *pinhones Indici*, *carcas nux Barbadensis*, *faba purgatrix*, *carpata*, *chiviquilenga*, *ricinus Americanus major semine nigro*, *mundu bignacu*. The fruit is oval shaped like a walnut, and contains oblong black seeds. The tree is a native of America, and also of the East Indies; it grows to a considerable size. The seeds are extremely acrid, and afford an oil that purges, but is rarely used, on account of its activity.

AVELLANA CATHARTICA, OR PURGATRIX. The PURGING NUT. *Jatropha multifida* Lin. Sp. Pl. 1429. The tree is a native of America and the West Indies; and grows to a considerable size. Its fruit is oval shaped, containing roundish, and somewhat triangular, brownish seeds, which have but little acrimony, and taste like almonds, but yet operate briskly by vomit and stool.

GRA'NA TI'GLIA. *Croton tiglium* Lin. Sp. Pl. 1426. The MOLUCCA GRAINS, so called because they were first brought from the Molucca islands. They are also called *croton*, and *pinus Indica nucleo purgante*. The tree is a native of America and the East Indies; the fruit is roundish, containing dark greyish seeds; shaped nearly like those of the palma Christi. They are intensely hot and acrid, operate with a degree of virulence both upward and downward; and of the four sorts above mentioned, this is the most active. One drachm of the oil is a strong dose.

The wood and leaves of the above five trees and plants are strong cathartics. Hermann says, that the wood of the tiglia, called *panava*, or *pavana*, operates violently when fresh, but when long kept is sudorific.

CATARA'CTA. A CATARACT, (from *καταρασσω*, *to mingle together*, or *put out of order*; because the sense of vision is confounded if not destroyed). Dr. Cullen places it as a species of caligo, and names it CALIGO (*lentis*) ob maculum opacum pone pupillam; and observes, that he cannot agree with Sauvages, that a cataract should be of a different genus from caligo; and leaves it to the judgment of others to determine

whether he has been right in changing the character of caligo, and placing cataract as its species.

A cataract is an opacity of the crystalline humour of the eye, which stops the rays of light from passing to the retina, and preventing vision. Dr. Hunter attributes the disease to an inflammation in the coat of the crystalline humour; but M. de St. Yves seems to intimate that the crystalline humour is itself affected.

Hippocrates called it *glaucosis*. Galen, *hypochysis*, and *hypochyma*; the Arabians, *gutta opaca*; others, *maculæ oculorum*. Celsus, *suffusio*. It sometimes has the term *affusio* applied to it; and γλαυκωσις, or γλαυκωμα, which Galen and most of the ancients say is a dryness or concretion of the crystalline humour. Ætius thinks it a change of the crystalline humour to a sky colour, with a dryness and concretion. More modern authors think that the principal difference betwixt a *cataract* and a *glaucoma* is, that in the latter the crystalline humour becomes hard, and of a sky colour (glauci coloris); and in the former it is soft. But the idea of cataract is now totally cleared from all that confusion in which it was usually involved; *it is universally allowed to be an opacity of the crystalline lens, or its capsule.*

M. de St. Yves divides the cataract into the true, doubtful, and false.

The TRUE is when the crystalline humour hath lost its transparency: and the species are, when it is soft; when hard; and when purulent.

The DOUBTFUL are those cases in which the success of the operation is as uncertain as the use of topical remedies. Of this there are four sorts: a membranous and a filamentous cataract; cataracts from external injuries; and from a defect of the membrane which covers the bottom of the socket in the vitreous humour. The first and third of these he subdivides again, each into three kinds, as he endeavours to be minute, as well as full, in his description of this disorder.

The FALSE are those in which the remedies afford no relief further than to palliate pains, or to remove deformity; and these he divides into the *glaucoma*, and the shaking *cataract*.

All these minute divisions seem little regarded in present practice; but yet some useful hints will be derived by a perusal of this author.

When a cataract begins, the patient at first complains of a dimness of his sight; and on a careful examination of the eye, a whiteness is perceived very deep in it: on examining the eye at distant periods of time, its opacity becomes more and more manifest to the observer, and the patient very sensibly loses the advantages of seeing. The progress of a cataract is usually very slow.

No medicines are capable of removing this disorder of the eye; but it is sometimes relieved by copious, general, or topical evacuations; sometimes by small doses of muriated mercury, long continued; by drawing electrical sparks, or even by dropping a little of the tincture of opium at night into the eye; in short, by every means of increasing the action of the smaller vessels. The sight, however, can only be restored by an operation.

Sauvages enumerates no less than five species, and of the *cataracta vera* six varieties. He tells us, that two patients were cured by the internal use of the hyoscyamus: one of the species which he inserts under the title of membranacea is very doubtful. He says, that it was discovered by Lower on horses, and arises from a mucus exuding from the margin of the pupil, or uvea, which concretes sometimes into a membrane that obstructs the pupil; but whether this membranous cataract exists in the human species, he thinks uncertain, notwithstanding it has sometimes been suspected. See Sauvages Nosologia Methodica, vol. ii. p. 723.

Mr. Sharpe gives it as a general rule for proceeding to the operation, when the cataract is entirely opaque; adding, that sometimes they are of a proper consistence for the operation before they become opaque; but forbids the attempt while the patients can perceive any thing. Cataracts are of different colours; the pearl coloured, and those that appear like burnished iron, are thought capable of enduring the needle; the white are supposed to be milky; the green and yellow are horny, and incurable; the black cataract Mr. Sharpe thinks is the gutta serena.

The yellow cataract often adheres to the iris, so as to be incurable. When a gutta serena attends, the operation will not relieve. There is little to be expected from the operation when the size of the diseased eye is either diminished or increased; when, previously to the appearance of any obfuscation, the sight was defective; when in a strong light, of which, from the appearance of the cataract, the patient must be seemingly sensible, no contraction of the iris takes place.

The methods of operating are different. By the first and oldest plan, the thickened crystalline was depressed below the vitreous humour; and it was styled *couching*, from *coucher*, to lie down. In the second, the crystalline is extracted.

Before and after the operation, a due regard must be paid to the state of the patient's constitution; and such means are generally advised, as will keep it somewhat below its natural vigour, if otherwise in health.

When no objection to the operation attends, Mr. Sharpe commends the following method for depressing the cataract. "Place the patient in a convenient light, and a suitable height; put a pillow behind his back, that his body may bend forward, and the head approach near to the operator; then inclining the head a little backwards upon the breast of the assistant, and covering the other eye, so as to prevent its rolling, let the assistant lift up the superior eye lid, and the operator depress a little the inferior one: this done, strike the needle through the tunica conjunctiva, somewhat less than one-tenth of an inch from the cornea, even with the middle of the pupil, into the posterior chamber, and gently endeavour to depress the cataract with the flat surface of it. If, after it is dislodged, it rises again, though not with much elasticity, it must again and again be pushed down. If it is membranous, after the discharge of the fluid, the pellicle must be more broken and depressed. If it is uniformly fluid, or exceedingly elastic, we must not continue to endanger a terrible inflammation by a vain attempt to succeed.

"After the operation, treat it as an ophthalmy; and a collyrium, of one part rectified spirit of wine, and ten parts of lukewarm water, will be as proper an application as any."

Mr. Daviel has the honour of having discovered the method of extracting the crystalline humour, but M.

de St. Yves practised it about sixty years before him. When the crystalline lens had passed through the pupil into the anterior chamber of the eye, both Mery and Petit extracted it; for then the depression is impracticable. When this mode of relief is employed, the following method is recommended.

Pass your knife through the cornea into the anterior chamber of the eye, about a line before the iris; for if it is not inserted there, the iris will perhaps be wounded: if you go too far on the cornea, the knife may pass between its lamina, and so not perforate into the chamber. After puncturing into the chamber, guide your knife, with the flat side perpendicular to the eye, through the aqueous humour horizontally, (being careful not to wound the iris,) and thrust it out at the opposite side and situation of the cornea to those in which you insert it; turning its edge obliquely and perpendicularly outwards, make an incision rather through the inferior half of the cornea; then lifting up the superior part of it, the crystalline humour will burst its capsule and drop out: but if it should stick at its exit through the wound, it shows that the capsula of the crystalline is not broken, on which you must puncture it with the knife, and then it will drop: but if the disease is in the aranea, or the capsule of the crystalline, you must extract it also with the forceps.

With respect to the nature of this disorder, or the state of the crystalline lens, whatever improvements have been made within the present century respecting its disordered state, many difficulties still attend. Mr. Pott observes, that, until about the year 1720, neither the state, nature, nor seat of this disease, was truly known, at least not to those who practised surgery. Accident, he adds, first proved it to be a distemper of the crystalline lens, and to be in general confined to it. Heister is the first writer who leads to any just idea on the subject. Mr. Pott seems to be the first who explains the true state of the crystalline humour, when a cataract is formed. He says, that the idea of a beginning or imperfect cataract being soft, and that of a mature or perfect cataract being hard, is erroneous; at least for the most part: that the natural sound transparent crystalline is very far from being uniform in its consistence through its whole substance; its external part is much softer, and more gelatinous than its internal, which, therefore, although equally transparent, may be said to form a kind of nucleus, and is always of a much firmer texture. He adds, if this known difference of consistence between the external and internal parts of the crystalline was duly attended to, it would solve many of the appearances in cataracts, which, for want of such attention, are either not at all or imperfectly understood. Among other phenomena, it would account for the very different colour which the different parts of the same cataract frequently bear; and which hath furnished the wildest conjectures. From this sound and natural state it is capable of several morbid alterations; it is capable of being dissolved, or of becoming a fluid, without losing any thing of its transparency. It hath been supposed, by very able anatomists, that the human crystalline has sometimes between its surface and its capsula, a small quantity of fine pellucid lymph, and consequently that there is no immediate connection between the body and its investing membrane. In many beasts, as well as fishes, this is known to be the case; but whether it be so in the human eye is not very easy to be known during life; though it sometimes happens from disease: that is, the whole crystalline is dissolved into a fluid, which still preserves its transparency; and this seems to form what is called the black cataract, which is a species of the gutta serena. Mr. Pott goes on to observe, that the crystalline humour is capable of being dissolved into an apparently uniform fluid of a gelatinous consistence, which will be more or less opake through the whole of it: it sometimes becomes opake while it undergoes a partial dissolution, which leaves or renders its different parts of very different degrees of consistence; and it now and then, though very rarely, becomes opake through its whole substance, and yet preserves its natural degree of firmness. From this variety of alteration, which the crystalline humour is capable of undergoing, proceeds that variety of appearance which our ancestors have called so many different kinds of cataracts. The idea of beginning cataracts being soft, and hardening as they become more perfect, hath had an unfortunate influence on practice. When the crystalline humour becomes softer than it should be, it is certainly distempered, and unfit for perfect vision, whether it be opake or not; but that this softened lens will ever be harder we have no more reason to think than we have evidences that an opacity is a proof of its induration. The most fluid cataracts are as opake as the most firm ones. If the early or unripe state be supposed an improper one for the operation, and that the patient must wait for a later or ripe one; it then becomes a matter of consideration, whether the patient shall or shall not continue blind for a very uncertain space of time, or perhaps be ever relieved. Besides the body of the crystalline lens, its capsula or investing membrane may be the seat of the disease; it may become opake, while its contents are clear and duly transparent. This may happen after the operation for depressing a harder cataract, or for discharging a softer one. When the capsula is the seat of the disease, and it takes place after depressing or extracting the crystalline lens, it sometimes vanishes in a few weeks, but occasionally requires an operation.

Respecting the operation of couching, Mr. Pott observes, that as in some instances the cataract remains always fluid, so in others it becomes instantly indurated; whence it follows, that there is no point of time for which we should wait; but at any time when, on other accounts, the object is a proper one, the surgeon may proceed. Previous to the operation, it is right to know the circumstances which render it likely or unlikely to succeed. That it may succeed, the crystalline humour should be opake, and all the other parts of the eye capable of performing their functions; the eye should be of its natural size: when, with the cataract, the globe of the eye is manifestly enlarged, the patient is incapable of perceiving light, or distinguishing betwixt light and darkness, in such a case, the operation must be omitted. The pupil ought to be capable of contracting and dilating. It hath been generally supposed, that when the pupil is immoveable it is useless to perform the operation, which is not in every instance true: the operation certainly should not be performed if the pupil is immoveable from a para-

lysis of the part, nor if it adheres to the crystalline; as in these cases we could not operate with any success: but if it is immoveable, or almost so, from a distention of the crystalline humour, (which Mr. Pott thinks sometimes happens,) the operation may be performed: in these cases, however, on a very nice examination, the pupil will be found to have a very small degree of motion. The patient ought always to be able to distinguish light from darkness, and a white from a black body; if he is not, though you remove the cataract from the pupil, yet the retina is incapable of performing its office. In the following instances, success is hardly to be expected by either couching or extracting the crystalline body; viz. when the diseased crystalline is somewhat of the colour of brass, or of a bright yellow, or of a copper colour; the pupil being generally found immoveable, and the whole eye enlarged. When all the parts of the eye are enlarged, or when the crystalline protrudes through the pupil, the case is not proper for the operation.

Those who undertake to perform either operation will, undoubtedly, have availed themselves of all the information given by the best writers on these subjects; and to those who wish for fuller directions, the subjoined writers are those from whom the whole of what art hath taught will be received.

See Celsus, Paulus Aetius, St. Yves on the Disorders of the Eyes, Heister's Surgery, Sharp's Operations, Med. Mus. vol. ii. p. 157, &c. and 412. vol. iii. p. 1. Warner and Pott on the Cataract. Bell's Surgery, vol. iii. p. 394. Medical Obs. and Inq. vol. vi. p. 250. Wallis's Nosology of the Eyes, p. 197, &c. Edinb. Med. Comment, vol. v. p. 275. White's Surgery, p. 236.

CATARA'CTA NI'GRA. See AMAUROSIS.

CATA'RIA, CAT MINT, (from *catus, a cat;* because they are fond of it). See MENTHA CATARIA.

CATARRHA'LIS FE'BRIS AMPHEMERI'NA, (from *catárrhus*, because this fever is accompanied with, or proceeds from, a catarrh). The CATARRHAL FEVER, or CONTINUAL QUOTIDIAN of the ancients. It begins in the evening, with a shivering and a coldness of the skin and extreme parts, costiveness, frequent desire of making water, but the urine is small in quantity; weakness of the head, universal languor, a capricious and irregular appetite, thirst, difficulty of swallowing, stimulus on the larynx, a heat in the nostrils and fauces, attended with sneezing, and a weight in the breast. Towards night, heat, and a quicker, fuller pulse; cough, with a defluxion of rheum, a heat in the fauces, unquiet sleep, sweating in the morning, and at length a total loss of appetite. In the forenoon there is generally a remission, and it thus appears of the quotidian type.

The cause is a fever, with inflammation on the membrane of the nostrils, throat, and bronchiæ, occasioning the secretion of a sharp, acrid serum, which irritates every part of this membrane, and sometimes the œsophagus, stomach, and intestines; a cough, hoarseness, spitting of a viscid matter, sneezing, a defluxion on the lungs, nausea, and colic followed by a salutary flux, are often the consequences.

Women, children, and weakly men, are its chief subjects. It is most frequent in spring and autumn, or in very variable seasons. After a few days, a catarrh comes on; and as soon as its discharge appears at the nose, the symptoms of the fever go off: sometimes, indeed, a copious perspiration relieves, and at others a large discharge, thrown up from the lungs; or, perhaps, a diarrhœa proves the natural means of cure.

If we do not wait for these, we must relieve the fever by the more common means of emetics and cathartics, and thus supersede the deposition on the lungs. In fact, from the neglect only of these more general remedies it becomes a catarrhal fever. If these are neglected, the remedies are the same as in catarrh. See CATARRHUS.

CATARRHE'UMA, (from καταῤῥέω, *to flow from*). See CATARRHUS.

CATARRHEXIS, (from καταῤῥήγνυω, *to pour out*). A violent and copious eruption or effusion. Catarrhexis, κοιλίης, is a copious evacuation from the belly, and sometimes even alone it has the same signification. In Vogel's Nosology it is defined a discharge of pure blood from the belly.

CATARRHŒ'CUS, (from καταῤῥέω, *to flow from*). A word applied to diseases proceeding from distillations of an acrid fluid.

CATARRHO'PA PHY'MATA, (from καταῤῥέπω, *to tend downwards*, and φυμάτα, *tubercles*). Tubercles tending downwards; or, as Galen says, those that have their apex on a depending part.

CATARRHO'POS NO'SOS, (from καταῤῥέπω, *to tend backwards*, and νοσος, *morbus*). A remission of the disease, or its decline, opposed to paroxysm.

CATA'RRHUS, a DEFLUXION, (from κατα, and ῥεω, *to flow down*). Called also *bronchos, catarrheuma, fluxio, rheuma, capitilenium*. It is an inflammation of, or an increased and morbid secretion from, the mucous membrane of the nose, eyes, throat, mouth, or lungs, which, in a slight degree, is called a cold. Dr. Cullen ranks this genus of disease in the class *pyrexiæ*, and order *profluvia*. He enumerates two species: the first from cold, called also *amphimerina tusiculosa, tussis catarrhalis, rheuma catarrhale, cephalalgia catarrhalis, coryza catarrhalis, phlegmatorrhagia febricosa;* the second from contagion, called *catarrhus epidemicus*. Hippocrates mentions seven species of defluxions under the appellation of *catarrh;* and, with Cœlius Aurelianus, under this term comprehends *coryza*. Dr. Cullen uses the last as a synonym to catarrhus.

As this is the first disease of importance in which the idea of a defluxion has occurred, we may take the opportunity of making some remarks on an opinion which has, for more than two thousand years, influenced the language of medicine. When, from any cause, a tumour, increased action of, or an increased discharge from, a part, occurred, it was called a defluxion, or rather a ῥευμα, from ῥεω, *fluo:* in fact, it meant no more than that the vessels contained an over proportion of fluids which were sent to the part. Yet, even in the earliest periods, the word rheum made a fixed impression on the mind, as a peculiar substance; and we had a cold, a hot, a saline, an acrid, and viscid rheum, in almost every complaint. The former editions of this Dictionary repeated this language more often than the pages recurred; and, in cleansing an Augean stable, who can say that every atom of offensive matter is removed? It is necessary, however, in

this place, to observe, that rheum, as a peculiar morbid fluid, has no existence; and that it cannot be, therefore, hot, cold, acrid, saline, or viscid. When an increased action of any part is preceded by fever, it was styled a hot rheum; when fever was the effect, the rheum was cold. If a sore was irritable, the rheum was acrid; if a tumour did not readily suppurate, it was viscid; while every appearance depended on the increased action being an effect or a cause, on the state of the vessels, or on the nature of the organ. We still preserve the term in rheumatism, and, "a græco fonte parce detorta," in catarrh.

In this place we consider only the catarrh attended by fever; whether it affects the nose, the breast, or the fauces, according to the following lines.

Si flúit ad péctus dicatur Rhéuma CATA'RRHUS.
Ad faúces BRO'NCHUS *ad náres ésto* CORY'ZA.

The seat of the catarrh is in the membrane of the nose, the frontal sinuses, the antra Highmoriana, all the cells of the os sphenoides, the mouth, fauces, eyes, the aspera arteria, and its branches in the lungs. It is most frequent in cold climes, in spring and autumn, or in variable seasons; and is said to be be more common with those who have narrow chests, long necks, are disposed to coughs; the phlegmatic and weak.

Its general cause is supposed to be suppressed perspiration; and this so often occurs in our climate, that we can account for every catarrh. It may appear singular to reject this cause; yet, how often is perspiration suppressed without catarrh; how often catarrh occurs without the supposed source. We remember a period, *not* during an epidemic influenza, that in one evening, nearly at the same hour, six persons were seized with violent catarrhs: two of these had not been out of their bed, from a gouty paroxysm, for six weeks; and two others had been confined for many days to their room. The fact, recorded by Martin, of an epidemic catarrh happening at St. Kilda, when the steward went to this remote island to receive the rents, is well known; and we, for many succeeding years, witnessed the fact of a lady who regularly had a cold when she returned from her country to her town house; though servants, for many days, preceded her, fires were made in every room, and her removal was always before Michaelmas. It is common also, on beginning a course of sea bathing, to direct a little delay, lest a cold should occur on the change of air; and though we can more readily account for a person catching an infectious disease, on removing from a healthy to an infectious atmosphere, the contrary is not equally probable, unless some cause should concur to facilitate the action of the miasmata. Yet the latter sometimes happens, and may be owing to a cold. A late author, if we mistake not, a Mr. Kelson, has adduced many arguments to prove this position; and, when we reflect that no epidemic is so universal, so steady in its progress and so constant in its returns, as influenza, we must at least doubt whether catarrh is not more often owing to miasmata than change of temperature. We should indeed doubt whether it were not always owing to the former, but that we know an organ builder constantly affected with a catarrh on tuning an organ: and the connection is general and constant between the discharge from the skin and the lungs; the defect of one is so often supplied by the excess of the other, that cold must be a very frequent cause.

In the inflammatory CATARRH the symptoms are a redness, heat, soreness and sense of distention in the eyes and eye lids; at the same time there is an unusual secretion of tears, and watery mucus, which, running down the cheeks, inflame them. When the nose is affected there is a sense of stuffing and swelling in the nostrils, an alteration in the voice, a loss of smell: and, if the inflammation runs high, a thin mucus is secreted, which produces heat and soreness of the nostrils, sneezing, and sometimes inflammation, with excoriation of the upper lip. If the throat, trachea, or lungs, are the seat of the disease, the thin mucus separated in these parts inflames them: sometimes a swelling of the nose attends, or perhaps the whole face is puffed; a languor, stupor, deafness, and soreness of the ears, are common complaints. When the throat is affected, the tonsils and parts adjacent are red, sore, and hot, accompanied with a secretion of watery mucus, which stimulates and occasions a constant, troublesome, and tickling cough: sometimes the whole mouth is sore; there are little excoriations on the tongue, and a constant flow of saliva, with a soreness of the salivary glands, and the lips are inflamed and excoriated. When the larynx or trachea is affected, a soreness is felt in them, attended with a hoarseness, and generally with a troublesome tickling cough. In the lungs, this disease produces a soreness, tightness, and sense of fulness in the breast, with a difficulty of breathing, and a violent cough, with which nothing, or only a watery mucus, is at first spit up: the cough produces soreness under the sternum and in the sides, and sometimes head ach, sickness, and retching. All these parts are occasionally affected at once; but more generally it happens that one only is first diseased. The inflammation spreads more or less, as circumstances concur to favour its progress. The inflammation too varies, according to the strength of the patient, or the violence of the attack. In the evening the symptoms are more troublesome; but in the morning a gentle moisture in the skin appears, and the patient is easier. In weakly habits the pulse is frequent, but not very hard; the appetite is lost, and the increase of the evening paroxysm is considerable.

In the less inflammatory kind the secretion of the mucus comes on first, or at least the previous fever is not very easily distinguished. The running from the nose is not watery, but viscid; though thin, and not very stimulating. This mucus, when it is secreted into the throat, produces a cough, by which it is thrown off, and sometimes a nausea; or affecting the lungs, there is a spitting with the cough. This expectoration of phlegm is most considerable after sleep; but there is no great sense of soreness or fulness. After some days inflammatory symptoms come on, though not in a great degree, nor is the whole system often much affected. These symptoms are followed by an increased secretion of mucus, which, becoming viscid, if it was not so at the beginning, loses its stimulus. If the inflammation is great, the mucus discharged is yellowish, and sometimes tinged with blood; as this goes on the other symptoms abate, and at length the discharge by spitting grows whiter, then less in quantity. If the pa-

tient is in a cold atmosphere, the cough is the more troublesome, the other symptoms are aggravated, and the disease is prolonged. If, through an imprudent exposure to the air, a relapse happens, the same course recurs. If the inflammation is very considerable, an angina, or a quinsy, may be produced; or if there is also the inflammatory diathesis, a pneumonia, or other disorders tending to hectic, may occur.

A catarrh consists in an inflammation of the membrane lining the nose, the fauces, and the lungs, called from Schneider, who described it, and who has left us six small, but not thin, quartos, on catarrhal inflammations of this and other mucous membranes. If it does not reach the bronchiæ, it requires little care. Warmth, diluting mucilaginous liquors, slight sudorifics, and gentle laxatives, soon remove it. Should the inflammation reach the bronchial glands, it may be considered as a slight peripneumony, and the remedies for that complaint may be less actively employed. Bleeding is seldom required: the bowels should be kept free, and the pediluvium, breathing the steams of warm water, with a slight opiate at night, are generally sufficient for the cure. An emetic, however, is sometimes, though seldom, necessary. The mucilaginous drinks are supposed to relieve one of the most troublesome attendant symptoms, the cough; nor need we impede the exertions of any old nurse who may strenuously recommend bran or lintseed tea, barley water, or a decoction of coltsfoot. Of course, the saline draughts must be loaded with spermaceti; but if both are omitted, the patient will not essentially suffer.

A catarrh, however, though in itself a slight disease, is often the parent of a very highly dangerous and generally fatal complaint, viz. consumption. The inflammation is communicated to a vomica, and its ulceration brings on hectic. In more advanced life it leads to humoral asthma, or hydrops pectoris. It should not therefore be neglected; but the most simple precautions, except when the disease is of peculiar severity, are only requisite.

Chronic catarrh sometimes occurs; but we see nothing to add on this subject that has not been anticipated under the article of HUMORAL ASTHMA, or that will not recur under PERIPNEUMONIA NOTHA. It is, however, often a gouty symptom; and sometimes attends infarctions of the liver, in those who have for a long time lived within the tropics.

CATA'RRHUS EPIDEM'ICUS. If a common catarrh be so general in its attack as to excite the suspicion of its arising from some aerial influence, or from contagion, we may with greater reason attribute to either cause the catarrh which is the subject of the present article. The former source was so impressive, that the Italian appellation of *influenza* has, in every language, distinguished it. The original country of this complaint is not known. Hippocrates seems to have been acquainted with it; and since medical records have been kept with accuracy, we find it occasionally appearing in different regions, and travelling, with an equal, uninterrupted pace, in different directions. The universality and the violence of the epidemic catarrh force the disease on our notice: the peculiarity of its symptoms attracts our attention; but we are compelled to read, *ad fastidium usque*, that the head ached at the extremity of Africa as at the North Cape, and that the cough was equally troublesome on the Danube and on the Thames, on the Ohio and the Rhine. The reason for this accumulation of minute uninteresting description it is not for us to fathom, but we cannot repress a recurrence of the disgust which has so often occasioned the honest anguish and the aching head.

In the chronology of the complaint we need not go further back than the twelfth century, the date of the first record collected by Dr. Cullen, Nosology, vol. ii. p. 173. From that time he has traced the disease, in the writings of different authors, with sufficient minuteness. With respect to its course, it seems most frequently to proceed from north to south, but it has been found also to travel from west to east. These, however, are points of curiosity only, and we need not enlarge on them.

The symptoms of the epidemic catarrh differ in some respects from those of the common cold, and were we here to be minute, we should contend that it forms a different species. The attack is remarkably sudden, and at first attended with considerable debility. A few minutes have often interposed between the feelings of high health and extreme weakness. The head, especially the forehead over the eyes, is particularly loaded; all exertion is painful; a tickling of the nose, with frequent and violent sneezing, often suddenly comes on. A load, rather than pain, in the chest, is very troublesome; cough is severe and dry, the tongue parched, thirst often intense. A sore throat is not a common symptom, yet a bright efflorescence is sometimes observed on it. Pulse is low and frequent, seldom hard; the skin constantly dry. In the progress of the complaint, the breast is sometimes more affected, and pleuritic pains are observed in the young and robust. As the skin becomes softer, the tickling acrid mucus from the nose becomes thicker, the head more free; but a considerable debility remains often for several months, and from this period the suppuration of latent tubercles has been often dated.

The middle aged, the strong and robust, are in general soonest affected, and suffer most severely: children and old persons are less violently attacked; yet in the latter it is most often fatal: a humoral asthma, or a catarrhus suffocativus, is a frequent consequence. Children at the breast generally escape, nor did any seem to suffer within the first year; but no period of advanced age, nor any previous disease, appeared to secure any person. All beyond early infancy were indiscriminately attacked. It has very rarely happened that any person who had perfectly recovered was again attacked; but he has appeared equally liable to the influence of a future epidemic.

The causes undoubtedly existed in the atmosphere. Of a dozen persons in perfect health, in the same room, ten have been often attacked within a very short period. Those confined to bed, insulated from every infected person, have equally suffered. In one hospital, containing one hundred and seventy persons, more than one hundred were attacked within twenty-four hours, and few of the remainder escaped. The infection passed the Atlantic, with little or no remission of its severity, and attacked Americans who had not had the slightest intercourse with Europeans.

Is not contagion then also a cause? It evidently is, though in many instances only an exciting cause;

yet the concurrence of the disorder with contagion, apparently received by the most familiar intercourse, has often appeared so striking, that its influence must be admitted. It is indeed difficult to say, when every one is equally exposed to a general cause why any given person should be exempted, whether contagious influence concurs or not. The man most subject to contagion may have been affected, as well as those at a distance from any fomes. The negative cannot be proved; but the very existence of the question seems to show that there were many apparent instances of its influence, though it was often perhaps, as we have said, an exciting cause only. Other exciting causes were cold, fatigue, and depressing passions.

The predisposing causes were previous debility of every kind, in the young and robust. In the aged, infirm health seemed by no means a predisposing cause. The previous state of the air, either with respect to heat, cold, elasticity, or damp, seemed to have little power. Influenzas have recurred at every different season, in every state of the barometer, thermometer, and hygrometer. If we were to fix on any state of the atmosphere in which it has most frequently appeared, we should say it was when supersaturated with moisture.

The distinctions between common and epidemic catarrhs, are the universality of the attack and the violence of the symptoms. Yet in these there are various degrees; and we have seen influenzas where not one in twenty have been affected, and where the appearances scarcely differ from common colds. The load in the head, and particularly over the eyes, with the great debility, more strikingly distinguish this disease, and it bears the same relation to the common catarrh that the putrid pneumonia does to the inflammatory species. Physicians have differed respecting the propriety of bleeding. It may, in the young and strong, be indicated; but it is by no means a general remedy, and should scarcely in any instance be employed. Even in these, however apparent peripneumonic symptoms may seem to indicate it, the practice is followed by considerable, often a long protracted, debility. It is with regret we are obliged to add, that the mania for bleeding is far from being extinguished, and we daily witness its mischief in the putrid forms of diseases, which were usually inflammatory: real inflammatory complaints are now very rare.

Vomiting is a remedy better adapted to the disease; but even this discharge, if violent, greatly debilitates the patient, and it is not easy to set limits to the operation of an emetic. In nauseating doses, combined with opiates, both the ipecacuanha and tartarised antimony are highly useful; but to these we must return.

When the pains in the side, usually indicating bleeding, are violent, a blister is the appropriate remedy; and it is always necessary to keep the bowels free, though the action of violent purgatives greatly debilitates.

In short, in this and every putrid complaint it is necessary to keep up the vis vitæ, and gently determine to the skin. Diapnöe, a term applied by Chenot, to distinguish this easy perspiration from more violent sweat, will relieve without inducing debility, and this will be best kept up by warm cordial liquids. The use of wine, at first in moderation, and afterwards more freely, is very beneficial; and by thus cautiously supporting the strength, nature will often effect the cure. The wine should be given with warm water, and the determination to the surface secured by diluting liquors, and a moderately warm room. If this is not easily effected, emetics in nauseating doses, with opium, may be given with success. The neutrals, particularly the ammoniacal ones, will assist this operation; and vinegar whey, with white wine, is also an excellent diaphoretic. Nitre is often injurious by its cooling sedative power, and from its irritating cough. If any particular medicine, not peculiarly suited to these indications, is necessary, we think it is the camphor. It is eminently useful in putrid peripneumony, and we think it has been so in the epidemic catarrh.

Bark has been recommended, and often, it is said, given with advantage. We have had its necessity in frequent contemplation during epidemic catarrhs, but never yet found it necessary. In general, it may be asserted that this disease is never fatal. In its consequences it may be so; and the cutting a corn may induce gangrene, but the operation is not on that account dangerous.

The debility that follows is very considerable, and continues often for many months. A cordial diet, free air, and exercise on horseback, are its best remedies. The author of this article, who suffers always severely from influenza, experienced this debility in a great degree; and though the cough remaining was considerable, he used with the happiest effects the cold bath. The bath was at some distance, and at first both in going and returning he was obliged to rest three times: on the second attempt he rested twice, and on the third once only. On the fourth no rest was required, so rapid was the recovery.

See Hoffman's Med. Rat. Syst. Opuscula Med. Doctoris Baker, Dr. Fordyce's Elements, part. ii. Brooks's Practice of Physic. Schneider de Catarrhis. Cullen's First Lines, vol. ii. p. 83. edit. 4. Wallis's Sydenham.

Cata'rrhus intestino'rum. On considering the affections of the mucous membrane from inflammation, our attention was necessarily attracted by this disease, which, however, has not yet found a place in the medical systems. It appeared, on reflection, singular, that, though the œsophagus, at least its upper part, was occasionally affected by catarrh, there was no instance of this disease being continued to the stomach. It however occurs to observation in the intestines; and diarrhœa, from cold, is no uncommon disease. It may be discovered by its occurring in consequence of exposure to cold and damp, by its coming on with fever, with slight colic pains, acrid motions without relief, excoriation of the lower part of the rectum, and the absence of either bilious evacuations or symptoms of indigestion. The cure is sufficiently obvious. But a question here arises; is dysentery nothing more? We must recur to this subject; and what we have here mentioned will not, we trust, be forgotten. The facts just recorded are, however, faithful pictures from nature, without any reference to the connection just mentioned.

Cata'rrhus vesicæ. This disease is noticed by Hoffman, Lieutand, and Cullen, but by few other authors. It is confounded with dysuria, with calculus, and with abscess of the urinary organs. We have twice seen it as a true catarrhal affection, from cold; and twice *only*. It consists in a painful discharge of urine, sometimes with fever, but more frequently without its

attendance; and of the urine nearly half the bulk is composed of a light, flocculent matter. It appears, though very rarely, as we have said, from cold, but more often from any cause which occasions acrimony of urine, or a difficulty of discharging it; in fact, from any cause which excites inflammation or irritation on the neck of the bladder, or occasions an unusually strong action of this hollow muscle. Its cause will require only an investigation of the previous symptoms, but these will not always assist in determining whether the discharge be not purulent. To the experienced eye pus is soon known by its filamentous appearance, while the mucus of the bladder is more light and uniform. The smell, however, will immediately discover it.

The cure will be regulated by the cause. Mucilaginous diluting drinks, with gentle laxatives, are always proper; and if the pain is violent, opiates may be joined. We seldom want any further aid: but it is sometimes necessary to inject the opiates united with a starch clyster; and we have already observed, that camphor exerts a peculiar sedative effect on the bladder. A mild diet, rest, and a warm room, will greatly expedite the cure of every catarrh.

CATA'RRHUS BELLINSULA'NUS. See CYNANCHE PAROTIDÆA.

CATA'RRHUS SUFFOCATI'VUS. See SUFFOCATIO STRIDULA.

CATARTI'SMUS, (from καταρτιζω, *to make perfect*). According to Galen, it is a translation of a bone from a preternatural to its natural situation.

CATASA'RCA, (from κατα, and σαρξ, *caro*). See ANASARCA.

CATASCHA'SMOS, (from κατα, and σχαζω, *scarifico*). Scarification; and, according to Dioscorides, a deeper scarification than common, which is necessary in gangrene and sphacelus.

CATASTA'GMOS, CATASTALA'GMOS, (from σταζω, *to distil*). These are names which the Greeks, in the time of Celsus, employed for DISTILLATIO.

CATASTA'LTICUM, (from στιλλω, καταστιλλω, *to restrain*). It signifies styptic, astringent, and is sometimes termed *castalticum*.

CATA'TASIS, (from κατατεινω, *to extend*). In Hippocrates, it means the extension of a fractured limb, or a dislocated one, in order to replace it; as well as the actual replacing it in a proper situation.

CATA'XA. Both Aetius and Actuarius express by this word raw silk, or silk before it is dyed.

CATE'E. See ACAJAIBA.

CA'TE, and CA'TECHU, (from *kate*, *a tree*, and *chu*, *a juice*, in the Japanese language). See TERRA JAPONICA.

CATEIA'DION, (from κατα, and εια, *a blade of grass*). A long instrument which was introduced into the nostrils, in order to provoke an hæmorrhage in the cure of the head-ach. It is mentioned by Aretæus. It was thus called, either because the instrument had at the end a blade of grass, or was made like a blade of grass for the purpose.

CATELLO'RUM, O'LEUM, (from *catulus*, *a whelp*). It is olive oil in which young whelps have been boiled until their flesh separates from the bones; after which are added thyme, marjoram, &c. The whole stands together in the sun, and then the oil is strained for use. See PH. PARIS.

CATE'LLUS CINERE'US: so called from its head being like that of a dog. A CUPEL or TEST. See CUPELLA.

CATE'VALA. COMMON ALOE. See ALOE HEPATICA.

CATHÆ'RESIS, (from κατα, and αιρεω, *to take away*). The subtraction of a part of the body by any kind of evacuation, called also *detractio*.

CATHÆRE'TICA, (from αιρεω, *to take away*). Remedies which consume superfluous flesh. See CORRODENTIA.

CATHA'RMA, (from καθαιρω, *to purge*). The excrements purged off from any part of the body.

CATHA'RMOS, (from the same). Purgation by medicines, and the cure of a disorder by superstitious remedies.

CATHA'RSIS, (from the same). A discharge from the uterus, bladder, or intestines, excited either by nature or art.

CATHAR'TICA, (from καθαιρω, *to purge*). This word is generally used as expressive of purging medicines; but it implies emetics in ancient authors also.

In this place, however, we must adopt the common language, and speak of purgatives only; a class of medicines of great variety and singular utility. By pharmaceutical authors, they are divided into lenitives, purgatives, and drastics; and by therapeutical writers, into those that act by increasing the evacuations, in consequence of the stimulus applied to the excretory ducts of the different glands, and those that increase the action of the intestines themselves. There are others that act by exciting a commotion in the system, in consequence of their poisonous nature; and these show deleterious effects, immediately on their introduction, by exciting vomiting. Of this kind are the gutta gamba, the seeds of some species of the croton and jatropha, the tobacco, probably the colocynth, and others. Another division, now almost obsolete, is that into phlegmagogues, cholagogues and hydragogues; purgatives that evacuate phlegm, bile, or water: these very nearly correspond to the lenitives, purgatives, and drastics. With the first, often styled minoratives, eccoprotics have been confounded, but improperly. The last are certainly mild in their operation; but this is not always owing to their moderate stimulus, but often to their want of solubility in the first passages, in consequence of which they act on the rectum only, since they reach that part with little change. Thus sulphur and aloes are eccoprotics, and even the gutta gamba is an ingredient in that recommended by Dr. Fordyce, as the other parts of the formula are not very soluble. We shall therefore follow the pharmaceutical division just mentioned, and then add a few remarks on the eccoprotics.

Lenitives chiefly act by increasing the watery or mucous discharges from the glands, and comprehend all the phlegmagogues af the ancient pharmaceutists. The mildest of this class are the vegetables and the acid fruits. Of the vegetable lenitives, the oleraceæ are the principal; and of the acid fruits, the tamarinds, the apples, and the prunes. It is doubtful whether the hesperideæ (oranges and lemons), the senticosæ (strawberries, raspberries, grapes, gooseberries, &c.), are cathartic, except in considerable quantities. They seem to be directed rather to the urinary organs; though in some constitutions,

from idiosyncrasy, probably, they operate as cathartics. All the neutral salts, except the ammoniacal, are in a greater or less degree laxative. To these must be added the supertartrite of the vegetable alkali, viz. the crystals of tartar. The saccharine vegetable substances belong also to the lenitives; as the pulp of the cassia, manna, and, what, with a little latitude, may be referred to the same rank, honey. The vegetable oils are all slightly cathartic; but we use only the olive and the castor oil. Sulphur, from the little change it experiences in the stomach and small intestines, is a cathartic of a similar nature; and to this class phosphorus is added: but, until some safer mode of exhibition is adopted, we would not advise this substance to be employed. The bitters, the gall of animals, the fœtid gums, the various balsams, the guaiacum and the myrrh, appear to be occasionally, in a slight but permanent degree, laxative; though not usually arranged in this class. The guaiacum, indeed, is often more active; but this seems frequently to depend rather on idiosyncrasy than a real cathartic power. The fœtid gums are excellent vehicles for eccoprotics.

Lenitives, in general, very slightly stimulate the intestines, but seem chiefly to act by increasing the secretions from the glands, whose ducts open into the intestinal canal. They do not increase the heat of the body nor the pulse. They give little uneasiness in the stomach, except from their bulk; and this is chiefly obvious in the saccharine lenitives, and sometimes in the oily. They discharge copious watery fæces; but by no means the substances hardened in the cells of the colon. In many instances, they even lessen heat; and as eccoprotics, unbruised mustard seed, or a clove of garlic, is swallowed, without producing any sensible irritation. The saline lenitives excite thirst; and this may be readily gratified, as warm diluting liquors assist their operation.

Purgatives are more active, excite the action of the muscular fibres of the intestines, and are consequently better adapted to remove the more hardened fæces. Of these there is a considerable variety. The leading distinction is, into those which are astringent, or have no such power. The former are preferred, from their strengthening rather than weakening the bowels. They are supposed, however, to leave a disposition to costiveness; but, while the appearance of astringency leads to a suspicion of this effect, we find little foundation for its existence. All the cathartics, except, perhaps, the saline and oily, render the intestines less irritable; since vessels, stimulated to discharge an unusual quantity of fluids in a given time, sink afterwards into a comparatively torpid state; and, indeed, when the circulating mass is drained of any considerable proportion of its fluids, all the secretions are for a time lessened, until the loss is repaired. But while we cannot deny some subsequent astringent effect to rhubarb, for instance, we cannot admit of its strengthening the bowels by the same power. We have found no effect of this kind, and the continuance of small doses has appeared to be only eccoprotic. When the bowels have been weakened by inflammation, or diarrhœa, it has seemed injurious from its acrimony. This, former practitioners tacitly allowed, by toasting it; which they thought increased its astringency, but really only lessened its cathartic effect.

The distinction between lenitives or drastics, and laxatives, is by no means easy; since by diminishing or increasing the dose of the last, they may, with some propriety, be considered as belonging to the first or second class. This inconvenience, however, attends all natural arrangements; but, in our enumeration of the different medicines, we shall follow them very nearly in the order of their activity.

As laxatives, we employ the *sena* (cassia sena); *ipecacuanha* (callicocca ipecacuanha) in decoction; the *polypody root* and *myrobolans* (polypodium vulgaris et emblica); the *damask rose leaves* (rosa damascena); *rhubarb* (rheum palmatum); *purging flax* (linum catharticum); *broom* (spartium scoparium); *mechoacanna* (convolvulus mechoacanna); *buckthorn berries* (rhamnus catharticus); *jalap* (convolvulus jalapa); *rattlesnake root* (polygala seneka); *celandine root* (chelidonium majus); *black alder* (rhamnus frangula); *scammony* (convolvulus scammonia); *common and dwarf elder, inner bark* (sambucus nigra et ebulus). From the mineral kingdom laxative cathartics are, James's powder, calomel, and phosphat of silver.

These substances act with greater or less acrimony; and those towards the end of the list are often highly acrid. Many others might be enumerated, which are found in the writers on the Materia Medica, and which occur in their places in this dictionary. From these before him, however, the practitioner may have a sufficient choice. In general, these laxatives excite colic, and sometimes prove emetic: they frequently stimulate the system, increase the heat and the pulse; but, on the other hand, they are active and effectual evacuants. If an opiate has previously produced some relaxation in the cells of the colon, they will bring away the most hardened, long retained scybala. In cases of fever, however, these are often only evacuated when the relaxation is produced by the solution of the disease. Mild purgatives will, in those cases, discharge what had escaped the action of the most violent. The former part of this list contains the chologogues of the ancients.

The drastics are the *gamboge* (stalagmitis of Kœnig); *wild cucumber* (momordica elaterium); *bitter cucumber* (cucumis colocynthis); *black and white hellebore* (helleborus niger, and veratrum album); *sea colewort* (brassica marina, soldanella pharmaceut.); resin of jalap, nitrat of silver, and various mercurials and antimonials, q. v.

These drastics act with great violence, generally disorder the stomach and the whole system in a considerable degree, and sometimes inflame the intestines. These, and some of the more active medicines of the former group, were chiefly used by the ancients, for the milder laxatives were introduced by the Arabians, and occasioned the numerous cautions respecting the use of purgative medicines. From this circumstance also, and from the use of mercurials as laxatives, the supposed necessity of confinement to a warm room apparently arose. This measure may be dictated by convenience; but certainly warm air, and a horizontal posture, retard or lessen the operation of laxatives.

The narcotic cathartics remain, which disorder the senses, produce stupefaction, and seem to act as cathartics, by the general commotion that they produce. We think these effects in some measure follow the use of the gutta gamba, the colocynth, the hellebores, and

some of the other drastics, when first introduced into the stomach. They often occasion sickness, faintness, and cold sweats; but the cathartics more decidedly sedative are the *tobacco* (nicotiana tabacum), the *foxglove* (digitalis purpurea), and the lactuca virosa. One effect of the drastics, which we deferred mentioning till we had introduced this last group, is the discharge of water from the cavity of the peritoneum, the chest, and the cellular substance. This effect seems to arise from the sedative power of the remedies. In this moment of total relaxation every bond of union is removed, even the inosculation of the maternal and fœtal parts of the placenta, every form of obstruction recedes: the secretory organs yield, not from the action of the remedy increasing the excitement, but from the temporary solution of the tonic power.

We have little to add to what we have already said of eccoprotics. A mild vegetable diet is the safest and the best. Aloes, combined either with the fœtid gums or soap, is highly useful, chiefly from its very slow decomposition in the small intestines. Sulphur is equally convenient, from the same cause. The sea water and the purging mineral waters are also highly useful, when they can be conveniently taken. Rhubarb we have found too irritating, unless combined with soap; and a sufficient quantity of the latter renders the bulk inconvenient. We have generally added a small proportion of the scammony, to render it more active. Aloes is by far more useful; and though it sometimes produces piles, yet, in the forms above mentioned, we have not experienced this inconvenience. Dr. Fordyce, in an excellent paper "on the combination of medicines," recommends a compound eccoprotic, which he thinks of superior efficacy to any other. It consists of five parts of aloes, three of sagapenum, two of gamboge, and one of distilled oil of camomile. Two parts of gum arabic are employed to give it a consistence, and the whole is made into a mass with the syrupus à spina cervina. From six to ten grains are a dose; and it is said to operate without sickness or griping. We shall resume this subject under the article of COMBINATION OF MEDICINES, and shall then speak of the advantages derived from the union of different purgatives.

One other class of purgatives remains, viz. what are styled, by some late authors, "the mechanical;" consisting chiefly of watery liquors. These act by their bulk, which is the chief stimulus of every hollow muscle. The utility of a large bulk of fluids is particularly conspicuous in clysters, where a pint and a half of milk and water will procure a motion, often more readily than the most active purgative administered in the same manner. We speak, however, of these mechanical cathartics, chiefly to notice the effects of dilution in increasing the power of the neutral salts. If an ounce is the proper dose in two ounces of water, two thirds will be sufficient in half a pint; and perhaps one half in a pint. This fact, before alluded to, solves the difficulty felt in accounting for the purgative power of some mineral waters, in which the proportion of salts is inconsiderable.

In describing the effects and the use of cathartics, instead of explaining them in the way of some therapeutical authors, *a capite ad calcem*, we shall first speak of their more immediate effects; and, from them, trace the more remote and distant. We shall afterwards enumerate those diseases in which they are chiefly indicated, and in which they are most essentially useful.

The first and most obvious effect of purgatives is the discharge of the contents of the abdomen. The intestines are subject to various accumulations of hardened fæces, undigested matter, or inspissated mucus. These substances impede not only the passage of the fresh nutriment, but prevent the absorption of the newly-formed chyle, and occasion general languor and debility. Laxatives, as we have said, also stimulate the orifices of the excretory ducts, and promote the circulation through the vessels of the glands. This is a very important effect, and renders these medicines useful in a variety of complaints.

By the evacuation of the contents of the intestines, it may be supposed that cathartics would relieve the stomach, and promote, in every instance, the discharge of its contents: but this effect is not constantly produced; and where a viscid mucus has accumulated, its weight carries it to the bottom of the larger curvature of that organ, and it is rarely discharged without the assistance of an emetic. The complaints of the stomach, supposed to be relieved by cathartics, are more often accumulations in the duodenum.

When the intestines are loaded, and particularly the small intestines, some pressure is made on the descending aorta, and the blood is determined in larger proportions to the ascending branches, occasioning pain in the head, languor, and general uneasiness. These symptoms cathartics commonly relieve; and, by taking off the pressure from the descending aorta, facilitating the circulation through the glands of the chylopoietic viscera, and thus increasing the circulation in its branches, cathartics become the most useful remedies in diseases of the head.

The efficacy of cathartics as evacuants of particular fluids, which seem chiefly to depend on the solubility of the medicine, merits our attention. The saline and other lenitives act immediately on passing into the intestinal canal, and stimulate not only the excretories of the liver and pancreas, but of the mucous glands in the neighbourhood; and it is this class of cathartics on which we chiefly depend for the evacuation of bile. By some accident, rhubarb has been considered as the chief evacuant of this secreted fluid; but we have never found it peculiarly adapted for this indication, except when combined with soap. Indeed the stimulus of rhubarb on the internal surface of the canal is so considerable, that even when it has passed the entrance of the ductus communis, the irritation may be communicated to it. Irritation is always readily conveyed along the surface of mucous membranes; for we find a stone in the pelvis of the kidney sometimes convey a peculiar sensation at the extremity of the glans penis.

The active cathartics alone stimulate sufficiently the muscular fibres of the colon; so as to evacuate the contents of its cells: and for this purpose calomel is the most effectual. Jalap, a medicine of considerable utility, seems also to combine a power of assisting the watery secretions; and thus becomes a serviceable addition to the lenitives, when employed with this view. Rhubarb seems also particularly useful in evacuating

the contents of the larger intestines. On the rectum, sulphur and aloes seem to act exclusively; and the one is supposed to relieve, as the other is to induce, the hæmorrhoids. The evacuation of the contents of the rectum is, however, in general, more properly trusted to clysters. The importance of this discharge is considerable in relieving any inflammatory diseases of the uterus or vesica urinaria; and, as injections reach so nearly the affected part, opiates are thus advantageously administered. But this is from our present subject.

The diseases in which cathartics are advantageously employed are numerous. We have detailed the advantages arising from the evacuation of the contents of the bowels; and it will be obvious, that, in every case of dyspepsia, of bilious accumulations, and worms, they must be of essential utility. For the discharge of worms, and the mucus which forms their nidus, the most stimulating cathartics are requisite. For dyspepsia the eccoprotics; and for bilious accumulations the laxatives, and of these rhubarb and calomel, are the most useful.

The infarctions of the different viscera require the constant use of cathartics; since, from the steady and frequently repeated stimulus to their excretories, we promote a more active circulation through their substance. Dissection discovers various indurations in different organs, whose excretories open into the abdomen; but we can distinctly ascertain the existence of one only during life, viz. infarctions of the liver. The small doses of calomel, which give a general activity to the circulation, are greatly assisted by the regularly repeated stimulus of gentle laxatives; and, indeed, without these, would be of little service. When no symptom leads to the suspicion of disease in any one organ, a general cachectic habit renders laxatives almost indispensable: indeed, in every instance of this kind they are highly useful. When the mesenteric glands are affected, we can scarcely style the lacteals their excretory ducts; yet the stimulus of cathartics on their orifices is highly useful. We shall find reason to conclude, that all the infarctions of conglobate glands are owing to a want of irritability in these vessels; and the disease is not only relieved by the stimulus of the cathartic, but probably by the absorption of those found to be most useful, viz. sea water, and the purging mineral waters. The latter are frequently the most effectual also in infarctions of the liver; and, when joined with a chalybeate, which, as we have said, is supposed to prevent the debilitating effects of purging, have been greatly celebrated. Cheltenham water is the most fashionable of this kind.

In diseases of the head, from the effects of cathartics just mentioned, we may expect the greatest advantages; and we find from experience, that they chiefly relieve every accumulation on the cerebrum. In every case of *apoplexy*, *carus*, and *lethargy*, cathartics are remedies of peculiar utility; and, in the course of our labours, we shall find many diseases connected with such accumulations that have not been suspected to originate from this source.

The great utility of cathartics is, however, conspicuous in febrile diseases. We cannot explain the foundation of the advantages derived from them at present; but can only observe, that in every fever the balance of the circulation is apparently destroyed; that in some cases the liver, in others the head, often both organs, suffer from accumulation. Cathartics relieve both; and, in checking fever on its first formation, seem to be the most useful remedies. Emetics have had the chief credit in destroying fever in the bud; but, unless succeeded by, or accompanied with, laxatives, they have failed, or performed their office imperfectly. During the whole course of febrile diseases, a regular, and very often an active, discharge from the bowels is necessary: and stools, so far from weakening, add to the strength of the patient. Care, however, must be taken that the discharges be actually feculent. We have known the motions numerous without relief: they have been found only mucous evacuations from the rectum. They have been reported to be copious; but, on examination, have appeared to be only water scarcely coloured. Even when motions have appeared most decidedly feculent at the conclusion of the fever, some matter has been seemingly retained; since discharges of peculiar fœtor and putridity have accompanied or followed the crisis. On this account the lenitives, though often recommended, have not appeared to us the best form of cathartics *in this country*. In warmer climates, where the bile is highly acrid and stimulating, lenitives only are admissible; since laxatives would add to a stimulus already in excess. We now make this distinction, but would subjoin a caution in the words of Baglivi, when he apologizes for a practice which might be suitable only in his own situation: "Romæ ago et Romano in aere."

It may be asked, are laxatives so peculiarly useful in every epidemic? We dare not say so; for we have found some truly asthenic fevers in which they have appeared to have effects highly debilitating. The instances have, however, been very few; and, in general, on the appearance of every epidemic, the practitioner must cautiously examine its nature in every point. He will, however, err most seldom in examining the effects of laxatives if he tries them to some extent. He can soon check his career; and, in the very earliest stages, they scarcely ever are injurious. We must, however, in a future article, point out the fevers which are less adapted to this remedy.

To pursue the particular kinds of fevers in which cathartics are most useful, we must first remark that bilious accumulations are particularly conspicuous in *intermittents;* and from hence arose the anxiety of former physicians to bring the fever to a regular intermission, previous to the exhibition of the bark. In fact, the end really attained was, by previous evacuations, to prevent accumulations in the liver, which the bark might still further impact; nor have we a doubt that the accusation, formerly brought against this remedy, of its producing the tumours styled ague cakes, may have had some foundation. It has been alleged, that these tumours were more common before the introduction of the bark than since. This, indeed, we believe; but the cause was the long continuation of the disease without the use of any active remedy.

In *remittents*, diseases of a similar nature, the same remedy is useful; and of *continued fevers*, it is chiefly employed in the *inflammatory fever*, to cool by the discharge from the exhibition of lenitives; and in *bilious*

fevers, to clear the liver from the accumulations with which that organ is oppressed. In the more *common epidemics*, styled *putrid*, or *nervous*, there appear to be accumulations in the liver and the head. We are told by medical authors to prevent costiveness; but we have only succeeded when we have carried the evacuation further. On these subjects we must again enlarge.

In the *topical inflammations*, cathartics are less generally useful. In *phrenitis*, indeed, they are essential remedies; but, in *pneumonia*, often injurious. In *angina* they are not singularly beneficial; and, in *gastritis*, often inadmissible. In *enteritis* they are of the greatest importance; and, on their management in this disease, the cure almost wholly depends. In *nephritis* and *peritonitis*, lenitives are remedies of importance; and, in *cystitis*, laxative clysters are highly useful.

In the *exanthemata*, also, laxatives are employed with much discrimination. The bowels and skin, as we have said, alternate in their discharge; and, *cutis siccitas, alvi laxitas*, is an axiom two thousand years old. By purging, therefore, we may always moderate a cutaneous eruption; we may sometimes prevent it: and, whenever previous fever threatens a copious eruption of *small pox*, next to cool air, active laxatives are the most effectual remedies. In *measles* we have found nothing prevent so effectually the peripneumonic symptoms as a loose belly: and, from one instance, have suspected that purging may be carried to a greater degree than has yet been practised. The child was tender and delicate, with apprehension of weak lungs; the peripneumonic symptoms violent. The cathartics were urged with unusual activity; the disease was mitigated, and the recovery unusually rapid. The instance is, however, a single one. In *erysipelas* and *scarlatina* we know not that cathartics have been urged, or that they have been urged with success. In *gout* we have said they are injurious: in *rheumatism* they are inconvenient. Yet we have thought the doses of calomel, in an active form, have been useful as laxatives.

In *hæmorrhages of the brain* the most active laxatives are useful; but here their benefits seem in this order to end: in the other hæmorrhages, the mildest lenitives only are employed with advantage, to cool rather than to evacuate.

In various diseases, arranged by Dr. Cullen under the class *neuroses*, laxatives are highly useful. In all *comata*, even though not febrile, they are essential. In the *spasmi* they are apparently less beneficial; but, in warm countries, these often arise from acrid bile, and the *trismus infantum* is well known to be owing to this cause. The *chorea*, too, as we shall soon find, is greatly benefited, often effectually cured, by active cathartics. In *colic*, *cholera*, and *diarrhœa*, laxatives are appropriate remedies; but particularly useful in the first: in the two last the discharge requires only to be regulated, sometimes to be rendered more effectual.

In the whole of the class *vesaniæ*, cathartics in different forms and degrees are necessary; and, in the cachexies, particularly in tabes mesenterica, we have already remarked their utility. On the subject of *dropsy* we have nothing to add to the observations under the articles Ascites and Anasarca, q. v.

The manuscript of the foregoing article was sent to the printer before we had an opportunity of perusing Dr. Hamilton's "Observations on the Utility and Administration of Purgative Medicines." It gave us great pleasure to see this confirmation of our opinions, drawn also from the sick bed, by a gentleman with whom we were *once* personally acquainted, and whose abilities we highly respected. He recommends purgatives in chlorosis, chorea, chronic diseases, hæmatemesis, marasmus, scarlatina, and typhus. Under the separate respective articles we shall more particularly attend to his observations: our opinions, in general, are before the reader.

With scarlatina, he speaks of its frequent concomitant, the ulcerated sore throat. The peculiar disease which we have described under the article Angina gangrenosa is scarcely, if at all, known in Edinburgh; at least, in the course of five years, we never saw it: and, in the lectures of Dr. Cullen and Dr. Gregory, this kind of sore throat was spoken of so indiscriminately, as if they were little acquainted with the complaint. In the ulcerated throat as it appears in England, purgatives are certainly not admissible; and we have seldom found them very advantageous in scarlatina. Dr. Hamilton means by purgatives what we have called laxatives, but administers them in separate doses.

CATHAR'TICUS, sal, (from καθαίρω, *to purge*). Called also *amarus sal*, *magnesia vitriolata*, *Ebshamensis*, and *Epsomensis sal*. Purging salt, Epsom salt, and English salt. This salt was first obtained from the mineral water at Epsom: it was afterwards separated from the brine which remains after the crystallization of common salt, and the latter is now in general use. It is composed of the vitriolic acid and magnesia; differing from the natron vitriolatum, which has a mineral alkaline salt for its basis. The first is often sold for the latter; but they are distinguished by adding any alkaline salt to a solution of the former, when the earth will be precipitated.

It is with this salt that the purging mineral waters are frequently impregnated, and to which they often owe their virtue. It hath a bitter taste, is soluble in less than twice its weight of water, shoots into long prismatic crystals, liquifies and bubbles in a moderate heat, emitting a quantity of aqueous vapours; it changes to a white spongy mass, which is more bitter than the original salt.

If this salt is dissolved in water and crystallized afresh, it concretes into a larger kind of crystals, which resemble the purging salt usually called Glauber's. It has a nauseous bitter taste; is a gentle purgative, operating in general with ease and safety, yet with a sufficient efficacy, and quickly finishing its operation. Two or three drachms, dissolved in a pint of water, operate more powerfully and easily than a larger quantity in three or four ounces. Its passing off hastily, and not exciting the action of the intestinal fibres, seem to be its principal imperfections. In small doses often repeated it promotes the secretions in general, and proves an excellent aperient in many chronical disorders. It seldom occasions gripes or sickness, like resinous purges. If the patient keep warm, small doses will excite perspiration; if cool, they pass off by urine. As a purge, from an ounce to an ounce and a half is a full dose, which, when dissolved in a quart of water with a drachm of mace or of cardamom seeds previously

infused in it, sits easy on the stomach. See Lewis's Mat. Med. Neumann's Chem. Works.

CATHA'RTICUS HISPANICUS SAL. It is produced near Madrid from some springs: it is neutral, and agrees with the natron vitriolatum, or Glauber's salt. Its operation is very gentle.

CATHA'RTICUS GLAUBE'RI SAL. See GLAUBERI SAL.

CATHE'DRA, (from καθιζομαι, *to sit*). See ANUS.

CATHE'STECOS. See DIÆTA.

CATHETERI'SMUS, (from καθετηρ, *catheterus*). The introduction of the catheter into the bladder; an appellation given by P. Ægineta to this operation, which is required in the following cases.

1. When a stone lies internally on the neck of the bladder, and stops the discharge of the urine.

2. When a preternatural weakness of the bladder hinders the urine from being discharged in the usual manner; and when other remedies fail, which often happens in women weakened with labour, or when the head of the child presses on the urethra.

3. When, by long retention of urine, the bladder is so distended and weakened as not to be able to discharge its contents.

4. When mucus, blood, pus, or other matter, sticks in the neck of the bladder, from ulcers, or wounds of the kidneys, or from discharges of bloody urine.

5. When the urethra, or the neck of the bladder, is contracted or obstructed; but in this case bougies are preferred; or when the prostate is scirrhous and prevents the passage of the urine.

6. In the last months of pregnancy it is sometimes useful to introduce the *catheter*, to draw off the urine, as the weight of the uterus obstructs its discharge.

7. When a prolapsus uteri produces an ischury.

8. When a liquor is to be injected into the bladder; in which case a bladder, or an elastic bottle, may be filled with the liquor to be injected, fastened to the catheter, and, by gentle pressure, conveyed through it.

It is easy to introduce the catheter into the female bladder, since the direction of the urethra is nearly straight; but in males there is some difficulty. Heister directs the man to lie on his back, and the operator to take the penis in his left hand, as he stands on the patient's left side, reclining the penis towards the navel; then he is to introduce the catheter, with its concave part to the belly, into the urethra, so far as the os pubis; and so thrusting it under the symphysis of those bones, and moving the hands gently outwards, forces it into the bladder.

If the catheter is too small, it is the more apt to stop in the corrugations and foldings of the urethra, which often occur in elderly men. Dr. Hunter adds, that some impediments are often met with at the caput gallinaginis, in which case he advises to draw the catheter a little back, and press the end of the catheter a little higher, and then it will slip in; but he cautions against using any force. If a difficulty is still found, he advises the operator to put a finger into the anus, at the same time draw the perinæum forward, and therewith endeavour to assist the catheter in its introduction.

Mr. Ware, in a paper expressly written on this subject, says, "The mode in which I pass the instrument is as follows: being first thoroughly oiled, I introduce it into the urethra, with its convex part uppermost, and carry it as far as it will pass without using force; then I turn it *slowly* round, so as to bring its concave side uppermost; and in doing this, I make a large sweep with the handle of the instrument, and at the same time keep my attention fixed steadily on its apex, or inner termination, which I take particular care neither to retract, nor to remove from its first line of direction. When the catheter is turned, it must still be pressed onward, and its handle at the same time gently depressed: by this method it will be made to enter the bladder."

The catheter made use of by Mr. Ware is twelve inches long, which is more than an inch above the ordinary length; and the curvature larger than common, as represented in the plate he has annexed; and with which he has succeeded often, where others of a different size and curvature had failed.

Those catheters are the best that are made with small holes at their ends, instead of long rhomboidal apertures.

In the following cases this instrument cannot be used:

1. When the neck of the bladder is greatly inflamed, for then the urethra is much contracted, and force in this case would endanger a sphacelus. 2. When a caruncle, cicatrix, or hard tubercle, obstructs the passage. 3. In old men, sometimes from the stricture shrinking, or from wrinkles in the urethra. 4. From the distention of the spongy substance of the urethra with blood. 5. From a scirrhosity or preternatural tumour of the prostate gland. 6. From a stone lodged in the neck of the bladder. 7. When the uterus is remarkably prominent and pendulous over the ossa pubis, the neck of the bladder, then forming an angle with the body of the bladder, hinders the passage of the catheter. 8. When the uterus is retroverted, in which state it drags the bladder upwards and backwards.

CATHETE'RUS. CA'THETER, (from καθιημι, *to thrust into*). Also called *auliscos*, *fistula*. It is a long crooked tube introduced through the urethra into the bladder, when solid for the discovery of a stone, or when hollow to occasion a flow of urine if suppressed. The Latins call it fistula: and it had the epithet ænea from the matter of which it was formed. It is the name also for BOUGIE, which see.

CATHIDRU'SIS, (from καθιδρυω, *to place together*). See FRACTURA and CATÍMIA.

CATHI'MIA. In the Spagyric language signifies subterraneous mineral veins; concretions in the furnace of gold and silver; and soot that adheres to the walls in burning brass. It is, in fact, *cadmia* disguised by bad spelling. See LITHARGYRUM.

CATHO'LCEUS, (from κατα, and ελκω, *to draw over*). An oblong fillet which came over the whole bandage of the head, called periscepastrum, or the sling with six heads. See FASCIA.

CATHO'LICON. A general or universal medicine, formerly supposed to purge off all bad humours, (from κατα, *through*, and ολον, *the whole*): sometimes termed *diacatholicon*, or the universal purge. It was an electuary which Nicolaus prescribed, as a purge suited to carry off all kinds of humours.

CATHY'PNIA, from υπνος, *sleep*). A profound sleep.

CA'TIAS, CA'TIUS, (from καθιημι, *dimitto, to place in*). An incision knife, formerly used to extract a dead fœtus, and for opening an abscess in the uterus.

CATI'LLIA. The weight of nine ounces.

CA'TINUM ALU'MEN. See CLAVELLATI CINERES.

CATI'SCHON, (from κατισχω, *to retain*). One who is costive, or not easily purged.

CATIXIS, (from κατ' ιξιν, *per rectam viam*). ON THE SAME SIDE. In inflammation of the liver, a crisis of blood is discharged from the nose by the right nostril; and in inflammation of the spleen by the left. It hath long been supposed that nature endeavours with more vigour, and more certain success, to free herself by passages on the side of the disease.

CATOCATHA'RTICA, (from κατα, *downwards*, and καθαιρω, *purgo*). See CATHARTICA.

CA'TOCHE, and CATOCHUS, (from κατεχω, *to detain*). See CATALEPSIS, CAROS, and TETANUS.

CATOCHI'TES, (from κατεχω, *to retain*). A stone found in Corsica, which Pliny says attracts and retains the hand when laid upon it.

CATO'DON, (from κατω, *below*, and οδους, *a tooth*; because it has teeth only in its lower jaw). See CETE ADMIRABILE.

CATOMI'SMOS, (from κατω, *under*, and ωμος, *the shoulder*). By this word P. Ægineta expresses a mode of reducing a luxated humerus, performed by a strong man taking the patient's arm and laying it over his shoulder, so that he can raise him from the ground; thus by the weight of the body the luxation is reduced.

CATO'PTER, (from κατα, *through*, οπτομαι, *to see*, and by metaphor, *to probe*). See SPECULUM.

CATORCHI'TES, (from κατα, and ορχις, *orchis*). A sort of wine in which the orchis root has been used. Dioscorides.

CATORE'TICA, CATOTE'RICA, (from κατω, *downwards*, and ρεω, *to flow*). See PURGANTIA.

CATTA'RIA. See MENTHA CATARIA, and CATARIA.

CATTU-SCHI'RAGAM. (Indian.) The Malabar name for the *scabiosa Indica arborea*, the seeds of which kill worms. Raii Hist.

CATULO'TICA, (from καταλοω, *to cicatrise*,) improperly *catalotica*. Medicines that cicatrise wounds.

CA'TULUS. In zoology it is a PUPPY. See CANIS. In botany it is a CATKIN. See AMENTACEI FLORES.

CATU-TRI'PALI. See PIPER LONGUM.

CAU'CALIS, (from καυκιον, *a cup*, so named from the shape of its flower). BASTARD PARSLEY, called also *echinophora tertia*, *lappula Canaria*, *pseudoselinum*, *anthriscus*, *daucus annuus minor*, HEDGE PARSLEY. It has generally red flowers, and possesses the common qualities of the garden parsley. See APIUM HORTENSE.

CAUCALOI'DES, (from καυκαλις, and ειδος, *likeness*). A name of the *patella*, in Moschion de Morb. Mulieb. so called from its likeness to the flower of the caucalis.

CAU'DA. Ætius, in his Tetrab. 4. serm. 4. ch. 103. says, that in some women a fleshy substance arises from the os uteri, and fills the vagina. Sometimes it protuberates without the lips of the pudenda, like the tail of some animal. If this substance ever existed, it must have been enlarged clitoris, or, if a disease, a polypus. In order to extirpate it, he advises to extend it with a forceps, and then cut it off; after which it must be dressed with lint dipped in rough wine. It is also a name of the *os coccygis*.

CAU'DA EQUI'NA. In anatomy the medulla spinalis ends about the first or second lumbar vertebra, and there forms itself into many branches, which receive all together the name *cauda equina*, from being like a horse's tail. From the loins downwards the holes in the vertebræ are somewhat lower than the origin of the nerves that pass through them; hence it is of importance, when any disorder arises from an injury of any of the nerves below the first and second lumbar vertebra, to advert to this circumstance; and, as at the first or second vertebra of the loins the *cauda equina* begins, so, in tracing the source of all the nerves below these parts, this is their origin. See LUMBARES.

CAU'DA MURIS. A species of RANUNCULUS. See also MYOSURUS.

CAU'DA PORCI'NA. See PEUCEDANUM.

CAU'DA VU'LPIS RUBICU'NDI. A preparation of lead.

CAUDA'TIO, (from *cauda*, *a tail*,) an elongation of the clitoris. See CAUDA.

CAUDE'X. The TRUNK of a TREE, or that part of a plant which lies betwixt the root and the branches. According to Linnæus, when a seed germinates, the *caudex descendens* terminates in roots, the *ascendens* in branches and leaves.

CAULE'DON, (because it breaks like καυλος, *a stalk*). A species of fracture, when the bone is broken transversely so as not to cohere.

CAULI'AS, (from καυλος, *a stalk*). An epithet for that juice of the asafœtida plant which flows from the stalk, by way of distinction from that which flows from the root, and is called ριζιας, *rizias*. Its stalk is styled *caulos*.

CAU'LIS, and CAU'LOS, (from *kalah*, a Chaldean term). The STALK. See CAUDEX. It is a name also for both the PENIS and VAGINA; and in corn and grass it is called the BLADE. It is a name for a cabbage or colewort. See BRASSICA SATIVA.

CAU'LIS FLO'RIDA. See CAULIFLOWER.

CAULO'DES, (from καυλος, *cabbage*). See BRASSICA.

CAU'MA, (from καιω, *to burn*). The heat of the atmosphere; or of the body in a fever.

CAU'NGA. See ARECA.

CAU'SA. (Latin.) A CAUSE. Causation, among metaphysicians and logicians, is a subject of peculiar difficulty and of some danger; since, in pursuing the reasoning without due attention, some of the best men have advanced nearer the confines of infidelity than they have suspected; and mankind, ever prone to censure, have caught with eagerness at little errors, and pursued the author with the acrimony which crimes only merited. As logical disquisitions can have no place in this work, we shall fortunately escape the quicksands, though we may encounter whirlpools, on the opposite shore. Dr. Wallis, in his work on Health and Diseases, and in the last edition of this Dictionary, seemed to plume himself on establishing certainty from his disquisitions on this subject, in a science formerly conjectural; yet a more confused farrago of reasoning, with scarcely a clear determinate idea, never

occurred. Disputes, however, are still less within our province, and particularly with our predecessors.

To ascertain the nature and degree of causation respecting diseases, we must first enquire what a DISEASE is; and we shall so far anticipate that article by saying, that a disease is that condition of the human body, in which the actions of life and health proper to it are not performed, or performed imperfectly. According to this definition, the disease consists in the disordered or impeded functions; and these form, in our views, its essence. By these it is defined; by these distinguished. Authors formerly, and often at present, suppose that the disease consists in the injury which disorders or impedes the functions: thus what they consider as the disease is, strictly speaking, only the immediate cause. The difference is, indeed, merely verbal; and, when established, either plan may with equal reason be supported. If, however, it be necessary to speak of diseases as characterised by fixed indisputed marks, it must be established on a securer basis than the fluctuating systems of pathology. In this way the real disease, like the unknown quantity of the algebraist, is uncertain; but as it has distinguishing properties and a peculiar appellation, every end is attained.

Since a disease supposes a change of the body from a sound state discriminated by a given concourse of symptoms, these symptoms are the effect of that change; and the change itself the effect of a given power by whose influence it exists. Whatever, then, it be by whose influence the disease exists, is its cause. In medicine, also, it is not necessary that the cause be active, though logicians scarcely admit any other: privation, as will be seen, is a frequent cause of corporeal changes, and often a source of disease; as depriving a muscle of a portion of its nervous power, occasions violent convulsions.

The minute difference of causes in the works of many pathologists, would lead to pompous trifling, and would disgrace a science which should be distinguished by its utility alone. The first important distinction of causes is into *internal* and *external*. The former implies some defect previously rooted in the body before it breaks out into a disease, or before it becomes conspicuous by evident symptoms. To such a state, though really a morbid change, Gaubius himself, who considers what we would style the immediate cause as the disease, will not allow that appellation. External causes are, improper diet, inclement weather, sudden changes of temperature, or, indeed, whatever affects the body from without. These have been styled *evident causes;* and even the most empirical systems admit the utility of enquiries into them. Internal causes form the *seminium morbi*, the predisposition to disease; and such is the state of the human frame, that no constitution can be pronounced free from predisposition. There is, in every one, some weak organ which requires only an exciting cause to blow the spark into a flame. Thus a vomica is brought to a suppuration by an accidental cold, which would never otherwise have occasioned any inconvenience. This internal cause, which is often styled *causa προηγουμένη*, or predisponent, is roused to action by what is styled the exciting cause, *causa προκαταρκτική*, sometimes *occasio*, or occasional cause. This is generally external, though not necessarily so, as we shall soon find. In general, neither of these causes alone will produce a disease, but the concurrence of both is required. If there is no predisposition, the occasional cause is harmless: without the *occasio*, a predisposition may exist for years harmless.

These causes have been styled, in conjunction, principia morborum, and the logical meaning of principium may be understood from Sauvages' Definition of a Cause, adopted, if we recollect rightly, from Wolfius; "Causa est, illud ex quo intelligitur alterius actualis existentia, unde *discrepat a principio, ex quo non actualitas sed tantum possibilitas intelligitur.*"

What authors have styled the disease, or what the more correct pathologists of the present day call the proximate cause, viz. the morbid læsion, alone merits the appellation of a cause. "That only," observes Gaubius, "deserves the name of a physical cause, which so constitutes the disease that, when present, the disease exists; while it remains, the disease remains; when changed or removed, the disease is equally altered or destroyed." The lax use of the term *cause* among physicians has occasioned much ridicule on the art, which should have been directed against its unskilful professors: and causes without effects; effects without causes; opposite effects from the same cause; or the same effect from opposite causes; have not been uncommonly assigned, and furnished a foundation for numerous sneers. The English reader need not look further for examples than Tristram Shandy and Hudibras.

We have spoken of the body only, without mentioning the mind. We well know their mutual influence; but have yet to learn, whether disease may consist merely in mental injury, or, indeed, whether morbid motions can originate from mind. The mental principle, which regulates the whole system, has been already spoken of. Its tranquillity and passions may be considered, as its health and diseases. These, however, are transitory, but they affect for a time the body. Joy and exultation have raised the mental powers so high that they have sunk from exhausted excitability; and the depressing passions, by lowering the irritability, have produced visceral obstructions, and every symptom of cachexy. But whatever may have been the mental source, the effect is continued from disease of body. The mental disease may be alleviated or removed; the bodily remains; nor in any instance, whatever temporary relief may arise from soothing consolation, can the disease be removed without bodily remedies.

In body, however, as in mind, the remote causes may cease to act without any change in the disease. When it is once produced, their presence or absence occasions little alteration. A person, for instance, affected by fever from marsh miasmata, may be removed to the healthiest situation without any change of his complaint; and the cold that produced rheumatism may be removed with little relief of his disorder. This, as we have said, is not the case with the proximate cause: it commences, continues, and ends, with the disease.

Another circumstance respecting causes demands our attention. We have explained two kinds of remote causes; but between these and the proximate there are many intermediate steps. There is, as we have formerly said, a series of causes and effects before the morbid læsion takes place. Thus, in the common cause of dropsy ebriety, we see that the tone of the stomach is originally destroyed. This want of irrita-

bility is communicated to the liver; infarctions take place; the returning blood to the vena portæ is checked in its progress; the exhalant arteries have more than their proportion of fluids; and exhalation is increased beyond what the absorbents can convey, which also seem to experience the same defective irritability. In this series there is no predisponent cause; and which is the remote cause of the disease, the diminished tone of the stomach, the infarctions of the liver, the obstruction of the vena portæ, or increased exhalation? Yet medical authors give with confidence remote and proximate causes, though the former are often various, and the latter frequently unknown. In short, in every science there is too much jargon, and too many pretensions to a knowledge that we cannot, which probably we never shall, possess.

We just now cited the cause of dropsy with a particular design: it was to adduce it as an instance, that predisponent causes, *seminia morbi*, do not always occur. The same occasional causes will produce the disease in the best constitution; as a fall from a house will bring on hæmoptoe in the person whose lungs are most sound.

To return, then; the proximate, or the continent, cause merits our chief regard, as it alone furnishes indications of cure. This is, however, often uncertain, and in many cases unknown. If debility furnish the leading clue to explain the phenomena of fever, we can scarcely explain its operation or connection with every symptom; nor can we say why, when its cause is removed, the effect should not cease. In the disease just mentioned, dropsy, we can scarcely in any instance see the particular cause of the increased exhalation or diminished absorption; nor, as we have found, can we rest on either any clear discriminated indications of cure. We must, therefore, often collect rules from experience, and connect them with the more obvious causes and the more certain changes in the constitution when deviating from the healty state.

CAU'SIS, (from καίω, *uro, to burn*). See Ambusta.

CAUSO'DES FE'BRIS, (from καίω, *to burn*). See Febris ardens.

CAUSO'MA, (from the same). In Hippocrates signifies a burning heat and inflammation.

CAU'STICA. Caustics, (from καίω, *to burn*). See Escharotica.

CAU'STICUM AMERICA'NUM. See Cevadilla.

Cau'sticum commu'ne fo'rtius. Ph. Lond.

The common stronger caustic of the London college, called now calx cum ka'li, is made by adding five pounds four ounces of quick lime, to water of pure kali, sixteen pounds. The water of pure kali is reduced by boiling to a fourth part; and the lime reduced to a powder by the affusion of water gradually added. It must be kept in a vessel close stopped. For the mode of application see Escharotica.

Cau'sticum luna're. See Argentum.

Cau'sticum opia'tum. Opiated caustic.

℞. Calcis cum kali puro ʒ ij. opii pulverisati ʒ ss. saponis mollis q. s. commisceantur calx cum kali puro, et opium, et in pastam cum sapone molli formentur. This is used in the radical cure of an hydrocele, by forming, of adhesive plaster spread on leather of several thicknesses, a circular aperture adapted to the lower and anterior part of the tumour, in which the paste is introduced. This is to continue for about eight hours, about which time it will, without much pains, penetrate down to the tunica vaginalis. Afterwards apply poultices till the eschar sloughs: then the water is evacuated, and the cure completed. This is Mr. Else's mode at St. Thomas's Hospital.

CAU'SUS, (from καίω, *uro, to burn*). See Ardens febris and Dipsas.

CAUTE'RIUM, (from καίω, *to burn*). A cautery, either actual or potential. See Escharotica.

Cautérium Potentiále Ph. Edinb. The potential cautery of the Edinburgh Dispensary.

Take of Russian potash and quick lime, of each equal parts; of spring water three times the quantity of the whole; macerate them for two days, occasionally stirring them; then filter the ley, and evaporate it to dryness; put the dry mass into a crucible, and urge it with a strong fire till it flows like oil; then pour it out upon a flat plate made hot, and while the matter continues soft cut it into pieces of a proper size and figure, and keep them in glasses closely stopped.

This is also called *lapis septicas*. It is a strong and sudden caustic, but it deliquesces too soon in the air, and runs beyond its proper bounds; indeed, the suddenness of its action depends on its disposition to liquefy. But this inconvenience is avoided in the calx cum kali puro. Ph. Lond. 1788.

CA'VA VE'NA. The principal vein, which receives the refluent blood, and conveys it to the heart, is thus named, from its size.

The *vena cava* is generally described as being two; viz. the ascending and the descending; the right auricle receives them both, one at its upper, the other at its lower part.

The superior *vena cava* receives the blood principally from the thorax, head, and upper extremities, with a very small proportion from the parts below the diaphragm.

The inferior *vena cava* receives the blood principally from the abdomen and lower extremities, and very little from the parts above the diaphragm.

The ancients called the *vena cava* superior, the *vena cava ascendens;* and the *vena cava* inferior, *vena cava descendens*.

According to Winslow, who is extremely accurate in his description of the blood vessels, the superior *vena cava* runs down to the right auricle of the heart, almost in a direct course, for about two fingers' breadth within the pericardium, on the right side of the aorta, but a little more anteriorly. Above the pericardium, it runs down from the cartilage of the first true rib, and a little higher than the curvature of the aorta; here it receives two branches, viz. the right and left subclavian veins. The trunk of this upper *vena cava*, above the pericardium, to the just named bifurcation, receives anteriorly the vena mediastina, pericardia, diaphragmatica superior, thymica, mammaria interna, and trachealis. All these are called dextræ. Their fellows on the other side are called sinistræ; they do not fall into the trunk of the *vena cava*, but into the left subclavian vein. Posteriorly, a little above the pericardium, the trunk of the *vena cava* receives a capital branch, called vena azygos. It runs down by the ver-

tebræ dorsi, almost to the diaphragm, composed of the greatest part of the venæ intercostales and lumbares superiores.

Hardly a quarter of an inch of one side of the *vena cava* inferior is contained in the pericardium; from thence it immediately perforates the diaphragm, receiving the venæ diaphragmaticæ inferiores, or phrenicæ: it passes behind the liver, through the great sinus of that viscus, from which it receives venæ hepaticæ. In this course it inclines towards the spina dorsi and aorta inferior, the trunk and ramifications of which it accompanies all the way to the os sacrum, the arteria cœliaca and the two mesentericæ excepted. Arrived at the os sacrum, the two iliacæ unite to form its trunk, joined by the hypogastricæ, and some other branches distributed into the pelvis. Under the ligamentum Fallopii they take the name of crurales, each of which receives the blood from the lower extremities.

CA'VAN, *dicta* Tho'ra pa'rou. See Cajan.

CAVE'RNA, (from *cavus, hollow*). A cavern. See also Pudendum muliebre.

CAVIA'RIUM, (from *caviar*). It is the pickled roe of the sturgeon.

CAVI'CULA, and CAVI'LLA, (from *cavus*). See Astragalus, and also Cuneiforme os.

CA'VITAS INNOMINA'TA, (from the same). See Auricula.

CA'YENNE, CA'YAN. See Piper Indicum.

CAYU'TANA LU'ZONIS. See Fagara major.

CA'ZABI. See Cassada.

CEANO'THOS, (from κεω ακανθα, because it pricks at the extreme parts). See Carduus hæmorrhoidalis.

CEANO'THUS. See Celastus inermis.

CEA'SMA, (from κεαζω, *to split*, or *divide*). A fissure or fragment.

CEBIPI'RA *Brasiliénsibus*. (Indian.) *Guacu*, or *Miri*. A tree which grows in Brasil. Its bark is bitter and astringent, and the decoction is employed in baths and fomentations for the relief of pains in the limbs, diseases from cold, tumours of the feet and belly, itch, and other cutaneous diseases. It is figured by Margrave in his plants of Brasil, p. 100, but its botanical place has not been ascertained.

CE'CIS, (from κηκιω, *to spring*). A gall of the oak. So called because it springs suddenly from the oak. See Gallæ.

CECRY'PHALOS, (from κρυπτω, *to hide*). The net in which women confined their hair (Hippocrates). It is also applied to one of the stomachs of ruminating animals. See Abomasum.

CE'DMA, (from κεδαω, *to disperse*). See Pudendagra.

CE'DRA, Esse'ntia de. See Bergamotte.

CEDRELÆ'UM, (from κεδρος, *the cedar tree*, and ελαιον, *oleum*). Oil of cedar. See Cedria.

CEDRE'LATE. According to Bellonius, this word is derived from ελατη, *the fir tree*, and κεδρος, *the cedar*, because it grows like the fir. Among botanists it signifies that species of *cedar* which is said to exceed all other trees in size.

CE'DRIA, (from κεδρος, *the cedar tree*). It is called the pitch and the resin of the great cedar tree, and it is the crude tears of the cedar. It has been supposed different from the cedrium, or oil of cedar, which is more fluid; but, by writers in general, it is called *cedria*, *cedrium*, and *cedrelæum*. Gorræus and Pliny observe, that the great cedar yields a pitch called cedria, to which Galen gives the same appellation with many others. Salamasius says, that the Arabians call the oil of cedar *ketran*, or *alketran;* and we, by a corruption of that word, give the name of *cedrium* to the pitch which is used for ships. Though the Greeks confound *cedrelæum* with *cedria*, they are not the same; for the cedria is the pitch, or resin, that distils from the cedar tree; and the cedrelæum is an oil obtained from the pitch or resin, and which swims above it in boiling, and is collected with wool. Dioscorides remarks, that the best cedria is thick, pellucid, and of a nauseous smell; when poured out it does not spread, but collects in drops, and preserves dead bodies from putrefaction: it does not, however, appear to be really known what the cedrium is.

CEDRI'NUM LI'GNUM. See Juniperinum.

Cedri'num vi'num. Cedar wine. Take thin pieces of wood, just cut from the tree, while the fruit is on it, and expose them to the sun, or a fire, to obtain their juice by exudation. A pint of this juice is mixed with six pints of wine. After standing for two months they are decanted into another vessel, and exposed for some time to the sun. The wine is then fit for use.

In the same manner are prepared wines from juniper, pine, cypress, bay, and the wood of some other trees. All these wines are heating, diuretic, and astringent; the bay wine is particularly so.

Cedar wine is also prepared by mixing half a pound of the bruised berries with six pints of must. The whole placed in the sun for forty days, and is then proper for drinking.

Cedrinum is a name for the composition of wax and resin used for ships. See Cedria.

CE'DRIS. See Cedrus.

CEDRI'TES, is wine in which the resin that distils from cedar trees has been steeped.

CE'DRIUM. See Cedria, and Pix liquida.

CE'DRO and CEDROME'LA, (from κεδρος and μηλον, *an apple*). See Citreum.

CEDRONE'LLA, (from κεδρος, because it is produced by a sort of cedar tree). See Melissa.

CEDRO'STIS, (from κεδρος; because it smells like the cedar). See Bryonia alba.

CE'DRUS, (from *Kedron*, a valley where it grew in great abundance,) *cedrus conifera foliis laricis*, *cedrus Libani*, *cedrus magna*, *larix orientalis*. The *pinus cedrus* Lin. Sp. Pl. 1420. The great cedar of Libanus. Nat. order *coniferæ*. It is referred by Tournefort to the genus meleza, and by Jussieu to the juniperus.

Modern botanists cannot find cedar trees that agree with the scriptural description of their loftiness; but this tree, according to the similitude of the Psalmist, spreads its branches very extensively. Maundrel, in his travels, says he measured the trunks of some old cedar trees, and found one to be twelve yards in circumference, and thirty-seven yards in the spread of its boughs. Its native spot seems to be Mount Libanus, where it grows in a dry, stony soil; but even here its numbers were diminishing. Rawolf, in 1574, found

only-twenty six, with no young ones; Maundrel, 100 years afterwards, could discover but 16: there were, however, many young ones. Pocock also found a great number of young thriving cedars on the mountain.

The cedar of Lebanon is an evergreen coniferous tree, with very narrow, stiff, sharp pointed leaves, standing several together in tufts. Its fruit is called *cedris*. It is a native of the bleak snowy mountains of Syria, and is not as yet become common in England. As a medicine, it differs very little from the virtues of the fir tree. Its smell is considerably more agreeable, and the resinous juice extracted from the trunk of the cedar tree, by incisions, is more disposed to concrete into a solid brittle mass than that from the fir tree; nor does the matter which distils from the cedar tree lose much of its finer parts in drying: even boiling water does not easily carry off the flavour of cedar wood.

By distilling the wood with water, a small quantity of essential oil is obtained, which congeals in a moderate degree of cold. The decoction, in the still, affords an extract by evaporation, which smells considerably of the wood, and is in taste bitterish and saline. In the saline nature of this extract, this wood differs from all the resinous ones that have been examined. Margraff says, that the saline part which crystallized in the extract was common salt.

The wood of the cedar is very incorruptible, though it is not probable that cedar wood formed the roof of the temple of Apollo at Utica, supposed to have remained with little change for 2000 years. The fragrance of the wood drives away moths; and, internally, the productions of the cedar and the junipers differ little from the turpentines. See JUNIPERUS.

CE'DRUS CUPRESSI, *juniperus Lycia* Lin. Sp. Pl. 1471.

It is a shrub with yellow flowers, and fleshy leaves, placed four together, like those of cypress. The flowers are followed by a round fruit like a mulberry in taste and smell, and of a purple colour when ripe. In this fruit are three or four seeds, which smell like resin. Until this tree is three or four years old, its only distinction from the juniper bush is, that its leaves are softer and shorter. It grows in many of the southern parts of Europe. Its medicinal qualities are like those of juniper. Dale informs us of another species which he found in Carolina, and which affords a gum so like the true olibanum, that, when mixed, they cannot be separated. Hence he concludes, that this is the tree that affords the olibanum. It is probably the *juniperus thurifera* Lin. Sp. Pl. 1471.

CE'DRUS AMERICA'NUS. See THUYA.

CE'DRUS BACCI'FERA, SABINA. *Juniperus sabina* Lin. Sp. Pl. 1472. See SABINA.

CE'DRUS CE'ES. See CRINONES.

CE'DRUS PHŒNI'CIA, called also *thuya Massiliensium*, *juniperus è Goa*, *cedrus è Goa*, *sabina Goensis*, and *juniperus Coroliniana*. A variety probably of *pinus cedrus*. Its virtues are similar to those of juniper.

CELA'STRUS, (from κελω, *a dart* or *pole*, which it represents). *Ceanothus Americanus* Lin. Sp. Pl. 284.

Some noted Indians depend more on this than on the lobelia for the cure of syphilis, and use it in the same manner as the LOBELIA, which see. If the disorder is exceedingly virulent, they mix some of the roots of the *rubus occidentalis* Lin. Pl. 706, with it.

CE'LE. Κηλη, a TUMOUR, (from κηλω *to swell out*,) the protusion of a soft part; a *rupture*.

CE'LERI ITALO'RUM. A corruption of *selinum*, (Ital.). See APIUM.

CELLU'LÆ MASTOI'DEÆ, (a dim. of *cella*, *a cell*). These are very irregular cavities in the substance of the mastoid apophysis, which communicate with each other, and have a common opening towards the inside, and a little above the posterior edge of the orbicular groove. These cells are lined by a fine membrane, which is partly a continuation of the periosteum of the tympanum, and partly seems to be glandular, like a kind of membrana pituitaria. The mastoid opening is opposite to the small opening of the Eustachian tube, but a little higher. See AUDITUS.

CELLULO'SA MEMBRA'NA. The CELLULAR MEMBRANE. It is called *tela cellulosa*, *panniculus adiposus*; *membrana adiposa*, *pinguedinosa*, *et reticularis*; in French, *tissue cellulaire*, *tissue muqueux*, and *l'organe cellulaire*. This membrane is of the greatest extent, and of the utmost consequence in the human structure; for it connects and penetrates into every part; indeed it seems to be the very constituent of most, if not all, the parts that are called the solids in our bodies. Experiments prove that all membranes, without exception, and the vessels, which are hollow membranes, the parenchymatous substance of the viscera, ligaments, and a great part of the bones, either are or have been cellular texture. The cellular membrane, when compacted in different degrees of density, forms these solids. Air introduced under the skin diffuses itself through all the surface of the body, penetrates into the interstices of the muscles; and Haller asserts, that even the vitreous humour of the eye hath received the flatus of an emphysema.

Some describe the cellular membrane not as one, but as a congeries of many membranous lamina joined irregularly to each other at different distances, so as to form numerous interstices of different capacities, and which communicate with each other. These interstices they call cellulæ, and the substance made up of them cellular substance.

It is generally and properly considered as of two kinds, viz. reticular and adipose; and the latter is described as a connection of fibres, forming, by their different directions, cells for the lodgment of oil or fat. In some parts its substance is merely a net work of slender fibres, which give it ductility and looseness; for instance, under the skin of the penis and scrotum. In other parts it is more or less loaded with oil, and is less porous or spongy in its substance, as under the skin of the buttocks, and in the soles of the feet. Dr. Hunter uses the term cellular as the generical name, and the names reticular and adipose for expressing the two species. He also observes, that the reticular part is evidently dispersed through the whole body, except, perhaps, in the substance of the bones, of the brain, and in the humours of the eye; that it is found in a much greater degree in the belly of muscles than in the tendons, in which it is scarcely discerned. He is also of opinion that the adipose membrane is composed of two kinds of cells; viz. the reticular, which communicate with each other; and adipose, which are di-

stinct, and are the reservoirs of the animal oil, or a white granulated matter, capable only of being fused by heat; the cells of which are called *sacculi adiposi*. He urges, as a proof of his opinion, that the water in an anasarca goes downward while we are in an erect posture, but the oil does not. The oil is supposed to be secreted by the small arteries, and occasionally absorbed into the circulation. Dr. Hunter thinks that wherever there is fat in the human body, there is a particular glandular apparatus superadded to the reticular membrane, consisting of vesicles, or bags, for lodging the animal oil, as well as vessels fitted for its secretion.

Whether or no the cellular membrane be the basis of all the organized and vascular parts of our frame, Dr. Hunter hath proved that the most simple parts of it are vascular; that the callus, which unites broken bones, is itself bone, and also vascular; that the morbid adhesions, between different adjacent parts, are vascular, and that a cicatrix in the skin is vascular. He infers from hence, that all our solids are organized; and that, whether lengthened or renewed, they shoot in a vascular form. But here he speaks of the visible parts. We suspect, however, that the importance of this connecting reticular texture has been greatly exaggerated. We see in it nothing but connecting threads, which any condensed glutinous substance forms; and, if the cells communicate through the whole body, it is no more than may be expected from the union of different separate organs. If these are united in one part, they are separated in another; and we can easily see that by some passage all may communicate.

It has been said, that membranes are formed of this substance. We know that, when condensed, it will assume a membraneous appearance; but we have no evidence of it in any case possessing nerves or organization, like what we may style *primordial membranes*. The effused gluten, between the pleura and lungs, assumes this form; but we cannot say that this is an organized substance. The cellular texture never appears to be vascular: even in a state of inflammation it is never sensible. It is the seat of an abscess, but is not itself inflamed. Nerves pass through it, but are never lost on it. The former editors of this work have suggested, that it may be formed from the coats of the nerves; but these are never deposited except at their minutest extremities, where the nervous power acts with its peculiar functions. This never occurs in the cellular substance, except of the muscles; and it would be a gratuitous assertion, that such was the origin of the cellular substance in muscular flesh, when, in every other part of the body, no such source could be traced. In fact, we see in every part of the cellular substance only hardened gluten, without either a nervous or glandular apparatus. Whether the adipose membrane differs in its structure we doubt. There is some reason to think so: but we must remember that, if one part of the cellular substance be filled, the surrounding membrane is thickened; and this will account for the retention of the fat in those cells where it is deposited. Among the uses of this membrane, the following are sufficiently obvious.

1. It fills up interstices, and gives an agreeable contour to the body.

2. It is a cushion to defend against pressure, hence it is of a thicker composition in infants.

3. It connects the parts of the body, but so as to admit of a sliding motion between them.

4. In some parts of the body it serves as a bed for more tender organs; as in the orbit and scrotum, as well as a reservoir for animal oil.

This membrane is the seat of abscesses, the leucophlegmatia, emphysema, anasarca. In a consumption it is shrunk up so as to be hardly visible; in an anasarca its oily contents are all destroyed; and in an emphysema almost its minutest parts are rendered visible.

On this article, see what Dr. Hunter says in the Lond. Med. Obs. and Inq. vol. ii. p. 26, &c. Haller's Physiology; Malpighius on the Cellular Membrane; Dr. Shebbear in his Theory and Practice of Physic; also Recherches sur le Tissu Muqueux, ou l'Organe Cellulaire, par Mons. Theoph. de Bordeu.

CELLULO'SA TU'NICA RU'YSCHII. See INTESTINA.

CELOTO'MIA, (from κηλη, *hernia*, and τεμνω, *to cut*). See CASTRATIO and HERNIA.

CE'LSA. It means the beating of the life, or of the life's blood; and is a barbarous term of Paracelsus.

CE'LTIS. A celsitate, from its height. See LOTUS ARBOR.

CEMENTA'TIO. See CŒMENTUM and CORROSIO.

CEMENTE'RIUM. See ALUDEL.

CE'NCHRAMIS, (from κεγχρος, *millet*). See FICUS SATIVA.

CE'NCHRIUS, a species of HERPES, called, from its resembling κεγχρος, *millet*. See HERPES, Bell's Spec. 3d.

CENCHROS. MILLET, (from κεγχος, *dry;* because it is a very dry seed). See MILLIUM. These seeds are also called cenchreides; and, in Hippocrates, we find the words κεγχρωιδεις ἱδρωτες, *miliary sweats*.

CENEANGI'A, (from κενος, *vacuus, inanis*, and αγγος, *vas,*) is an emptiness of vessels from abstinence. It is sometimes thought to mean, primarily, a spontaneous evacuation of blood from the vessels; and, consequently, that which is artificial may be meant by this term. In some dissections the vessels have been found remarkably empty; but this appearance has not been connected with any concourse of symptoms.

CENEO'NES, the FLANKS, from κενος, *empty*.

CENI'GDAM and CENI'PLAM, and CENI'GOTAM and CENI'POLAM. The name of an instrument anciently used for opening the head in epilepsies.

CENIOTE'MIUM. A purging remedy, formerly used in the venereal disease, supposed to be mercurial.

CENO'SIS, (from κενος, *empty*). EVACUATION. Cenosis imports a general evacuation; catharsis the evacuation of a particular humour which offends with respect to quality, and almost exclusively from the alimentary canal.

CENTAU'REA BENEDI'CTA. See CARDUUS BENEDICTUS.

CENTA'UREA CENTAU'REUM. See RHAPONTICUM VULGARE.

CENTAURIOI'DES. See GRATIOLA.

CENTAU'RIUM, (from κενταυρος, *a centaur*). This herb is called CENTAURY, because it was feigned that Chiron, the centaur, cured with it Hercules' foot, which had been wounded with a poisoned arrow. It is also called CHIRONIA.

CENTAU'RIUM MA'GNUM, MA'JUS. See RHAPONTICUM VULGARE.

CENTAU'RIUM MI'NUS, or *lesser centaury*. It is the *gentiana centaurium* Lin. Sp. Pl. 332. Nat. order *rotaceæ*. It is annual, grows wild in dry pastures, and among corn. It flowers in July; and is sometimes called the *febrifugia*.

The leaves and tops are pure bitters, having scarcely any smell or flavour, and agree with the gentian root. The seeds are bitter, but the petals of the flowers and roots are almost insipid. The flowery tops are the parts chiefly useful.

Its active parts are readily dissolved by water, or rectified spirit of wine. Water takes up with the bitter an insipid mucilage; but spirit, the bitter part only. The watery extract is consequently more in quantity, and less bitter; and the spirituous less, but more bitter. Cartheuser says, that one ounce of the herb yields about half an ounce of the watery extract, and scarcely two scruples of the spirituous. The centaury is justly esteemed to be the most efficacious bitter of our indigenous medicinal plants; and has been recommended as equal or superior to gentian. Dr. Cullen observes that, though the extract of this plant is said to be less agreeable than that of gentian, he can find no difference, and thinks that, as cheaper, it is preferable. It is considered as strengthening and stomachic; and, as out of the body centaury manifests an equal degree of antiseptic power with gentian, similar medical effects are ascribed to it. It is given in atony, dyspepsia, and jaundice. The flowery tops are infused as tea, and a tea cupful administered three or four times a day: but they may be taken in powders, or the decoction inspissated into an extract like wormwood. See Neumann's Chem. Works. Lewis's and Cullen's Mat. Med.

CENTIMO'RBIA, (from *centum*, *a hundred*, and *morbus*, *a disease;* so called because it was supposed capable of curing a great number of diseases). See NUMMULARIA.

CENTINE'RVIA, (from *centum*, and *nervus*, *a string;* so called from the many ribs upon its leaves). See PLANTAGO.

CENTINO'DIA, or CENTINODIUM, (from *centum*, and *nodus*, *a knot;* so called from its many knots or joints). See POLYGONUM.

CENTI'PEDES, (from *centum*, and *pes*, *a foot*). See ASELLI.

CENTRA'TIO, (from *centrum*, *a centre*). The degenerating of a saline principle, and contracting a corrosive and ulcerating quality. Hence centrum salis is said to be the principle and cause of ulcers. Paracelsus.

CE'NTRE PHRENI'QUE. See DIAPHRAGMA.

CE'NTRION, (from κεντρον, *a spur*). An epithet for a plaster mentioned by Galen, calculated against stitches in the side.

CE'NTRUM, in chemistry, is the principal residence, foundation, or source of any thing; in medicine, that part in which its virtue resides; in anatomy the middle point of some parts.

CE'NTRUM NERVE'UM. The tendinous part of the diaphragm, which hath a triangular appearance: it is called also *centrum tendinosum*.

CE'NTRUM OVA'LE. Vieussens first gave this appellation to a part of the *corpus callosum*. It is convex, and of the form of the cerebrum. See CEREBRUM.

CENTU'NCULUS, (from *cento*, *a quilt* or *mattrass*, which was formerly made of this herb). See ALSINE, and GNAPHALIUM.

CE'PA, (from κεπος, *a wool card;* from the likeness of its root; or *capitis magnitudine*, from the size of its head). The ONION. *Allium cepa* Lin. *cromyon*, et *agrumina*. Nat. order *liliaceæ*.

The common *onion* is a plant too well known to need any description of its botanical character. It is chiefly cultivated for culinary uses: its root affords a large proportion of alimentary matter, particularly when boiled, as it shows by some sweetness and a large proportion of mucilage, when its acrimony is exhaled. In its fresh state it is acrid and stimulating. In bilious dispositions it produces flatulence, thirst, and headach; but in cold and phlegmatic temperaments is warming, attenuant, and promotes both expectoration and urine. It is powerfully antiseptic, and, if applied to tumours, promotes suppuration.

The root is the most active part; but it loses much of its virtue by drying. Distilled with water, all its flavour and acrimony arise. The active matter is much more volatile than that of garlic, but in other respects they agree, though the onion is much weaker, less acrid, and more mucilaginous.

Onions have a greater effect than any other alkalescent plant in dissolving gravelly concretions. The expressed juice has been serviceable in deafness (see ALLIUM). Neumann remarks, that the characteristic principle of this root is its essential oil, though it cannot be collected in a separate state. See Lewis's Mat. Med. or Neumann's Chem. Works. Cullen's Mat. Med.

CEPÆ'A. A small species of onion, which used to be esteemed for sallads in spring, but is not now regarded. See BECABUNGA.

CEPHALÆ'A, (from κεφαλη, *head*). A long continued pain in the head. See CEPHALALGIA.

CEPHALALGIA, CEPHALA'GIA, (from κεφαλη, *the head*, and αλγος, *pain*). The HEADACH. It is also named *cephalæ*, *cephalophonia*, and *homonophagia*. It is sometimes used to signify a dull pain of the head, of a short duration; but most frequently it is the appellation of pain in the head in general, without regard to circumstances, and is sometimes acute, and sometimes chronical. When mild it is called *cephalalgia;* when inveterate, *cephalæa*. When one side of the head only is affected, it takes the name of *hemicrania*, *migrana*, *hemiphagia*, and *megrim:* in one of the temples only it is entitled *crotaphos;* and that which is fixed to a point, generally in the crown of the head, is distinguished by the name of *clavus hystericus:* q. v.

The nervous membranes of the head are the general seats of its pains, as the pericranium, the skin, dura mater, the membrane which covers the sinus in the os

frontis, &c. This complaint is considered as symptomatic by Dr. Cullen; but as an idiopathic affection by other nosological writers. See Vogel, Sagar, Linnæus, Macbride. Sauvages places it under his seventh class *dolores*, and second order *dolores capitis;* of which the *cephalalgia* and *cephalæa* form two distinct genera. See *Nosologia Methodica*, vol. ii. p. 49.

Undoubtedly pain of the head is often symptomatic; yet, as in many cases it is impossible to ascertain the disease of which it is a symptom, and in some is unconnected with any other complaint, it must be often considered as idiopathic. When we explain the arrangement of diseases, we shall find it difficult to avoid an order, at least, of dolores; and under this head cephalalgia must be arranged. If we were already to anticipate definitions, which we have cautiously avoided, we would say that it is a pain confined to the forehead and occiput, unconnected in every instance with the bones of the face, except when periodical. In this way it is at once distinguished from the tic douloureux (the dolor crucians faciei of Fothergill), diseases of the teeth, of the different antra, and of the eyes.

In this view, headach is a disease of the brain when idiopathic; and, though a symptom of apoplexy, of mania, and other diseases, yet, when alone and uncombined, when the series of symptoms which distinguishes these diseases is absent, and headach alone present, it must certainly be considered as of itself a disorder. As such, we find it produced by extraneous bodies pressing on the brain. These have been bony fragments, separated from the internal table of the scull, irritating the brain, while the accident that occasioned their separation was, at a distant period, unknown or unobserved. In some cases no such accident seems to have occurred; and the cause, only discovered by dissection, is unknown. The irritating bone has, in some instances, not been separated; but, has sprouted from the internal table of the skull in the form of an exostosis. This seems to be the cause of the obstinate headachs arising from an old neglected venereal complaint; headachs which we have sometimes seen terminating in epilepsy. The falx has been found to be bony, without producing headach; and, on the contrary, the meninges of the brain have been discovered in a thickened state after headachs the most violent. In the last case it is probable that the thickening of the membranes was owing to chronic inflammation; and that the latter occasioned the pain. The pineal gland has been sometimes found hard, and filled with stony concretions, which seem to have been the cause of obstinate headachs; and Dr. Blane has found a tumour in the situation of this gland occasion the disease, as well as aneurisms of those branches of the carotids that surround the sella turcica. The distinction of these cases is very difficult: the pain is not always constant. In some instances it is violent only when the circulation is greatly accelerated; in others it occurs irregularly, without any obvious cause for its exacerbations. We have not mentioned the worms generated in the brain, recorded by Schenkius, as this author's narratives are more often wonderful than probable; and abscess in the brain more often produces lethargy and coma, than cephalalgia.

It may be doubted whether other causes do not sometimes produce pain in the head, which are still less easily traced. Accumulation of water often occasions uneasiness and symptoms of irritation, before those of compression come on. The peculiar kind of circulation through the brain; viz. the collection of the venous blood in sinuses, greatly favours accumulation, and may be a cause of pain. We hear also of a spasmodic contraction of the meninges; and the idea has been supported by a peculiar feel, as if the brain was grasped by a strong hand. Yet we cannot admit of the contraction of a membrane in which no muscular fibres are discoverable, and the sudden distention of their vessels may produce the peculiar sensation just mentioned. We find also cases of mania and idiotism, where violent pain preceded the irregular exertion or extinction of the mental powers, in which the brain has been found unusually dry, or peculiarly soft. We know not the cause of these changes; nor can we trace the connection of their effects; yet, as they have been causes of pain, we may suppose that, in some obstinate cases, they may produce this symptom without proceeding to similar distressing terminations. There is at times a morbid sensibility, the concomitant often of genius, which predisposes to, or causes, this disease. It seems as if the man of genius suffers from the same source that gives him the superiority to the rest of mankind. In such a constitution, as in inflammations of the skin, of the eye, or ear, a fly may excite pain; a ray of light, or the slightest sound, be more pungent than the midday sun, or the explosion of a mine.

We shall mention hæmicrania as an idiopathic pain of the head, though by some authors it is referred to intermittents; by others to rheumatism. We mean to treat of it, however, more particularly under its own appellation.

On a review of these causes of idiopathic headach, we must regret that the source of so few cases is discoverable, and that we have scarcely appropriate remedies for any of those which we can ascertain. In general, in every instance, the necessity for keeping the bowels free, must be obvious from what we have said under the article of Cathartics. A drain also from the head, by a perpetual blister on the vertex, to the bone of the neck, or behind the ears, must be equally so. Avoiding accumulations and flatulencies in the stomach, for the reasons formerly assigned (see Cathartics), must be advantageous. Emetics are often advised for this purpose; but they are doubtful remedies, as they determine so powerfully during their action to the head. Yet we suspect that they are not injurious, since their inconvenience is transitory, and their beneficial effects durable; and we shall find them peculiarly useful in symptomatic headachs. As a remedy for flatulence, the fetid gums will probably be useful, even in idiopathic cephalalgia; and, if joined with aloes, will be more serviceable. From the effects of camphor in fevers, we suspect that it may be useful in headach; and with nitre we have often employed it with advantage. It is a too common practice to cut off the hair, partly because it is supposed to keep the head warm, and partly that cold applications may be more conveniently employed. This practice has not, however, the sanction of long experience; nor is it supported by reason. Each hair is a vegetable, nourished by a bulbous root, supplied by numerous blood vessels. These, though small, from their number

convey no inconsiderable quantity of fluids; and as the external and internal carotids arise from a common trunk and anastomose in some of their branches, whatever cause increases the circulation in the former must lessen it in the latter. The author of this article suffered for many years an irregularly returning paroxysm of headach, for which he could assign no cause; but at last discovered that it frequently returned after shaving the head. He suffered his hair to grow, and from that time it gradually lessened in violence, in duration, and the frequency of its return. From being a complaint highly serious, and beginning to affect the memory, its returns are now rare, and never so violent as to unfit him for any exertion of body or mind.

Among the means of lessening the force of the circulation in the head, we should, perhaps, have mentioned more early, the use of slight occasional bleedings; the application of leeches or cupping glasses. They are all occasionally useful. In such cases, too, the temporal artery has been sometimes opened with the best effect.

The diet in those subject to headach should be light, cooling, and moderate in quantity: the usual drink, water, with a moderate quantity of the wine most suitable to the constitution. The white wine is generally preferable. The mind should be kept calm; all the more violent exciting passions avoided; the exercise moderate, and never in the heat of a summer day, or under a warm sun. The apartment should be large; the sleeping room lofty and well ventilated; the head raised high on the pillow. In short, every thing that accelerates the circulation, or determines the blood to the head, should be carefully avoided.

Symptomatic headach is a disease of so many organs, that it is impossible to "fix the variable Proteus by any chain." Headach attends fevers of almost every kind; and, when the infinite variety of forms of fevers are considered, so many must there be of cephalalgia, as a symptom of this complaint only. Every obstruction in the bowels, every accumulation of sordes, or indigestible matter in the stomach, produces the same disease: every obstruction to the regular evacuation of any gland, particularly those of the surface, has a similar consequence; every nervous affection, either from excessive excitability or exhaustion. Are we then to be surprised at its frequent occurrence? Is it not wonderful that the head is ever free from pain? But to be more particular.

The sympathy between the head and stomach has been so generally observed, it is the subject of such constant experience, that to enlarge on it would be superfluous. We have already observed how difficult it is to ascertain the organ primarily affected. The apprehension of increasing any effusion in the brain, has made the distinction an object of peculiar anxiety; but we are confident in saying, that, in the doubtful cases, no hazard attends the exhibition of an emetic: we must repeat, the inconvenience is temporary, the advantages durable. We urge this with more force, as, with the experience of near forty years, we find the decision difficult and precarious: the tyro, without a suspicion of the difficulty, by the exhibition of an emetic has succeeded. If to this we add that headach is one of the first symptoms of fever, this plan has additional recommendation. It must be followed by a cathartic; and, unless great weakness forbid, this cathartic must be an active one: the foundation of its use has been already explained. In this way headach, whether idiopathic or symptomatic, will be usually relieved. If relieved only, and congestion in the head is obvious from heavy or inflamed eyes, languor and listlessness, a blister is no equivocal remedy, whatever may be the cause.

Headach, if a symptom of slow or obstructed bowels, is to be relieved in the same way by an emetic and laxative, but chiefly by the latter; and, in these circumstances, a moderate discharge, steadily continued, is more useful than temporary active purging. Eccoprotics are chiefly useful; and they should be long persisted in. The choice of the medicine must be determined by the causes. If the fault be in the biliary secretion, the purging mineral waters, soap, sometimes assisted by rhubarb, or neutral salts with the occasional use of calomel, will be useful. If a torpor of the intestines occasion the disease, the rhubarb, the aloes, and even the colocynth, will be necessary, as less active medicines will have little effect; if mucus involving worms, calomel, rhubarb, resin of jalap, and even gutta gamba. We doubt, however, whether worms be so frequent a cause of headach as has been supposed. The hydrocephalus was not long since styled a worm fever; and the early symptoms of irritation, accompanied by pain in the head, were attributed to these animals. Yet, as all accumulations in the bowels may occasion headach, those from worms must not be hastily rejected.

An obstruction connected with the bowels has been a very general cause of this complaint, we mean the suppression of the hæmorrhoidal discharge. In the whole circle of practical medicine, we know no question so intricate and difficultly explained as the connection of the hæmorrhoidal discharge with the general health; or rather, perhaps, the supposed connection, as stated by the German physicians. We have not found, from our own observation, this connection; but the experience of ages must not be overlooked, or contemptuously disregarded. The hæmorrhoids were considered, at a certain period of life, as essential to the male, as the catamenia to the female, health: their appearance was hailed as a salutary omen, their disappearance dreaded as a dangerous symptom. To this subject we must return: we can only now say, that we have not found this discharge necessary, except when established as an habitual one. We have found its repulsion injurious, and indeed so is that of every habitual discharge. Yet there is evidently some connection between the state of the rectum and the general health; for the fistula, or an abscess in ano, often relieves hectic symptoms; and, to check or stop the discharge, is often injurious, and generally fatal. It was supposed, that as the veins of the abdomen centered in the vena portæ, the depletion of these would lessen an obstructed circulation in the liver. But the hæmorrhoidal veins do not form a part of the vena portæ, and this system is of course untenable. The inconvenience that arises, must consequently be attributed to the suppression of an evacuation, and particularly to that of a discharge, which increases the circulation in the descending aorta. The consequence, as we have already shown, must be a greater determination to the ascending.

Another defect constantly attended with headach is that of the catamenia, whether they have not appeared

or been suppressed. The chlorosis we shall soon notice, but it must be under the disadvantage of not having considered the cause of menstruation. We should have explained this subject under catamenia but were unwilling to disturb the former arrangement too rashly, as it involved such numerous references. If plethora or spasm obstruct the menses, the disease of the head is obviously accounted for: if weakness or inanition render this discharge insufficient, the effect is not so easily explained. The complaint is, however, attended with general debility; every discharge is equally suppressed, and an irregular balance of the circulation is the consequence. With the greatest weakness, with a complexion which shows that the red globules, that index of tone and general health, are deficient, the head is loaded, and hæmorrhages from the nose are not uncommon. A similar complaint with headach often occurs in boys about the age of puberty. In these diseases, active cathartics, particularly those whose activity is exerted on the rectum, are the chief remedies, though in chlorosis, tonics must be also employed.

Repelled fluids from the surface produce very constantly symptomatic cephalalgia. The simplest case of this kind is coldness of the feet; but damp cold weather, with an easterly wind, will in many constitutions bring it on. Partial colds produce rather fever or rheumatism; but in both the head is usually affected. A more severe cause of this kind is the repulsion of acrid matter from the surface, by the application of astringent washes to herpes, or tetter; by saturnine or mercurial applications as cosmetics: from these the head generally suffers, though the mischief is often more extensive, and apoplexy, cachexy, slow fever or epilepsies, are frequent consequences. Repelled gout is a still more serious cause. See ARTHRITIS.

There are causes of headach that act more mechanically. Whatever, for instance, retards the current of the blood in the sinuses of the brain, or the veins which convey the blood from the head, will produce it. Of this kind are various tumours, particularly of the conglobate glands, polypi, exostosis, &c. Whatever prevents the free evacuation of the right auricle and ventricle, contributes to retard the motion of the blood in the veins, which discharge their contents on this side of the heart. More externally, rheumatic pains in the muscles of the head sometimes resemble so strikingly cephalalgia as to be mistaken for it.

We have not mentioned the mental causes, anxiety, fear, suspense, and grief; for these seldom produce the complaint until the body or, in general, the stomach is affected. The cephalalgia of students is often a nervous affection merely. Whatever be the action of the nervous fibres in intellectual operations, its excess is often a cause of pain; though, in many instances, the cephalalgia of students is connected with obstructions of the bowels, and very often with increased determination to the head. The hysteric cephalalgia partakes of this nervous cause, particularly when the pain feels as if a nail was fixed in the brain, from hence called the clavus hystericus. But to this subject we must return when we treat of hysteria.

Authors have endeavoured to distinguish by the particular kinds of pain which of these causes may have produced it, but language fails in describing the different feelings, and their variety. An external soreness, points out an external cause; and, when the remote causes are attended to, we may, with little difficulty, ascertain the real nature of the complaint, and the practice will, of course, be obvious. Where the causes are beyond our reach, the disease may be mitigated, by attending to the directions given for relieving idiopathic headach.

Though the cure of these species of headachs depends on their causes, and we have given, in general, the outline, which will be filled up in treating of the diseases themselves, we may here add a few of the remedies which give immediate relief. One of these is bathing the feet in tepid water, rubbing them with flour of mustard, and keeping up a general circulation to the surface by flannel next to the skin. The effects of a blister we have already mentioned; but the aqua ammoniæ, or ether, applied to the nostrils or the forehead by the palm of the hand, often produce instantaneous relief, which authors have explained in the following manner:

A branch from the fifth pair of nerves is spread on the membrane that lines the nostrils, and another branch from the same passes through the foramen supercili, and spreads on the teguments of the forehead; hence, when pain is in the eyeball and forehead, a heat is perceived in the nostrils; and benefit may be expected from external means, if applied to the membrana narium and to the forehead: alternate pressure near the superciliary holes of the frontal bones will also relieve.

CEPHALA'LGIA CATARRHA'LIS. See CATARRHUS.

CEPHALA'LGIA INFLAMMATO'RIA. See PHRENITIS.

CEPHALA'LGIA HE'RBA. See VERBENA.

CEPHALA'LGIA SPASMO'DICA. The SICK HEADACH. Though this afflictive malady scarcely differs from the symptomatic headach, arising from the stomach, yet, from respect to Dr. Fothergill, who first called our attention to it, we shall speak more particularly on the subject. He observes, that it is not the complaint of any particular age, sex, constitution, or season, but it is incident to all. The sedentary, inactive, relaxed, and incautious respecting diet, are the most exposed to it.

The patients, he observes, generally awake early in the morning with a headach, which seldom affects the whole head, but one particular part of it, most commonly the forehead; over one frequently, sometimes over both eyes. It is occasionally fixed about the upper part of the parietal bone, of one side only; sometimes the occiput is the part affected; or it darts from one place to another. From the time it commences until it wholly ceases, it is in different degrees. With this is joined more or less of sickness, which in some is scarcely sufficient, without assistance, to provoke vomiting, though in others this operation is easily excited, If this pain happens, as is most common, early in the morning, before any meal is taken, then phlegm only is thrown up, unless the straining be severe, when some bile follows. In this case the disease soon begins to abate, leaving a soreness about the head, a squeamishness at the stomach, and a general uneasiness, which induces the patient to wish for repose. Perhaps, after a short sleep, he recovers perfectly, debilitated only by

his sufferings. The duration of this conflict differs in different persons; in some it goes off in two or three hours; in others it continues twenty-four hours or longer, and with a violence scarcely to be endured, when the least light or noise produces most excruciating pain. In young persons it most commonly goes off soon; if it continues to harass them many years, as it sometimes happens, the fit is of longer duration, and leaves the whole system in so weak a condition as is not soon recovered. Its returns are very irregular; some suffer from it every two or three days, some in two or three weeks, others in as many months, or yet more seldom. Those who use but a little exercise, and are inattentive to their diet, are the greatest sufferers; costive habits are the most exposed to it; and habitual laxity of the bowels coming on has removed this complaint.

The disease is spasmodic; it attacks after digestion is performed, when the bile is supposed to have acquired its full activity, undiluted by fresh supplies of liquid: from numerous circumstances it appears to proceed from the stomach. For the most part it proceeds from inattention to diet, either in respect to kind or quantity, or both; and without exact conformity to rule in this respect, medicine proves ineffectual. Butter, pepper, or other spices, meat pies, rich baked puddings, drinking strong liquors, with a very free use of malt liquors, are supposed to produce it. Quantity as well as quality of diet is to be considered. Bile, if very acrid or bitter, is a frequent cause, unless in habits where the bile will purge, and these are rarely affected by this disease.

An emetic, or mild cathartic, and some time after it an anodyne, will carry off the complaint; but, as we have said, the fits will return after irregular and uncertain intervals. If disposed to costiveness, the belly should be kept open, by a regularly repeated laxative; and rhubarb, or aloes, is preferable to the saline purgatives. If acid abounds in the stomach, small doses of stomach bitters, with a little alkaline salt, or a chalybeate, once or twice a day, may be given; but in general, soap and pil. aloes cum myrrhâ, or magnesia and rhubarb, in small doses, daily continued, will often prove effectual. The following eccoprotic is highly useful: ℞. aloes succotorin. ʒi. rad. rhab. et rad. glycyrrhiz. incis. āā ʒss. infunde in aq. calcis ℥viij. colaturæ adde tinct. lavend. ℥ss. m. cap. cochl. i. ij. vel. iij. pro ne nata.

This disease is not the effect of any sudden and accidental cause, but of reiterated errors in diet, or in conduct, which, by weakening the organs of digestion, and otherwise disordering the animal functions, occasion frequent accumulations of indigested matter, and require a steady perseverance in the use of medicines. This change cannot be effected speedily; a patient observance of proper regimen, in respect both to medicine and diet, is necessary. The former ought, therefore, to be so contrived as to be taken without disgust for several weeks together, and to be repeated at proper distances, till the digestion is rightly performed, and the bile properly secreted and discharged. Unless the whole plan of diet, both in kind and quantity, accord with medical prescription, the benefits will be proportionally diminished. It demands attention to observe the just medium, and no less resolution to keep steadily to the directions enjoined, particularly in respect to quantity. This must vary in different constitutions; but the first sensation of satiety is the surest proof of the meal having attained its proper limits. These patients are often subject to false appetite, a craving that does not arise from the demands of health, but from the morbid irritability of the stomach, which prompts them to eat more, and more frequently than nature requires, by which their sufferings are increased, and the disease gains ground.

See Dr. Fothergill's Works, 4to. edit. p. 597, &c. Medical Observations and Inquiries, vol. vi. p. 103, &c.

CEPHALA'RTICA, (from κεφαλη, *caput*, and αρτιζω, *to make clear*). Medicines that purge the head.

CEPHA'LEA JUVENUM. The HEADACH that often attends youth at the approach of puberty.

CEPHA'LICA, CEPHALICS, (from κεφαλη, *the head*, also *capitalia*,) remedies against disorders of the head. Dr. Cullen says, "however frequently employed, such a general meaning is sufficient to show the absolute impropriety of the term. It has been proposed to limit it to such medicines as have the power of increasing the energy of the brain and the activity of the nervous system. But in this manner it has been applied without any proper distinction and precision; and till this can be done, the term would be better laid aside." In general, authors mean by cephalics, cordials, and whatever promotes a free circulation of the blood through the brain.

In general, cool applications are useful cephalics, when inflammation prevails; but the ether, and the spirit of ammonia, as we have just observed, are more frequently useful. The old pharmaceutical works are full of formulæ under this title, to be applied as *capitones*, *frontals*, or in other forms, which modern practice wholly disregards. The medicines were generally of the stimulant kind. The herbals are equally full of medicines, which clear, which purge, which fortify the brain, under the name of cephalics. Perhaps errhines and sialogogues may have some effect in promoting a discharge; but these act on more general principles. The chief cephalics retained in some of the lists of the older authors are, the betony, the valerian, the lavender, the abrotanum, and the vanilloes.

CEPHA'LICA POLICIS. A branch from the cephalica vena, sent off from about the lower extremity of the radius, running superficially between the thumb and the metacarpus.

CEPHA'LICA TINCTU'RA, of a former edition of the Edinburgh Dispensatory, consisted of four ounces of wild valerian root, finely powdered; one ounce of Virginian snake root, powdered; half an ounce of the tops of rosemary; and six pints of white French wine; digested for three days, and then strained off. If to this were added two ounces of senna, one ounce of black hellebore, and two pints of French white wine, the cephalica tinctura purgans is formed. It is now totally disregarded, though it may be useful as a nervous or antispasmodic medicine; particularly in those nervous complaints connected with fullness of the vessels of the head.

CEPHA'LICA VE'NA. The CEPHALIC VEIN, called also *capitis vena:* because the head was supposed to be relieved by taking blood from it. It does not attend

any particular artery; it comes over the shoulder between the pectoral and deltoid muscles, and runs down the back part of the arm; when it arrives at, or a little below, the bending of the fore arm, it divides into two, below the outer, as the basilic does below the inner, condyle of the os humeri. The inner of the two branches of the cephalic vein is called mediana cephalica, and is the safest to bleed in. It is a branch from the axillary vein.

CEPHA'LICUS. Pu'lvis. See Asarum.

CE'PHALINE, (from κεφαλη, *the head*). See Lingua.

CE'PHALITIS, (from the same). See Phrenitis.

CEPHALOI'DES, (from κεφαλη, and ειδος, *likeness*). Shaped like a head, or having a head. It is applied to plants which are called Capitatæ, q. v.

CEPHALONO'SOS, (from κεφαλη, *a head*, and νοσος, *a disease*). This term is applied to a fever particularly affecting the head, and is frequent in Hungary. See Amphemerina Hungarica.

CEPHALO PHARYNGÆUS, (from κεφαλη, *the head*, and φαρυγξ, *the throat*,) a muscle of the pharynx; called also *glosso pharyngæus*, *mylopharyngæus*. It rises above, from the cuneiform process of the os occipitis, before the foramen magnum, near the holes where the ninth pair of nerves pass out; lower down, from the pterygoid process of the sphenoid bone, from the upper and under jaw, near the roots of the last dentis molaris, and between the jaws; it is continued with the buccinator muscle, and with some fibres from the root of the tongue, and from the palate. It is inserted into a white line, in the middle of the pharynx, where it joins with its fellow, and is covered by the constrictor medius, i. e. hyopharyngæus of Douglas. Its use is to compress the upper part of the pharynx, and to draw it forwards and upwards. See Pharynx, and Pterygo-pharyngæi.

CEPHALOPO'NIA, (from κεφαλη, *head*, and πονος, *pain*). See Cepha'lalgia.

CE'PHALOS, (from κεφαλη, *the head*; so called from the size of the head). See Mugilis.

CEPHALO'TOS, (from the same). See Capitatæ plantæ.

CERA, (from the Arabic *kira*, or the Chaldean *kera*). Wax. It is a concrete collected from vegetables by bees, and extracted from their combs after the honey is separated from them. It is wholly a vegetable production: and a similar substance is obtained from leaves. A little of the pollen only is added by the bee, which gives the colour, and increases the solubility; for yellow wax melts at 142°; bleached wax at 155°. Wax is evidently an oil coagulated by oxygen, which it certainly contains, though, according to Lavoisier's analysis, 100 parts of wax consist of 82.28 of carbon, and 17.72 of hydrogen. In distillation, a little water and some sebacid acid come over, next a very fluid odorous oil, which increases in consistence till it assumes that of butter, and is called *butter of wax;* but, by repeated distillations, Lemery reduced this to a very volatile oil. Acids have no effect on it: even the oxy-muriatic acid only whitens it. It is lighter than water, but heavier than proof spirit; and with the assistance of heat it is soluble in rectified spirit of wine; more so, according to Dr. Alston, than in oil. It is not at all soluble in aqueous liquors. With a small degree of heat it is dissolved into the appearance of a transparent oil; and in this state it is easily miscible with oils, and any kind of fat. It readily takes fire, and burns all away; and all the wax, like camphor, is volatile in a certain heat. Inflammable vegetable oils may exist under the various forms of oil, butter, balsam, wax, resin, and pitch, according, probably, to the proportion of oxygen which they contain.

Ce'ra flava, yellow wax, in the state it is taken from the combs, is, while fresh, of a lively yellow colour, tough, yet easy to break; hath an agreeable flavour, somewhat resembling honey: by long keeping it loses its colour, its agreeable smell, and becomes harder and more brittle. It contains, as we have said, a proportion of the pollen, furnished by the bee.

Distilled with water it impregnates the liquor with the smell, but gives no appearance of oil. If chewed, it proves tenacious, and neither mingles with the saliva, nor discovers any peculiar taste. By a mixture of gum arabic in fine powder it is rendered soluble in water; the wax requires its weight of the powdered gum for this end; and thus prepared, it is still insipid, and void of all acrimony. The addition of soap renders it also soluble in watery fluids.

Dioscorides observes that wax is healing and softening. When made into an emulsion, or mixed with spermaceti, in an electuary, or divided by rubbing it with the testaceous powders while it is in a melted state, it is successfully used to blunt the acrimony in diarrhœas and dysenteries; it supplies the loss of mucus in the bowels, and heals their excoriations.

With soap, to which a small proportion of opium is added, or a few grains of Dover's powder, it becomes an excellent remedy for diarrhœas of long continuance, and for dysenteries, when all obstruction and indurated fæces are removed. We have seen that it was formerly added to the vitrum antimonii, to mitigate its too great acrimony. Poerner used it in complaints of the bowels, by melting it with some fixed oil, and then combining it with water in an emulsion; but its union with soap, in pills, is preferable.

The college of Edinburgh gave the following preparation, in a former edition of their Pharmacopœia. Pu'lvis testa'ceous cer'atus. *Testaceous cerated powder.*—Melt yellow wax over a gentle fire, and carefully stir into it, by degrees, as much of the compound powder of crabs' claws as the wax will take up. The dose is a drachm twice a day.

The chief uses of wax are at present in plasters, ointments, and cerates, partly to give them consistence, and partly to increase their emollient and suppurating quality.

The college of physicians of London order an Emplastrum ceræ *plaster of wax*, formerly called *emplastrum attrahens*, to be made of yellow wax and sheep's suet prepared, of each three pounds; yellow resin, one pound; melted together, and the mixture to be strained whilst it remains in its fluid state. Ph. Lond. 1788. Though blisters used to be dressed with this plaster, it is not an agreeable form: softer and less adhesive cerates are preferable: the ceratum spermatis ceti, or the ceratum resinæ flavæ, are good substitutes for this plaster; which see, under Ceratum album et citrinum.

O'LEUM CE'RÆ; OIL OF WAX; called also *cerelæ'um*, from *cera*, and ελαιον, *oleum*, from being thinner than cerate, which is, in fact, the butter of wax, prepared by filling the upper part of the retort with fine sand, and distilling the wax through the sand.—Cut yellow wax in small pieces, and put as much into a retort as will fill nearly one half; then add as much clean white sand as will nearly fill the retort; after which place it in a sand furnace. At first an acid liquor arises, afterwards a thick oil, which sticks in the neck of the retort, unless it be heated by applying a live coal. The thick oil is also called the *butter of wax*, and may be rectified into a thin oil by distilling it several times, without addition, in a sand heat: if it is thus rectified it never hardens again.

Boerhaave highly extols this oil as an emollient, and for healing chaps and roughness of the skin, for curing chilblains, and, with the assistance of exercise, for relaxing contracted tendons. It is rarely used on account of its empyreumatic smell, but it is wholly free from acrimony.

CE'RA A'LBA, WHITE WAX, is the yellow wax artificially deprived of its colour, by reducing it into thin flakes, exposing them to the sun and air, and occasionally sprinkling them with water. When sufficiently whitened, it is melted and cast into thin cakes. Some whiten it first by dissolving it in hot water, forcing it through linen strainers into shallow metalline moulds, and then exposing it to the air. When wax is thus robbed of its colour, it has a less resolvent quality; but is altered in no other respect. It is sometimes adulterated with white oxide of lead, sometimes with tallow. Melting will discover the first, and the smell detect the other fraud.

The college of physicians of London give the following form for making the UNGUENTUM CERÆ, *ointment of wax*; formerly called *unguentum album*. Take of white wax, four ounces; spermaceti, three ounces; olive oil, a pint: let these be melted over a gentle fire, constantly and quickly stirring the compound until it grows cold. Ph. Lond. 1788.

The *céræ unguèntum cum hydrárgyro* is highly recommended in languid ulcers, and, as it acts favourably on the callous edges, it should be extended some distance round the sore. It consists of eight ounces of wax, and two of axunge, with six ounces of unguent. hydrargyri.

A few drops of rectified spirit of wine renders wax more easily pulverisable. See Lewis's Mat. Med. Neumann's Chem. Works.

CE'RA DICA'RDO. See CARDUUS PINEA.

CE'RA CINNAMO'MI. See CINNAMOMUM.

CERÆ'Æ, (from κερας, *a horn*, called also *Girri*). So Rufus Ephesius calls the cornua of the uterus.

CERA'MIUM. A Greek measure of nine gallons.

CERANI'TES, (from κεραννυμι, *to temper together*). See TROCHISCI.

CERA'NTHEMUS, (from κηρος, *wax*, and ανθεμος, *a flower*; so called because it is collected from flowers). See PROPOLIS.

CERASIA'TUM, (from *cerasus*, *a cherry*). A purging medicine in Libavius; so called because the juice of cherries is an ingredient.

CERA'SIOS, (from the same cause). The name of two ointments in Mesue.

CERA'SMA, (from κεραννυμι, *to mix*). A mixture of cold and warm water, when the warm is poured into the cold.

CERASO'RUM NIGRO'RUM A'QUA. See AMYGDALÆ AMARÆ.

CERASUS. The CHERRY-TREE. It receives its name from *Cerasis*, or *Cerasante*, a city of Pontus, from whence it was imported to Rome by Lucullus, and thence, according to Pliny, propagated into Britain.

Cherries have the same general properties as other summer fruits: they are agreeable, cooling, and quench thirst; and because they keep the body open they are termed EUCOILIA.

CERA'SUS, *ávium nígra*. See LAURO CERASUS et PADUS.

CERA'SUS AMERICA'NA. See MALPHIGIA.

CERA'SUS DU'LCIS IN'DICA. See CAPOLIN.

CERA'SUS A'CIDA NIGRICA'NS, the MORELLO CHERRY.

CERA'SUS RU'BRA, SATI'VA, or ANGLI'CA; COMMON RED CHERRY.

CERA'SUS NI'GRA, also *cérasus major*, BLACK CHERRY.

CERA'TIA, CERA'TIUM, and CERA'TONIA, (from κερας, *a horn*, which its fruit is supposed to resemble). See SILIQUA DULCIS.

CERA'TIA DIPHY'LLUS. See COURBARIL.

CERAT'ITIS, (from κερας, *a horn*). See UNICORNU.

CERATO-CE'PHALUS, (from κερας, *cornu*, and κεφαλη, *caput*; from the horn-like appearance of its top). See ACMELLA and BIDENS.

CERATO-GLO'SSI, (from κερας, *a horn*, and γλωσσα, *a tongue*; muscles so named from their shape and insertion into the tongue). See HYO-GLOSSUS.

CERATO HYOIDÆ'US, (from the *os hyoides*). See STYO-HYOIDES.

CERATO-PHARYNGE'US MA'JOR et MI'NOR. See HYO-PHARYNGEUS.

CERATOI'DES, (from κεραλος, the genitive case of κερας, *a horn*). See CORNEA.

CERATOMALA'GMA, (from κηρος, *wax*, and μαλαγμα, *a mixture*). See CERATUM.

CERA'TUM, from *cera*, *wax*). CERATE; called also CERELÆUM (which see), *ceroma*, *ceronium*, *cerotum*, *ceratomalagma*. Cerates chiefly differ from plasters in consistence, being a softer kind of plaster, or harder kind of ointment. Their consistence is very convenient: when mercury is made up in plasters, a sufficient quantity is not absorbed from them to produce any very certain effect; but in a cerate it is resolvent and discutient, and when thus applied to venereal tophi and nodes, they often yield to it. The general rule for cerate is, eight parts of oil, fat, or juices, four of wax, and one or two of powder: or three ounces of oil, half an ounce of wax, and two or three drachms of powder. The London college directs the *cerátum álbum* to be made, of olive oil, four ounces by measure; of white wax, two ounces in weight; of spermaceti, half an ounce in weight: these must be melted and stirred together till the cerate is quite cold.

CERA'TUM ANTIMO'NII VI'TRUM. See ANTIMONIUM.

CERA'TUM LYTHA'RGYRI. See LITHARGYRUM.

CERA'TUM HYDRA'RGYRI NITRA'TI. See MERCUR. PRÆCIPIT. RUB.

CERA'TUM ME'LLIS. See MEL.

CERA'TUM CITRI'NUM.—Take of the ointment of yellow resin, half a pound; of yellow wax, one ounce: melt them together. Ph. Lond. 1788.

CERA'TUM RU'BRUM. RED CERATE. Take yellow wax, and sheep's suet, of each two pounds: red sulphurated quicksilver, fifteen grains: yellow resin, two ounces. Melt the resin, wax, and suet together, and afterwards add the sulphurated quicksilver; this is a cheap cerate for external dressings.

CERA'TUM EPULO'TICUM. See CALAMINARIS LAPIS.

CERA'TUM LITHA'RGYRI ACETA'TI. See LYTHARGYRUM.

CERA'TUM SAPO'NIS. See SAPO.

CERA'TUM CANTHA'RIDES, et HYDRARGYRI. Cerate of SPANISH FLY. See CANTHARIDES, and ARGENTUM VIVUM.

CERAUNO-CHRY'SOS, (from *κεραυνος, thunder*, and *χρυσος, aurum;* so called from the violence of its explosion when heated). See AURUM FULMINANS, under AURUM.

CE'RBERUS TRI'CEPS. A powder composed of three capital active ingredients. See SCAMMONII PULV. COMPOSIT. under SCAMMONIUM.

CE'RCHNOS, and CE'RCHNON, (from *κερχω, to wheeze*). See RHENCHOS.

CERCHO'DES, (from the same). See DASYS.

CE'RCIS, (from *κιρκις, a pestle for a mortar*, or *spoke for a wheel*). See SILIQUASTRUM and RADIUS.

CERCO'SIS, *κιρκωσις*, (from *κιρκος, a tail*). A disease of the clitoris, when it is enlarged and hangs like a tail from the vagina. See CLITORIS.

CE'REA, (from *cera, wax*). See CERUMEN AURIS.

CEREA'LIA, (from *ceres, corn*). All sorts of corn of which bread is made. The Greeks use the word *demetrias* in the same sense. Not to enlarge too far the article of bread, we referred to this part of our work a short view of the comparative qualities of different corn employed as its basis. The cerealia, strictly speaking, are the barley (*hordeum distichum* Lin.); the rye (*secale sereale*); millet (*panicum miliaceum*); the oat (*avena sativa*); wheat (*triticum hybernum*); rice (*oryza sativa*); and maize (*zea mays*). To these are sometimes added the buck wheat, from different species of fagopyrum; Guinea corn (*holchus sorgum*); flote fescue grass, or manna seeds (*festuca fluitans*); and the lotus, described by Mungo Park, (*rhamnus lotus*).

These different cerealia are set down nearly in the order of their nutritious qualities, beginning with the least nourishing; and, as these perhaps depend on the proportion of oil, their ascescency, and the easy evolution of their saccharine principle, are not very different. The buck wheat, the Guinea corn, the manna seeds, and those of the lotus, are truly saccharine. See ALIMENT, and the different articles under their proper terms: FARINACEA and BREAD.

"CEREBE'LLUM, and CERE'BRUM, (a dim. of *cerebrum*,) as it were, the LITTLE BRAIN; called also *epencranis parencephalis encranion*.

"The *cerebrum* and *cerebellum* together are often called *cerebellum*, when the brain is spoken of in small animals, as birds, pigs, &c.

"The *cerebellum* is flattened, and convex on its upper and lower part; its greatest extent is from side to side. It is situated under the posterior lobes of the cerebrum, and divided into two lobes by a small process of the dura mater, which is a continuation of the falx running in its direction. It is covered by the pia mater like the cerebrum; but the lobuli of the cerebellum differ from those of the cerebrum, mostly lying horizontal. It hath no convolutions like the cerebrum, but it hath curved parallel lines described on its surface by the pia mater, and is of a darker colour than the cerebrum. It is composed of a cortical substance, and a medullary part like the cerebrum, but disposed in a more regular manner; and a perpendicular section of it hath a beautiful appearance, ramified like a tree, called *vitæ arbor*, the trunks of which form the pedunculi of the cerebellum. On the back part of the isthmus which joins the cerebrum and cerebellum we see four eminences; the two upper are called *nates* or *glutiæ*, and the two lower *testes* or *didymi*. Before these the aqueduct runs down into the fourth ventricle, the medullary covering of which is called *valvula magna Sylvii*. The fourth ventricle is placed between the cerebellum and the medulla oblongata."

"CE'REBRUM, (quasi *carabrum, à καρα, caput*). The BRAIN, called *encephalus:* see also EPISPHÆRIA. Metaphorically called *emporium* (a Latin term for a market town), because it is the seat of all rational and sensitive transactions. Its structure and use are not so fully known as some other parts of the body, and different authors consider it in various manners. However, according to the observations of those most famed for their accuracy in anatomical enquiries, its general structure is thus described.

"The whole mass of brain is divided into CEREBRUM and CEREBELLUM. It consists of two substances, viz. one cortical or cineritious; the other medullary. The first is of an ash colour, the second is white, and of a firmer texture: they both are vascular, but the cortical is more so than the medullary, from whence the nerves proceed. When the two hemispheres of the cerebrum, each side of the falx being called an hemisphere, are removed, a white part, called CORPUS CALLOSUM, running from one hemisphere to the other, appears. The CENTRUM OVALE is the appearance of a particular section of it. The anterior ventricles are two oblong bodies placed one on each side the corpus callosum, with a partition between them, called the SEPTUM LUCIDUM, which is a continuation of the medullary substance of the corpus callosum. There is commonly much water in these ventricles, in those who die of disorders in their heads, as in the epilepsy, hydrocephalus, &c. but naturally they only contain about two drachms. In watery heads the fluid is always found in the cerebrum only; the cerebellum never hath any share in it. Each ventricle at the posterior part throws back an appendage, which makes a cavity in the posterior lobe of the cerebrum. Below the septum lucidum appears the FORNIX, or LYRA, with the *corpora fimbriata*, narrow at the anterior extremity, where it rises by a double basis called its CRURA, which follow the track of the ventricle; in each ventricle are eminences of a cineritious colour, called CORPORA STRIATA. The PLEXUS CHOROIDES, called also *reticularis*, or *retiformis*, is a plexus of vessels which follow the sweep of the ventricle: it is formed by the vessels of the pia mater; it is partly collected in

two loose fasciculi, which lie one in each lateral ventricle, and partly expanded over the neighbouring parts, and covering in a particular manner the thalami nervorum opticorum, GLANDULA PINEALIS, and other adjacent parts, both of the cerebrum and cerebellum, to all which it adheres. The parts of this plexus, which are in the ventricles, contain some very small glands, which are considerably increased in some diseases. After the fornix is removed, we see a large plexus of vessels, particularly Galen's great vein, which go to form the TORCULAR HEROPHILLI, or fourth sinus, called also *lecheneo*, and, by Herophillus, *lenos*. It is a sinus formed by the meeting of the sinuses of the dura mater. Under the plexus, before the united thalami nervorum opticorum, is a hole on each side called the ANUS and the VULVA; the latter goes to the infundibulum, the former to the aqueduct and third ventricle. The THALAMI NERVORUM OPTICORUM are white externally, and grey within, and are little eminences from whence the optic nerves arise. The third ventricle is very small; it runs back under the two thalami, between them and the medulla oblongata. The PINEALIS GLANDULA, pineal gland, called also *conarium*, *conoides et conoides corpus*, from its cone like form; and *turbinata*, covered by the plexus choroides, and situated on the sella turcica of the os sphenoides, is a little greyish body, the size of a pea: it lies just a little before where the transverse and longitudinal processes meet, where the vessels go to form the torcular. It is covered by the pia mater, and is connected by a little bone to each thalamus nervi optici.

"Numberless experiments prove, that the nerves are necessary to life; and that when the brain, or *medulla spinalis*, is much injured, life is at an end, or at least health: yet no part of the brain being injured, immediate death may ensue from different causes, though an injury of the *medulla oblongata* is so instantly fatal.

"Behind the infundibulum called *pelvis*, is seen the CORPORA ALBICANTIA, or GLANDULÆ WILLISII.

"Two glands are said to be in the brain, viz. the superior or *glandula pinealis*; and the inferior or *glandula pituitaria*, which see. They have the external appearance of glands, but as to their being such is not certainly known.

"The cerebrum fills all the upper portion of the cavity of the cranium, or the portion which lies above the transverse septum; each lateral half is divided into three eminences, called lobes; one anterior, one middle, and one posterior.

"The blood vessels which supply the cerebrum, cerebellum, and *medulla oblongata*, come partly from the carotid, and partly from the vertebral, arteries. The veins of the cerebrum and cerebellum may, in general, be looked on as branches not only of the longitudinal sinus of the dura mater, and of the two great lateral sinuses, but also of all the inferior sinuses of this membrane, in all which the veins terminate by different trunks."

"Plain truth," it is observed, "needs no flowers of speech," and we long hesitated whether this simple, this bald, unornamented description might not pass as plain sound science. If we could only add to it speculation, yet when this is the mode, a dictionary, which is to give the very body of the time its form and pressure, must admit of speculation. As the room it employed was but small, and as it contained a text which might prevent repetition, we have, therefore, preserved it, and shall add the commentary.

A brain is the distinction of the more perfect animals, and its proportional bulk is the criterion of more perfect intellectual faculties. With a diminished brain, animals dwindle in the scale of intellect; and Camper's facial line, which marks the varying boundary between the most perfect human form and the meanest animal which possesses this distinguishing organ, depends on the bulk of the cerebrum. This is the part originally created; and the integuments, whether bony or membranous, are adapted to its primordial shape.

When the head is opened, and the tense DURA MATER removed (vide in verbo), we perceive a bluish white mass, formed apparently of vermicular convolutions, variegated with vessels of a deeper blue. This mass is divided into two hemispheres, which fill the upper part of the head, and form the projection of the forehead. Between the hemispheres passes a membrane, called the falx; because, when separated, it resembles a scythe or reaping hook; and these are united below the falx by a white substance, firmer than the brain, which has been just styled corpus callosum. This hard substance is continued downwards, and divides two ventricles; but as it is there thinner, it has obtained the name of septum lucidum. This corpus callosum, continued backward, connects the cerebrum and cerebellum; and as when cut through in a horizontal direction it appears of an oval shape, it has been called the centrum ovale.

When the base of a skull is examined, it appears to have numerous projections and depressions, adapted to the cavities or reliefs of the brain which rests on it. Behind are two spherical cavities, which contain the cerebellum; and between them is a hole, through which the medulla spinalis passes out, or, according to modern speculators, enters. We need not enlarge further on these projections, as our predecessors have given their appellations, except to add, that the pineal gland seated in the midst, on a kind of throne, the sella turcica of the sphænoidal bone, the only part to which no other corresponds, has been styled the seat of the soul. Less eccentric observers have supposed it to be a conglobate gland; but as we have found it the seat of calculous concretions, we must consider it as a secretory organ, whatever fluid it may furnish. To this subject, however, we shall return.

When the brain is examined more nearly we find a very thin membrane, called the pia mater, which accompanies the convolutions, and sinks into the interstices. This membrane, which will be afterwards described, conveys the blood vessels to the cineritious part of the cerebrum, and is itself covered with a cobweb-like membrane, which, however, does not follow it into the sulci, called tunica arachnoides. When we cut into the substance of the brain, we shall find for a little space within a brown substance, called, without any strict accuracy, the cineritious portion; which follows all the sulci of the convolutions, terminating in lines or rounded points, as directed by these. To this portion the medulla is united, and neither encroach on the other, but in the angles of the sulci: the depth of the cineritious portion is generally uniform. The colour is derived from very minute blood vessels; for, strictly speaking, the medullary part suffers vessels only to pass

through it. Those apparently dispersed on it, form such conspicuous streaks, as prevent us from thinking that the medulla contributes any thing further than a support: there is certainly no such minute distribution as generally attends any glandular apparatus, or distinguishes any organ destined for an important purpose.

This cineritious portion is certainly designed for an office of the greatest consequence; for we shall find that whatever be the proportion of the brain, it is always present, and by no means in the ratio of the medulla; and in parts where seemingly additional nervous power is required, in the course of the nerves, adventitious ash coloured matter is observed. In the substance of the brain, striæ of a cineritious hue are found; and some projections wholly consist of it, with different tints, while others contain this matter surrounded with, instead of containing, the medullary substance.

Near the origin of each pair of nerves we are informed that a brown substance is observable; and in the cerebellum, confessedly the most important part of the contents of the skull, it penetrates so deeply as to form by much the larger portion of it. Nature, also, seems to have supplied it with its blood, by means so refined as to prevent almost the possibility of its being wholly destitute; for not only does it receive arteries from the external surface, but other vessels pass through the base of the skull and penetrate the medullary substance to prevent any deficiency from accident. It is these arteries only, in our opinion, which we see in the medulla. It has been doubted whether the whole of this substance is vascular: the minutest injections do not penetrate every part; nor, perhaps, were the whole vascular, could this be expected.

The medullary substance is a pulpy mass; though probably, could our sight be sufficiently assisted, we should find it fibrous, since this structure appears where the nerves are sent off, when they assume their coat from the pia mater. Various communications are observable in the medulla, from the front to the hinder part, and from side to side. In a negro the medulla is yellowish, and sometimes a blackish yellow, though in the European of a pure white. In the former the yellow hue disappears by the access of the air. The corpora striata, and the thalami nervorum opticorum, which are in an European of a flesh colour, approaching a cineritious, are in the negro of a dusky brown, like the bark of a tree.

The ventricles of the brain are four in number. Two are on each side of an oblong form, projecting in what are styled horns; and it seems as if the medulla, growing more dense in the corpus callosum and septum lucidum, had proportionally contracted, leaving these cavities. In health they are probably distended by an halitus; but after death their parietes collapse, and a small portion of fluid is only discoverable. Two, as we have said, are on each side; the third is more forward and in front, below the fornix, or that portion of the medulla which forms the base, and in part, the sides of the lateral ventricles. It is a sulcus or slit of very inconsiderable dimensions, and scarcely merits the name of a cavity, but from it passes a canal of soft cineritious matter, styled the *infundibulum*, to the pineal gland. The fourth ventricle is in a perpendicular direction, anterior to the cerebellum. It is probable that all the ventricles communicate. Dr. Monro has, with much anxiety as a discovery of importance, claimed the honour of having first described an opening between the lateral ventricles, and consequently a communication between the three former. Yet it seems that this communication which we have ourselves often traced, is not always found.

When we contemplate the ventricles, we seem to think that, like the chambers in the Egyptian pyramid, they are so disproportioned to the bulk that they can probably be of little advantage, and seem, as we have hinted, to be accidental. A more attentive examination, however, shows the fallacy of this conclusion; and they appear formed by design, and with a judgment so subtle or refined, as to elude our research. The pia mater from the basis of the skull, is conveyed as a lining round the parietes of each; and if the cineritious matter is an important organ, the pia mater, from which it originates, must be equally so. Again: the base of the brain is diversified by numerous projections, evidently designed to increase the surface, and afford a larger scope for the cineritious matter which we find in different parts, and chiefly about the origin of the nerves, which spring from the base. This cineritious substance is also found in many parts of the different ventricles; and in these too, we find plexuses of vessels so minutely convoluted, as probably to subserve some important purpose. Let us add, that any suppuration or any disorder on the base of the brain, soon produces the most alarming and fatal symptoms; while some spoonfulls of the medullary substance of the hemispheres may be discharged from a wound, without apparent injury to the intellectual faculties. We forgot to mention that the commissuræ, the medullary cords, which unite the different parts of the brain, are by far more common at the base of the skull than in any other part; nor is a circumstance wholly to be overlooked, that the infundibulum, which passes from the ventricles, terminates in the pineal gland: an organ probably of considerable importance, though its office is yet unknown. The infundibulum is not indeed hollow through its whole length, yet it seems to be occasionally so, as some authors have described the aperture as continued to the gland. Its uniform direction, and the small space occupied by the loosely textured medulla, seem to show the probability of some communication.

Anatomists have described, with great precision, all the minuter projections, cavities scarcely discernible, medullary cords of connection (commissuræ), and numerous sulci. To follow them would be useless; for this work is not designed to teach the minuter branches of anatomy, and the reader may think that we have already been unnecessarily minute. Yet we thought it right to give a particular outline of the anatomy of the brain; and we think we have not trespassed in descriptions which will not admit of some application.

The projecting and upper parts of the skull are filled with the two hemispheres of the cerebrum which rest on a membrane, a prolongation of the dura mater, styled tentorium. Below it is the cerebellum, whose connections we shall next describe. From each side of the brain, near the middle, medullary processes arise; and passing downwards and backwards, form what are styled the crura cerebri: these unite at an acute angle, and form what is styled the pons varolii or tuber annulare. From hence, what are styled the crura cerebelli

arise; or to the tuber they descend. A prolongation of the latter forms the medulla oblongata; which, when it escapes from the head, is styled the medulla spinalis. In the whole of this part of the brain, the striated or cineritious matter is freely united with the medullary; and at the union of the crura there are some protuberances, which, from their shape and colour, have obtained the names of corpora pyramidalia and olivaria.

As an appendage to the system of the brain, or rather as a detached nervous apparatus of considerable importance, we shall shortly describe the course and formation of the great sympathetic or intercostal nerve; the brain of the vital and involuntary motions, its succedaneum in the lower classes of animals, and, indeed, in human monsters where the brain is absent.

The great intercostal is styled a portion of the sixth pair of nerves, another portion of which is distributed to the muscles of the eye. It is, however, more properly a nerve from the medulla spinalis, and is sent rather to the brain, than proceeds from it. This we collect from the parts to which it is distributed being wholly independent of the will; and from the nerve between the neck, and that part where the nerves of the muscles of the eye are sent off, being larger than that between the brain and the same point. This almost insulated, nearly independent, nervous system, is connected with the brain, not only by this branch, but by a slight twig from the fifth pair; but its substance is formed by branches from all the different vertebræ. As soon as it appears in the neck it forms a ganglion, a medullary enlargement, in which the different filaments are intermixed, with generally the addition of some cineritious substance. In the neck only, there are three of these ganglia, to which nerves from almost every vetebra can be traced. In the chest it receives additional nerves, forming several smaller ganglia. From hence it escapes with the aorta, and reaches the sacrum; forming, with the branches from the spinal marrow of that part, other ganglia. It then turns inward; and at the hollow of the os coccygis, meets its fellow from the opposite side, which has traced the same course with similar additions.

When not united in a hard body like a ganglion, smaller nerves are often intermixed, and form, by their mutual decussation, a net work. In these a similar interchange of fibres seemingly takes place; and, in the course of the intercostal nerve through the trunk, nine distinguished plexuses have been described. To illustrate the advantages of this arrangement, we may now, though not in its proper place, remark that if an organ essential to life was supplied by one nerve, any injury to that, either in its origin or course, would be fatal. If, by uniting in a ganglion or a plexus with another nerve the fibres of both are intermixed, the injury to one nerve would be attended only with half the injury to the function of the organ, but the chance of injury would be increased in the same proportion. If, then, fifty nerves are mixed, the chances of injury are augmented, but the real injury to the organ is very inconsiderable. In this way has nature guarded those organs on which life depends; and we see that animal life may exist with a very small brain, or without any. But, after a perfect animal has existed, such is the connection of excitability through the whole nervous system, that, independent of the loss of blood, the destruction of the brain must destroy the excitability in the nerves. It may be diminished to a very inconsiderable degree; and, by the arrangement described, life may for a time be continued till the cause is removed.

The great sympathetic nerve is also the connecting link, between the two parts of which the human body consists. All our organs are doubled; and one half may be diseased or dead, with a partial injury only to the vital organs; and, in the first case, if the brain is not affected, without any apparent inconvenience to the unaffected parts. The great sympathetic, we shall find, supplies, in a great degree, the lungs, the heart, the stomach and intestines, the urinary and genital organs. The action of these, it must be obvious, are too important to be entrusted to the influence of one or several nerves: they must be raised above common accident: and, above all, must be independent of the will.

Such is the substance of the descriptions of the most correct anatomists; and we should now proceed to consider the functions of this organ, if we did not find it necessary to attend to the doctrines of an author who has begun to excite considerable attention on the continent; we mean Dr. Gall of Vienna. Dr. Gall has published no account of his system, and the substance must be collected from the reports of his pupils. We have now before us two, the one by Dr. Arnemann, and the other by M. Boisjames (Journal de Physique, vol. 55.), in which there is a view of the *cranium*, where the different organs are distinctly marked. Our chief object, at present, is his account of the brain and medulla spinalis.

We laid the foundation for this explanation very early, by inserting the arrangement of the animal kingdom by M. Virey (see Animal). In this scheme, animals are distinguished as possessing a cerebral and intercostal, or sympathetic system: an intercostal system alone; or separate nerves with nervous molecules only. Dr. Gall considers the lower classes of animals as possessing nervous filaments only; the next, a spinal marrow; the superior animals possess a double spinal marrow; and the more perfect, a brain. In this lsst class, the spinal marrow, he thinks, exclusively forms the brain, and all the other nerves. The eight pair of nerves, supposed to arise from the brain, are derived, therefore, by Dr. Gall, from the spinal marrow, and seem to become a part of the brain before they are sent off in separate bundles. In this rank, the first are the nervus accessorius, and nervus occulo motorius; the common ganglion of which is supposed to be the corpus olivare, at the upper part of the medulla oblongata. Nearer the centre of the medulla are the nerves of the cerebellum; those medullary processes formerly supposed to be sent from the latter to the former: the ganglion of these is a substance situated in the body of the cerebellum, called, by anatomists, corpus ciliare.

The corpora pyramidalia, which we have mentioned as protuberances on the medulla oblongata, are supposed, by Dr. Gall, to be the origin of the cerebrum; for he expressly remarks, that the size of the hemispheres is always proportional to that of the pyramidal bodies. The ganglia of the pyramids are the pons varolii; and a part we omitted to mention, the ganglion cerebri, near the fossa sylvii. These nervous

strings are distinctly marked at the base of the skull by gyrating lines.

As eight pair of nerves, according to Gall, are derived from the spinal marrow, they are styled "entering nerves;" but there are some minute nervous filaments, *returning from the brain*, which he calls "retrograde nerves." These, he thinks, arise from the cortical substance which surrounds the ends of the first species of entering nerves. They unite in their course towards the spinal marrow, and increase in bulk, without passing through any ganglia. These nerves, in his opinion, form commissuræ. Thus the commissuræ of the retrograde acoustic nerve is situated under and behind the pons varolii; that of the olfactory nerve between the ganglion belonging to these nerves; that of the retrograde nerves of the cerebellum in the pons varolii itself. The commissuræ of the retrograde nerves of the cerebellum are the corpus callosum, the commissura anterior of the lobe of the brain, near the optic nerves, continued in the septum lucidum, &c. Through the very middle of the spinal marrow, to a raphe or seam on the top of the corpus callosum, a very delicate medullary substance is observed to ascend, which Dr. Gall considers as the uniting medium of the double system of organs in the animal machine; an office we have assigned to the great intercostal.

It will be obvious on examining this system, that little difference can arise in any disquisition respecting the functions of the brain, whether it be derived from the spinal marrow or the contrary; and, ascending from the more simple structure, we may as well suppose a cerebral organ *added*, as, in descending, to view the lower animals deprived of it. The brain, we find, is not essential to animal life; for the nerves subservient to it are derived from another source; and it is certain, that a wound in the spinal marrow is more fatal than one in the brain. The functions of the latter, as we have seen, may be destroyed, while those of the former remain. So far, perhaps, the balance may be said to turn in favour of Dr. Gall. The brain, however, is the chief seat of the intellectual functions; and this is acknowledged by our author, since, in his "Organology" he has assigned to its different parts various passions and propensities. We have already admitted his chief position, that the shape of the cerebrum and cerebellum determine that of the skull; and, as he has found (or thinks he has found) certain projections connected in man and different animals, with different propensities or passions, he has denominated these their seat. He seems to have carried this enquiry to a considerable extent; and his collection of skulls, or casts, is said to be numerous and highly curious, as they belonged to characters the most notorious, of very different descriptions. On a careful examination and consideration of this system, we cannot think it wholly fanciful, though fancy seems often to predominate. But this is from our present subject. We shall return, however, to Dr. Gall's system, with some notice of that of Lavater, under the article Craniology.

We must not conclude this descriptive part of the cerebrum, without some notice of the enquiries of Camper. This very accurate anatomist examined, with peculiar and discriminated attention, the skulls of different races of mankind; and found that the *facial line*, viz. the direction of a ruler applied to the lips and forehead, distinguished the more perfect and beautiful forms, from those confessedly less generally pleasing. The line of the faces of the ancient heads formed, with a horizontal line, an angle of 100°; beyond that is the deformity of the hydrocephalus; between it and 70° the usual European forms: a less angle than 70° marks the Calmuc, the negro, the ape, the dog, and the woodcock, in succession. In the last the angle is almost wholly lost. When we trace the forms of the different races of mankind in the natural history of man, we shall enlarge on this subject. It is only necessary at present to observe, that the direction of the facial line is marked by the projections of the hemispheres of the cerebrum, and the situation of the foramen occipitale. These distinguish the more perfect races; and, indeed, mankind, from its nearest resemblance, the ape.

The functions of the brain are so singular and important, that every art has been employed to trace its structure and component parts. When the knife of the anatomist had exhausted its dexterity, injections and microscopical observations came in aid. The cineritious matter, we have said, is vascular; but we added that the whole could not be injected. Some authors have thought that the whole has been filled; but this is not probable, nor supported by the experiments of the most accurate anatomists. Veins are traced from it, and their contents are conveyed to the sinuses. The parts not injected have been supposed, from microscopical observations, to be follicles; and small globular bodies have been discovered. But these are seen in almost every fluid of the human body, particularly in mucilaginous ones, and lead to no important consequence. The hemispheres of the cerebrum are chiefly mucilaginous; but as we approach the basis of the skull, a fibrous texture is more conspicuous: and, if the brain be macerated in acids, this fibrous structure can be traced further into its substance than by mere anatomical investigation. When the brain is boiled in oil, it assumes a granulated appearance.

The refinements of modern chemistry have also tortured this substance with as little profit. We recollect only the labours of M. Thouret, in the 38th volume of the Journal de Physique, p. 329, and M. Fourcroy's, in the 16th of the Annales de Chimie. The brain they found somewhat heavier than water; and consequently, a person at rest in a horizontal position in water, swims indeed, but with the head lower than the surface. A small proportion of saline matter was discovered by M. Fourcroy, but scarcely $\frac{1}{110}$ part of the whole; and it consisted of phosphat of lime, of soda, and ammonia. In other respects the brain seemed essentially to differ from the other solid parts. It certainly contained little animal matter, and consisted chiefly of albumen; but the latter differed from that of the human body in general, or was changed in its properties by the mixture of another substance, whose nature has not been ascertained. It certainly is not an oily matter, and the brain is not a saponaceous substance. We strongly suspect that it contains sulphur; but much room remains for further investigation. M. Thouret considers it as analogous to spermaceti; and it is singular that, when kept from the air, it for a long time experiences little change.

After having detailed every important circumstance

relative to this very peculiar organ, we have not found a single property to assist us in explaining its functions. If we examine its changes from disease, we shall find no further assistance. In maniacal persons it is found sometimes hard and dry; in idiots, soft and mucilaginous. Occasionally an abscess appears at the basis, and sometimes the pineal gland is suppurated, or filled with calculous concretions. Although we think, with some authors of high credit, that the brain is always organically affected when any violent and permanent injury of its functions has preceded, yet there is no given change, from any particular series of symptoms. Dissection does not teach us any indication to pursue; nor would the powers, which we possess, probably enable us to fulfil them, if they were pointed out.

We must, therefore, consider the brain as the material organ of an immaterial principle, intimately united with it during life, and forming with it one distinct, inseparable whole. When we speak then of the actions and functions of the brain, we speak of it only as the instrument; nor can we after this declaration be misunderstood. Though we may sometimes employ the language of materialism, we consider the materialist, in general, as a weak, uninformed philosopher, and should deprecate being confounded with the herd.

The best physiologists suppose the brain to be fibrous; and when Gall calls it a membrane, he means no more. Fibres are conspicuous at its base, and in its prolongations, the nerves. These chords convey impressions of different kinds to the brain, in a manner which has occasioned many disputes. It was for a long time supposed that the brain was a gland which secreted a fine fluid, conveyed through the minute fibres of the nerves, which conducted to their origin the impressions received at their extremities; but the great tenuity of such a fluid, its rapid motions, and, above all, the little probability of the nervous fibres being hollow, rendered this system highly improbable. Yet, that the brain was a gland appeared to be a conclusion, obvious from its structure, its large supply of blood vessels, and their very minute convolutions. These facts appeared to Dr. Cullen in so striking a light, that, while he considered the nerves as vehicles of a very fine fluid, which was the cause of sensation and motion, he supposed that the brain secreted the nutritious particles designed to repair accidental losses, either from absorption or accidents; and that these were conveyed along the surfaces of the nerves. The improvements in electricity, and more lately in Galvanism, have given a different appearance to this question, which will soon claim our attention more particularly. We shall only at present state what we consider to be the nature and properties of the nervous power.

It is probable that in each nervous fibril, an elastic fluid is inherent, forming, from the first moment of animation, a part of it; differing, however, according to the state of the constitution, in power, in mobility, and, perhaps, in other qualities. Of this fluid the nerves are conductors; and they are surrounded in their course by non-conducting membranes; while the same membrane lines every part of the brain, and is carried into the deepest cavities, guarding with particular attention the slightest aperture. In this view the sanguiferous vessels are chiefly useful in nourishing this medullary substance; and they appear to be necessary also in adapting the nerves to their office; for when the circulation is greatly increased, the sensibility is more acute; and when it languishes, or is destroyed, the nervous energy soon shares the same fate.

This fluid must be necessarily an elastic one; and impressions are apparently conveyed through it by vibrations. It does not follow from hence, that the nerves vibrate like musical chords; or that, in every the slightest motion, a portion is conveyed from the brain. The elasticity of the fluid is proved by the momentary continuance of the impression after the cause is removed; and vibration is a term employed in many branches of philosophy as a means of communicating motion, without any very distinct application. If we touch an object with a stick, or with a metallic rod, we perceive through it the impression, and, in a general way, the nature of the substance. The impression must be conveyed by something; and whatever, that something is, it may as well convey impressions through the nerves as through the rod. But, through the nerves only can it affect the brain, and produce an *idea*, or some change in the brain, or its fluid connected with the nature of the object, and which conveys to the mind some peculiar and discriminated impression which it afterwards retains.

We have offered these opinions, not indeed essentially different from those taught by Dr. Cullen, because it enlarges our sphere of language, and enables us more clearly to convey our own opinions. It is immaterial to the purpose whether this view be ultimately correct: it is sufficient that it meets all the phenomena already known, and carries us to the confines of immateriality; of which we can have no idea, while the organs which convey ideas are material. *We know of no ideas that are innate: all are derived from sensible objects; and even in dreams, when the mind seems to sport uncontrouled, the distorted, and often apparently new, images, will be found only heterogeneous compounds of sensible ideas formerly received.*

We can now, then, speak more fully of the functions of the brain, the seat of intellect, the receptacle of our ideas, and the scene of all the intellectual operations. Animal life, as we have said, is confined to the intercostal system, perhaps to the cerebellum; which, we own, appears to us rather an appendage to the medulla spinalis than to the cerebrum.

The most striking function of the brain is *volition;* and this, the great source of all our voluntary motions, is, we believe, always excited by sensation, though often by sensations wholly unperceived or unattended to. It is singular that we will the end only: the means are directed by mind, or in some cases by a necessary connection. In sneezing, in coughing, and yawning, volition appears imperfectly, if at all, exerted; and the motions excited appear to arise from a connection of nerves, though the means are directed with great precision to the end.

The great intellectual principle which pervades every intellectual function, the *association of ideas*, is also carried on in the brain; and it is this principle which seems to require that the receptacle of our ideas should be so large and extensive. We mean not to revive the old system of material vestiges as the effect of im-

pression, and the sensible prototypes of our ideas; but it involves no contradiction to suppose, that a nervous fibre, whose mobility has been once excited, will more readily yield to the same stimulus, when repeated in a less degree; and ideas once connected will, by the same increased mobility, be excited by any impression, mental or corporeal, on the neighbouring parts, as the voice involuntarily pursues the air which another has begun to sing. The variety of distinct impressions communicated to the mind through the medium of the nerves, necessarily, therefore, requires an extended bulk of the common sensorium; and, though a part of the cerebrum may be occasionally destroyed without apparent injury to any function, we need only reflect how few and simple are the ideas of the greater number of mankind, compared with those of Bacon, Newton, Boyle, or Locke. Yet we see, after a partial compression of the brain, some of the powers of mind greatly weakened; and it is singular that these powers are chiefly such as are concerned in succession, and consequently association; as in counting numbers, or pursuing any successive train of ideas.

It has been doubted, whether the mind can of itself commence a train of thought wholly new, or excite ideas different from those received through the senses. We have, as already observed, never been able to discover any such in all the wanderings of a morbidly excited imagination, all the reveries of fancy, all the eccentric images in dreams or low delirium: yet the mind can voluntarily again raise ideas formerly impressed; and this faculty is styled *reminiscence*, or *memory:* a power which is greatly assisted by association.

Though we consider mind as an immaterial principle, yet, as its instrument is the brain, the state of mind must often appear to partake of the diseases of the body: and the restoration of mind equally follows the returning health of body. The reason is, that we do not see the mind act but through the medium of the corporeal organs; and every agent will be powerful in proportion to the power of his means. We, therefore, in considering the effects of astringents, referred the change in the state of the nervous fluid to that of the solid; and so again in mental diseases we shall endeavour to show the connection of mental powers with the same fluid. In some instances the change is so sudden, that the fluid itself must be primarily affected, as in the attack of fevers; and the mind is weakened in proportion. This did not escape Shakspeare, who has described the effects of an ague fit with the spirit of a poet, and the precision of a philosopher. Speaking of Cæsar, Cassius says,

> "He had a fever when he was in Spain;
> And, when the fit was on him, I did mark
> How he did shake! 'Tis true, this god did shake:
> His coward lips did from their colour fly:
> And that same eye, whose bend doth awe the world,
> Did lose its lustre. I did hear him groan;
> Aye; and that tongue of his, that bade the Romans
> Mark him, and write his speeches in their books,
> 'Alas!' it cried, 'Give me some drink, Titinius,'
> As a sick girl."

This sudden change in the nervous energy, as evident in fevers, and in breathing noxious vapours, has been styled by Dr. Cullen "*collapse;*" and we shall adopt the term more from shortness than any desire of connecting it with any real alteration, or as referring to any theory. Yet, as we know no instance in nature of a sensible fluid circulating with the rapidity of the nervous; and as we *do* know that a power not obvious to our senses, which possesses some of its peculiar properties, really exists, we perceive no theoretical temerity in adopting its terms. It extends, as we have said, the bounds of language; and facts expressed in this language may be without violence transferred to any other, when future discoveries may extend our knowledge of this mysterious power, whose cause we know not, but whose influence is general and extensive.

To penetrate further into the regions of metaphysics is not suitable to our present object. What we have now introduced, we shall have occasion hereafter to apply. We shall conclude this article with some more particular account of the circulation through the brain than the pages of Dr. Motherby and his associate have supplied. To connect the whole, a little repetition is unavoidable.

The course of the carotid arteries has been already explained; and the peculiarity in the circulation chiefly relates to the venous system. The veins are large and tortuous, unconnected with cellular substance, without valves; freely anastomosing, and terminating in reservoirs rather than in large trunks. The apparent great object of this apparatus is to confine a certain portion of blood in the head; and, at the risk of a morbid accumulation, to prevent the source of the nerves from wanting at any time a supply. Even respiration, as we shall find, contributes to the same purpose.

The mode in which the veins open into the sinuses confirm the same principle. We are informed by Vicq d'Azyr that they open in a direction opposite to the current of blood; and, though the universality of this distribution has been doubted, it is admitted that they very frequently penetrate obliquely through the coats of the sinus, as the ureters into the bladder; or that little valves occasionally cover their apertures; a structure which produces the same effects.

Where the veins penetrate the dura mater, this membrane and the pia mater are united by a fatty substance, which has been mistaken for the glands of Pacconius; but these are in the cavity of the longitudinal sinus, and act still further as valves, to save the arteries from the danger of being exhausted; since these glands are placed at the entrance of the vein into the sinus. The course of the smaller veins is circuitous, and with difficulty explained without numerous plates. We shall not attempt a description, for it admits of no application.

The arteries in the plexus choroides, which are peculiarly minute and tortuous, probably have an important office, which we cannot even conjecture. The veins are large which arise from them, and some are peculiarly conspicuous. The great central vein of the brain is styled, from Galen, who first described it, vena Galeni. From nearly the centre of the brain, this vein collecting all the blood, enters the fourth sinus, where it receives the blood from the inferior longitudinal sinus. But to be more distinct, we shall begin with the latter.

The great longitudinal sinus commences near the root of the nose, and runs backward close to the skull,

over the head, in the direction of the sagittal suture. The vena Galeni, running backward, forms the chord of this arc. At nearly two thirds from the front, to the occipital bone in this chord, the inferior longitudinal sinus descends to meet it, forming the fourth sinus. It descends in a curved line, not concentric with, or parallel to, the great longitudinal sinus, but nearly in the same direction; and in the prolongation of this chord, where it meets the longitudinal sinus near the occipital bone, the left and right lateral sinuses branch off, terminating in their respective jugulars, after a horizontal course of some length.

Nearly at the fore part of the base of the skull, below where the vena Galeni assumes a distinguished bulk, there are some other sinuses, irregular in their shape, and tortuous in their course, which terminate also in the jugulars.

The great sinus is formed by the splitting of the laminæ of the dura mater, and as the separation is more distant above, the cavity of the sinus is triangular; the inferior lesser sinus runs along the edge of the falx, without any peculiar form; but the fourth sinus, which is continued along the tentorium, by the joint action of this membrane and the falx, is also drawn into a triangular shape. The other sinuses are apparently enlarged tortuous veins, which we need not particularly mention.

It is obvious from this description, that nature anxiously retains a portion of blood in the head, even at the risk, as we have said, of accidental accumulation. But she has not incurred this danger, without attempts to lessen or relieve it. Though the longitudinal and the occipital sinuses are bound by the dura mater and tentorium, the rest are free, and admit of dilatation. At the point of meeting the angle of the occipital bone, they are so closely tied down, that the ancients supposed the blood in this part subjected to a peculiar pressure, and the point of union was styled the torcular Herophili, from its discoverer. The inferior sinuses, however, have no such restrictions; and they communicate by veins, styled the emmissariæ of Santorinus, which communicate also with the external veins. Vicq. d'Azyr informs us, that those sinuses which lie near the orbits and ethmoidal bone, the orbitar and carvenous, anastomose by a number of small veins with the hinder veins of the nose; so that the advantages of critical hæmorrhages from the nose in relieving acute fevers where the head is affected, will be sufficiently obvious. But, though authors have described the emissaries of Santorinus with particular care as the source of relief in apoplexies, and similar disorders arising from accumulation, their bulk is by no means equal to this office; and they seem chiefly useful in preventing partial compression, from the too great fulness of any particular sinus.

The uses of the sinuses have been differently explained by former authors; and these cavities have been supposed reservoirs, to prevent any sudden interruption in the blood through the vena cava to the heart from pressing too strongly on the tender medullary organ. If this were, however, the case, they are adapted very imperfectly for the purpose, since they are closely tied down where dilatation might be safely allowed; and without any restriction in the base of the skull where their compression must necessarily be injurious. If it be true that the nervous fibres require an active circulation for the support of their excitement, it must be an object of the highest importance that the arteries of the brain should not be suddenly emptied, or frequently liable to the accidents that may occasion it. This purpose the sinuses answer very completely; and, as we shall find, that during inspiration the course of the blood in the upper vena cava is obstructed, this function will appear to be an assistant in the same office.

See Winslow's Anatomy; Haller's Physiology; Willis' Anatome Cerebri; Vicq. d'Azyr on Brain, and his Memoirs in the Academy of Sciences for 1781; Malacarne Encephalotomia Nuova; Monro on the Nervous System.

Ce'rebrum elonga'tum. See Medulla spinalis.

CE'REBRI AFFE'CTIO SPASMO'DICO-EC'STATICA. See Apoplexia.

Ce'rebri compre'ssio, and concussio. Compression of the brain: (from *con*, and *premo*, *to press together*; and *con*, and *quatio*, *to shake together*).

This often happens from external injuries, and generally attended with giddiness, dimness of sight, coma, loss of voluntary motion, vomiting, an apoplectic stertor in breathing, convulsive tremors in different muscles, a dilated state of the pupil of the eye, even when exposed to a clear light; paralysis of different parts, especially of the side of the body opposite to that part of the head which has been injured; involuntary evacuation of the urine and fæces; an oppressed, and, in many cases, an irregular, pulse; and when the violence done to the head has been considerable, it is commonly attended with a discharge of blood from the nose, eyes, and ears. Some of the milder of these symptoms, such as vertigo, stupefaction, and a temporary loss of sensibility, are frequently induced by slight blows on the head; and as they often appear to be more the consequence of a shock, or concussion given to the substance of the brain, than of compression induced upon it, so they soon commonly disappear, either by the effects of rest alone, or some other gentle means. (See Concussio.) But when any of the other symptoms take place, such as convulsive tremors, dilatation of the pupils, involuntary passage of the urine and fæces, and especially when much blood is discharged from the mouth, nose, eyes, and ears, it is almost certain that much violence has been done to the brain, and that compression in some part is induced. In fine, a compression of the brain may be brought on by whatever contributes to diminish the cavity of the cranium, or increase its contents in any considerable degree: hence fractures, attended with depression of any part of its bones, forcible introduction of any extraneous body through both tables of the skull, the effusion of blood, serum, pus, or any other matter, the thickening of the bones of the head produced by lues venerea, collection of water in the ventricles, or other parts of the brain, may occasion this disease. For the cure of which see Concussio; Fractura cranii; Depressio, Extravasatio, Hydrocephalus; also Bell's Surgery, vol. iii. p. 132, &c.

Ce'rebri ba'sis. See Palatum.

Ce'rebri ga'lea. See Cranium.

CEREFO'LIUM, a corruption of Chærophyllum. See Cœlifolium, and Chærefolium.

CEREFO'LIUM HISPA'NICUM. See MYRRHIS.

CEREFO'LIUM SYLVE'STRE. See CHÆROPHYLLUM SYLVESTRE.

CERELÆ'UM, (from κηρος, *wax*, and ελαιον, *oleum*). See CERATUM et OLEUM CERÆ, under CERA.

CEREVI'SIA AMA'RA, and ANTISCORBU'TICA, (from *Ceres*,) as all ales are made of corn. See ALLA.

CEREVI'SIÆ CATAPLA'SMA. Into the grounds of strong beer stir as much oat meal as will make it of a suitable consistence. This is sometimes employed as a stimulant, and antiseptic to mortified parts.

CE'RIA, or CE'RIÆ, (from *cereus*, *soft taper*). See TÆNIÆ.

CE'RION, κηριον, *a honey comb*, (from κηρος, *wax*). See ACHOR.

CERI'TUS, or CERRI'TUS, (from Ceres,) the disease arising from malt liquors.

CE'RNUUS, (from *cernuo*, *to fall with the face downwards*). In botany it means bent downwards, drooping, hanging down its head.

CERO'MA, et CERO'NIUM. See CERATUM.

CEROPI'SSUS, (from κηρος, *wax*, and πισσα, *pitch*). Also called *dropax*, *dropacismus*. A plaster of pitch and wax. It was usual to spread it on cloth or leather, and to apply it to some part of the body, then to pull it off again and apply it afresh, frequently renewing the application and removal, to induce a redness on the part and attract the fluids which nourish it. To render this plaster the more efficacious, acrimonious powders were added to it. This DROPAX was also used to make hair fall off, or to pull it off from any part. But the ingredients for the dropaces were pitch, oil, bitumen, galbanum, and other stimulants.

CERO'TUM, (from κηρος, *wax*). See CERATUM.

CE'RRO, (from κερας, *cornu*, because its wood is hard like horn). See PHELLODRYS.

CERU'MEN AU'RIS, (from *cera*, *wax*). The WAX in the EARS. The Latins call it *cerea*, *aurium sordes*, and *marmorata aurium*, *cyfisele*, *cyfiselis*, *fugile*. It inviscates, and retains insects, and prevents their hurting the membrana tympani. It is a yellow, oily, bitter, and viscid fluid, which is inspissated by stagnation, softens by heat, and evaporates in a white smoke, whose odour resembles that of burning fat. By a continuance of the heat, it melts, swells, grows dark, and emits an ammoniacal and empyreumatic odour. It mixes with water, forming an emulsion, which, on putrefaction taking place, deposits white flakes. Alcohol dissolves more than half; and, when evaporated, a deep coloured substance remains, nearly resembling the resin of bile. What the alcohol does not dissolve appears to be albumen, which, when burnt, leaves marks of soda and phosphat of lime. Æther dissolves it, but the solution is less coloured; so that, added to these ingredients, it seems to contain a peculiar colouring principle. It is separated from the glands in the part of the ear in which it is found. It is fluid when first discharged, but soon thickens by stagnation. Wax, under some circumstances, occasions deafness. See SURDITAS.

CERU'SSA. So called because it was a pigment made by dissolving lead in vinegar, and formed of the consistence of wax; hence κηρος, κηροειs, κηροσσω,—undè κηρυσσα. See PLUMBUM.

CERU'SSA ANTIMO'NII. See ANTIMONIUM.

CERVA'RIA, and CERVA'RIA NI'GRA, (from *cervus*, *a stag*, because deer are fond of it). See LASERPITIUM VULGATIUS, et OREOSELINUM.

CE'RVI SPI'NA. See RHAMNUS.

CERVICA'LES, belonging to the neck, (from *cervix*, *the neck*,) the nerves which pass through the vertebræ of the neck.

The first *cervical nerve* throws out a considerable branch to the occiput; supporting, in some degree, the idea of Gall: it joins the ninth pair from the brain, to form the first *cervical* ganglion of the intercostal.

The second *cervical nerve* hath a very remarkable plexus; it sends out a *very considerable nerve to the occiput, as well as the first*. It sends off three branches behind the sterno mastoideus, where they are entangled with the accessorius Willisii. The first branch, going upward and backward, becomes cutaneous on the posterior parts of the temporal and parietal bones. The second goes upward, and a little forward under the sterno mastoideus, and throws branches to the parotid gland, to the lobe, and to the posterior side of the ear. The third goes horizontally forward to the neck, and there becomes a cutaneous nerve, which is sometimes pricked in opening the external jugular vein.

The third *cervical nerve* goes downwards by a number of filaments towards the shoulders, and produces the phrenic nerve, which runs towards the thorax, before the anterior portion of the scalenus, between the subclavian artery and vein, contiguous to the trunk of the par vagum; passes down before the root of the lungs, follows the pericardium, and branches out in the diaphragm. That on the right is shorter than that on the left, as the latter goes round the apex of the heart.

The four inferior pairs, since a similar nerve arises on both sides, are larger than those already named. Their main trunk, with the first nerve of the back, passes between the portions of the scalenus over the first rib, into the axilla, where they produce six trunks, which go to the upper extremities. In their way thither they detach branches to all the arteries.

The first of these six branches is the HUMERA'LIS, which follows the course of the artery of that name, round the head of the os humeri.

The second is the CUTA'NEUS, which runs down the inside of the arm, and goes into the fore arm, just where we open the basilic vein, and is often wounded.

The third is called the MUSCULO CUTA'NEUS, and is larger. It rises pretty high, and throws branches into the coraco brachiæus, through which the trunk passes obliquely; it is then covered by the biceps, and, passing through between the brachiæus and biceps, it sends off several branches, and lies on the outside of the tendon of the last mentioned muscle, where we commonly bleed in the median cephalic vein.

The fourth is called CUBITA'LIS, or ULNA'RIS, the *ulnar nerve;* it follows the course of the artery, but passes gradually backwards, and gets behind the inner condyle of the os humeri, betwixt which and the olecranon it passes to the fore arm. A little above the carpus it divides into an anterior and posterior branch, which goes to the palm, the back of the hand, and fingers. See, under CUBITALIS, Cheselden's account.

The fifth branch, called MEDIA'NUS, the *median nerve*, passes down contiguous to the brachial artery, and, accompanying the vessel, goes to the fore arm

and to the palm of the hand, thence to the thumb and fingers.

The sixth branch, called the RADIA'LIS, *radial nerve*, passes down the inside of the arm, and then backwards between the brachiæus externus, and the short heads of the biceps externus, attended by the artery. When it hath got round, it runs down; and, at the head of the radius, it gives off a cutaneous branch, which goes to the thumb and fingers on the back of the hand, whilst the main trunk passes round the head of the radius through the supinator radii brevis, and goes betwixt the radius and ulna, to be lost in the extensor digitorum communis, and the muscles of the carpus and thumb.

CERVICA'LES ARTE'RIÆ. The ARTERIES of the NECK.

The *cervical artery* rises from the subclavian on its upper side, and is presently afterwards divided into two, which sometimes come out separately, and at others by a small common trunk; the anterior goes to the anterior muscles which move the neck and head, the posterior to the scalenus, trapezius, &c.

The *anterior cervicalis*, running behind the carotid of the same side, is distributed to the musculus coracohyoidæus, mastoidæus, cutaneus, sterno-hyoidæus, and sterno-thyroidæus, to the jugular gland, and aspera arteria; the muscles of the pharynx, bronchia, œsophagus, and to the anterior muscles, which move the neck and head. This artery has been observed to send out the intercostalis superior.

The *posterior cervicalis* arises sometimes a little after the vertebralis, and sometimes from that artery. It passes under the transverse apophysis of the last vertebra of the neck, and from thence runs up backward, in a winding course, on the vertebral muscles of the neck, and then returns in the same manner. It communicates with a descending branch of the occipital artery, and with another of the vertebral, about the second vertebra. It is distributed to the musculi scaleni, angularis scapulæ, and trapezius, and to the jugular glands and integuments.

CERVICA'LES VENÆ. The CERVICAL VEINS. They are branches from the upper external jugular veins, or from the vertebral veins: they spread in the vertebral muscles of the neck, and communicate with the humeralis and occipitalis.

CERVICA'LIS DESCE'NDENS, DO'RSI. See SACRO LUMBARIS ACCESSORIUS.

CERVICA'RIA, (from *cervix*, *the neck*, so named because it was supposed to be efficacious in disorders of the neck and throat). BELL FLOWER, or CAMPANULA.

The flower consists of one petal or flower leaf, shaped like a bell: before it is blown it is of a pentagonal figure, and when fully opened it is cut into five segments at the top. The summit of the pedicle is expanded into an ovary, whose apex is crowned with a monophyllous quinquifid calyx, divided into five long segments. The seed vessel is for the most part divided into three cells, each having a hole at the bottom, by which the seed is emitted.

Campánula esculénta. SMALL OR GARDEN RAMPION. *Campanula rapunculus* Lin. Sp. Pl. 232.

The roots are used in salads.

Medium, viola Mariana Lin. Sp. Pl. 236. Syrian BELL FLOWER.

Trachélium, (from τραχηλος, *the throat*,) *campánula vulgárior májor.* GREAT THROAT WORT, and CANTERBURY BELLS. *Campanula trachélium* Lin. Sp. Pl. 235.

The root is very moderately astringent.

CERVI'CULÆ SPI'RITUS, (from *cervus*, *a stag*). Rulandus gives this appellation to the spirit of the bone of a stag's heart.

CE'RVIX. Usually confined to the back part of the neck; hence derived by some from *curvus*, *crooked*; but, by others, quasi *cerebri via*, as the road leading to the brain; also *collum*, the NECK. This is applied figuratively to different parts; and there is the *cervix vesicæ*, *uteri*, *ossis*. (See VESICA, UTERUS, and PROCESSUS). But, in its general acceptation, it means that part of the body situated betwixt the head and breast.

The *neck* is divided into the anterior part or *throat*, and the posterior or nape. It contains the *larynx*, a part of the trachea arteria, the pharynx, part of the œsophagus, the musculi cutanei, sterno-mastoidæi, sterno-hyoidæi, hyo-thyroides, coraco-hyoidæi, splenius, complexus, the musculi vertebrales, which lie upon the first seven vertebræ, and a portion of the medulla spinalis.

The ARTERIES which go to the *neck*, are the arteriæ carotides externæ, et internæ, vertebrales, et cervicales. The VEINS are, the venæ jugulares externæ et internæ, cervicales, et vertebrales. The NERVES are, the portio dura of the auditory nerves, the eighth, ninth, and tenth pair, the seven cervical pairs, and the nervi sympathetici maximi.

A contraction of the neck to one side is among the disorders to which it is subject. Tulpius calls this contraction CAPUT OBSTIPUM; but it is a species of *contractura:* he hath removed this disorder in those who had exceeded their twentieth year, and were born with it: others have had the same success.

This disorder is usually described under the title of the WRY NECK. It proceeds from burns, a stricture in the skin, a relaxation of some of the muscles in the neck on one side, or a contraction of them on the other; but the most common cause is a contraction of the mastoid or sterno-mastoid muscle only.

If it depends on a paralysis on one side, the cure must depend on that of the disease: if from inflammation, external blisters and stimulants are employed. In general, emollients on the contracted part, and stimulants on the opposite, afford the most probable means of relief. Electrical sparks, drawn from the relaxed side, are also often useful; and the contracted muscle should be kept at its full extent of distention, by a bandage keeping the head steady in the opposite direction.

If these remedies fail, two or three incisions transversely through the skin, where it is contracted, may be made. If the cause is from several muscles being contracted, the cure will be more difficult; but if there is a contraction of the mastoid muscle only, or, as called by some, the sterno-mastoid muscle, the cure is effected by dividing it.

In this operation, Mr. Sharpe directs us "to make a transverse incision through the skin and fat, something broader than the muscle, and not above half an inch from the clavicle; then passing the probed razor with care underneath the muscle, draw it out, and cut the muscle. After the incision is made, the wound is

to be filled with dry lint, and always dressed so as to prevent the extremities of the muscles from re-uniting; to which end they are to be separated from each other as much as possible, by the assistance of a supporting bandage for the head during the whole time of the cure, which will generally be about a month."

Mr. Pott directs to cut through the muscle as near the middle as may be, taking care not to wound the carotid artery, nor the jugular vein. Dr. Hunter prefers making the incision near the sternum: he says, that at the lower part of the muscle it is best to perform this operation, because, there, the cellular membrane is not in any great proportion. Mr. Sheldon advises us not to use the razor above named, as we may endanger cutting the carotid artery, the jugular vein, and the eighth pair of nerves. He prefers the incision knife, to cut gently in a transverse direction; in that case the fibres will fly from the edge of the knife, and, with a moderate attention, the dangers just mentioned will be avoided. See Bell's Surgery, vol. iv. p. 366. White's Surgery, p. 387.

CE'RVUS, (from κερας, *cornu*; so called because of the exuberance of its horns). The STAG, HART, or MALE of the red deer. The flesh of these animals, until they are three years old, is excellent. The bone of the stag's heart, called *crux cervi*, from its shape being that of a cross, is only the tendons of the muscles of its heart hardened. This bone, as it is called, should be very white.

Balls are formed in their stomachs from the hairs which they swallow when licking themselves. These balls are called *elaphoptila*. See CAPRA ALPINA.

The tears of a stag are the sordes collected in the inner angles of the eye, resembling wax. This matter hath many virtues ridiculously attributed to it, and is given in doses of three or four grains.

CE'RVUS DA'MA. See DAMA.

CER'VUS MI'NOR AMERICA'NUS BEZOA'RTICUS. The deer which produces the West Indian *bezoar*, q. v.

CE'RVUS ODORA'TUS. See MOSCHUS.

CE'RVUS RANGI'FER. The REIN DEER, called by some authors *tarándus*, and *máchlis*. It is an animal very common in all the northern regions, of the shape of a stag, but its body is thicker, and its whole make much more robust and strong. It is of great use as a beast of carriage to the Laplanders, and almost all the northern nations. Scheffer alleges, from Tornæus, that though a cloven footed animal, and plainly of the deer kind, it does not chew the cud; but this is wholly disbelieved by the more accurate naturalists. Its horns and hoofs have been said to be of use in spasmodic affections.

CESTRE'US. See MUGILIS.

CESTRI'TES VINUM, (from κεστρεον, *betony*). Wine impregnated with betony.

CE'STRUM, (from κεστρεα, *a dart*; so called either from the shape of its flowers, which resemble a dart, or because it was used to extract the broken ends of darts from wounds). See BETONICA.

CETA'CEUS, (from *cete*, *a whale*). Cetaceous fishes are very large, bring forth a perfect animal instead of spawn: like viviparous animals, they respire by means of lungs, and nourish their young with milk.

CE'TE, (from the Chaldæan word *kota*). This term is usually applied to the spermaceti whale; *physeter macrocephalus* Lin. See SPERMACETI.

CE'TERACH. See ASPLENIUM.

CE'TUS. See CETE. The WHALE. There are many kinds of this fish; but the two principal are the Greenland whale: also called *balæna vulgaris*, *balæna major*, *musculus*; according to Pliny, *mysticetus*: the GREENLAND, or BLACK WHALE. The spermaceti whale is the *physeter macrocephalus*.

It is from the upper jaw that *whale* bone is taken, and from no other part of this fish. Besides this bone, its only produce is its oil, used for burning in lamps, but of no use in medicine. In Paris, they have two sorts of *whale* oil: the best is called *huile de grande baye*: it is made from the blubber immediately after it is taken out of the fish, and is not so offensive in smell as that from Holland, which is melted down after their arrival.

The latter also called *cachalot*, *catodon*, from having teeth only in the lower jaw, *balæna macrocephala*, *trompa*, *byaris*, *occa*. The SPERMACETI WHALE does not afford any *whale* bone; but its teeth are ivory. From its body it yields a finer oil than that from the Greenland species; as well as SPERMACETI, q. v.

CEVADI'LLA, (from *cevada*, *barley*, Spanish). Called also *sebadilla*, *sabadilla*, *causticum Americanum*, *hordeum causticum*, *canis intersector*. INDIAN CAUSTIC BARLEY. *Veratrum sabadilla*, not included in the Species Plantarum. It is the seed vessel of a Mexican plant; like a *barley* ear, but with seeds not exceeding the size of lintseed. They are reckoned the strongest of the vegetable caustics. Monardes says, that for destroying vermin, and as a corrosive for some kinds of ulcers, they are equally effectual with the actual cautery. Dale thinks the capsula of the seed only is used: the taste is, however, bitter and acrid; in quality highly drastic, and powerfully anthelmintic. It is also diuretic and emetic. The dose to a child from two to four years old, is two grains; from hence to eight, five grains; from eight to twelve, ten grains.

CE'VIL. See LUDUS HELMONTII.

CHA'A. See THEA.

CHACARI'LLA. See THURIS CORTEX.

CHÆREFO'LIUM, CHÆROPHY'LLUM, (from χαιρω, *to rejoice*, and φυλλον, *folium*, *a leaf*, so called from the abundance of its leaves). Called also *cerefolium*, *gingidium*; COMMON CHERVIL. It is the *scandix cerefolium* Lin. Sp. Pl. 368. It is an umbelliferous plant, with winged leaves, like those of parsley, producing smooth long seeds, shaped like a bird's beak; a native of the southern parts of Europe, sown annually in our gardens, and slightly aromattic, aperient, and diuretic, differing not from parsley in its medical virtues. Distilled with water, it affords a small quantity of essential oil.

CHÆREFOLIUM SYLVE'STRE PERE'NNE CICU'TÆ FO'LIO, *Cicutaria*, *vulgaris*, *myrrhis sylvestris*, *cærefolium sylvestre*; WILD CICELY; COW WEED. *Chærophyllum sylvestre* Lin. Sp. Pl. 369. The roots are poisonous, causing difficulty of breathing, torpor, and delirium. The roots resemble parsnips, and are called by the country people MADNIPS. The leaves resemble those of hemlock.

CHAIARXA'MBAR. See CASSIA FISTULARIS.

CHAI'TA. Properly the name of quadrupeds; but Rufus Ephesius expresses by it the hair of the hind head.

CHA'LAPA. See JALAPA.

CHALA'SIS, (from χαλαω, *to relax*). See RELAXATIO.

CHALA'STICA MEDICAME'NTA, (from the same). Relaxing medicines.

CHALA'ZÆ, and CHALA'ZIA, (from χαλαζαι, *hail stones; grandines lupiæ*). This name is given to a white knotty string at each end of an egg, formed of a plexus of the fibres of the membranes, by which the yolk and the white are connected: it is sometimes called *arquatum*.

It is also a species of the hordeolum. Stye, stian, or stithe, a moveable, hard, white, encysted tumour on the margin of the eye lid, resembling a hail stone; and differs from the *crithe*, another species, only in being moveable. It continues long, and proceeds slowly, and is often merely an enlargement of one of the sebaceous glands in consequence of obstruction; but occasionally of a more solid consistence. Sometimes it may be dispersed with the unguentum cœruleum fortius, and with a few roses of calomel. If they fail to relieve, make an incision through the skin which covers them, and dissect the tumour clearly out, or touch the skin over them with caustic, until the whole is wasted. See St. Yves on the Disorders of the Eye. Bell's Surgery, vol. iii. p. 264. Nos. Meth. Ocul. of Dr. Wallis, p. 4.

CHALBA'NE. See Galbanum.

CHALCA'NTHUM, (from χαλκος, *brass*, and ανθος, *a flower*). Flowers of brass. See Vitriolum.

CHALCEDO'NIUS, is the name of a medicine, which Galen directs to be used in disorders of the ears. Also a species of onyx stone brought from Chalcedon.

CHALCI'TIS, (from χαλκος, *brass*). The native is said to be a vitriolic mineral, containing copper and iron, of a copperish colour. As it cannot be procured, Dr. Alston thinks that its best succedaneum is the *chalcitis officinárum*. See Vitrioli colcothar, and Vitriolum viride.

CHALCOI'DEUM, Os. The os cuneiforme of the *tarsus*. See Cuneiforme os.

CHA'LCOS. See Æs.

CHA'LCUTE. Burnt brass. See Æs ustum.

CHALICRA'TON. Wine and water, (from χαλις, an old word that imports *pure wine*, and κιρναυμι, *to mix*).

CHALI'NOS. Bridle. This word is sometimes used to express that part of the cheeks which, on each side, is contiguous to the angles of the mouth, as the part where the bridle of a horse is placed.

CHALYBEA'TÆ A'QUÆ. See Aquæ minerales.

CHALY'BIS RUBI'GO and SAL. See Ferrum.

CHA'LYBS, (from *Chalybes*, a people of Pontus, who dug iron out of the earth). Steel; called also *ácies*. As a medicine, it differs not from iron. (V. Ferrum.) See Neumann's Chemical works, the Dictionary of Chemistry.

Cha'lybs tartariza'tus. See Ferrum.

CHA'MA, (from χαω, *to gape;* so named from its wide mouthed shell). Bastard cockle; called also *glycimeris magna*, and *chama glycimeris*. They are found in the Mediterranean sea, and are similar to our common *cockle*, and other shell fish.

CHAMÆ'ACTE, (from χαμαι, *upon the ground*, ακτη, *the elder*). See Ebulus.

CHAMÆBA'LANOS, (from χαμα, and βαλανος, *a nut*). See Orobus.

CHAMÆ'BATOS, (from χαμαι, and βαινω, *to go;* so called from its creeping along the ground). See Rubus vulgaris.

CHAMÆCE'DRYS, (from χαμαι, and κεδρος, *cedar*). See Arbrotanum fœmineum.

CHAMÆCE'RASUS, (from χαμαι, and κερασος, *cherry tree*). See Caprifolium.

CHAMÆCI'SSUS, (from χαμαι, and κισσος, *ivy*). See Hedera terrestris.

CHAMÆCI'STUS, (from χαμαι, and κυστος, *cystus*). *Panax chironium, consolida aurea; cistus helianthemum* Lin. Sp. Pl. 744. Little or dwarf cistus, or sun flower. It is vulnerary, and is supposed to make a good gargle in diseases of the throat.

CHAMÆCLE'MA, (from χαμαι, and κλημα, *ivy*). See Hedera Terrestris.

CHAMÆDA'PHNE, (from χαμαι, and δαφνη, *the laurel*). See Laureola mas.

CHAMÆ'DRYS, (from χαμαι, and δρυς, *the oak*). Germander. *Chamædrys minor repens; vulgaris.* Also called *quercula calamandrina, trissago; chamædrops* P. Æginetæ and Oribasii. Small germander, and English treacle. It is the *teucrium chamædrys* Lin. Sp. Pl. 790. Creeping germander.

The chamædrys is a small, creeping, shrubby plant, with square stalks, small, stiff, oval leaves, notched from the middle to the extremity, like those of the oak tree, set in pairs at the joints, and purplish labiated flowers, set thick together, wanting the upper lip. It grows wild in France, Germany, and Switzerland. It is sometimes found wild in England, but is generally raised by culture in gardens. It flowers in June and July.

The leaves and tops are slightly bitter and aromatic; and esteemed mildly aperient and corroborant. They have been held in esteem in uterine and rheumatic complaints; in intermittent fevers; scrofulous affections, and other chronic complaints. At present, however, they are little used. The best time for gathering this herb is when the seeds are formed, and the tops are then preferable to the leaves. When dry, the dose is from ʒss. to ʒi. Either water or spirit will extract their virtue; but the watery infusion is more bitter. This plant is an ingredient in the noted powder, called from the duke of Portland, of which we add the original receipt.

Take of the roots of round birthwort and gentian, the tops and leaves of small *germander*, lesser centaury, and ground pine, of each equal parts: powder them all together. Of this powder a drachm must be taken, in any convenient liquor, every morning, fasting, for three months; then two scruples for three months; and, after that, half a drachm for six months: and, to conclude the process, half a drachm every other day for a year. Ætius calls a powder similar to this, *antidotes ex duobus centaureæ generibus;* Cœlius Aurelianus, *diacentaurion.*

Experience, in general, hath tended to lessen the credit of this composition, which hath little more than its antiquity to support the character with which it was lately raised. It differs but little from the diacentaureon of Cœlius Aurelianus, the pulvis principis Mirandolæ, climax vel scala sacra, and others, of which an account is given in the Lond. Med. Obs. and Inq. vol. vi. p. 126, where also the origin of the duke of Portland's powder is traced back to these boasted remedies. We

need not add on this subject to our former observations on bitters, and on the gout cordial. See AMARA, and ARTHRITIS.

CHAMÆ'DRYS IN'CANA MARI'TIMA. See MARUM SYRIACUM.

CHAMÆ'DRYS FRUTE'SCENS. See TEUCRIUM.

CHAMÆ'DRYS FRUTICO'SA SYLVE'STRIS MELI'SSÆFO'LIO. See SALVIA SYLVESTRIS.

CHAMÆ'DRYS PALUSTRIS AL'BIUM REDO'LENS. See SCORDIUM.

CHAMÆ'DRYS SPU'RIA ANGU'STIFOLIA, vel LATIFOLIA. See VERONICA.

CHAMÆ'DRYS. A name of a species of caryophyllata, called *avens*.

CHAMÆLÆ'A, CHAMELÆ'A, (from χαμαι, *on the ground*, and ελαια, *the olive-tree*). WIDOW-WAIL. *Daphne Alpina* Lin. Sp. Pl. 510. A shrub, with leaves like the olive-tree. The juice is a powerful hydragogue and cathartic, but much milder than mezereon, and many other plants which belong to the same genus. If it is applied to the pubes and abdomen of dropsical patients, no medicine is said to be more effectual in promoting urine. See LAUREOLA FŒMINA.

CHAMÆLEA'GNUS, (from χαμαι, and ελαιαγνος, *the wild olive*). See MYRTUS BRABANTICA.

CHAMÆLEMA, (from χαμαι, and κλημα, *ivy*). See HEDERA TERRESTRIS.

CHAMÆLE'ON, (from χαμαι, *humi*, and λεων, *lion*; that is, *dwarf lion*). A lizard, supposed to be capable of changing its colour at pleasure. It is also the name given to some thistles from the variety and uncertainty of their colour, and to some metallic preparations from the same variety.

CHAMÆLE'ON ALBUS, &c. See CARDUUS PINEA and CARLINA.

CHAMÆLE'ON VE'RUM. See CNICUS.

CHAMÆLEUCE, (from χαμαι, and λευκη,) *the herb colt's foot*. See TUSSILAGO.

CHAMÆLI'NUM, (from χαμαι, and λινον, *flax*). See LINUM CATHARTICUM.

CHAMÆLI'NUM VU'LGARE. See KNAWEL.

CHAMÆME'LUM, (from χαμαι, and μηλον, *an apple*; because it grows on the ground, and has the smell of an apple). CAMOMILE. Galen calls it *euanthemon*. It is corruptly named *camomilla*. The following are the most common species.

CHAMÆME'LUM NO'BILE. Cham. Romanum *leucanthemum odoratius*, vel *odoratissimum repens*; by Dioscorides, *chrysocallia*; COMMON CAMOMILE. It is the *anthemis nobilis* Lin. Sp. Plant. 1260. Nat. order *compositæ radiatæ*.

It is found wild in moist pasture grounds in many parts of England, but is commonly cultivated in gardens. It flowers in July, August, and the following summer months; and the seeds come to perfection at the time of flowering. The leaves and flowers have a strong, though not ungrateful smell, and bitter taste. The flowers are more aromatic and bitter than the leaves and the stalks; the yellow disk is by far the strongest. The smell and taste are both improved by careful drying, and they lose very little by long keeping. These flowers are found to consist of a bitter extractive part, and an essential oil. The former is the tonic, and the latter the carminative portion.

The flowers only are used internally: they are bitter, carminative, anodyne, antispasmodic; of particular use in cold flatulent colics, especially if joined with aromatics; in nephritic, hysteric, hypochondriac, and other spasmodic disorders. The vomiting of breeding women, and the after-pains of parturition, are greatly relieved by them; and it has been idly supposed that they will prevent the accession of puerperal fever, and promote the uterine discharges. In agues, from half a drachm to ʒ i. of the powder is given every two or three hours during the intermission; but as this quantity is apt to run off by the bowels, it is usually joined to an opiate or astringent. The camomile is useful in spasmodic colics, and also in the dysentery, from its laxative power; but in diarrhœa it has been found hurtful. In fevers of the low and irregular kind, attended with visceral obstructions, especially when too nearly allied to continual fevers to admit of the bark, the camomile is assisted by a mixture of fixed alkaline salts, and other corroborating medicines. A warm infusion, from two to three ounces, taken twice a day, has been efficacious in relieving pains of the stomach. In much larger quantity, it excites vomiting, and promotes the operation of emetics; for which purposes it is frequently given. In general, camomile flowers possess in a very great degree all the virtues of bitters (see AMARA), rendered more effectual by the warmth of the bitter oil, while, from the total absence of the astringent principle, they are of considerable service in pulmonic affections. They seem superior in most respects to the quassia, the columbo, to the angustura bark, and perhaps the myrrh; yielding perhaps only to the columbo, where bile abounds in the stomach. If it proves purgative, the best addition is the extract of the logwood. Externally, the flowers are used in the decoction for fomentation, and are also an ingredient in the decoction for clysters.

The dose may be from gr. x. to ʒ i. of the dry powder; of the fresh juice from the whole herb, from one to six ounces, which, if taken just before the paroxysm of agues, is said to be effectual in a few doses. This juice is supposed to be peculiarly useful in strangury, asthmas, jaundice, and dropsies.

Camomile flowers yield their virtue to water and to spirit: the dry flowers make a more agreeable infusion than those that are fresh or newly dried; and the most grateful is when cold water only is used. Distilled with water, they impregnate it strongly; and, from the flowers, a small proportion of essential oil may be thus obtained. This oil is of a yellowish colour, and possesses all the virtues of the flowers in an eminent degree.

Externally, this herb is discutient and antiseptic; but the flowers possess the greatest degree of these qualities. Dr. Pringle says, that their antiseptic power is 120 times greater than that of sea salt.

A green oil is prepared from the herb, while it is fresh, in April and May at furthest, by boiling it with olive oil until the leaves are almost crisped: but as boiling dissipates the most efficacious part of the herb, the best method is to steep the flowers cold in the oil, and to strain it off as it is wanted.

Extráctum Chamæméli. EXTRACT OF CAMOMILE, is prepared by boiling the flowers in distilled water,

pressing and straining the decoction. When the fæces have subsided, the decoction is evaporated in a water-bath saturated with sea salt, to a consistence proper for making pills. Lond. Pharm. 1788. This extract is remarkably antiseptic, according to the experiments of Sir John Pringle; and in doses of one or two scruples, either given by itself, or added to other remedies, proves highly beneficial in flatulence, indigestion, and pains of the stomach and bowels. In the same manner have the college of physicians of London ordered the extract of broom tops, gentian, black hellebore, liquorice, rue, and savine, to be made. But if the extract of this flower is obtained from a spirituous tincture, it retains much of its flavour, as well as its bitter taste. Lewis's and Cullen's Mat. Med.

CHAMÆME'LUM VULGA'RE, *leucanthemum* Dioscoridis; COMMON WILD CORN, OR DOG'S CAMOMILE. It is the *matricaria chamomilla* Lin. Sp. Pl. 1256. It is upright, annual, and grows wild in corn fields. In France, and other countries on the continent, its flowers are used indiscriminately with the other species, but they are weaker and more disagreeable. The oil obtained from this species, by distillation, is of a fine blue colour, but the air soon changes it to a yellow.

CHAMÆME'LUM FLO'RE PLE'NO, called also *chamæmelum nobile flore multiplici*, and DOUBLE CAMOMILE. *Anthemis nobilis var. β.* They are produced by culture, and differ in their flowers from the Roman camomile above described in being double, or having several rows of the white petals, and the thick disk proportionably smaller. Sometimes the disk is filled with the petals.

The single and the double flowered sorts are often used indiscriminately: their leaves differ very little; but as the active parts chiefly reside in the disk or tubular part of the florets, which in the single flowers are largest, the latter are generally preferred.

The single sort affords most oil.

CHAMÆME'LUM FŒTIDUM, called also *cynanthemis*, *cotula fœtida*, *anthemis cotula* Lin. Sp. Pl. 1261. STINKING CAMOMILE, MAITHS, and MAY-WEED. It is annual, growing in waste grounds and amongst corn. It is more upright than the other species; its leaves are finer, and flowers closer.

In its qualities it differs greatly from the three preceding. Its smell is disagreeable; its flowers are almost insipid, but the leaves have a strong, acrid, harsh taste. It has been esteemed strongly sudorific. Dr. Brown Langrish gives an account of a decoction of this plant, recommended by a gypsey, throwing a person affected with a rheumatism into a profuse sweat, and curing him of the disease.

CHAMÆME'LUM CANARIE'NSE. The *leucanthemum Canariense*. *Chrysanthemum frutescens* Lin. Sp. Pl. 1251.

CHAMÆME'LUM CHRYSA'NTHEMUM. See BUPHTHALMUM GERMANICUM.

CHAMÆME'SPILUS, (from χαμαι, *on the ground*, and μισπιλυς, *a medlar*). See ARIA.

CHAMÆMO'RUS, (from χαμαι, and μορια, *moros*, *a mulberry tree*). Called also *chamæ-rubus foliis ribis Anglicæ*, *rubus palustris humilis*, *vaccinium Lancastrense*, *rubus Alpinus humilis Anglicus*. *Rubus chamæmorus* Lin. Sp. Pl. 708. CLOUD-BERRY, and KNOT-BERRY.

It is a shrub which grows on boggy mountains in England, and more northern regions; the leaves resemble those of the mallow or of the currant tree; the fruit is like the raspberry; when ripe it is sweet, tart, and of a yellowish red. It ripens in July and August. When ripe and boiled, without any addition, to the consistence of a pulp, it will not soon spoil, if closely covered in pots; and, as an antiscorbutic, far excels the scurvy grass, and vegetables of that tribe in common use.

The *chamæmorus Norwegiæ* is a variety of the same species. Raii Hist.

CHAMÆPEU'CE, (from χαμαι, and πευκη, *the pine tree*). See CAMPHORATA.

CHAMÆPITUI'NUM VI'NUM. It is wine in which the bruised green leaves of the chamæpitys have been infused.

CHAMÆ'PITYS, CHAMÆPITY'S MAS, (from χαμαι, and πιτυς, *the pine tree*.) *Arthetica* vel *arthretica*, *ajuga*, *abiga*; *iva arthritica*. Dioscorides says, that it was called *holocyron* in Pontus, *Ionia* in Athens, and *sideritis* in Eubœa. COMMON GROUND-PINE. It is the *teucrium chamæpitys* Lin. Sp. Pl. 787.

It is a low hairy creeping plant, with square stalks, whitish clammy leaves, cut deeply into three narrow segments, set in pairs at the joints, and yellow labiated flowers without pedicles, and wanting the upper lip. It is annual, grows wild in sandy and chalky grounds in some parts of England; flowers in July and August, and has a long slender fibrous root.

The leaves are moderately bitter, of a resinous but not disagreeable smell, approaching in this respect, as in their external form, to those of the pine tree. They are aperient, stimulant, and corroborant; are commended in palsies, rheumatisms, gout, and uterine obstructions; are attenuating and diuretic, and in general of similar virtues with the chamædrys, but more active from an admixture of an essential oil similar to turpentine.

They yield their virtue to water, but somewhat more fully to spirit: on distillation with water, a very small portion of essential oil is obtained, resembling that from turpentine. An infusion of the dried herb in white wine is the best preparation, but the dried leaves may be taken to a drachm for a dose. They are an ingredient in the pulvis ad rheumatismum. See CHAMÆDRYS.

CHAMÆ'PITYS MOSCHA'TA, also called *iva moschata Monspeliensium*; *chamæpytis anthyllis*. *Teucrium iva* Lin. Sp. Pl. 787. FRENCH GROUND-PINE.

It is weaker, but of similar virtues. See CHAMÆPITYS.

CHAMÆ'PLION. A name in Oribasius for the ERYSIMUM, which see.

CHAMÆRAPHANUM, (from χαμαι, *on the ground*, and ῥαφανος, *the radish*,) the upper part of the root apium (P. Ægineta). It is also the dwarf radish.

CHAMÆRI'PHES. See PALMA MINOR.

CHAMÆRODODE'NDRON, (from χαμαι, *on the ground*, and ῥοδοδενδρον, *the rose laurel*). See ÆGOLETHRON.

CHAMÆRU'BUS, (from χαμαι, and *rubus*, *the bramble*). See CHAMEMORUS.

CHAMÆSPA'RTIUM, (from χαμαι, and σπαρτιον, *Spanish broom*). GENISTE'LLA. See GENISTA TINCTORIA.

CHAMÆSY'CE, (from *χαμαι*, and *συκη*, *a fig tree*). See Peplion.

CHA'MBROCH. See Trifolium.

CHA'MOIS. See Capra Alpina.

CHAMOMI'LLA. See Chamæmelum.

CHA'MPACAM. (Indian.) A large tall tree in the East Indies, which bears fragrant flowers twice a year, and not fruit until it is advanced in age. Ray thinks it is the champaca of Bontius. *Michelia champaca* Lin. Sp. Pl. 756. The dried root of its bark is an emmenagogue: the flowers are reckoned cordial.

CHA'NCRE, a canker, (French); called also *caroli*. The ancients called such ulcers on these parts *caries pudendorum*.

The small irritable pustules which have obtained this appellation do not appear at any certain period after the application of the virus; sometimes they form in less than twenty-four hours; at others not before six weeks; but most frequently from four to ten days, and are at first seldom larger than a millet seed. They occasionally make their appearance over all the parts of generation, and, in some instances, even on the contiguous parts, as on the scrotum, all over the penis, and on the lowest region of the abdomen. They may indeed form on all the soft parts of the body; but they are most frequently seated on the glans penis, and on the prepuce, near to its connection with the glands; often about the frænum, and in some instances on the very point of the glans, and even within the verge of the urethra; here, as well as near the frænum, they prove always very troublesome, and more difficult to cure than in other parts of the penis. The colour, quantity, and consistence of the matter, are exceedingly variable. It is usually of a dirty yellow green colour, often tinged with red. Sores of this kind are sometimes of a simple innocent nature, and they usually heal in the course of a short time, merely by being kept clean; whilst they will gradually become worse, if they are venereal, should mercury not be employed, or if they are not treated with escharotic or astringent applications. A real venereal chancre is seldom so large at the first as the base of a split pea, and the edges of the sore are elevated, somewhat hard and painful: still, in some few instances, we observe a slight superficial ulceration, not attended with either pain or hardness, and which, by the consequences alone, we find to be venereal. In general, however, such sores are not venereal, and the want of hardness and of painful irritability are the chief distinctions.

There are other chancres, which become suddenly elevated into extensive vesications, containing a clear lymph, but more frequently tinged with blood; from this livid appearance, these chancres are judged of a more dangerous nature than others; but the colour depends entirely on the blood being mixed with the serum; and on their contents being discharged, the parts beneath appear clean, the surface is only excoriated, without being affected in any other manner. In women, chancres exactly resemble those in men, and occur chiefly on the internal parts of the labia pudendi, nymphæ, clitoris, and the entrance of the vagina and urethra; but seldom or never within either of these passages.

If a chancre is seated in the urethra, it may be mistaken for a gonorrhœa, but may be distinguished by the smallness of the discharge, the pain during erection being in the extremity of the penis, or a particular spot in the urethra, but principally by examining with the touch of a probe or bougie whether it is callous or not. In almost every instance, however, a chancre never occurs in the urethra, except it be within the reach of the sight, often of the touch.

When a venereal chancre, distinguished by its appearance, its hardness, and its painful irritability, occurs, it is seemingly the first object to crush the disease in its bud. It has been indeed doubted whether in that state absorption takes place; but we need not discuss the question, since no prudent practitioner would agree to omit internal remedies; and in the inquiry into the previous symptoms, the appearance of a chancre leads most decisively to the use of internal mercurials.

If, indeed, after exposure to infection, an ulceration appear, it is most probably only a local affection; and a cure might be effected by a very superficial dressing; yet as we have no means of being certainly safe, the cure of even the slightest chancre should never be trusted to external remedies. In every case of ulcerated chancre not attended with much inflammation, after wiping the sores as clean as possible, let them be sprinkled well with the hydrargyrus nitratus ruber, finely powdered, and pledgets of any common ointment applied over it; and after two or three dressings, the ulcer will be generally clean, and nearly healed. Finely powdered calomel will be equally effectual, and the application is said to give a pleasing glowing warmth.

The free use of the lunar caustic is recommended highly in the cure of this complaint, and particularly in its incipient state: it effectually cures, by destroying the diseased parts, which soon become clean, and heal as quickly as sores proceeding from any other cause, and of the same magnitude. In general they are seldom troublesome but from the pain, and the great doubt is whether they should be suffered to remain as an index of the effects of mercury internally, or destroyed as local disease by a caustic. We have no doubt of advising the latter, since in a part where the circulation is languid, they may not be readily affected by internal mercurials, and we have equally certain guides of the necessary extent of a mercurial course. See Astruc on the Venereal Disease, or Chapman's Abridgment of Astruc, Heister's Surgery, Lond. Med. Trans. p. 337; and particularly Hunter and Bell on the Venereal Disease.

CHAO'VA. The Egyptian name for coffee. See Coffea.

CHA'RABE, (from *charaba*, Arab). See Succinum.

CHARA'CIAS, (from *χαραξ*, *a bulwark*, or *fence*). An epithet given to some plants which require support, as the vine, &c.

CHARA'CTER, (from *χαρασσω*, *to engrave.*) In botany and nosology it is that assemblage of marks by which the species of plants or diseases are distinguished from each other. Character signifies also an hereditary disposition to some particular disease.

In chemistry it is a mark importing a particular substance; or it is a sign invented to represent the principal substances and operations in a concise manner.

CHARA'NTIA. See Momordica.

CHA'RDONE. See Cinara spinosa.

CHARISTOLO'CHIA, (from χαρις, *joy*, and λοχια, *the flux of women after child-birth.*) So called from its usefulness to women in child-birth. See ARTEMISIA.

CHA'RME, CHA'RMIS, the name of a cordial antidote mentioned by Galen.

CHARO'NIUS, (from *Charon*, the boatman of the Styx, surrounded by noxious vapours.) CHARONIAN. An epithet for caves, some of which are in Italy, where the air is loaded with deleterious vapours.

CHA'RTA VIRGI'NEA. So called from its likeness to a piece of fine paper. See AMNION.

CH'ARTREUX, PO'UDRE DE, invented by some friar of the Carthusian order. See ANTIMONIUM.

CHA'SME, χασμη, (from χαινω, *to gape.*) See OSCITATIO. Hence, in English, a *chasm.*

CHA'TE. See CUCUMIS ÆGYPTIA.

CHAULIODO'NTA, (from χαυλιαω, *to throw out*, and οδον, *a tooth.*) So the Greeks call those animals whose teeth grow to a great length out of their mouths, as the boar and the elephant.

CHE'DROPA, (quasi χειρ, *manus*, δριπω, *colligo.*) A general term for all sorts of corn and pulse, because they are collected by the hand.

CHEILOCA'CE, (from χειλος, *a lip*, and κακον, *an evil.*) The LIP-EVIL. A swelling of the lips. See CANCRUM ORIS, and LABRI-SULCIUM.

CHEIME'TLON, (from χειμα, *winter.*) See PERNIO.

CHEI'MIA, (from the same.) COLD, SHIVERING.

CHEIRA'PSIA, (from χειρ, *the hand*, and απτομαι, *to touch.*) SCRATCHING.

CHE'IRI. So named from the likeness of its blossoms to the fingers of the hand; called also *leucoium luteum*, *viola lutea*, COMMON YELLOW WALL-FLOWER. *Cheiranthus cheiri* Lin. Sp. Pl. 924.

The stalks are woody and brittle; the leaves oblong, narrow, sharp pointed, smooth, and of a dark green colour; the flowers numerous, yellow, tetrapetalous, open successively on the tops, are followed by a long slender pod, containing reddish flat seeds. It grows wild on old walls and among rubbish, and flowers in April and May.

The flowers have an agreeable smell, but to the taste are nauseously bitter and pungent. Water takes up all their active matter; but no essential oil is obtained by distillation, though in this way a water is obtained that possesses much of the flavour of these flowers. They are reckoned among the nervines, deobstruents, diuretics, and antiparalytics.

CHEIRIA'TER, (from χειρ, *a hand*, and ιατρος, *a physician.*) A SURGEON; called also *chirúrgus*. Hence *cheiriáticus*, a term appropriated to chirurgical remedies and operations. V. CHIRURGIA.

CHEIRI'SMA, (from χειριζομαι, *to labour with the hand.*) HANDLING, or a manual operation.

CHEIRI'XIS. SURGERY.

CHEIRONO'MIA, (from χειρονομεω, *to exercise with the hands.*) CHIRONOMIA. An exercise mentioned by Hippocrates, which consists of peculiar gesticulations of the hands.

CHEIRUR'GUS, (from χειρ, *manus*, and εργον, *opus.*) See CHEIRIATER.

CHE'LA, (from χαω, *to take.*) A FORKED PROBE mentioned by Hippocrates for extracting a polypus from the nose. In Rufus Ephesius it is the extremities of the cilia; but most commonly it is used for claws, particularly of crabs. It also signifies fissures in the heels, feet, or pudenda.

CHEL. CANC. PULV. C. See CANCER FLUVIATILIS.

CHELI'DON, (from παρα το χειλεσιν αδειν, because it chatters with its lips or bill.) The SWALLOW. Also the hollow at the bend of the arm, from its shape.

CHELIDO'NIA, (from χελιδων, *the swallow*, because swallows are said to open the eyes of their young by it; or because it blossoms about the time in which these birds appear.) The GREATER and LESSER CELANDINES. See CHELIDONIUM MAJUS.

CHELIDO'NIUM. See BRIONIA ALBA.

CHELIDO'NIUM MA'JUS, *papaver corniculatum luteum*, TETTER-WORT, and GREAT CELANDINE. *Chelidonium majus* Lin. Sp. Pl. 723.

This plant hath longish leaves, divided to the rib into roundish and indented portions, of which those at the extremities are the largest, of a bright green colour on the upper side, of a bluish green underneath, full of a gold coloured juice, as are likewise the stalks; from the bosoms of the leaves issue long pedicles, bearing clusters of tetrapetalous yellow flowers, which are followed by brownish pods, containing flattish shining black seeds; the root is thick at the top, with a number of fibres at the bottom, externally brownish, internally of a deep yellowish red or a saffron colour: it is perennial, grows wild in hedges and shady places; flowers in May and June.

The leaves and roots have a faint unpleasing smell, and to the taste are bitter and acrid; they give out their active matter to spirit and to water: the pungency they possess is not of the volatile kind, for hardly any of it rises in distillation; yet it is lessened by drying the plant, and inspissating infusions of it. Drying wholly dissipates its smell.

It is aperient, diuretic, and useful in the jaundice, when not accompanied with inflammatory symptoms. The fresh juice is used to destroy warts and films in the eyes; but for this latter purpose it is diluted with milk. Of the dried root from ʒ ss. to ʒ i. is a dose; of the fresh root infused in wine or in water the dose may be about ʒ ss.

The decoction of the fresh root is used in dropsy, cachexy, and cutaneous complaints.

CHELIDO'NIUM MI'NUS, called also *scrophularia minor*, *ficaria minor*, *chelidonia rotundifolia minor*, *cursuma*, *hæmorrhoidalis herba*, *ranunculus vernus*, PILEWORT, and LESSER CELANDINE. *Ranunculus ficaria* Lin. Sp. Pl. 774.

It is a small plant, with roundish smooth shining green leaves, set on long pedicles; and slender procumbent stalks, bearing bright gold coloured solitary flowers of eight or nine petals which stand in three leaved cups, and are followed by clusters of naked seeds; the root consists of slender fibres, with a number of tubercles or little knobs. It is perennial, grows wild in hedges and moist meadows, and flowers in April.

The leaves are antiscorbutic, but are without smell, and have very little taste, though on chewing a slight pungency is perceived. The roots are reckoned a specific, if beat into cataplasms and applied to the piles; they yield a large portion of mucilaginous matter to water, are supposed to be diuretic, and to clear the skin

of tettery eruptions. Raii Synop. et Hist. *Othonna* has been supposed to be the juice of *celandine*.

CHELO'NE. A TORTOISE. It also imports a part of a surgical machine mentioned by Oribasius. An instrument to make a gradual extension of any fractured limb, in which motion it resembles the slowness of χελωνη, *a tortoise*. A plant also whose crest resembles a tortoise shell.

CHELO'NION. A HUMP BACK; so called from its resemblance to the shell of χελωνη, *a tortoise*.

CHELTENHAM WATER. This arises from a spring near Cheltenham in Gloucestershire; and is one of the most celebrated purging waters in England. When taken from the fountain, it is clear and colourless, but somewhat brisk; has a saline, bitterish, chalybeate taste; it strikes a vivid purple colour immediately on being mixed with an infusion of galls. Its heats is in summer from 53° to 59°, when the medium heat of the atmosphere was nearly 15° higher. When exposed to the air in an open glass vessel, it throws up a quantity of air bubbles, becomes turbid, and loses its brisk chalybeate taste and property of tinging an infusion of galls. On evaporation it is found to contain a calcareous earth, mixed with ochre, and a purging salt. In one gallon were found by Dr. Short 74 grains of calcareous earth mixed with ochre, and 673 grains of a purging salt. In the second experiment, 42 and 580; in the third, 70 and 622 respectively. Dr. Rutty found 36 grains of earth, 494 of salt, which was composed of vitriolated magnesia, and a small quantity of sea salt. Dr. Lucas, 4 grains of iron, 181½ grains of calcareous earth, mixed with a small portion of selenites, 362½ of salt of the nature of Epsom, but drier and finer. Dr. A. Fothergill found 480 grains of Glauber and Epsom salts, 5 grains of sea salt, 25 of magnesia, and 40 of selenite; together 550 of solid contents. The upper, or King's well, was discovered by the accidental sinking of a well after the king's residence there, by his command. The temperature of this water at eight in the morning, the beginning of August, was 54°. Its specific gravity was, at that temperature, 1059; and it boiled at 214½, when the barometer was at 29.60. Its sensible qualities were not very different from the other springs. It certainly contains a larger proportion of salts than the water usually employed; and the analysis of Dr. Jameson discovered the following contents: viz. sulphat of soda, 490 grains; sulphat of magnesia, 310; muriat of soda, 40; sulphat of lime, 38; carbonat of lime and magnesia, 34: in all 912 grains of salts, estimated in their crystallized state in a wine gallon of the water. This well seems to contain neither sulphur nor steel.

The principal diseases, for which the Cheltenham water is employed, are bilious; and to the Cheltenham wells resort those who from indolence, luxurious indulgences, a long residence in tropical climates, or other causes, labour under cachexy from a diseased, generally a scirrhous, liver. It is this state of the biliary system which is chiefly adapted for these waters; and they very successfully assist a mercurial course. In overflowings of bile also, particularly where this fluid regurgitates into the stomach, occasioning headach and sickness, it assists in discharging it regularly. In the first instance, the steel seemingly counteracts its debilitating power; and in the latter, the carbonic acid gas prevents it from producing vomiting.

In gout the Cheltenham water is also occasionally recommended; and the cooling tendency of the salts is supposed to be counteracted by the stimulus of the steel: yet, perhaps, it is chiefly adapted to those cases of gout connected with complaints of the liver; in reality, to the broken constitution, which is the cause of both. In all stomach complaints, in hypochondriasis, and chlorosis, it is said to be useful; and, probably, may be so, though there are apparently other medicines better adapted to them. In jaundice, in scorbutic eruptions of different kinds, in scrofula, and the diseases connected with it, this water is useful. In inflammatory asthma, in amenorrhœa and leucorrhœa, in hæmorrhoids, and nephritic complaints, in short, wherever constant cooling laxatives are necessary, this mineral water has been employed; but in many of these diseases it is not superior to sea water, and in some perhaps inferior.

As a purge, this water is drank from one to three pints; though in general from half a pint to a quart is sufficient. It operates with great ease.

CHE'LYS, (from χελυς, *a shell*). See PECTUS.

CHELY'SCION, (from χελυς, *the breast*). A SHORT DRY COUGH.

CHE'MA. Blancard says it is a certain measure mentioned by the Greek physicians, supposed to contain two small spoonfuls; the Athenians had one of two drachms, and another of three.

CHE'MIA, vel CHI'MIA, (from the Arabic term *chamiah*, from *chamah*, *to burn*). CHEMISTRY. Among the Greeks it was called χημια, χειμια, and χυμεια; the last of which hath been generally followed by the later writers on this subject, though the most approved editors and other learned men have preferred the former. The modern Greeks write χημια. It is also called *archimágia* and *pyrotéchnia*.

Though this branch of the science of nature is well known, the definition of chemistry has occasioned many discussions and tedious controversies. The first great object is to distinguish it from natural philosophy, a task which few authors have successfully performed; and we are on this account tempted to select the discriminating description of the Abbé Haüy, in the ablest system of natural philosophy yet published.

"When we consider," observes this author, "the general and permanent properties of bodies, or when the changes that these bodies undergo are slight, and they return to their former state, after the cause has ceased to act; when, also, the laws which determine the reciprocal actions of the same bodies are propagated to distances more or less considerable; the results of our observations are still within the confines of natural philosophy. But when the phenomena depend on the ultimate action which the molecules exert on each other, at distances almost infinitely small, by virtue of which the molecules separate to unite again in a different order, forming new combinations, with new properties, the study of the phenomena belongs to chemistry."

We seldom indulge ourselves with quoting the words of an author but for some particular object. This distinction, truly judicious and scientific, we consider as one of those positions on which we can securely rest, and to which we may have occasion to refer. At pre-

sent it serves only to introduce, and as a foundation for, a more precise definition of chemistry than any former author has offered. We shall consider chemistry, therefore, as comprehending the science of the mutual actions of the smaller particles of matter, either in decomposing natural bodies or producing new compounds. In this view, fire, electricity, and Galvanism, are its instruments only, and become the objects of chemistry when they enter into the composition of bodies; and in this view, also, the human body is a philosophical and chemical machine, though chiefly chemical. It sometimes partakes of both, in as much as its operations are carried on between particles at an indefinitely minute distance, but not always occasioning decomposition or new compounds with different properties.

Were we to treat of the history of chemical arts, we should be carried back to a very remote era: were we to speak of chemistry as a science, our history would scarcely yet have a beginning. Chemical arts do not imply chemical science; and we shall consequently overlook the fancies of those, who see in common operations the rudiments of what has since been so advantageously developed; who admire, for instance, the ingenuity of those ancient artists who could be so far instructed as to produce a scarlet dye, when they were in reality ignorant of such a colour.

The Egyptians, who have had the honour of inventing every science, probably without the accurate knowledge of any one, have appeared to claim chemistry as peculiarly their own. Plutarch tells us, that Egypt is called χημια, from its earth, like the black of the eye; but the name is more probably derived from *Ham*, as it is called by the psalmist *Al-chami*. The error arising from this name was fostered by the new Platonists, who forged works under the names of Hermes, &c. as those of the ancient Egyptians. Yet to these new Platonists we are perhaps indebted for many valuable facts. They were the first visionaries who aimed at changing the meaner metals to gold, a pursuit with which the discovery of an universal medicine was very early connected; and from them it was conveyed to the Arabians, by whom it was taught to Europeans. Themistius, the peripatetic, in the fourth century, and Æneas of Gaza, in the fifth, speak of these attempts; the former in his 'Oratio ad Valentinum,' the latter in his Dialogue entitled 'Theophrastus.' With them and with the Arabians the art remained; nor did it reach Europe till after the capture of Constantinople, for the name was unknown to the Grecians of Europe till the time of Julius Firmicus, who lived under Constantine the Great.

The Arabians applied this new science to medicine, though not to any considerable extent. Their practice was mild and timid; and had any more active medicine been discovered, it is not probable, from their general conduct, that they would have been its patrons. The works of Geber, Rhazes, Avicenna, and Mesue, have reached us; and from them, were not our limits confined, we might trace very accurately the state of medicinal chemistry at that time. It is enough to remark, that it added little to the powers of medicine, though somewhat to the convenience of the practitioner. We speak not now of the new medicines which they introduced.

In Europe, the art of making gold filled the minds of the chemists, or rather alchymists, to which they joined an almost equal anxiety to discover the universal medicine. This was sometimes supposed to be the same, sometimes a similar preparation; and as the former art depended, in their opinion, on the employment of mercury and antimony, many preparations of these metals must have occurred, and we can trace some of them at this time to these whimsical unintelligible works. Even among the alchymists, however, we perceive traces of sounder minds and more solid judgments mixed with their reveries; and the names of Albert von Bollstaedt, Roger Bacon, Raymond Lully, Albertus Magnus, Arnold of Villenuova, the Isaacs of Holland, and Basil Valentine (though probably not his true name), merit peculiar distinction. They mixed indeed the fancies, the superstitions, and the unintelligible language of the alchymists with their descriptions; but they discovered and detailed, often with precision, many valuable and important facts. The writings of Lully and Arnold, however, seldom merit the commendations which we have bestowed; and perhaps the praise of any portion of perspicuity might have been more limited. They were all of the thirteenth or fourteenth centuries.

The folly, the madness, and the wickedness of the alchymists, for their conduct at different times merited each title, continued without any considerable change. They worked in secret; and collected facts which were to supply at a future period the more rational chemists, but had little influence on the practice of medicine till the period of Paracelsus. This visionary of the sixteenth century burnt in solemn state the writings of Galen and his followers, professing to cure all diseases by chemical medicines alone. He was equally depraved in his moral, as he was insolent and ignorant in his medical, character. His precepts were generally dictated in fits of intoxication; and he owned to one of his favoured disciples, that he could not maintain his credit in any place above a year. He died in his forty-seventh year, boasting of having the power of prolonging his life to an indefinite period. From the mysticism of his language, many parts of which Dr. Motherby and his associate had preserved, and some specimens we have, perhaps with too great facility, retained, it will appear that little can be learnt from his works, which however, have been collected by his disciples in two volumes folio. He was succeeded in this path by Van Helmont, equally visionary as an alchymist, and more so in adopting the fancy of sympathetic medicine; but a man of talents, of observation, and, out of these departments, not without judgment. To Van Helmont, though nearly at the distance of a century from Paracelsus, and to Crollius, we owe the labours of Paracelsus in a more intelligible form; and we are certainly indebted to him for the invention or preservation of some very valuable chemical preparations. The original of Crollius appeared at Frankfort, in 1609, and was translated into English in 1670. Glauber, Kunkel, Kircher, and Conringius, were diligent and experienced chemists, who added greatly to the stock of facts, and to whom we are still indebted.

Chemistry, however, continued to be only a collection of detached facts, without any bond of connection, without any principle of union; nor, until the period of Becher and Stahl, did it assume the semblance of a

science. Becher died, like Paracelsus, at the age of forty-seven; but he had collected the various operations of chemistry, and united them by general principles: one of these was the supposition of phlogiston, which has only of late been, with reluctance, abandoned. Stahl, a man of singular talents, of an imagination lively and eccentric, but who wrote with a logical precision almost unexampled, assumed gratuitously the existence of this principle; and connected also, chiefly by its means, the numerous isolated facts of which chemistry then consisted. His cotemporary, Hoffman, applied this science, with more studied care, to medicine, and collected, with great anxiety, the labours of the more intelligent chemists who preceded or were cotemporaries with him. As a medical chemist, Hoffman merits the highest commendation: he was patient, industrious, and honest. He was, however, too eager, certainly too credulous. About the same period, with superior talents and similar faults, our own Boyle laboured in this vineyard; but, while we blame their credulity, we must make allowance for the splendour of numerous and surprising phenomena, which dazzled the imagination, and led the judgment captive. It was a new world, and what they believed was scarcely more extraordinary than what they saw.

To pursue the subject of medical chemistry, our chief object, we shall next mention the celebrated Boerhaave, who detailed, very advantageously, what former chemists had discovered, and added the result of many years unremitted industry. He unveiled the mysteries of the art, by employing the language of learning and philosophy unmixed with metaphor and an assumed obscurity. Probably, no author promoted, more successfully, the progress of chemistry, or applied it more advantageously to medicine; and he advanced it by these means rather than by splendid discoveries. After him followed Dr. Cullen, who, probably, brought to this science those extensive systematic views which distinguished him in every other. But the cold reserve of his descendants, their apparent indifference to his fame, repress all communication. We know only that his lectures were received with great approbation, and that his chemical knowledge was directed to medicinal improvements. To him we are indebted for the more general use, at least, if not the introduction, of some of the more active metallic preparations. Dr. Black followed his steps; and, though he pursued chemistry rather as an independent science, he seldom lost sight of its application to medicine.

In following the systematic authors, we have hastened too rapidly in our way. From the time of Boerhaave to the downfal of Becher and Stahl's boasted principle, numerous were the authors who improved this science. Among the Germans, *Neumann*, Pott, Cramer, *Cartheuser*, Margraaf, *Spielman*, De Born, *Plenck*, *Scheele*, and Gren; in Holland, Ingenhouz and *Van Mons;* in France, the *Geoffroys*, Reaumur, Du Hamel, Hellot; the two *Rouelles*, *Homberg*, Macquer, *Baumè*, *Sage*, D'Arcet, and De Morveau; In Italy, *Scopoli*, *Fontana*, Liandriani, Cavallo, Volta, and Spalanzani; in England, Hales, Mayow, *Lewis*, Priestley, Black, Higgins, and Nicholson; in Sweden, Brandt, Wallerius, Cronstedt, Rinman, Scheffer, *Gahn*, and Bergman. Those who have applied more particularly chemistry to medicine are marked by italics.

The early dawn of chemical improvements may be traced, in England, to the period of Mayow, Hales, Kirwan, and Black, of the old school; from Priestley and Cavendish of the new. Gahn and Bergman, Sage and De Morveau, Scopoli and Spallanzani, are on the confines of each system, and may belong to both. The experiments of Hales and Mayow had been forgotten, when Black elicited the first spark, which was to dazzle with the flame it excited. This embryo, if not neglected, scarcely treated with a parent's fondness, was cherished by Cavendish and Priestley; and the result was the splendid discovery of the composition of water; the existence and properties of many, permanently elastic, gases. Lavoisier, De la Place, Berthollet, and Fourcroy, followed; and from this period the distinguished chemists of every country have resigned the visionary phlogiston, and joined in adopting the pneumatic system. Priestley died an infidel; Gren but half converted. Kirwan and Black joined with apparent reluctance, after patient inquiry and full conviction, what is styled the antiphlogistic system. The revolution is now, we believe, complete: it is not heresy, but reformation.

The French chemists, not content with this splendid improvement, of which, indeed, they could not claim the honour, though they have made numerous additions, scarcely less valuable, perhaps, than the first discoveries of Black and Cavendish, have changed, in consequence of the establishment of the pneumatic system, the whole language of chemistry. They have thus attempted to make it exclusively their own. This vanity, so common in their nation, might excite a smile as harmless; and from the merits, *on the whole*, of the new nomenclature, command approbation, were it not from some serious inconveniences that will be found to result. At this time, the language of both sects is common, and little inconvenience is experienced; but, except to the experienced chemist, the labours of Pott, of Neumann, of Margraaf, Macquer, Baumè, &c. will be soon lost. Their language will no longer convey ideas; and experiments, most truly important and valuable, will be almost on a footing with Egyptian hieroglyphics. There is one remedy for this evil, which is the unmerciful pillage of French authors from their predecessors; and, as usual, the stolen goods are marked with the characteristics of their present owners, to conceal the depredations. This, however, is not sufficient: *juvat integros accedere fontes;* and, unfortunately, the streams are polluted. Various are the changes we have witnessed to adapt former facts to the theory of the moment. We would strenuously advise the student, therefore, to study the language of both sects; and the lately published lectures of Dr. Black are admirably adapted for this purpose. Mr. Nicholson's Elements also, published when the new theory was not fairly established, contains the explanation of the phenomena according to each system, and will answer the same purpose, though the new theory has received considerable improvement since the period of their publication.

Chemistry, so far as it relates to medicine, has been hitherto employed in the composition of medicines. In this branch, however, previous to the introduction of pneumatic chemistry, much was empirical and heterogeneous; ingredients, destructive of each other's powers,

were ignorantly or inconsiderately accumulated. It was the object to heap a great variety of medicines in one formula, that should one fail, another might succeed: forgetting that, though the imagination was boundless, the stomach was limited; and that, when the number of ingredients was increased, the dose of each was inconsiderable. In chemical formulæ, the error was greater from the union of heterogeneous substances; and, where the ingredient was retained, its utility was not understood. A striking instance of this kind was the chalybeate oxide in the preparation of the corrosive sublimate, which furnished the pure air that distinguishes this preparation. In the former case we have refined, perhaps, too far, as we shall show in the article of COMBINATION OF MEDICINES. In the latter, we have not been equally rash, yet we suspect we have often erred. In the articles, ARGENTUM VIVUM, and ANTIMONIUM, we have shown that the more simple modern preparations are different, in some respects, from those of the ancients. Chemistry, however, which first led the pharmaceutist from the path, will contribute to his recovering it.

In another branch, chemistry was seemingly misemployed; we mean in investigating the powers of medicines. The older chemists employed fire, almost exclusively; and vegetable remedies, the most opposite in their nature, yielded nearly the same products. Even bread, we are informed by Mr. Boyle, will produce, by distillation, the most acrid deleterious oil. In fact, in these destructive processes, new combinations are formed; and, as the *principia proxima* of vegetable substances are nearly the same, it is not surprising that the products in their reunion, after separation, should be similar. Modern chemistry employs less violent means, and new compounds are not so frequently produced. By these more gentle means, also, the analysis of mineral waters is much more accurate and satisfactory.

This science has, however, since the discovery of new gases, been very successfully employed in investigating the nature of the animal solids and fluids. A new era may be thus marked in our chemical physiology. They were not neglected by the French chemists, particularly the Rouelles, Homberg, and others; but we have only of late witnessed the happy results of more accurate, more scientific investigation. Since the period of Plenck, whose Hydrology is still an excellent work, we have received considerable satisfaction from Berthollet, Fourcroy, Vauquelin, Pearson, Hatchett, and many chemists of the new school.

To teach chemistry cannot be our object; we must treat of it as the handmaid, the assistant, of physic and the physician, and the chief details must be sought in the different articles. Yet, perhaps, we may here, with advantage, sketch the outline of the science; point out the mutual dependencies of each part, and supply what omissions may have already occurred. We must, however, speak chiefly of medical chemistry; for we anxiously wish to avoid stepping beyond the line of medicine, and to render this dictionary strictly, and, as far as possible, exclusively a medical one.

In teaching chemistry, modern authors have begun with elements, and proceeded to their compounds. We thus soar, perhaps, too far above common comprehensions, and certainly beyond the youthful intellect. We shall prefer the division of Dr. Black, originally that of Dr. Cullen; and divide the objects of chemistry into salts, earths, inflammables, metals, and waters, adding the airs, vegetable and animal substances. We obtain, however, the bases of every body most pure in the form of air, so that we shall premise a short abstract of the properties of the different gases. Of caloric we have already spoken: of light, as a chemical principle, we know little, and still less of its real influence in the animal economy; yet, under that article, we shall add a few observations on the subject not wholly uninteresting.

Under the article AIR, in the First Part, we have mentioned the general properties of the different kinds of this invisible fluid, as well as of the medical properties of each species. We must now speak of air chiefly in a chemical view; and though, perhaps, in this and some other parts of the present article, we may seem to deviate from our professed intentions of confining ourselves to medical chemistry, such is the rapid progress of the science, and so much closer is its connection with physiology advancing, that, even while we are writing what may at first appear irrelevant, will become of the greatest importance.

We speak first of *oxygenous gas* as the least compounded form of air; and though, as we have said, the aerial form is the purest in which the different bases can be represented, yet it is doubtful whether this gas has any basis, and whether it is not strictly and purely caloric. It combines, under different degrees of temperature with all the gases or their bases, with inflammables and with metals, but not with earths or alkalis. The temperature required for the union is different; and when it is in so high a degree as to dissipate the body in vapour, inflammation, strictly so called, is produced. By the French chemists, the union of oxygen with different bodies is styled combustion, but in a loose, and, we think, an unscientific sense. This gas constitutes 0.22 of atmospheric air, and its specific gravity is 0.00135.

Oxygen combines with bodies in different proportions. With nitrogen, it forms atmospheric air: in larger proportions, successively, nitrous, nitric oxide, and nitric acid. With hydrogen, water: and, as has lately been rendered probable, in a larger proportion, muriatic acid. With carbon, it forms plumbago, charcoal, gaseous oxide of carbon, carbonic acid, and carbonic acid gas. With sulphur, oxide of sulphur, sulphureous and sulphuric acid. With phosphorus, oxide of phosphorus, phosphorous, and phosphoric acid. With carbon and hydrogen, it forms what are styled the hydrocarbonats and the vegetable acids; and, with the addition also of nitrogen, it forms animal substances. Oxygen unites with metals, forming what former chemists styled calces, now oxides. From these it is separated by phosphoric salts, and, indeed, by animal substances of every kind: a fact of importance in explaining the action of oxygenated remedies. It is separated also from almost every compound by light: a circumstance to which we shall return in that article.

Nitrogenous or azotic gas constitutes 0.78 of our atmosphere, and may afford the portion that we breathe with peculiar pleasure, and by which the process, styled animalization, may be chiefly assisted; it is probably absorbed in respiration. Its specific gravity is 0.00115, and some very delicate vegetable blues are rendered green by it. Vegetation, respiration, and combustion, are at once

checked by this gas when unmixed; and azote is the distinction of animal substances. It constitutes, with oxygen, nitrous acid, and is the chief ingredient in ammonia. It refuses to unite with water, and dissolves phosphorus and carbon in small quantities.

With oxygen it forms atmospheric air, and in succession nitrous oxide, nitrous gas, and nitric acid; with hydrogen, ammonia; with sulphur and phosphorus, sulphurated and phosphorated nitrogen gas. With carbon, nitrogen, and oxygen, it forms animal substances; should the oxygen be in excess, the result is animal acids.

With the proportion of oxygen, which forms nitrous oxide, viz. 37 of oxygen and 33 of nitrogen, it will support flame, and suffers no diminution when mixed with oxygen gas. It does not change even the most delicate vegetable colours, for in this state it recedes from its alkalinity, nor does it combine with alkalis. With atmospheric air, it is highly grateful when breathed, which supports the idea formerly hazarded, that azote, so far as it can be safely introduced, is pleasing and salutary. Water absorbs one half the bulk of nitrous oxide.

The nitrous gas contains 44 parts of oxygen, but does not change vegetable colours. Its specific gravity is 0.001343. It forms, with oxygen, nitric acid, and water absorbs 0.118 of its bulk. It supports neither vegetation nor respiration, and only in a few instances combustion.

Hydrogen gas, the inflammable air of Priestley, is very light, for its specific gravity is only 0.000094. It is highly inflammable, and burns when oxygenous gas or atmospheric air is contiguous; or detonates, when mixed with them, on the application of a burning body. It extinguishes flame, and will not support respiration. It dissolves sulphur, forming hepatic gas; and united with phosphorus and carbon, it forms gases highly fetid.

Hydrogen, with oxygen, forms water; with a less proportion it has been lately thought to produce muriatic acid; with nitrogen, ammonia; with sulphur and phosphorus, hepatic air and sulphurated hydrogen. With carbon and oxygen it produces the hydrocarbonates and vegetable substances; with carbon, nitrogen, and oxygen, animal substances and animal acids. Water is composed of 14.42 of hydrogen, to 85.58 of oxygen; ammonia of four parts of nitrogen, and one of hydrogen.

Carbonic acid gas was formerly known by the name of fixed air, and its discovery was the germ of the whole of pneumatic chemistry. Its basis, carbon, in its purest form, is the diamond; and 17.88 of carbon with 82.12 of oxygen, forms the gas. It is the chief basis of vegetable, though it occurs also in animal substances.

With oxygen and iron it forms plumbago, and with a larger proportion, successively, charcoal and gaseous oxide of carbone; with metals, what are styled, in the new language, carburets. With oxygen and hydrogen, it forms the hydrocarbonates, alcohol, ether, oils, wax, resins, camphor, starch, sugar, jelly, tanin, and all the variety of vegetable acids, with the mucous, laccic and sebacic acids. With nitrogen, oxygen, and carbon, it forms the various gums and resins, cork, gelatin, albumen, fibrin, urea; the prussic, zoonic, uric, and amnic acids.

Common charcoal of wood contains 36.14 of oxygen the gaseous oxide of carbone, 74.11 of oxygen.

Salts are either acid or alkaline. The *acid salts*, or *acids*, are mineral, vegetable, and animal; though various acids are not exclusively confined to the class in which they are arranged.

The mineral acids, or those usually styled so, are three, the vitriolic, the nitrous, and the muriatic; but the succinic, the boracic, and several others, have an equal claim to the title, as they are the productions of, or at least found in, the mineral kingdom. These acids unite with alkalis, earths, and metallic oxides so completely, that in the new compound, the properties of the component parts are wholly lost; while some of the weaker acids, particularly the carbonic acid gas, leave often an alkaline, urinous taste. These acids, like all others, owe their acidity to the oxygen they contain, united to separate bases, which give their peculiar properties; but this oxygen may be in excess, and the acid has then been styled oxygenated, or the particle (oxy) is added. The French chemists distinguish the acids with an excess of oxygen, by terminating their respective appellations with *ic*, as sulphureous and sulphuric. Their general properties have been already detailed.

The *vitriolic* acid is diffused so generally, as to be styled the universal acid; but many others can now dispute this honour, particularly the carbonic. In medicine it is of the highest importance, since, independent of its tonic powers when uncombined, its union with alkalis and metals furnishes a variety of useful remedies. Its basis is sulphur, and, from its apparent viscidity, it has been styled *oleum sulphuris*. When sulphur is inflamed, the oxygen is supplied by the atmosphere; and for this purpose it was formerly burnt under a bell, from whose sides it streamed into a receptacle below. It is now usually prepared in close vessels; and the oxygen is supplied by the addition of nitre, whose acid is in this operation decomposed.

Vitriolic acid will crystallize at 3° below 0 of Reaumur. With ice it produces an increased cold; with water considerable heat. With alkalis it forms the sulphat of potash, formerly the vitriolated tartar, the sulphat of soda (Glauber's salt), and the sulphat of ammonia (Glauber's secret ammoniacal salt).

The sulphat of potash is soluble in about sixteen parts of water, at 60° of Fahrenheit, which we shall afterwards call *cold water*, and five parts of boiling water. It is the least soluble salt, and on this account inconvenient in its exhibition, as it requires so much fluid. One hundred grains contain 30.21 of acid; 64.61 of alkali; and 5.18 of water. The sulphat of potash, of commerce, is the residuum after distilling nitrous acid, separated from nitre by means of the vitriolic. In extemporaneous prescription, it is only decomposed by barytes or any of its preparations. In some circumstances the nitric acid will displace the vitriolic; but this is of little importance to our subject, which is not strictly chemical. Mr. Chaptal found this salt in the analysis of tobacco.

The sulphat of soda is soluble in three parts of cold water, and in an equal weight of boiling water. It contains a large quantity of water entangled in its crystals, which occasions it to swell and effervesce when heated: 100 grains contain 14 of acid, 22 of alkali, and 64 of water. It is found in the ashes of the tamarix gallica; but the salt of commerce is the residuum, after preparing the muriatic acid. It is decomposed by pot-

ash, baritic salts, the muriat of potash, the acetite of soda, muriated lime, lime water, nitrated silver, acetated and nitrated mercury, and acetite of lead.

The sulphat of ammonia is seldom, if ever, used in medicine. It is produced chiefly by decomposing earthy or metallic salts with volatile alkali, and by the decomposition of nitric, muriatic, or carbonated ammoniacal salts by sulphuric acid. In extemporaneous prescription, fixed alkalis, barytes, and lime, the nitric and muriatic acids must be avoided in the same formula.

The basis of the *nitrous* acid is the nitrogen, which, with different portions of oxygen, forms nitrous oxide, nitrous gas, nitrous and nitric acids. The nitrous acid is brown, volatile, and suffocating. It assumes successively a blue, green, and yellow colour, by the addition of water; and in a state of vapour is absorbed by water, oil, and sulphuric acid. It consists of about three parts of oxygen, and one of nitrogen. The nitric acid consists of four parts of oxygen to one of nitrogen; is liquid, colourless, and transparent, but corrosive, tinging the skin of a yellow colour. It produces heat when mixed with water, and is deprived of a part of its oxygen by light; while the suffocating fumes of the nitrous acid are destroyed or suppressed by keeping it in the dark. When concentrated, it inflames oils, sulphurated hydrogen, and iron filings. The same effect is produced on zink, bismuth, and tin, when poured on them in a state of fusion. It oxygenizes all metals, mucilages, &c. and is itself decomposed. This facility in yielding its oxygen, which is seemingly separated by the animal fluids, and is certainly so by the phosphoric salts with which they abound, has rendered it an useful remedy where oxygenation is required. Its utility in curing syphilis is not indeed established by extensive experience; but it evidently prevents the disease from growing worse, when from weakness, inclement weather, or accidental circumstances, mercurials cannot be persisted in.

From the chemical composition of nitrous acid, its resemblance to atmospheric air is obvious, and by the air it is evidently formed. In many places, particularly in India, South America, and Spain, nitre requires only lixiviation and purification. In France and other countries, its formation is assisted by animal putrefaction, vegetable fermentation, and the rubbish of old walls, containing a calcareous substance. It is not easy to say what particular office either part of the process serves. It seems designed chiefly to adapt the mass for the absorption of the ingredients of the atmosphere, for these are only requisite to form the acid. The alkali is supposed to be the product of the vegetable fermentation. This is, however, improbable; and we strongly suspect that it arises from the calcareous matter, as we shall soon consider.

It is in the form of nitre that this acid is offered to our notice; in the language of modern chemistry, nitrat of potash. As it occurs from the hand of nature, it is far from pure. A large proportion has often, as might be expected, a calcareous basis; and sea salt generally forms a portion of it. We find nitre also in many plants, particularly the parietaria and bugloss; in fact, in all those whose extracts are liable to ferment. We need not enlarge on the methods of purifying nitre. We receive it in the form of a neutral, crystallized in prismatic octoedrons, terminated by dihedral summits. It is fusible on ignited coals, and its acid is decomposed. It does not deliquesce, but dissolves in seven parts of cold water, and its own weight of boiling: 100 grains of the crystals are usually said to contain 30 of acid, 63 of alkali, and 7 of water. This salt is cooling, and highly useful in all inflammatory diseases, those of the bladder sometimes excepted. Nitre is decomposed by alum, Epsom salt, tartar, spirit of vitriol, vitriol of zinc, copper, and iron. From the usual laws of affinity, it should be decomposed by Glauber's salt; but this takes place only in a slight degree, and at a temperature of 32°. Its chief utility in the arts for the process of making gunpowder is well known. It is the principal ingredient also in fulminating powder; but even modern fancy has not yet enrolled this among the articles of the materia medica.

Nitrat of soda is styled cubic, quadrangular, and rhomboidal nitre, from the form of its crystals, which, however, are not cubic, but rhomboidal. It is somewhat more bitter than common nitre, and grows moist in the air. Cold and boiling water equally dissolve about two parts of the salt: 100 grains contain, it is said, 28.80 of acid, 50.09 of alkali, and 21.11 of water; but by others the proportions assigned are very different, and Tromsdorff thinks that 100 grains contain 43 of acid, 32 of alkali, and 25 of water. It is generally the product of art, though it has been suspected in some mineral waters. We know not that it has been used in medicine; but should it be employed, the prescriber should recollect that it may be decomposed by potash, alum, Epsom salt, vitriolic acid, and the vitriols.

Nitrat of ammonia is the production of art, and its crystals are described as resembling needles; the taste is cooling, but it has been little attended to, and has never been employed in medicine.

The marine acid has hitherto resisted every attempt to ascertain the nature of its basis. Yet, from some Galvanic experiments, it is suspected that it may be water; and this acid is only water with a diminished proportion of oxygen. We shall first describe this acid and its properties in the common way.

When pure, it is colourless; but has generally a yellowish hue, and exhales white suffocating fumes. It is lighter than either of the other acids; but its most distinguishing property is the very great change it experiences from an excess of oxygen. Though this be undoubtedly the principle of acidity, yet when added to the muriatic acid in an over proportion, its volatility is increased, its acidity and power of attraction for alkalis weakened, and instead of reddening vegetable colours, it destroys them. It is procured from common salt by the addition of sulphuric acid, when it assumes a gaseous form; and in this state has been recommended for destroying infection, and purifying infected rooms. As these fumes are very suffocating, the vapour of the nitric acid has been preferred; and the discovery of each has occasioned a controversy which perhaps might have been spared, and which we must afterwards more particularly notice, though we shall not pretend to decide the dispute.

The most delicate test of the presence of muriatic acid is the nitrate of silver; for the metal when united with the muriatic acid is insoluble, but the oxygenated acid occasions no precipitation; so that if any doubt

arises, the acid should be previously exposed to the light, which separates in every instance the oxygen. The oxygenated acid forms, with different bases, fulminating powders, whose detonation is extremely violent, and takes place on trituration only, without heat. The use of the oxy-muriatic acid in bleaching is well known; and in its union with alkalis it furnished the active ingredient of De Morveau's box, which, on opening, diffuses round the person who holds it a pure atmosphere, which destroys infection. The ingredients are now altered. See CONTAGION.

The experiments lately alluded to are, however, too striking to be wholly passed over, since they offer such a clear simple view of the different operations of nature as will greatly elucidate many unaccountable phenomena. In attempting to ascertain the basis of this acid, even Berthollet erred, and Mr. Lambe was misled by a remote analogy; nor some months since should we have given a more favourable account of Girtanner's hypothesis, who derived it from hydrogen. On the 23d of April, 1805, Mr. W. Peel of Cambridge, announced, in the Philosophical Magazine, his discovery of muriat of *soda* from the decomposition of water by the Galvanic apparatus. In June he repeated his communication, and mentions his having formed water from its elements to repeat the experiment; but this water, from a little inaccuracy in the proportions, being acidulous, he neutralized the acid with lime, and distilled it. But, after the Galvanic process, he found muriat of *potash*.

By a singular coincidence, about the same time Pacchioni of Pisa made a similar discovery. His letter is dated the 9th of May, sixteen days only later than Mr. Peel's, and both speak of *recent* discoveries. Pacchioni's apparatus is not described; and at the first glance it excites a suspicion that *he* procured oxygen only in the decomposition of the water, while others have obtained, exclusively, hydrogen; but as both are ingredients of water, evolved separately on different sides of the pile, this occasions little difficulty. On separating the oxygen, he found the gold wire dissolved, and the oxygenated muriatic acid evidently produced. Water then is hydrogen, with its full proportion, perhaps, of oxygen. When the proportion of the latter is diminished, it becomes oxymuriatic acid; and, when still further, the common muriatic acid. Mr. Henry has repeated these experiments with some success, but suggests a source of fallacy, which leads us at least to hesitate. We shall have frequent opportunities of resuming the subject in different parts of the work, as in the articles MURIATIC ACID, MURIATS, and SEA SALT, when we shall give whatever the labours of chemists have added to the stock. Even while this sheet was passing through the press, we find in the Journal de Physique, vol. lxi. some experiments instituted by the Galvanic Society at Paris, which throw considerable doubts on the supposed discovery.

Muriat of potash has been styled the febrifuge salt of Sylvius, and, from one process by which it was prepared, the regenerated marine salt. Its crystals are cubic, but not regular; its taste pungent and bitter; and it dissolves in three times its weight of cold water. It is supposed by some authors to contain 29.68 of acid, 63.47 of alkali, and 6.85 of water. It is found occasionally in sea water, and in some mineral waters; but, when wanted as a medicine, which scarcely ever happens, it is prepared by art.

Muriat of soda is the common salt so generally diffused not only in the earth, but by the ocean, of which it constitutes the chief ingredient. Should the suspicions just stated be confirmed, its source will be well understood: at present it is unknown. There is every reason, however, to suppose, that all the fossile muriat of soda has been deposited from an ocean which once covered the highest continents, perhaps the whole globe, when the principal inhabitants were fish, and where animals, now known only from their debris, were the tyrants of this watery world. Common salt is highly necessary to the health of men and many other animals; it is a condiment most congenial to their constitution, and though some are, from necessity, obliged to live without it, yet all find its advantages when it can be procured. In America, animals from a vast distance repair to those regions where the salt effloresces on the surface, which they "*lick*" with great avidity, and the spots are distinguished by this appellation.

Common salt is pungent, with a slight bitterness. It dissolves equally in cold and hot water, in a little more than twice its weight of the menstruum: 100 grains have been said to contain 33.3 of acid, 50 of alkali, and 16.7 of water. Its crystals are usually cubical, but they seem to be sometimes octoedral. It scarcely ever forms an article of extemporaneous prescription, except in the form of sea water. Barytes, lead, and sometimes iron, seem to decompose this salt, and are employed to separate the soda for the artist; but could have no extemporaneous effect in mixture, were it even necessary to combine them in a medicine. Vitriolic and nitric acids are, apparently, the only instances from which any inconvenience could arise. Potash would, however, have a similar effect; and some metalline salts, particularly nitrat of silver, would decompose it; but these are not likely to meet in a prescription.

Muriat of ammonia was originally prepared in Egypt from the dung of camels, and is met with in commerce in round cakes, concave on one side, and convex above, from the shape of the glasses into which it is sublimed. When in conical masses, it is debased by other salts, particularly earthy ones. Its taste is acrid and pungent, with a flavour not very distant from the urinous alkaline. It dissolves in about three times its weight of cold, and about an equal weight of boiling, water; and, during its solution, produces nearly 32° of cold. Its crystals are four or six sided pyramids, generally aggregated in a plumose form, and it is said to consist of 42.75 of acid, 25 of ammonia, and 32.25 of water. It is not often used internally, yet we shall find that it is more commonly useful than has been supposed. Externally it is often employed; but, as it is decomposed by the sulphuric and nitric acids, by barytes, potash, soda, strontia, and lime, as well as by different salts composed of these acids or their bases, and by some metalline salts, the practitioner should be very careful of the ingredients with which he joins this salt. It is soluble in little more than four parts of alcohol.

These are the acids which chiefly claimed the attention of chemists within the last twenty years. An acid from vegetables was indeed well known, and it seemed to be varied in its forms and its properties; but modern chemistry has only ascertained their different

sources, and their distinguishing affinities. We find also in the animal system a variety of peculiar acids which claim our attention, and in both vegetables and animals there are various substances denominated oxides, which, with the addition of oxygen, assume acid properties. These we shall not consider in the present article, unless they have become peculiar objects of our attention, by having been introduced into the practice of medicine.

The principal vegetable acid is the acetous, known chiefly in common life by the appellation of vinegar; but nature offers us also that of lemons (the citric), of apples (the malic), that of galls (the gallic), that of acetosella (the oxalic), that of benzoin (the benzoic), that of tartar (the tartarous), and that of borax (the boracic acid, or sedative salt). With a little exertion we separate from cork, the suberic; from camphor, the camphoric; from sugar, the saccharine; from gum, the mucous: but these are, perhaps, more strictly oxides. Fire separates the pyrotartarous acids, the ligneous and the pyroligneous acids. The carbonic acid we have already noticed.

Of these, the chief acid, perhaps that from which every other with some modifications proceeds, is the acetous. The tartarous and boracic acids will indeed merit our particular attention, on account of their medicinal formulæ; but the malic, the citric, the oxalic, acids, do not essentially differ. The benzoic acid, Mr. Hatchett, in the Philosophical Transactions for 1805, (Part II.), considers, with some reason, as a production of fire; in his own strictly philosophical language, a *product* rather than an *educt*. The saccharine, the camphoric, the mucous, the suberic, are certainly modifications of the acetous acid; and the ligneous, the pyroligneous, and the pyrotartarous, acids, are only vegetable acids disguised by an empyreumatic oil.

We have thus confined our views to the acids of vinegar and tartar. The former is the product of fermentation, or of that new combination, which, by the "play of affinities" from the slow intestine motion of the particles of a saccharine, and afterwards of a spirituous, fluid takes place. See Fermentation.

The *acetous* acid, as offered to us by the spontaneous changes, in consequence of fermentation, contains a large proportion of mucilage. This is separated by distillation, or more certainly by freezing; but the mode which chemists have preferred is uniting it with copper or lead, and distilling it from these bases. In this way it undoubtedly acquires new properties, and, in the modern nomenclature, merits the title of *acetic* acid. It is then highly fragrant and volatile, confined only by the purest gold or crystal; and, in this state, combined with aromatics, it becomes a very useful and safe prophylactic, a preservative from the infection of putrid fevers. See Infection.

Acetous acid is formed of the vegetable principle carbon, united with hydrogen and oxygen; and this compound is not only the result of the gradual decomposition of saccharine matter in fermentation, but is produced more rapidly by the action of nitric acid on many vegetable bodies; this acid supplying the oxygen, which is otherwise absorbed from the atmosphere. Though very commonly a vegetable matter, its immediate principles are sometimes unexpectedly combined, and we discover it in animal and mineral productions. It will be obvious that its acid is destroyed by earths and alkalis, but the tartarous neutrals are also decompounded by it. Vinegar dissolves sugar, mucilages, and gums, and mixes in every proportion with alcohol. It softens gum resins; and, triturating with vinegar, renders gum ammoniac and asafœtida more readily soluble in water. It dissolves the peculiar acrimony of the alkalescent plants, and consequently forms the best menstruum for squills, colchicum, &c. Medicated vinegars are very common, and foreign pharmacopœias offer a considerable number. See Acetum.

Acetated potash was formerly styled terra foliata tartari, and tartarum regeneratum: a more modern appellation, scarcely disused, is the diuretic salt. It is a deliquescent salt, and not adapted either for powder or pills. It may be decomposed by tamarinds and almost every acid, even the citric and phosphoric, and by almost every variety of neutral, either alkaline, earthy, or metallic. It is soluble in an equal weight of water at 60. The preparation is difficult and uncertain.

The acetated natron has been styled the sal vegeto minerale; but it has never been employed as a medicine, and even its chemical properties have not been properly investigated.

The acetated ammonia was formerly styled Mindererus spirit. It is a deliquescent salt, and we receive it usually in a liquid form, but seldom of a certain strength; though a medicine given in doses of half an ounce or an ounce does not require any minute accuracy. When procured in a solid state, its crystals are long, slender, flatted, and of a pearly white colour: they melt at 170, and sublime at 250°. It is decompounded by fixed alkalis, lime water, the acids of lemon, phosphorus, and tartar, as well as the three strong mineral acids; by alum, Epsom salt, nitrated silver, muriated iron, acetated lead, and the vitriols.

The *acid of tartar*, in common language, is the cream of tartar, which is the deposition from wine, purified from the oily and colouring matter, and crystallized in irregular masses, formed by a confused mixture of needle-like crystals. In this state it is gritty between the teeth, and of a harsh unpleasant sourness; soluble in sixty times its weight of cold, and half the quantity of boiling water. It is not, however, a pure acid, but contains from twenty-three to thirty-three hundredths of potash. The purification of tartar is kept a secret; but it is probably effected by the admixture of pipe clay, since, by repeatedly washing the crystals of tartar, an earth of this kind remains. It has been a pharmaceutical problem to render cream of tartar more soluble in water, and borax has been employed for the purpose; but the latter is by this means decomposed.

The real acid of tartar is not deliquescent, and for this reason it is entitled the dry powder of lemonade. It is not the reputed salt of lemons, which is in reality the salt of wood sorrel, though it is supposed to add not a little to the bulk of this expensive preparation. The powder of lemonade is prepared by mixing a drachm of the essential salt of tartar with six drachms of sugar, and a drachm of the eleosaccharum of oil of lemons. It is obvious that alkalis and earths will destroy the acid, but the eyes and claws of crabs are not purely calcareous; and though with chalk it forms an indissoluble salt, with magnesia, on the contrary, it forms a soluble one.

But whatever its affinities are in the moist state, in a dry powder they are not exerted; and the acid of tartar forms the basis of a salt, from which the carbonic acid is readily separated in solution. We hinted at this mixture when we spoke of the exhibition of this acid; and the preparation consists of one drachm of the acid, with two of kali, or three of natron, adding a little sugar according to the taste. This acid decomposes all the salts, whose basis is the vegetable alkali. It decomposes also muriated lime and barytes, nitrated silver, muriated iron, acetated and nitrated mercury, acetated lead, and all the vitriols, as well as soaps of every kind.

The tartarised kali is the tartarised tartar of former authors, the soluble tartar of pharmaceutists, and is usually prepared by saturating the superabundant acid of the cream of tartar by adding kali. It is soluble in alcohol, and in four parts of cold water. It is decomposed by all acids and by acid fruits; by lime, barytes, strontia, and magnesia; partly by the sulphats of potash, soda, alumine, and magnesia; and by the muriats of barytes, lime, and ammonia; by cubic nitre, and the most common metallic salts.

The tartarised soda has been styled sal Rupellensis; but as the crystals of tartar are saturated with the soda, it is obvious that this is properly a triple salt, and has been justly called by the Edinburgh college, tartris potassæ and sodæ. Its crystals are very large and regular, in the form of prisms, of eight nearly equal sides, divided longitudinally almost to their axis. It is bitter, soluble in about five parts of water, effloresces, but does not deliquesce, in the air, and consists of about 54 parts of tartrite of potash and 46 of tartrite of soda. All acids decompose it; even the acid fruits, alum, muriated lime, Epsom salt, nitrated mercury, acetated lead, and the vitriols, have the same effect.

Tartarised ammonia seems not to have been examined: it certainly has not been employed as a medicine. Its crystals are tetraedral pyramids, with obliquely truncated summits.

Borax is a natural production, which nature offers, partly saturated with soda, as the acid of tartar is with kali. The crystals of borax are hexangular prisms; of which two sides are broader than the others, terminated by white triangular pyramids. The taste is styptic and urinous; it colours vegetable blues green, is soluble in 18 parts of cold water, and in 6 of boiling. It slightly effloresces in the air, swells with the loss of nearly half its weight from heat, and becomes a porous friable mass, melting in a greater heat to glass. It is decomposed by all acids and alkalis, by the sulphats, nitrats, muriats, phosphats, and fluats, of all the earths, and of ammonia. The boracic acid forms 39 parts, soda 17, and water 44.

Its acid was styled by Homberg, who discovered it, the sedative salt, from its supposed soothing power in fevers. It appears in small, shining, laminated crystals, and its specific gravity is 148. It vitrifies in the fire; is soluble in water and alcohol, imparting to the latter the property of burning with a yellow flame. Of borax we have already spoken; but of the borats we know little, and they certainly form no part of the materia medica.

The citric and oxalic acid are employed in medicine; but their compounds, the citrats and the oxalats, except in one instance, the citras potassæ, do not claim the physician's attention. We must not, however, wholly omit them or the other acids, as in the rage for novelty they may in turn share our regard.

The *acid of lemons* is with difficulty separated from its mucilage, so as to be reduced to the state of a limpid solution or a crystalline form. Various attempts have been made to concenter it by freezing, or to combine it with spirit of wine, from which the mucilage is easily separated. The most successful plan was suggested by Scheele, to combine the acid with chalk; from which, as the salt is nearly insoluble, the mucilage may be readily washed: the citric acid is then separated by adding the sulphuric. It is one of the strongest of the native acids; and cannot, like the greater number of the others, be converted into the oxalic by means of the nitric acid. Its crystals are octoedral prisms, truncated on their solid angles. The citric acid unites with alkalis, earths, and even metals. With the fixed alkali it is supposed to sit more easily in the stomach than any other neutral; which, if true, may be owing to some remains of the carbonic acid gas separated from the alkali, and entangled in the fluid: but all neutrals possess, in a certain degree, an anti-emetic power. The citric acid decomposes all tartarised neutrals.

The *malic acid* is not peculiar to apples, from whence its name is derived, but is found in all unripe fruits, and may be converted into oxalic acid by the nitric. It is separated from the mucilage by combining it with chalk, and then adding the acetite of lead. The malate of lead thus formed is decomposed by the sulphuric acids. This acid is frequent in a variety of plants, particularly the succulent ones, and in common parsley: and Vauquelin tells us, that when the juice of a plant furnishes a copious precipitate with oxalate of ammonia, and a flocculent one with acetite of lead, it undoubtedly contains a malate of lime. By fire, this acid is destroyed or converted into carbonic acid. The malates of alkalis are deliquescent, but the malate of alumine is with difficulty soluble: it unites with iron and zinc: the chalybeate salt does not crystallize; that with zinc forms fine crystals.

The *oxalic acid* which nature offers us combined like tartar, in part with an alkali, has a penetrating sour taste. It effloresces in the air; and is soluble in twice its weight of cold, and half its weight of boiling, water. Like all the weaker acids, it dissolves the metallic oxides rather than the metals themselves; and it combines with the more common earths. With lime it forms a salt so insoluble, that it becomes the surest test of calcareous earths and its compounds; though Brugnatelli suspects its infallibility.

The *acid of sugar* is one of those products from the vegetable oxides by means of the nitric acid which we have already mentioned. Not only sugar, but mucilages, mild oils, and flour, assume by this intermede the form of an acid; and this acid is invariably the oxalic.

The *gallic acid* seems to collect its oxygen from the air, since long exposure to the atmosphere is necessary to its production. The taste is acid and astringent; it effervesces with lime, and reddens the blue vegetable infusions. The salt requires twelve times the quantity of cold water, and one and a half of warm. It dissolves also in alcohol, in equal quantities when hot, but requires four times its weight when cold. It forms oxalic with nitrous acid; and the acid, when sublimed,

resembles in obvious qualities the benzoic. The gallic acid is totally distinct from the tanning principle; with which, as both are often united, it has been confounded.

The *acid of cork* is sharply acid and bitter. It deliquesces in the air, and becomes brown by the sun's light. It is distinguished from the acid of camphor, by turning the solution of indigo green; from the gallic acid, by its yellow precipitation; and from the malic, by its solid form. It does not burn or smoke on hot coals, like the tartarous; gives a green hue to a solution of nitrat of copper, without occasioning any precipitation; and does not attract lime so strongly as the oxalic acid.

The *benzoic acid* appears very generally in the vegetable chemistry; and we have mentioned it as the acid which gives the balsams their distinguishing properties. Since that article was printed we have received Mr. Hatchett's valuable observations on this and some other acids; and we have thus a striking proof, if any other was wanted, of the utility of frequently returning to the same subject in a progressive work like the present, if we would, as we profess, render it a picture of the science at the present moment. The properties of the benzoic acid, as generally recognised, occur under the article Benzoinum. We must now add, however, the formula adopted in the last edition of the Edinburgh, from the Prussian, Pharmacopœia; not as a chemical refinement only, but as better fitting it for being reduced to a powder, should it be ever employed as a medicine. Twenty-four ounces of gum benjamin are triturated with eight quarts of water for half an hour; the water is strained off, and the gum again triturated with three quarts of water and strained. The strained liquors are mixed and evaporated to a quart, to which diluted sulphuric acid is gradually added while any precipitation appears. The precipitated acid is dissolved in boiling water, strained while hot, and set aside to crystallize. The crystals, which are less beautiful than the flowers, must be washed in cold water, and preserved in a dry phial.

The *camphoric acid* has not been used in medicine, and the properties of its neutral salts are little known. Its crystals resemble the muriat of ammonia, and are, with difficulty, soluble in water. It is not, perhaps, very different from the benzoic acid. It burns without any residuum; does not precipitate lime from lime water, nor produce any change in the sulphuric solution of indigo.

Two animal acids yet remain, the phosphoric and prussic; for the uric acid we shall not again consider, unless additional information lead us to resume the subject. See Calculus.

Phosphoric acid is produced from phosphorus (see Inflammables) by burning, but is not in that process saturated with oxygen. It is in a more perfect state when prepared, as usual, by nitric acid. The phosphoric acid when pure is not corrosive, and has no smell; its specific gravity is three times that of water, and it may be concentrated to dryness, when it is styled the glacial acid of phosphorus. It combines with alkalis, and the alkaline earths; but its salts are seldom soluble. With magnesia, if the acid is in excess, the salt is soluble; and were not phosphorus a suspicious medicine, we should recommend this salt to a cautious trial. The only neutral employed by the physician is the phosphat of soda; a salt almost tasteless, though sufficiently active as a cathartic for children, perfectly safe, and highly useful. Its crystals are rhomboidal, and they effloresce in the air. It is decomposed by alkalis, the mineral acids, tartarous neutrals, alum, muriated lime, Epsom salt, muriated barytes, and almost every metallic salt.

The *prussic acid* is an ingredient in the vital fluid, and may be obtained by distilling blood with the nitric acid. It has an acid taste and suffocating smell; combines with alkalis and metals; and has lately been discovered in the vegetable kingdom as a component part of bitter almonds, the cherry, peach, and apricot kernels, and perhaps laurel and peach leaves. Berthollet supposes its basis to be composed of hydrogen, nitrogen, and carbon; but the proportions are not known. It has in no form been yet employed in medicine, except in the (now neglected) black cherry water.

Two anomalous neutrals yet remain, which, to complete the subject, we shall here consider, viz. the *hydrosulphurat* of ammonia, introduced into the last edition of the Edinburgh Dispensatory, and the *sal polycrestum Glaseri*. Tromsdorf seems first to have remarked that sulphurated hydrogen combines with different bases like an acid. The hydrosulphurat of ammonia is prepared by decomposing sulphurat of iron with muriatic acid. When the acid separates the iron from the sulphur, the latter, with the oxygen of the water, forms sulphuric acid; while another portion of the sulphur forms the hydrogen, forming sulphurated hydrogen gas, which is afterwards combined with the ammonia. This is the preparation of the salt recommended by Mr. Cruickshanks in diabetes, which he styles hepatised ammonia; and though experience has not established its utility in this complaint, there is great reason for supposing that it may be useful in some others, particularly in phthisis. It must be, however, employed with caution, since it produces vertigo and other unpleasant symptoms.

The *sal polycrest of Glaser* is only a combination of an imperfect sulphureous acid with potash. It is easily decomposed; and though it was once a celebrated remedy in Germany, is now rarely used.

Alkalis are salts of an opposite nature, and very rarely found native; never, perhaps, pure. They are either the vegetable, the mineral, or the volatile: but the two former are not exclusively derived from that kingdom which gives them their distinguishing appellation; as the vegetable alkali has been found in some granites of a very early formation, if not primordial, and the mineral in numerous vegetables.

Alkalis were long supposed to be elementary substances; but a few years since M. de Morveau announced that he had discovered the vegetable alkali to consist of hydrogen and lime; the mineral of the same principle and magnesia. His few experiments were, however, inconclusive; and would, perhaps, not have occurred to our notice, but for the facts pointed out when we spoke of the decomposition of the muriatic acid. The whole is strongly prepossessing from its simplicity.

The alkalis in the earlier chemical works were by no means such as the modern chemistry recognises by this title. They are, in the modern systems, considered as imperfect neutrals, neutralised by the carbonic acid or fixed air, which, as we have hinted, does not deprive them of their alkaline properties; nor, indeed, when

supersaturated with this acid and become acidulous, do they wholly lose their alkaline or urinous taste. We have nothing further to add on this subject. See ALKALI.

EARTHS. Chemistry has lately been enriched by numerous additions to this class of bodies, and medicine has also made a few acquisitions. Though earths should not appear to be the bases of alkalis, yet many approach alkalis very nearly in numerous properties. In general, earths are insoluble in water, at least when joined with carbonic acid; and in this state also they are without taste and smell. They are fixed, and unalterable in fire, assuming the form of a dry powder, and their specific gravity rarely exceeds 4.9. The five earths employed in medicine are, the barytes, strontia, lime, magnesia, alumine; the five others are the yttria, glucina, zircona, agustina, and silica. These are arranged nearly in the order of what may be styled their alkalinity.

Barytes is a greyish white porous body, possessing even a greater pungency than lime. It tinges blue colours green, and, as we have said, destroys animal substances. Its specific gravity is nearly 4, and it is not affected by the strongest heat. It is slaked in the air, and by water, like lime; and when dissolved in hot water it crystallizes on cooling, in needle-like crystals, composed of 53 parts of water, and 47 of barytes. Water dissolves 0.05 of this earth, and resembles in taste and properties lime water. Boiling water dissolves half its weight. It will not unite with oxygen, azote, hydrogen, carbon, or charcoal, but joins readily sulphur and phosphorus. (See BARYTES).

Strontia resembles barytes in every circumstance, except that the salts it forms with acids have somewhat different properties; and it will probably be found that potash and soda, barytes and strontia, lime and magnesia, are very nearly and respectively connected. The specific gravity of strontia is about 3.7. One part of strontia requires 162 parts of cold water, but boiling water dissolves it more freely. In cooling, the earth is deposited in thin quadrangular plates, which are often parallelograms: occasionally they adhere and form cubes, containing about 0.68 of water. It is not poisonous; and though it has been tried in medicine, it does not seem to possess any peculiar medicinal powers.

Lime is an earth well known, and has already been particularly noticed (see CALX). We may add here, for the sake of the connection, that its specific gravity is about 2.4, and that it is soluble in 450 times its weight of water. Its neutrals are supposed to be astringent. It combines, in the form of lime water, with the oxides of mercury and lead; but we know not that these compounds have been employed in medicine.

Magnesia was first pointed out as a distinct earth by Dr. Black. Its properties are less strikingly alkaline than the preceding earths, and it does not melt in the strongest heats that can be employed; nor does it become acrid by calcination, though the air which it loses in the fire is rapidly regained on exposure to the atmosphere. If, therefore, the calcined magnesia is not carefully kept from the air, it soon differs little from the common earth. Its specific gravity is 2.33, and its compounds, with acids, are soluble; yet even with the vegetable acid, the neutral is deliquescent and not pleasing to the taste. The fossils in which it predominates are soft and unctuous to the touch.

Alumine is an earth of the highest importance in medicine, since its sulphat, the common alum, is a very valuable remedy; and the boles, in which it is often a principal ingredient, are useful in sheathing membranes deprived of their mucus. The earth is soft to the touch, and adheres to the tongue, in consequence of absorbing its moisture. Its specific gravity is 2.0. It absorbs water, and is diffusible through it: but alone it is wholly insoluble; and in fire infusible. It unites with alkalis, and many different earths.

Of the remaining earths our account will be necessarily short, as they are useless in medicine.

Yttria appears in the form of a tasteless, white powder. It is insoluble in water, and does not change vegetable blues. It refuses all union with fixed alkalis, but unites with the carbonate of ammonia. With acids it forms salts of a sweetish but somewhat austere taste, and in fire it is unaltered.

Glucina is obtained in white, light masses, adhering strongly to the tongue, unaffected by fire, and insoluble in water. This earth unites with all the alkalis, with acids, and with sulphurated hydrogen.

Zircona appears also as a white powder, soft to the touch, without taste or smell; of a specific gravity equal to 4.3. Though infusible by heat alone, when surrounded by charcoal its particles unite to a flinty hardness. It combines with carbonated alkalis, and is soluble in all the acids, though insoluble in water.

Of *agustina*, the existence as a distinct earth has been disproved. If Tromsdorf's experiments may be trusted, though the results have not been supported by other chemists, it resembles alumina, and refuses to unite with all alkalis. It hardens when heated without acquiring any taste, and its salts are tasteless.

Silica is well known by its common appellation, flint. It melts with alkalis, forming the well known and useful compound, glass; but it is insoluble in acids, and wholly useless in medicine. It occurs in vegetable substances; and must consequently admit of such a minute division that we may expect to find it also in the animal fluids. It occurs, we find from late experiments, in the Bath waters; but we have no reason to think that it contributes to their medicinal virtues. Its source is unknown; but if potash is only lime united to hydrogen, as this salt dissolves flint, on the separation of the hydrogen, the latter will necessarily form distinct concretions, in which state we find it. We regret that this system of De Morveau's is not better established, since it elucidates so clearly various facts in mineralogy, many more indeed than we dare hint at. Silica combines with barytes, and, when recently formed, unites with about 1000 parts of its weight of water.

INFLAMMABLES. These are sulphur, phosphorus, the various kinds of pitcoal, charcoal, and amber. Of these the two former only are medicinal, and to them we must return; but to preserve the connection we shall give a very short outline of the chemical properties of each.

Sulphur is known to be a yellow substance, brittle, fusible, electric, insoluble in water, of the specific gravity of nearly 2.0. It sublimes at 170°, melts at 185°, burns with a pale blue flame at 300°, and with a bright white flame at 570°. It combines with different proportions of oxygen, and occurs in a variety of minerals, particularly metallic ores.

Phosphorus is a concrete oxide, generally prepared from urine or bones, of the consistence of wax, of a reddish colour, which it loses by being kept in the dark. It is soluble in essential, and with some precautions in expressed, oils. When the oil of cloves is employed, a flash of light follows each time the bottle is opened. Phosphorus in the dark emits a pale light, but at about 100° of Fahrenheit melts and burns with a vivid flame and violent heat. It is brittle under 32°, and its fracture is vitreous and somewhat lamellated. It unites with oxygen, but attracts it only when nitrogen or some other intermede is added. This union would appear to be a mixture, but that phosphorus attracts oxygen from the oxy-muriatic acid. With oxygen, as we have said, the phosphoric acid is produced. The union of phosphorus with oxygen takes place with considerable violence if the ingredients are struck only. Nitrate of silver, or oxygenated muriat of potash, forms, with phosphorus, the most violent fulminating powders, in consequence of percussion only; but even common muriates, with heat, will have the same effect. This is a fact of more importance, as phosphorus has been lately given internally; but great inconveniences have arisen from its exhibition, which seems sometimes to have proved fatal. Its specific gravity is 2.0382, taste acrid, smell alliaceous. It is raised into vapour by a heat of 180°, and boils at 534°.

Of charcoal and pitcoal (see CARBO) we have spoken at sufficient length, as they are not substances very often employed in medicine. Respecting amber, usually arranged under the inflammables, we have nothing to add. See AMBER.

Metals are opaque, brilliant bodies, considerably hard, very frequently malleable in different degrees, though some are flexile and elastic. They make no impression on the organs of smell or taste, except in some instances when rubbed. They are the best conductors of electricity; and during the oxidation of some of these bodies, the Galvanic influence becomes powerfully conspicuous. All may be melted by heat, and the greater number are exhaled in vapour.

Metals are divided into those which, by the addition of oxygen, become acid, and those which are oxidised, without showing any acid properties. Of the former kind arsenic, tungstein, molybdenum, chrome, and columbium. Of the latter, gold, platina, silver, copper, iron, plumbago, lead, tin, zinc, mercury, tellurium (sylvanite of Kirwan), antimony, bismuth, manganese, nickel, niccolanum, cobalt, uranium, titanium, palladium, osmium, and iridium. We shall shortly mention their properties in the same order, excepting only those generally employed in medicine; and their medical effects depend so intimately on their chemical treatment, that it would neither be easy nor advantageous to separate the different parts of the subject.

Tungstein is a semimetal of a gray colour, fusing with great difficulty, oxidisable in the air by heat, and afterwards acidifiable. In the state of an oxide it is yellow; in that of an acid, white. The former gives to glass a blue or brown colour.

Molybdenum has a very slight metallic splendour, and a low specific gravity. It is oxidised by sulphuric, and easily acidified by nitric, acid. The acid is white and styptic. Though the specific gravity of the metal is but 6, that of the acid is 8.4.

Chrome is of a whitish gray colour, very brittle, and with difficulty fused or oxidised. Neither the sulphuric nor muriatic acids dissolve it; but the nitric changes it first into a beautifully green oxide, and afterwards into an orange yellow acid.

Columbium is little known. It was discovered in an American fossil by Mr. Hatchett, and its acid is a white powder, insoluble in water.

Of the oxidisable metals, we shall omit, for the reasons mentioned, gold, silver, copper, iron, lead, tin, zinc, mercury, antimony, bismuth, and manganese.

Platina has not yet found its way into the materia medica, nor is it likely soon to become a medicinal substance. It is of a gray colour, approaching to black, when polished. Its specific gravity is about 21, and it yields to gold only in ductility, and to iron in hardness. It is fused in 160° of Wedgewood, 21.877° of Fahrenheit, could Fahrenheit's scale be continued to this point. It is a good conductor of electricity and Galvanism; is oxidised by the former, producing a gray powder. It is oxidised and dissolved by the oxy-muriatic, but more certainly and quickly by the nitro-muriatic, acid.

Plumbago is a carburet of iron, seldom pure, and requiring a high degree of heat for its union with oxygen.

Tellurium, which Mr. Kirwan styles *sylvanite*, is of a bright lead colour, but brittle and crystallized in lamellæ. Its specific gravity is about 6.1. It soon melts and sublimes. It burns with a greenish flame and a white smoke, resembling the smell of radishes. Its oxide melts into a straw coloured radiated glass. It is soluble in sulphuric, nitric, and nitro-muriatic acids.

The colour of *nickel* is between that of tin and silver, nearly 9 in specific gravity; when pure, extremely ductile and malleable; infusible, and with difficulty oxidisable in the air: yet it yields to the nitrous and nitro-muriatic acid only, tinging them of a brilliant green. It combines with phosphorus, sulphur, and the different metals. Its oxide is of a light clear green, giving to glass a brown and orange, in some instances a red, hue; but reducible by fire only. It is strongly attracted by the magnet, and can assume polarity. Richter. Niccolanum, lately discovered by the same author, very nearly resembles nickel.

Cobalt is a metal so brittle as to be capable of being reduced to powder. Its grain is fine, its colour of a reddish gray, and its specific gravity nearly 7.8. It is oxidated previous to its fusion, and requires a high degree of heat for its melting. It yields to all the acids, and unites with phosphorus and sulphur. Its oxide is of a deep blue, and gives this colour to glass. In the arts it is styled zaffre, or smalt.

Uranium presents a mass of small globules slightly united, of a pale brown, sometimes of a gray, colour. Its specific gravity is 6.44. It is very infusible, but yields to several of the acids, and unites with phosphorus. Its oxide is yellow, colouring glass of a greenish yellow an emerald green, or brown of different shades, and is very soluble in carbonated alkalis.

Titanium occurs in hard friable masses, of a crystalline appearance; internally of a bright red. It is very infusible, and yields only to the principal mineral acids by boiling. Its oxide is a deep red, blue, or white.

Of iridium, osmium, and palladium, three metals, if truly distinct ones, found in platina, we yet know little,

and of course shall not enlarge this (already too extensive) article, by enumerating properties imperfectly known. What has been discovered occurs in the Philosophical Transactions for 1804 and 1805.

The VEGETABLE SUBSTANCES which have claimed the chemists' attention are, sap, mucilage, gum, oils, resins, gum resins, caoutchouc, balsams, fœcula (starch), gluten, sugar, albumen, various acids, tanin, alkalis, wax, honey, and aroma. These substances, as we have stated in the beginning of this article, consist of carbon, hydrogen, and oxygen. The tanin, lately introduced to our notice, has been lately examined with peculiar attention in the Philosophical Transactions for 1805, by Mr. Hatchett. He has produced it with a variety of substances artificially, viz. by the action of nitric acid on any carbonaceous substance, vegetable, animal, or mineral; secondly, by distilling this acid from common resin, indigo, dragon's blood, &c.; thirdly, by digesting common resin with gum elemi, asafœtida, camphor, &c. which then yield a principle very nearly resembling tanin to alcohol.

The ANIMAL SUBSTANCES which have been the objects of the chemist are, the blood, the gastric and pancreatic juices, the milk, the sebacic acid, the bile, the urine; the prussic, zoonic, formic, and bombic acids; the hard parts of animals; the humours of the eye; cartilages; brain; synovia; tears; mucus of the nose, &c.; cerumen of the ears; saliva; pus; semen; sweat; liquor amnii; eggs; hairs; feathers, and silk. These are more particularly the object of this work, and have been or will be considered in separate articles. We need scarcely repeat, that nitrogen, or azote, is the distinguishing principle of animal substances; and have already observed that their component parts are nitrogen, hydrogen, carbon, and oxygen.

The ultimate analysis of animal substances is peculiarly embarrassing, on account of the extensive combination of their elements, for the simplest agent produces numerous transformations; many of which, from the rapidity of their progress, escape us, and the last results are only obvious. The agent employed, most successfully, by Scheele, Bergman, and Berthollet, is the nitric acid; and the result, as we have often mentioned, is the evolution of azote in large quantities. The consequences are also a change in the acid; the copious production of ammonia; carbonic, oxalic, and malic acids; the transformation of one portion of these matters into fat; and of another into a yellow, bitter substance, the *bitter of Welther*.

The effects, however, vary according to the strength of the acid, the duration of its action, and the kind of substances examined by its means. These varieties have been lately the subject of MM. Fourcroy and Vauquelin's inquiries, and we shall take this opportunity of stating their results. The particular experiments have not yet been published.

The nitrous acid, from its first action, changed the muscular flesh into a yellow substance, with little taste, though still sensibly acid, and very imperfectly soluble. When the action was longer continued, the result was a matter equally yellow and acid, but very bitter, and very soluble. By a still longer continued action, the matter was soluble, inflammable, and fulminating, not only by heat but by percussion.

Indigo furnished a similar substance, and still more copiously than muscular flesh. Haussman and Welther long ago discovered it; and MM. Fourcroy and Vauquelin attribute it to the separation of the azote, and to the combination of the hydrogen and carbon of the flesh, with the excess of oxygen furnished by the acid. They suspect that the yellow substance which tinges the bile, is equally produced by the separation of the azote and the union of the other ingredients, furnished probably by the blood. Yet this appears less probable; since the blood which is to furnish the bile is carried by a very circuitous course, after it has received the oxygen from the air, and the contents of the vena portæ abound seemingly more in azote than in oxygen.

While we are speaking of animal substances, it may not be uninteresting to add the experiments of those chemists on the *smut of wheat*. They found, in this degenerated corn, a green oil of the consistence of butter; phosphoric acid, in part combined with magnesia; some lime and ammonia; carbon, and a vegeto-animal substance, exactly like that which is produced in the decomposition of the gluten of wheat by putrefaction.

They consequently conclude, that the smut is the residuum of the farina, decomposed by a putrid fermentation; and suspect that it arises from an over proportion of animal manure, assisted by a hot and moist season at the period of its flowering, or the formation of the grain.

What may be further requisite for the different facts relating to medical chemistry, may be found under AFFINITY, q. v.

CHE'MICI, (from *chemia*). Called also *flatularii*. Men who pursue the art of chemistry.

CHENALO'PEX, (from χην, *a goose*, and αλωπηξ, *a fox*). SHELL DRAKE. So called from its being of the goose kind, and crafty like a fox. See VULPANSER.

CHENOCO'PRUS, (from χην, *a goose*, and κοπρος, *dung*). GOOSE DUNG. It was formerly used as a powerful resolvent, diuretic, and anti-icteric. The green was thought the best; it was collected in spring, dried, and given from ʒ ss. to ʒ i. for a dose.

CHENOPO'DIUM, CHE'NOPUS, (from χην, *a goose*, and πους, *a foot*). GOOSE FOOT, or SOW BANE; from its likeness to a goose's foot. Called also *atriplex sylvestris*, *pes anserinus*, *botrys*, *botrys Mexicana*, and *atriplex silvestris latifolia*. It is reckoned among the uterines, but seldom used in the present practice. There are four species enumerated by the writers on the materia medica, viz. the *c. bonus henricus* and *rubrum* Lin. Sp. Pl. 318. *c. botrys* and *ambrosoides* 320. These are all oleraceous plants, possessing little medical power. The *c. anthelminticum* Lin. Sp. Pl. 320, has a fragrant though somewhat faint smell, and an aromatic taste. As the name imports, it is recommended for destroying worms. This forms the link between the oleraceous and the fetid species, which follows. See MERCURIALIS and BOTRYS.

CHENOPO'DIUM FŒTIDA, CHENOPO'DIUM VULVA'RIA. See ATRIPLEX FŒTIDA.

CHEOPI'NA, (from χεω, *to pour*, and πινω, *to drink*). See CHOPINO.

CHE'RAS, (from χεω, *to pour out*). It is so called during its discharge. See SCROFULA.

CHEREFO'LIUM. See CHÆROPHYLLUM.

CHE'RMES, (from the Arabic term *charmah*, or *karam*). Also called *coccum scarlatinum*, *chermesinum*

tinctorium and bapticum, *alkermes*, *coccibadicum*, *grana kermes*, *coccum insectorium*, *quisquilia*, SCARLET GRAIN, and KERMES BERRIES.

Kermes, among the Arabians, and κοκκος, among the Greeks, signifies a small worm; *grana arboris Ilicis*, *quibus punicea inficiuntur*.

An insect which much resembles the green house bug, lays its eggs on the *quercus ilex* Lin. Sp. Pl. 1420, the SCARLET OAK. The females of this kind have no wings. The colour of these berries, or rather insects, is like that of a blue plum; the red colour which they have when brought to us, is from their having been washed with vinegar. They are about the size and shape of juniper berries that are cut into two parts; the hole, in the flat surface, leads to the skin of the belly. When these insects are fresh, they appear full of minute reddish ova, and which, in long keeping, change to a brownish red colour. They are preserved by sprinkling with vinegar, which prevents the exclusion of the ova, and kills such of the animalcules as are already hatched, and would otherwise soon fly away. They are brought from France, Spain, Candia, &c. where they are gathered in May, and early in the mornings, while the prickly thorns, on which they adhere, are soft with the dew.

Geoffroy obtained an alkaline spirit from them by distillation. The fresh kermes, on expression, yield a red juice of a light, agreeable smell, and a bitterish sub-astringent, and somewhat pungent taste; but before it is brought to us, it is boiled with sugar into the consistence of a syrup. The dried grain, if not too long kept, gives out, both to water and to spirit, the same deep red colour, the same smell and taste, as is in the expressed juice. By evaporation, the watery tincture loses nearly all its smell and taste, but the spirituous retains both; and spirit extracts the active parts most completely.

They are grateful to the palate, esteemed cordial and astringent, and aphrodisiac, without any real virtue, or in any considerable degree. A confection, called *confectio alkermes*, was made of the juice of chermes berries, and once not unfrequently prescribed; it was invented by Mesue, and was a favourite medicine of Geoffroy; but, at this time, practitioners have no dependence on it. Within our own remembrance, the syrup, with fragments of leaf gold, was given as a cordial in small pox.

CHE'RMES MINERA'LIS. See ANTIMONIUM.

CHE'RNI'BION, (from χειρ, *the hand*, and νιπτω, *to wash*). In Hippocrates it is an URINAL, or rather a WASH-HAND BASIN. Motherby.

CHE'RSA, (from χερσος, *earth*). See FÆX.

CHE'RVA. An Arabian name for CATAPUTIA.

CHEVA'LIER. See CALIDRIS BELIONII.

CHEVA'STRE. A double headed roller, applied by its middle below the chin; then running on each side, it is crossed on the top of the head; and passing to the nape of the neck, is there crossed: it next passes under the chin, where crossing, it is carried to the top of the head, until it is all employed. See Fascia.

CHEZANA'NCE, (from χεζω, *to go to stool*, and αναγκη, *necessity*). It signifies any thing that creates a necessity of going to stool; and in P. Ægineta it is the name of an ointment with which the anus is to be rubbed for this purpose. Ætius gives this name to a plaster, which was to have the same effect when applied to the navel.

CHI'A. A sweet fig; so named from *Chio* or *Scio*, where they are propagated.

CHI'A TE'RRA. EARTH OF CHIOS, now called *Scio*, an island in the Archipelago. It is a grayish earth, brought from that island, formerly used as a sudorific in fevers, but now neglected. Fuller's earth, or pipe clay coloured, and impressed with proper signatures, are the general substitutes.

CHI'ACUM COLLY'RIUM. In P. Ægineta it is a remedy for disorders of the eyes, of which the dry ingredients were bruised and infused in Armenian wine.

CHI'ADUS. See FURUNCULUS.

CHIA'SMOS. It is the meeting of any two things under the form of a cross, or of the letter χ; whence it is named. The adverbs chiasti and chiasticos mean the same.

CHIA'STOS. The name of a bandage in Oribasius, so called from its resembling the letter χ. See FASCIA.

CHIA'STRE, (from the same). A bandage for the temporal artery. It is a double headed roller, about an inch and a half broad, and four ells long. The middle is applied to the side of the head, opposite to that in which the artery is opened; and, when brought round to the part affected, it is crossed upon the compress that is laid on the wound, and then the continuation is over the coronal suture, and under the chin; then crossing on the compress, the course is, as at first, round the head, &c. till the whole roller is taken up. See FASCIA.

CHI'BOU. A spurious species of gum elemi, little known in this country, though common in France.

CHI'BUR. See SULPHUR.

CHICHIA'XOCOTL. See MACAXOCOTLIFERA.

CHI'COS, or CHI'CRES. See BOVINA AFFECTIO.

CHI'EN-DENT. See GRAMEN CANINUM.

CHI'GRES. See HYBOUCOUHU.

CHILCHO'TES. See PIPER INDICUM.

CHI'LI, BALS. DE. This seems to have been an imposition. Salmon speaks, but without any proof, of its being brought from *Chili*. The Barbadoes tar, in which are mixed a few drops of the oil of aniseseed, is usually sold for it.

CHILIOPHY'LLON, (from χιλιας, *a thousand*, and φυλλον, *a leaf*). See MILLEFOLIUM.

CHI'LI A'RBOR. See CORT. PERUVIANUS.

CHI'LLI. See PIPER INDICUM.

CHI'LLI INDIÆ ORIENT. See ZINGIBER.

CHI'LON, (from χειλος, *a lip*). A person with large prominent lips, either by nature or from disease. The term is applicable to fish, as well as the human species; called also *labeo*.

CHILPELA'GUA, CHI'LTERPIN. See PIPER INDICUM.

CHI'MALATH, or CHIMALA'TL. See CORONA SOLIS.

CHIME'THLON. See PERNIO.

CHIMIA'TER, (from *chimia*, *chemistry*, and ιατρος, *a physician*). Physicians who make the science of chemistry subservient to the purposes of medicine. Physicians of this description are called also *chemici* and *iatrochimici*.

CHIMO'LEA LA'XA. Paracelsus means, by this

word, the powder which is separated from the flowers of saline ores.

CHI'NA ORIENTA'LIS. So called from the country from whence it was brought. *China radix*, *sankioa*, *quaquara*, *smilax aspera Chinensis*, or CHINA ROOT. It is the *smilax china*, Lin. Sp. Pl. 1459.

It is an oblong, thick jointed root, full of irregular knobs, of a reddish brown colour outwardly, but inwardly of a pale red. There are two sorts, the East and the West Indian. The first is most esteemed; it is paler and harder than the other, and in China is called *lampatam*.

The plant is climber, with tendrils; and, like the vine, it bears clusters of large berries of a red colour. It is a native of China and Japan.

The root hath but little smell or taste. An inspissated decoction of it yields an unctuous, farinaceous, almost insipid mass. It is supposed to promote perspiration and urine. Prosper Alpinus says, that the Egyptian women use this root to increase their bulk. It first appeared in Europe as an anti-venereal about the year 1535, but now it gives place to sarsaparilla.

This East India china may be distinguished from the other by its yellow-brown colour outwardly; its white, or reddish-white, colour inwardly; by its being in flattish long pieces, full of knots, firm, and smooth when cut.

CHI'NA OCCIDENTA'LIS. *China spuria nodosa*, *smilax*, *pseudo china* Lin. Sp. Pl. 146, *smilax Indica spinosa*. AMERICAN OR WEST INDIAN CHINA.

This plant is a climber, and bears black berries, grows wild in Virginia and Jamaica, and bears the cold of our climate. The root is brought chiefly from Jamaica in long round pieces, full of knots; whitish without, and reddish within.

In scrofulous disorders it has been preferred to the oriental kind. In other cases it is of similar but inferior virtue.

CHI'NA SUPPO'SITA. *Senecio Madraspatanus senecio*, *pseudo china* Lin. Sp. Pl. 1216, or BASTARD CHINA. It grows in Malabar; the root greatly resembles the china root both in appearance and qualities. Lewis's Mat. Med. Raii Hist.

CHI'NA CHI'NÆ. See CORT. PER.

CHINE'NSE. See AURANTIA SINENSIS.

CHINCHI'NA. See CORT. PERUV.

CHI'OLI. See FURUNCULUS.

CHI'QUES. A name which the French give to the worms which are found under the toes of the negroes, and which are destroyed by the oil which flows out of the cashew nut shell.

CHIRA'GRA, (from χειρ, *the hand*, and αγρα, *a seizure*). Gout in the hand. See ARTHRITIS.

CHIRO'NES, (from χειρ, *the hand*). See BOVINA AFFECTIO.

CHIRO'NIA, (from χειρ, *the hand*). See BRYONIA NIGRA. It is also a name for the centaury. See CENTAURIUM.

CHIRO'NIUM. A malignant ulcer, difficult to heal, with a hard, callous, and tumid margin; so called from Chiron the centaur, who is said to be the first who cured it. It is also called *telephium*.

CHIRONO'MIA. See CHEIRONOMIA.

CHIROTHE'CA, and PODOTHE'CA, (from χειρ, *manus*, and πους, *pes*, or τιθημι, *pono*, *to put*). In the preparation of anatomical subjects, they are a glove and a shoe of the scarf skin, with the nails adhering. They are separated with very little trouble after the cuticula loosens from the parts below by putrefaction; and this method is better than that of separating it by means of boiling water.

CHIRU'RGIA, (from χειρ, *a hand*, and εργον, *work*, *manual operation*). SURGERY, or that part of medicine which consists of manual operations.

It was our intention to have comprised under the article of medicine a general history of that science, as well as of anatomy and surgery; and we consequently omitted in its proper place the particular history of the former. On contemplating the subject more nearly, we find that it will be too much broken by subjects which, though generally connected, yet branch into distant ramifications. As anatomy is perhaps more intimately connected with surgery than with medicine, we have therefore preferred giving a short sketch of the origin and progress of each in the present article.

Anatomy and surgery are the sciences of a rude warlike race; for however simplicity of diet and constant labour may preserve health, yet in this ruder state of society, wounds and bruises must have been frequent. If the nation were ferocious and often engaged in combat, the knowledge of the former would be more generally disseminated, and the practice of the latter more necessary. Thus each science was very early cultivated; and in Homer no slight knowledge of anatomy is displayed. The Egyptians, whom we generally compliment with the earliest advances in every science, often with little reason, were probably acquainted with the structure of the human body from their practice of embalming, and it is said that their kings left treatises on anatomy. If what Prosper Alpinus has described as their later practice was traditionally conveyed from the early ages, they had also made a considerable progress in surgery; but we have reason to believe that the greater part was taught them by the Greeks, as we know the practice of bleeding to have been. The Egyptians had *their* Æsculapius; whom the Greeks, in their usual method of appropriating every distinguished personage to their own nation, have transferred to Greece. After Æsculapius, we find the names of Chiron the centaur; Machaon and Podalirius, two sons of Æsculapius, mentioned by Homer; Thales, Empedoclus, Pythagoras, Heraclitus, and Democritus. The small circle of the philosophy of those days would not be greatly crowded by the admission of anatomy and surgery; and we know that some of these philosophers assiduously cultivated the former study. We have the authority of Stephen of Byzantium for Podalirius having practised phlebotomy.

We can only judge of the ancient state of anatomy and surgery from the works of *Hippocrates*. He seems to have collected with great diligence all the observations of his predecessors, but his anatomy was general, and somewhat superficial. He is accused of dissecting brutes, and describing the organs of apes as those of the human race. Indeed this seems to have been true, if all, even the undisputed, writings attributed to him be really genuine. Yet many of these are evidently interpolated; and very few indeed have reached us without some ground of suspicion. His surgery deserves a better character. His remarks on ulcers and wounds, even at this time, merit attention; but his

operations were few. He opened abscesses, penetrated the thorax to discharge any effused fluid, and the abdomen for the same purpose: the head he perforated with the trepan. His chief surgical operation was the actual cautery, which he recommends in a variety of diseases, and which modern delicacy or timidity has banished with too little discrimination.

Various were the followers of Hippocrates, of whom we have received little more than the names, till the time of *Diocles*, at the distance of one hundred and thirty years from his era, and about three hundred and eighty years before the birth of Christ. He invented an instrument for extracting the point of an arrow sticking in a wound, and some bandages which, like the instrument, bore his name. The last of the Asclepiadean race was *Praxagoras*. He is recorded in desperate cases of ileus to have opened the abdomen and intestines in order to evacuate the fæces, and then to have sewed up the wounds in each.

The improvements in anatomy during this long period were probably few, at least scarcely any additional knowledge in this branch has been preserved. The era of the *Alexandrian school* has not been accurately ascertained; but its distinguished professors, *Herophilus* and *Erasistratus*, were minute anatomists, and many parts of the human body still preserve their names as discoverers. We have received their improvements only in the works of Galen, at the distance of three hundred and fifty years. They both practised surgery; and Erasistratus, who was a century earlier than Herophilus, opened the cavity of the abdomen in cases of diseased liver, to apply his remedies to the part itself. *Asclepiades* of Bithynia was the cotemporary of Erasistratus, and, as appears from Plutarch, an experienced surgeon; but his chief reputation arises from the revolution he occasioned in the practice of medicine, which is not our present object. *Cassius*, perhaps a scholar of Asclepiades, at least a cotemporary of his scholars, was apparently an able anatomist and a skilful surgeon; and Aretæus, who lived near the time of our Saviour, was more distinguished for his medical abilities, than for anatomical or chirurgical knowledge.

Whatever was the era of *Celsus*, he is certainly the first author after the birth of Christ, who merits our regard. His style has been the admiration of ages, and in his collections he appears to have been diligent and attentive. It has been doubted whether he himself practised. From some parts of his works it is evident that he did, but not frequently, or probably in important cases. His seventh and eighth books are wholly chirurgical, but in these he treats chiefly of operations; for to these he seems to confine the office of the surgeon.

Celsus mentions the operation of lithotomy, but this is not the first time of the subject occurring. We delayed, however, noticing it till we could bring the whole together. It appears from Hippocrates, that the extraction of the stone was practised in his time, but confined to particular operators, and he forbids its being attempted except by them. Of their methods or success we have no particular information; and we have only an obscure ray from the Alexandrian school, of a surgeon who attempted to break the stone in the bladder when it was too large to be extracted entire. In Celsus the operation described is that with the lesser apparatus.

One hundred and fifty years elapsed before any other author worthy of particular attention offers himself to our notice, and we then meet with the famous *Claudius Galenus* of Pergamus, whose undisputed sway over all the realms of medicine continued for more than twelve hundred years. Galen was a laborious collector, and a diligent dissector: his anatomical knowledge was extensive, and in his work are preserved all that former observers knew. In surgery he possesses little originality, and chiefly comments on the writings of Hippocrates. From this period, the history of anatomy presents for ages a dreary, unproductive desert. Little was added by the Galenists, who feared to step beyond their master; and the Arabians, who preserved the spark of science when it was nearly extinguished in the West, thought themselves polluted by touching a dead body. Surgery, however, was cultivated with care. It has been in all ages, in every revolution of society and science, a necessary acquisition.

Nearly two hundred years after Galen, *Oribasius* flourished, who explained and illustrated very satisfactorily many parts of the Pergamenian's doctrine. His chirurgical chapters are full and instructive, but he possesses little originality. He has been stigmatised as a compiler, and in reality is little more. Ætius of Amida, followed him, probably about the distance of one hundred years, and seems to be a superior author in many respects, though it is not easy to appreciate his chirurgical merit from the unconnected form of his observations. His method of puncturing the legs in anasarca, and of relieving inveterate asthma by numerous cauteries, merits particular attention. He was acquainted with the use of setons; and the wounds inflicted by the bites of mad animals should, in his opinion, be kept open sixty days. In Ætius are some fragments of *Leonidas*, a surgeon of the school of Alexandria. The only novelty we perceive in these, is the treatment of the Guinea worm, the dracunculis.

Paulus of Ægina, whom Dr. Friend places in the seventh century, has been styled the ape of Galen, as his works are supposed to be servilely copied from that author. We do not indeed perceive so many originalities in Paulus as some of his admirers seem to have discovered; but he is by no means a compiler only. He was apparently a judicious practitioner; and in his works the whole of the ancient surgery is detailed more copiously and accurately than in those of any other author. His account of aneurisms is new. He describes (almost) the lateral incision in lithotomy, and apparently first mentions the fracture of the patella. If not the first author who recommends bronchotomy, he is certainly the first who distinguishes with precision the circumstances in which it is successful.

The chief Arabian surgeons were *Rhazes*, *Avicenna*, *Avenzoar*, and *Albucasis*. It would fill but a few lines were we to add all the improvements of the three former. The description of an abscess in the mediastinum by Avenzoar deserves indeed to be mentioned, with his proposal of trepanning the sternum, which some modern authors have practised with success; but the complaint is by no means so accurately distinguished as to enable us often to follow the example. Albucasis has given us a complete system of surgery copied professedly from Hippocrates and Galen, sometimes apparently from Paulus of Ægina; but many observations and improve-

ments of his own are added. We may mention one, as it has been lately the subject of some dispute, that is, tying the artery to stop hæmorrhages; an improvement usually attributed to Ambrose Parey.

At the restoration of learning, authors of credit were soon numerous, and surgery improved rapidly. Anatomy for a time lingered in its former imperfect state. When a surgeon appears only in a century, he becomes a distinguished figure on the canvas: the crowd that now hastily follow each other must be considered more cursorily. Indeed, the greater number who first distinguished this era were merely copyists of Albucasis; nor have Saliceto or Lanfranc sufficient originality to induce us to rest on them for a moment. *Guido de Cauliaco* was the first who had any pretensions to originality; though these rather consist in judicious remarks on his predecessors, than any improvement peculiarly his own. In cataracts he depressed the lens.

At this time surgery in England was at a low ebb. Gilbert was very imperfectly instructed in his art; John of Gaddesden was a quack; and of John Arderne's works we cannot judge, as they have not been printed, if we except the Treatise on the Fistula in Ano, translated by Read. He is spoken of, however, with respect by Friend.

The appearance of the venereal disease in the sixteenth century turned the attention of surgeons to one object, though they were not wholly inattentive to the science in general. *Vigo's* Surgery is a work of considerable merit; and he explains, particularly, the mode of tying the arteries when cut. Some authors think him the first surgeon who used mercury in the venereal disease, the credit of which is usually given to *Carpi*, who undoubtedly first employed mercurial frictions. *Carpi's* only other chirurgical work was on the fracture of the skull. *Marianus Sanctus*, who wrote on a particular mode of cutting for the stone, which he attributes to John de Romanis, was an author of this period. *Antonius Ferrus*, and *B. Maggius* of Bononia, published on gun shot wounds; *Vidus Vidius* and *J. Andreas* on surgery in general; and *Taliacotius* on supplemental noses, about this period.

Ambrose Parey claims a greater share of attention. His works may be even at this time read with considerable profit, as he treats of every branch of the science with considerable judgment and precision. He was the first who condemned the practice of dressing gun shot wounds with hot irritating oils; and to him the checking hæmorrhages by ligatures on the arteries has been attributed. He possesses such a variety of merit, that he may resign his claim to this discovery without any injury to his fair fame. *Franco* is a French surgeon, who treats with singular precision on *herniæ*, and mentions the use of the seton in hydrocele. He was the inventor of the high operation for the stone, urged by necessity, as it was too large to be extracted by De Romanis' plan. *Paracelsus* was also a surgeon of this era, but of no credit; *Forestus* deserves a higher character, and his works even at this time are valuable.

It may appear that we have forgotten the history of anatomy; but in the whole of this period no anatomist of character has appeared to claim our attention. We now, however, approach a period when the science was assiduously cultivated; and we have passed over Fallopius and Vesalius, who, though distinguished as surgeons, yet merit more particular notice as anatomists.

Anatomy, in the sixteenth century, dawned with *Sylvius*; but, servilely attached to Galen, he did little more than explain that author's works. *Vesalius* was his pupil; and, ardent in the study of anatomy, he soon discovered many errors in the descriptions of Galen, and clearly showed that they were taken from the dissections of brutes, particularly apes. The clamour which this accusation excited was inconceivable: even denying the infallibility of the pope would have been, among the anatomists of that era, a comparatively venial crime. His master, Sylvius, continued for ever, on this account, his irreconcilable enemy. Science, however, gained by the contest; for, if Vesalius and Galen were at issue, the contest must be decided by actual observation. The result was, on the whole, favourable to Vesalius; but unfortunately he was, in some instances, detected in the same disingenuity of which he accused Galen. The anatomy of Vesalius, however, continued to be for ages a work of peculiar interest and value. The early editions are illustrated with wooden cuts, it is said, from the drawings of Titian. They are, indeed, executed in a style truly masterly; but the great painters of that era, Raphael, Titian, and Leonardo de Vinci, were excellent anatomists, so far as the structure of the parts influenced the external form.

Fallopius was also an author of this century, though later than Vesalius. His Observationes Anatomicæ were published in 1561, and his discoveries were numerous. The tubes which convey the ovum to the uterus still bear his name. *Eustachius* lived somewhat later. His tables, which he himself engraved, were found without any explanations, and published by Lancisi, in 1714, with some short and imperfect elucidations. They were republished by Albinus, with a copious commentary; and even at this time are, with a few exceptions, very correct and satisfactory. Eustachius was, however, no man's friend, and a violent enemy of Vesalius. His anatomical discoveries were numerous and important. Though able and scientific, yet, from a spirit of opposition, he often defended Galen; and thought that he had gained a victory, when he proved that some of the parts were not described from apes, as Vesalius supposed, though he admitted that they were copied from brutes. He intended that his plates should be explained by a geometrical gnomon, to avoid the obscurity which letters of reference would occasion; but his plan is lost.

The other anatomists of this century are not of sufficient importance to detain us long. Yet we ought not to omit, in the Italian school, the only one to which we are indebted for anatomical knowledge, *Mercurialis*, who merits more particular attention as a practical physician, but who was also an expert anatomist; *Cæsalpinus*, who clearly described the lesser circulation through the lungs; *Varolius*, whose name is preserved in a distinguished part of the brain; *Schenckius*, whose collections furnish us with so many singular, often incredible narratives; *Casper Bauhine*, the botanist; *Laurenti*; *Castellus*, our predecessor in lexicography; *Fabricius, ab Aquapendente*; *Hildanus*; *Kepler*, the astronomer; *Riolan*: the elder *Bartholine*, *C. Hoffman*, *Sennertus*, *Spigelius*, and *Severinus*.

We have, contrary to our intention, stepped beyond the limits of the sixteenth century, to extend our historical sketch to the period of Harvey. The early part of the seventeenth century was the era of discoveries, *Asellus* ascertained the existence of the lacteals, *Harvey* of the circulation of the blood; while he, at the same time, established many important facts respecting the generation of animals, establishing, on the firmest foundation, that universal axiom, *omne ex ovo*. The discovery of the circulation has immortalized the name of Harvey; yet we must add, that the facts already established left little more to be done than to collect and compare them; nor have we any hesitation in remarking, that the greatest discoveries, that of Newton, respecting the universal influence of gravitation, and of a new world by Columbus, were in the same way prepared, so as to require only "patient thinking," attentive examination, and a comparison of facts already known. *Servetus* alluded to the lesser circulation through the lungs; Cæsalpinus described it more distinctly, and proved it by the structure and situation of the valves. May not then all the blood in the body circulate? The question was ready and obvious; and the chief merit of Harvey and of Newton was that of bringing a simple suggestion to such a rigorous examination, as incontestably to demonstrate its truth. It has been triumphantly asked, What have we gained by either? Were it no more, we have divested superstition of its terrors, and quackery of its vain pretensions; but the discovery of Harvey imperceptibly mixes in every step, either of speculation or practice: the result is now so interwoven with every thought, that its influence is not perceived.

In the seventeenth century the names crowd on us in such a multitude, that even the enumeration is almost impracticable. Among anatomists and surgeons, for we can now scarcely distinguish them, we find *Sylvius de la Boe*, *Veslingius*, *Horstius;* the younger *Bartholine*, an author of peculiar industry, of great abilities as an anatomist, and a strenuous defender of the newly discovered absorbent system; *Schneider*, the discoverer of the extent of the Schneiderian membrane and author of an extensive work on catarrhs; *Ballonius; Van Helmont; Vanderlinden*, the very accurate editor of Hippocrates; our own *Charleton* and *Highmore; Pecquet*, the discoverer of the receptacle of the chyle; *Wallis*, who gave us the first rudiments of the method of teaching the deaf and dumb to speak; *Glisson*, the author of the Anatomia Hepatis; *Bohnius*, to whom we are indebted for a work on the eye, and an excellent treatise, De Renunciatione Vulnerum; *Schultetus*, who gave us a most instructive work on surgical instruments, and has preserved the form of many, which would have been otherwise forgotten; *Wharton*, author of the Adenographia; *Wepfer*, *Wedelius*, *Willis*, of Oxford, whose talents, as an anatomist and physician, are not adequately appreciated at this time; *Malpighi*, a naturalist and anatomist of the highest rank; *Steno Bellini*, a mechanical physiologist of considerable ability; *Borelli*, the disciple of Bellini; *Drelincourt*, the anatomical preceptor of Boerhaave; *Redi*, *De Graff*, *Ruysch*, *Swammerdam*, *Lower*, *Etmuller*, *Mauriceau*, *Muralto*, *Lister*, *Ray*, *Pechlin*, *Diemerbroeck*, *Lewenhoeck*, *Duverney*, *Tyson*, *Grew*, *Nuck; Bidloo*, the author of some excellent anatomical plates, which Cowper has been accused of republishing, without any acknowledgment, and with little alteration; *Vieussens*, author of the Neurographia Universalis; *Vanderwiel;* and our own *Wiseman*, though last, not least.

The extent of this catalogue, though numerous authors of credit are omitted, prevents us from following at length the anatomists and surgeons of the last century. To attempt it would be a labour of immense extent, disproportioned to the work; and it would be in a great measure useless, since they are generally known. In the early part of the last century *Dr. Douglass* taught anatomy with credit; and to him we are indebted for *Dr. William Hunter*, and, more remotely, for his brother, *J. Hunter*. In Scotland, the first *Monro* was an anatomist and surgeon of unrivalled excellence. In Germany, *Haller* merits peculiar and distinguished commendations; while, in both countries, the second *Monro*, *Hewson*, and *Meckel*, perfected the discovery of the third distinct system of vessels, the lymphatic, which Mascagni of Italy has delineated with singular elegance. Italy can also boast of the very able anatomists, *Morgagni* and *Valsalva*.

In surgery, *Cheselden*, *Sharp*, *Pott*, and many others, have been equally an ornament to their country and to the science they professed; nor have their successors been less distinguished: but of living surgeons it is not perhaps proper to speak, since it is so difficult to speak without offence. In France, *Petit*, *Mery*, *Le Dran*, *Le Cat*, *Daviel*, and *Peyronie*, have greatly extended their art; and in Germany *Heister* has given the best general system of surgery, which appeared before that of Mr. Bell.

Here, then, we must close the history of surgery, and proceed to the other branches of this article. The object of surgery is apparently every external complaint not owing to an internal cause, and every disease in which an operation is required. Of the first class are, wounds, tumours, inflammations, and organic complaints. The latter comprehends a great variety of internal complaints, which are partly the object of the physician, and, in part, of the surgeon. These are, diseases of the brain from compression; fractures of the cranium; polypi of the nose; accumulations of cerumen in the ears; scirrhous tonsels; obstruction of the larynx from inflammation; accumulations in the chest, either of air, water, or purulent matter; herniæ of every kind; abscesses of the liver, or other viscera, pointing outwards; calculus in the kidneys or bladder; suppression of urine, or fæces; fractures; dislocations; diseased joints, &c. Yet the surgeon should reflect, that he will always merit greater praise from curing without an operation, than by an operation performed with the greatest dexterity. Unfortunately, many surgeons suppose that the operation is their chief business; that, by it, their character obtains a degree of splendour, which the best and most successful plan of cure would not otherwise claim. Let the young surgeon disregard this delusive splendour, which will entice him often to his patient's injury. On the other hand, let him not too long delay an operation that may be necessary, or protract to the moment of exhausted strength what requires some efforts of the constitution to bear or contend with. Each fault is too common; and it has been a great object, in our separate articles, to give such rules as may correct either tendency.

When an operation of importance is necessary, it becomes the surgeon's duty to state to the friends the real probability of success, without exaggeration on one side, or too doubtful hesitation on the other. The whole truth, as it appears to him, should be faithfully and explicitly detailed. If, from a fair view of the arguments, the operation be decided on, the patient's consent should also be gained; yet, at this time, every encouraging circumstance should be displayed, and every doubt suppressed, or, at least, suggested with caution. The pain, the hazard of an operation, will strongly bias the mind, and give every doubt a disproportioned force; nor is the moment of pain and distress such as will enable the patient to examine contending arguments with the requisite discrimination and impartiality.

When an operation is performed, it was formerly fashionable to display the dexterity of the operator by a rapid execution. Neatness, accuracy, and minute precision, are now studied. We do not think the change advantageous to the patient. If the operation is not so much hurried as to occasion error, it cannot be performed too soon; and nothing is gained by detaining the patient on the table three times the necessary time, because the knife shall be carried as near as possible to an artery without wounding it, or because the smallest particle of muscular flesh shall not be included in a ligature. We have seen an operation performed so slowly, as if the operator thought his success was only obtained by a dilatory caution. After the operation, the application of the bandage is of the greatest consequence; and, as the ease of the patient is much connected with the neatness with which it is applied, the utmost attention should be paid to this part of the process.

The profession of a surgeon is of the highest importance to society, and it requires a greater combination of talents than any other within the circle of scientific attainments. The object is certainly more nearly within the reach of the senses. The surgeon has not, like the physician, to contend often with a form or phantasm. Yet he cannot pursue a disease in all its bearings, in all its consequences, without the most careful discrimination of causes and effects, without an attentive examination of the influence of an injury on the most distant parts. With these powers, he must have a command of hand to enable him to direct his knife with the utmost nicety and precision; a mind unruffled by any accidental unexpected occurrence; and a readiness of resource to supply the assistance necessary in any emergency. His senses must possess peculiar acuteness, particularly the feeling, which is often more important than even the sight. His hand must not tremble; his mind be unassailed by fear, by apprehension, or doubt, when the necessary operation has been once decided on. It is observed by Celsus, that a surgeon should be able to use either hand; but, by attaining this power, the right might lose a portion of its dexterity; and, though the left may occasionally in the less nicer parts assist the right, yet it should not be wholly trusted. It is said that the surgeon should be young, at least *so young* as not to have the necessary powers impaired, and of sufficient age to have attained the requisite experience. Undoubtedly, by age the faculties are blunted: doubt and hesitation take the place of a proper confidence and a manly firmness; the hand is less steady; the feelings less acute. The age cannot be fixed, since the powers of each individual differ at a given time of life. We have known many surgeons of character and abilities who have limited their professional career at the age of sixty. But this decision, formed with the candour and ingenuousness of youth, has been forgotten when they reached the limit. It shows, however, their opinion; which were we to controvert, it would be by fixing a less extended period. But this we would only confine to capital operations; long after sixty a surgeon of abilities may be eminently useful in consultations.

A quality very necessary for a surgeon is, a knowledge of mechanics, and a readiness in adapting little mechanical contrivances to the exigencies of the moment. It is inconceivable how much pain and distress are alleviated by such ingenuity; how the cure is often accelerated, or the spirits supported.

Humanity is, above all, required to complete this first of characters, a good surgeon. In general, surgeons are proverbially cruel, and they often must be so to fulfil their duty. Yet there is a tenderness of manner that makes even cruelty tolerable; in comparison, amiable: and, though the surgeon ought not to feel, he should as much as possible lessen, the patient's pain, and appear to be sensible of his sufferings. A softness of manner, a gentleness of voice, and even a delicacy of form, are not without their effect; and whatever can alleviate distress, though trifling in the general scale, should not be neglected. To the one the patient looks with horror as the butcher; to the other as the ministering angel, bringing balm on his wings to heal and to save. We have employed these few lines for the sake of our younger brethren. May they not be without their effect!

We thought that we had completed our task, when we were reminded that the recommendation of the study of anatomy was omitted; but this first, this most important, qualification, can never be neglected by him who aims at the character of an accomplished surgeon. It should be his study day and night: the human body should be the work, *nocturna versari manu, versari diurna.* The knife should be constantly in his hand to attain a readiness in using it in every direction; to vary the direction in a moment at every angle of obliquity; to stop; to proceed; to alter the velocity with the readiness which governs the movements of the best managed horse, or, to employ a more delicate metaphor, the finger of the most experienced musician. But this must be a part of his education; nor should he claim the confidence of the public till all these qualities are attained.

The study of the practice of physic may not be considered as essential to a surgeon: yet, as the complaints which are occasionally arranged under each head vary in their minute shades and press on each other, it is highly necessary that medicine should make a part of his education. It has, however, often happened, that a knowledge of the one has led to a presumption that it has equally inspired an acquaintance with the other; and each has intruded in a department not his own, without a sufficient qualification for the due exercise of it. A surgeon should, we think, possess a sufficient knowledge of medicine, to regulate the general treatment of the diseases within his own limits. Beyond them he should not pass, without having paid that

attention to the other science, which, had he cultivated with care his own, he would have little opportunity of attaining. The physician should be equally careful of interfering; yet, in a comprehensive view, surgery becomes a part of his profession. A man of science grasps particulars in an outline; and as the operative part is beyond his limits, there is nothing to prevent his acquisition of so much of surgery as will enable him to assist, sometimes to direct, the less experienced practitioner.

One other subject only remains; a subject which we could not have supposed would ever have occurred in a questionable form, viz. whether surgery is improved by the labour of the moderns, and raised above its former state. Let humanity decide, and the cause will be soon determined; but we will not harrow up the soul by the repetition of former cruelties. The question will recur in another shape: Is the modern surgeon more successful than his predecessors? The reply is easy. Do we still pour hot irritating oils on gun shot wounds? Are not wounds quickly cured by the adhesive inflammation, which required months by the former methods of suppuration? Is not the stump healed, by means of the flap, in a few weeks? Does the wound, from which the cancerous mamma has been extirpated, require any thing more than superficial dressings? To pursue the subject minutely, would be to waste the reader's time and exhaust his patience. Let us select an instance or two. In herniæ the operation was precarious and ill understood: it was consequently but seldom attempted. The modes of reduction were little known, and the trusses so imperfectly calculated for the purpose, that, when reduced, the intestine was seldom retained. We have selected this instance; because we can appeal to facts, viz. the numerous advertisements, even in the beginning of the last century, of rupture curers. The greater number we now know can be reduced and retained with little difficulty; and of those cases which require the operation, nearly one half escape. If the operation were not too long delayed, the proportion of successful cases would be greater.

In lithotomy, confined for ages to one set of practitioners, the means were limited and inadequate. The method described by Celsus was, from its nature, confined to the age of from nine to fourteen. How many years previous, how very many subsequent, to that age, must have been spent in unsufferable agonies! What then was the attempt? First, with the greater apparatus; and, secondly, in the higher way. Even when it succeeded, an incontinence of urine frequently followed each; and in the greater number it failed. When Frere Jacques pointed out the lateral operation, how crude and imperfect were his first ideas! The grooved staff and the cutting gorget were the improvements of very late years. But, previous even to the latter, Cheselden had so far simplified the operation, that many surgeons have professed being able to perform it in the dark. Indeed, it is one of many operations which depends on the nicety of the feelings rather than the sight.

The systems of surgery in our hands are few. The practice of the ancients may be found most eloquently described in Celsus; but at greater length, and often more satisfactorily, in Albucasis, with numerous improvements, which he claims as his own. It was published with Guido's Surgery, in folio, at Venice, 1500; again in 1506 and 1520; but the best edition is that of Strasburgh, in 1532, or that at Basil, 1541.

Heister connects, very properly, the ancients with the moderns; and, among the latter, Mr. Benjamin Bell almost stands alone; for Mr. Latta's system is less complete, and Mr. J. Bell's a very inferior work. Mr. B. Bell is, however, too minute and tedious; and so disproportionate is his share of attention, that bleeding occupies nearly as many pages as lithotomy. The chief inconvenience, besides unreasonably enlarging the work, is, that the young surgeon may attempt the more important operation with the same confidence that he has often successfully performed the less. From the character of Mr. Blair, we have reason to expect, with some impatience, his promised system.

To enumerate the other independent works is unnecessary, as they will occur under each head, and they are so numerous as to form an extensive catalogue.

CHIRURGO'RUM SAPIE'NTIA. See Sophia.

CHIRU'RGUS. See Cheiriater.

CHIST. See Sextarius.

CHI'TON. (Greek.) See Membrana.

CHI'UM VI'NUM. Chian wine. A wine of the island now called *Scio*. Dioscorides says it is less disposed to intoxicate than any other sort.

CHI'VES. See Stamen.

CHI'VETS. The small parts at the roots of plants by which they are propagated. Miller's Dict.

CHIVIQUILE'NGA. See Cataputia minor.

CHILIA'SMA, (from χλιαινω, *to make warm.*) See Fotus.

CHI'LMIA. See Cadmia.

CHLO'RA. Green. See Chloros.

CHLORA'SMA, and CHLOROS, (from χλωρος). A palish green colour, shining with a sort of splendour, and inclining to watery: it is applied to leguminous plants before they are dry or come to perfection.

CHLORO'SIS, (from *chloros*, χλωρος, *green*). The green sickness, called also *febris alba*, the virgin's disease, *amatoria febris*, and *icterus albus*. Though Hippocrates does not seem to have known these names of this disorder, yet in the 34th and 35th paragraphs of his book De Internis Affectionibus, he describes it fully; and when it happens to girls, he speaks of it in his book De Virginum Morbis.

Most authors treat it as a species of cachexy, and indeed it is only distinguished from other species by its cause. (See Cachexia.) Dr. Cullen considers it as a symptom of amenorrhœa.—A vitiated appetite, a strong desire of eating unalimentary, often absorbent, substances, are constant attendants on this disorder; and, if married women become *chlorotic*, their children are weakly, should they have any. The common symptoms, *when from difficult menstruation*, are a paleness in the lips, a livid colour about the eye lids, indolence, coldness, particularly in the feet, loss of appetite, nausea, vomiting, disturbed sleep, a languid pulse, limpid urine, which in time becomes turbid, a tremor, if exercise is brisk, or if the patient ascends a hill, frequent palpitation of the heart, swelled feet, heart burn, intermitting headachs, and fainting. See Menses deficientes.

CHNU'S, χνυς, fine soft wool; but sometimes chaff or bran; (from χναω, to *grind*, or *rasp.*) Sound, or wind.

CHO'A. See Chu.

CHO'ACON. The name of a black plaster, mentioned by Celsus, made of a spuma argenti boiled in oil, added to a proper quantity of resin.

CHO'ANOS, Χοανη, a funnel, (from χεω, *to pour*). See Infundibulum. A funnel, or furnace for melting metals.

CHOA'VA. See Coffea.

CHOCOLA'TA. This is said by Dr. Alston to be compounded of two Indian words, (from *choco*, *sound*, and *atte*, *water*; because of the noise made in its preparation). See Cacao.

CHŒ'NICIS. The Trepan; so called by Galen and P. Ægineta, from χοινιξ, *the nave of a wheel*; (from χναω, *to tear*, or *vellicate*). See Trepanum.

CHŒ'RADES, (from χοιρος, *a swine*). Strumous swellings, of a malignant quality, painful to the touch, and exasperated by medicines. See Scrofula.

CHŒRADOLE'THRON, (from χοιρος, *a swine*, and ολεθρος, *destruction*; so called from being dangerous if eaten by hogs). See Bardana minor.

CHO'IRAS, (from χοιρος, *a hog*). See Scrofula.

CHO'LADES, (from χολη, *bile*). See Intestina.

CHO'LAGO, (from the same). The small intestines which contain bile. See Ilium.

CHOLAGO'GA, cholagogues, also *colegon*, (from χολη, *bile*, and αγω, *to drive out* or *evacuate*). By *cholagogues* the ancients meant only such purging medicines as expelled the bilious fæces. We retain the word for such purgatives as are found most useful when bile offends, or are of service when the liver is diseased. Of this kind are rhubarb and calomel, which are supposed to increase the bilious discharge more powerfully than any other medicine. Aloes and taraxacum have been considered as useful in occasioning the bile to pass freely into the intestines, though with little reason. See Cathartica.

CHO'LAS. See Ilium.

CHO'LE, (from χολη, *bile*). See Bilis.

CHOLE'DOCHUS, (from χολη, *bile*, and δεχομαι, *to receive*). It is a common name for the gall bladder, the biliary ducts, and the common gall duct, which communicates with the duodenum, called

Chole'dochus du'ctus. It seems to be a continuation of the ductus cysticus; for it is often observed, that the ductus hepaticus runs, for some space, within the side of the ductus cysticus, before it opens into its cavity: at the opening of the hepatic duct into the cystic, there is a small loose membrane to hinder the bile from regurgitating.

CHOLE'GON. See Cholagoga.

CHO'LERA MO'RBUS. Cœlius Aurelianus says, the name is derived from χολη, *bile*, and ρεω, *luo*. It is called also *diarrhæa cholerica*, *felliflua passio*, and by some of the ancients, *holera*.

Hippocrates divides this disorder into the moist and dry; and there is a kind of cholera morbus which frequently happens to children from dentition. Dr. Cullen names it *cholera*, and defines it a frequent vomiting and purging of a bilious humour, attended with anxiety, gripings, and spasms of the legs. He ranks it in the class *neuroses*, and order *spasmi*. He observes two species: 1. *Cholera spontanea*, which happens in hot seasons, and without any manifest cause: 2. *Cholera accidentalis*, which occurs from too acrid materials taken into the stomach.

The intermittent, inflammatory, arthritic, and verminose cholera, are considered truly symptomatic. The true species is most frequent in autumn, and happens chiefly to young persons, and its seat seems to be the whole volume of the intestines, but more particularly the duodenum and biliary ducts, as appears by the vomiting and stools, which are bilious.

The cholera and bilious diarrhœa are incident to the bilious and dry constitutions; for those of a phlegmatic and sanguine habit are more frequently liable to a different discharge. Those who are subject to a scorbutic acrimony, or those of a passionate temper, are the commonly reputed victims of the disease. In sultry weather it is most frequent: hence it is said by Bontius and Thevenot to be endemic in India, Muritania, Arabia, and America.

The true cholera attacks often suddenly: sickness, pain, flatulency, and distention of the belly, are first perceived, and are soon followed by frequent vomiting and purging of bilious matter; the vomiting and purging come on together, and continue very frequent, with violent pain. The matters voided are at first the remains of the food; afterwards bilious fluids, more or less mixed with frothy mucus, of a yellow, green, and, at last often a black colour; sometimes bloody, like the washings of flesh, extremely acrid, and almost corrosive. The pulse is frequent, and sometimes small or unequal; heat, thirst, and anxiety, now attend; cold sweats presently appear, and spasmodic contractions affect the extremities. In greater degrees of this disorder, the muscles of the belly, and, indeed, the whole body, are seized with spasms: ineffectual strainings to vomit, with almost continual urging to stool, usher in an hiccough, lividness of the nails, convulsive contractions of the legs and arms, and death sometimes within twenty-four hours.

In the dry species, there is a considerable distention of the stomach and intestines by wind, which is plentifully discharged both upward and downward with extreme anxiety, but without either vomiting or purging.

The remote causes are various; as acrid poison taken into the stomach, active emetics or purgatives, acrid, fermenting, or putrescent, drinks or diet, and violent passions.

The immediate cause is the irritation of the nervous coat of the stomach and intestines, which is communicated to the biliary system, occasioning the violent pain and the discharge.

Hoffman says, that the dangerous vomiting and purging which infants are thrown into from the vehement anger of the nurse, and those which follow the exhibition of arsenic, some other poisons, and the virulent cathartics and emetics, seem to be no other than the true cholera.

The dry cholera proceeds from a collection of acrid and flatulent humours in the stomach, by which the adjacent nervous parts are irritated and distended.

The cholera morbus must be distinguished from a bilious looseness, a dysentery, and the dry cholera. It is distinguished from the first by its rapid attack, its violence, and short duration; from dysentery, by the absence of the violent forcing pains, and the ineffectual

mucous evacuations; and from the dry cholera, by the nature of the discharge.

It is often fatal in hot climates, though seldom in temperate ones. The more corrosive the matter discharged, the more intense the heat and thirst, the greater is the danger. Hippocrates observes, that if black blood and black bile are voided together, death is certainly at hand; and an exorbitant discharge of a green fluid, both upward and downward, fainting, hiccough, convulsions, coldness of the extremities, cold sweats, a small intermitting pulse, and the continuance of the other symptoms, after the looseness and vomiting cease, are mortal signs: yet, in this country, all these may concur from a common bilious vomiting, without danger, if they do not continue long after the discharges cease. Danger is extreme, if what is vomited smells like the internal excrements. If the vomiting ceases, sleep succeeds, and the patient seems relieved, there are hopes; if the disease continues more than seven days, it is seldom dangerous; but the best sign is a free discharge of flatus downward.

The general indications of cure are:

1st, To correct the acrid matter, and, if necessary, to expel it by art.

2d, To check the violent commotions.

3d, To strengthen the weakened organs.

Cholera, strictly speaking, arises from a discharge of superabundant acrid bile. It is the disease of hot climates, and of intemperately warm weather; but similar symptoms are sometimes produced by poisons, by anger, or fermenting food and drinks. In all these cases mild diluting liquors may be given, and the management as in real cholera adopted. The only difference in practice arises from the advantages of giving opiates sometimes earlier and more freely.

In the true cholera, Aretæus long since commended frequent small draughts of tepid water, to evacuate the present contents of the stomach; and when bilious discharges, loathing, and restlessness, afterwards come on, a quarter of a pint of cold water, to check the purging, to cool the ardent heat of the stomach, and to abate the thirst, may be given: this he advises to be repeated as often as the patient throws up what he drinks: and if fainting, with other symptoms of weakness, appear, a little wine may, he thinks, be added to each draught of water.

Many since Aretæus have extolled cold water, and the more so, as the climate, season, and constitution of the patient are warm; for it cools, blunts acrimony, and restores the tone of the parts. In this country it may be given safely, if large draughts at a time are avoided; but toast and water is perhaps safer.

Sydenham commends a similar practice. He orders, if called in at an early period of the disease, a chicken to be boiled for a short time in three gallons of water; of this the patient is to drink freely, and a part is to be injected as a clyster, until the whole is consumed: thus the offending matter will be diluted and evacuated both by vomit and stool. The clysters may be repeated as often as they return, at least until the pain abates.

Instead of chicken water, as advised by Sydenham, barley water may be used, or water impregnated with any insipid mucilage; butter milk, which some prefer above every liquid; gentle acid drinks; or a decoction of oat (or other) bread, that is first toasted, until it is brown as coffee, but not burnt, may be employed: as much of this toasted bread should be boiled in the water as will render the decoction of the colour of weak coffee. Edinburgh Med. Essays.

These liquors should be plentifully drank, until the contents of the bowels are sufficiently evacuated to render the exhibition of opium safe.

If the pain and sickness be violent, and the vomiting slight and ineffectual, from a quarter to half a grain of tart. emet. may be given in part of the drink, every three or four hours; or, if the discharge by stool be inefficient, such mild laxatives as the stomach will bear may be added. Manna is well adapted to this purpose, and may be given with tamarinds.

When the strength is reduced by the evacuations, and the primæ viæ cleared, the vomiting and purging may be checked with opiates. Sydenham directs the tinct. opii, from twelve to twenty drops, or more, in a little mint water, to be repeated two or three times a day, or oftener, as the urgency of the pain or frequency of the evacuations require, and to be continued, at least night and morning, until the patient recovers some degree of strength. Opiates are often, however, in a moment rejected; and, in this case, a small pill of solid opium will elude the action of the stomach, and check the vomiting. This, too, sometimes is rejected; and we have then given with advantage, a teaspoonful of elixir paregoric frequently, which is lost about the fauces, but its effects are communicated by degrees to the stomach.

If the disorder hath continued some hours, and the patient is already weakened, the opiates may be immediately given and continued, as already directed. If the symptoms of weakness are extreme, the pulse weak and intermitting, and convulsions approaching, twenty-five or thirty drops of the tincture of opium should be given in a large spoonful or two of strong cinnamon water, and after it a draught of whatever liquor the patient hath to drink, mixed with an equal quantity of wine.

The saline draughts given in the act of fermentation often allay the vomiting very soon: they may be repeated after each evacuation upwards, and to these some tincture of opium may be added.

A free use of the columbo root will be sometimes an adequate remedy against this dangerous disease. It is said rarely to require any means to be employed for promoting the discharge of bile, or to cleanse the primæ viæ, previous to its administration. As soon as assistance is demanded, from ʒ ss. to ʒ ij. of this medicine, finely powdered, may be given in a glass of peppermint water, and repeated every three or four hours, according to the urgency of the symptoms. In hot climates this remedy is almost a specific: it soon abates the violent evacuations; and by continuing it a few days, every other symptom vanishes.

Hoffman observes, that in choleras and bilious diarrhœas, especially such as are excited by passion, it is necessary to abstain from sudorifics and a sudorific regimen, particularly at the beginning; these being apt to bring on a violent rheumatic or arthritic affection.

The cholera morbus sometimes destroys the patient in twenty-four hours. If it is cured, the patient is much relieved in two or three days: it rarely continues a

week, except it is the forerunner of some other disease. See Aretæus, Cœlius Aurelianus, Hoffman, Fordyce's Elem. p. 2. Edinb. Med. Ess. vol. v. Wallis's Sydenham. Cullen's First Lines, vol. iv. 39.

CHO'LERA SI'CCA. See COLICA.

CHOLE'RICA, (from χολερα, *cholera*). Medicines which relieve the cholera. See also DIARRHŒA HEPATARRŒA.

CHOLICELE. A swelling on the right side, or rather near the pit of the stomach, from an accumulation of bile in the gall bladder.

CHOLOBA'PHINON, (from χολη, *bile*, and βαπτω, *to immerge*). A metal resembling gold, and which appears as if it had been dipt in gall. See Æs.

CHOLO'MA, (from χωλος, *lame, maimed*). Galen observes that in Hippocrates it signifies a distortion of a limb. In a particular sense, it is taken for a halting, or lameness in the leg.

CHOLO'SIS, (from χωλος, *lame*). In Vogel's Nosology, this is a genus of disease which he defines to be lameness, from one leg being shorter than the other. It is sometimes the case with children, that one leg seems longer than the other, and the motion of the longer leg is rotatory in consequence of it. Mr. Pott thinks, that this is owing to a paralysis of the part. In these instances, the glutæi muscles and the ligaments are in a very relaxed state, and the disease most probably, in a very great measure, originates from weakness. Amongst the most useful means of relief are, the cold bath, the bark, iron, setons, and vitriolic acid.

CHONDRI'LLA, vel CONDRI'LLA, (from χονδρος, *a grain of any corn;* so called, because it emits small particles of gum resembling grain). It is a species of SUCCORY, the root of which is perennial, and the leaves minutely indented.

The only species of chondrilla in the Species Plantarum, is the *C. juncea* Sp. Pl. 1120; and the different species of former authors are dispersed under the preceding and following genera, *lactuca*, and *prenanthes;* but no species has the slightest pretence to any medicinal power, though the gum of the *lactuca perennis*, the *chondrilla cærulea* of Casper Bauhine, has been used as an emmenagogue.

CHONDROGLO'SSUS, (from χονδρος, *a cartilage*, and γγωσση, *a tongue*). A muscle inserted into the basis, or cartilaginous part of the tongue. See HYOGLOSSUS.

CHO'NDROS, (from χεω, *to pour out*, and ὑδωρ, *water;* from the manner, according to Schrevelius, in which the food of the ancients called Alica was made). See ALICA CARTILAGO, and XIPHOIDES CARTILAGO. It also signifies any grumous concretion, as of mastic, &c.

CHONDROSYNDE'SMUS. A cartilaginous ligament. (From χονδρος, *cartilago*, and συνδεσμος, *connectio*).

CHONDROPHARYNGÆ'US, (from χονδρος, *a cartilage*, and φαρυγξ, *the upper part of the fauces*). See PHARYNX. A muscle which rises from the cartilaginous appendage of the os hyoides, and is inserted in the membrane of the fauces. Douglass.

CHO'NE. See INFUNDIBULUM.

CHO'PIN. An English WINE QUART.

CHOPI'NO. A CHOPINE; also *chopina*, which see. A pint measure at Paris, containing fifteen ounces and a half, or sixteen ounces.

CHO'RA. A REGION, (from χωρος, *a place*). Galen, in his work De Usu Part. expresses by it particularly the cavities of the eyes; but in other places he means by it any void space.

CHO'RDA, χορδη, (from χορδινω, *to roll up like a cord*). Properly a musical chord, metaphorically a tendon. Poets often express by it the intestines. Paracelsus, in his work De Origine et Curatione Morbi Gallici, calls the penis by this name. A painful tension of the penis in the lues venerea is still called *chordé*.

CHO'RDA MAGNA. See TENDO ACHILLIS.

CHO'RDA TYMPANI. The fifth pair of nerves from the brain divides into three principal branches, one of which is called the inferior maxillary. (See TRIGEMINI NERVI). A branch of the inferior maxillary nerve forms the lingual, which, soon after it leaves its origin, is accompanied by a small distinct nerve, which runs upward and backward towards the articulation of the lower jaw, in company with the lateral muscle of the malleus, and passes through the tympanum between the handle of the malleus and the long neck of the incus, by the name of the *chorda tympani*. It afterwards perforates the back side of the tympanum, and unites with the portio dura of the auditory nerve.

CHO'RDÆ TENDI'NEÆ. See COR.

CHO'RDÆ WILLISII. See DURA MATER.

CHORDA'PSUS, (from χορδη, *a cord*, and απτω, *to knit;* so called, from the intestines appearing to be twisted into knots, like pieces of string, in a species of painful colic). See COLICA, and ILIACA PASSIO.

CHORDA'TA GONORRHŒ'A. A gonorrhœa attended with chordee, or painful tension of the penis. See GONORRHŒA.

CHORDE'. See CHORDA. It is a painful involuntary erection of the penis, happening at all times, but more commonly when the patient is warm in bed: under which circumstance, the penis is not only hard and painful to the touch, but generally bent downwards in a considerable degree. It sometimes remains after the heat of urine and other symptoms of gonorrhœa have disappeared; but is usually more severe during the continuance of the inflammation, and becomes more or less violent according to the greater or less degree of that symptom.

Astruc distinguishes two species; when the whole body of the penis is regularly drawn downwards in the form of a semicircle, from inflammation, an ulcer in the membrane of the urethra, or in its corpus cavernosum; or when the glans only is drawn down by inflammation of the frænum. He also observes, that, besides the chordee, there are other distortions of the penis. If the suspensory ligament that connects the penis to the os pubis is inflamed, or if only one of its cavernous bodies is injured, the penis will either be bent upwards or to one side; and these are relieved in the same manner as the chordee.

Dr. Rutherford, in his Clinical Lectures, supposes that inflammation and swelling in the corpus cavernosum urethræ is the cause of the chordee; and Mr. Bell, that the irritation is communicated to the contiguous muscles, producing unequal degrees of con-

traction over the whole substance of the penis which universally takes place in this disease. Neither explanation is, however, satisfactory; nor can we attribute it to any cause but a spasm in the cells of the corpora cavernosa, and an irregular distribution of the blood. It has not, however, yet been shown that these cellular parts are muscular.

If the patient is costive, gentle laxatives should be administered; and in full habits, bleeding is essentially necessary. A cold solution of acetated litharge, or the camphorated oil, applied to the part, and sleeping in tight drawers, have been recommended. Rubbing the parts with tincture of opium, or a strong solution of it in water, or pledgets immersed in either, kept upon the parts, have been found useful. Emollient injections, impregnated with opium, are exceedingly efficacious in lessening the violence of this complaint: but taking thirty or forty drops of tincture of opium at bed time is the remedy mostly to be depended upon, as it seldom fails to prevent or remove the affection: and this is considered as one of the most effectual remedies *in every stage of this symptom*, particularly where it has been of long continuance. If opium fails, the hyoscyamus niger may be tried, beginning with one grain of the extract, and gradually increasing the dose, according to its effects. Though, in slight degrees of chordee, blood letting is never necessary; still, whenever, it is severe, particularly if the habit is plethoric, and the pulse strong and full, it should never be omitted; and, perhaps, the best mode is by the application of leeches to the part affected; particularly as it prevents the chordee remaining after every other symptom of gonorrhœa has disappeared, which is sometimes the case. Frictions, with mercurial ointment, have been strongly recommended; but they are generally unnecessary, and often useless.

See Astruc, Foot, Hunter, Bell, and Swediaur, on the Venereal Disease.

CHO'REA SANCTI VITI, (a χορος, *cætus saltantium*). St Vitus' dance. Also called *viti saltus*; by Paracelsus, *lascivus*. Horstius observes, that some women, who were disordered in mind, once every year paid a visit to the chapel of St. Vitus, near Ulm, and there exercised themselves day and night in dancing, till they were completely exhausted. Thus they were restored till the return of the following May, when they were again seized with a restlessness and disorderly motion of their limbs, in so great a degree as to be obliged, at the anniversary feast of St. Vitus, to repair again to the same chapel for the sake of dancing. From this tradition, a convulsion, to which girls are principally subject before the eruption of the menses, took its name. The disorder, however, above described by Horstius is different from what we call *St. Vitus' dance*.

Mead and Pitcairn think this disorder paralytic; Sydenham considers it as convulsive; Dr. Cullen calls it *chorea*, and has, on account of the age at which it attacks, as well as the motions which it exhibits, established it as a genus, under the class *neuroses*, and order *spasmi*. He remarks, that it affects those of either sex before the time of puberty, for the most part between the tenth and fourteenth years. It manifests itself by involuntary convulsive motions of some parts, commonly of one side, resembling the gestures of buffoons, in the movement of the arms and hands; the patients, in walking, oftener drag one foot than raise it.

Sydenham thus describes it: "A kind of convulsion, which principally attacks children of both sexes from ten to fourteen years of age. It first shows itself by a lameness, or rather unsteadiness, of one of the legs, which the patient draws after him like an idiot, and afterwards affects the hand on the same side, which, being brought to the breast, or any other, part, can by no means be held in the same posture for a moment, but is distorted or snatched by a kind of convulsion into a different posture or place, notwithstanding all possible efforts to the contrary. If a glass of liquor be put into the hand to drink, before the patient can get it into his mouth, he uses a thousand odd gestures; for, not being able to carry it in a straight line thereto, because his hand is drawn different ways by the convulsion, as soon as it hath reached his lips, he throws it suddenly into his mouth, and drinks it very hastily, as if he only meant to divert the spectators."

This is, however, a very imperfect and inadequate view of the disease. We shall, therefore, transcribe that given by Dr. Hamilton, in his Treatise on the Utility of Purgatives.

"Chorea Sancti Viti attacks boys and girls indiscriminately; and those chiefly who are of a weak constitution, or whose natural good health and vigour have been impaired by confinement, or by the use of scanty or improper nourishment. It appears most commonly from the eighth to the fourteenth year. I saw it in two young women, who were from sixteen to eighteen years of age.

"The approaches of chorea are slow. A variable, and often a ravenous, appetite, loss of usual vivacity and playfulness, a swelling and hardness of the lower belly in most cases, in some a lank and soft belly, and, in general, a constipated state of the bowels, aggravated as the disease advances, and slight irregular involuntary motions of different muscles, particularly of those of the face, which are thought to be the effect of irritation, precede the more violent convulsive motions, which now attract the attention of the friends of the patient.

"These convulsive motions vary. The muscles of the extremities and of the face, those moving the lower jaw, the head, and the trunk of the body, are at different times, and in different instances, affected by it. In this state the patient does not walk steadily; his gait resembles a jumping or starting; he sometimes cannot walk, and seems palsied; he cannot perform the common and necessary motions with the affected arms.

"This convulsive motion is more or less violent, and is constant, except during sleep, when, in most instances, it ceases altogether. Although different muscles are sometimes successively convulsed, yet, in general, the muscles affected in the early part of the disease remain so during the course of it.

"Articulation is now impeded, and is frequently completely suspended. Deglutition is also occasionally performed with difficulty. The eye loses its lustre and intelligence; the countenance is pale, and expressive of vacancy and languor. These circumstances

give the patient a fatuous appearance. Indeed, there is every reason to believe, that, when the complaint has subsisted for some time, fatuity, to a certain extent, interrupts the exercise of the mental faculties.

"Fever, such as arises in marasmus, is not a necessary attendant on chorea; nevertheless, in the advanced periods of the disease, flaccidity and wasting of the muscular flesh take place, the consequences of constant irritation, of abating appetite, and impaired digestion, the common attendants of protracted chorea; and which, I doubt not, may, in some instances, although contrary to the opinion that chorea is not fatal, have been the forerunners of death."

This is a very faithful picture of the disease, and we can only add to it, that the belly seems often obstinately bound. We have seen it at every age, from seven to twenty-two; and, in one case, it occurred in a young woman of twenty, who had been married about three weeks.

What can have occasioned the apathy of practitioners respecting this frightful complaint, it is not easy to say. The description of Sydenham has been repeated in every author, and the usual tonics and antispasmodice indiscriminately and fruitlessly advised. The disease evidently depends on debility; but we can no more conquer this debility by tonics, than we can successfully combat that which arises from infarcted viscera by bark. It seems to have escaped authors that, in every case of chorea, there is a load in the head, an obstructed discharge from the bowels, at a time when it is the object of nature to determine the fluids to the lower belly, viz. about the age of puberty. Many of the symptoms are those of apoplexy or palsy; but, as usual in cases of debility, the voluntary muscles lose their balance, and convulsions follow.

Those who have once suffered under this disease are very subject to a relapse. However violent the symptoms, they never are suddenly destructive. When recent in a young person, of an otherwise good constitution, there is hope of a speedy cure. If the menses are obstructed, their return will mitigate, if not cure, the disease. If the temperament is very sensible, the disease hereditary or habitual, the cure is difficult.

Nothing, in the records of medicine, is more trifling and indiscriminate, than the mode recommended of relieving chorea. The author of this article, more than twenty years since, catching the hint from Sydenham, gave purgatives; and found that this usually obstinate disease yielded not only soon, but with little danger of relapse; and, in this interval, he has had occasion to see more than sixty cases, three times Dr. Hamilton's boasted number, in one of which only he may have been styled unsuccessful. The violence of the disease, indeed, in that instance, was subdued; but slight irregular motions, especially on any sudden agitation, would not yield. The author's own illness obliged him to refer the patient to another physician, but every measure seems to have failed.

The choice of the purgative appears of little importance; but it must be active, for no other will produce the necessary discharge; and the saline purgatives are apparently less adapted to the complaint. The author knows no distinction but in their power. The most active are the most useful. In the Edinburgh Medical Journal, there are two cases of chorea in which purgatives succeeded; and, in Dr. Hamilton's volume, there are many instances of well conducted successful treatment by this plan. We have had no reason to follow the purgatives by tonics. The constitution has restored the general health with rapidity and effect. We may just add, that, in the woman newly married, the complaint yielded, within a fortnight, to the purgative course.

See Wallis's Sydenham, vol. ii. p. 327; Cullen's First Lines, vol. iii. edit. 4. Hamilton on Purgative Medicines; Edinburgh Medical Journal, vol. i.

CHO'RION. Membrana externa, quâ fœtus involvitur, (from χωρα, *receptaculum*). Vide H. Steph. Thes. Sometimes called *camisia fœtus*, SHIRT OF THE FŒTUS. A name of the external membrane of the fœtus. In women, as in some animals, the chorion, at the first, is without any sensible placenta. It is also said to have its name from the chorus or crowd of blood vessels which are spread on it. It adheres to the amnios by a gelatinous substance, and is divisible into two lamellæ; the internal, or true chorion, is even more thin and pellucid than the amnios; whilst the external, or false chorion, is thick and opaque. This spongy chorion adheres to the uterus at every part, and grows thicker as it approaches the placenta; whilst the internal lamina adheres inseparably to the inner surface of the placenta: hence it is plain, that the substance of the placenta is betwixt these two lamellæ of the chorion. This membrane hath numerous lymphatic vessels; but in the human placenta, these vessels cannot be traced by injection on the amnios and chorion. The uterus, indeed, sends veins to the outer chorion; and perhaps the arteries do the same. See DECIDUA.

The use of the chorion is to sustain the umbilical vessels.

CHOROI'DES, (from χοριον, *chorion*, and ειδος, *likeness*). It is an epithet of several membranes, which, on account of the multitude of their blood vessels, resemble the chorion. It is the *tunica retiformis oculi*, a name of one of the coats of the eye. (See RETIFORMIS.) It lines the sclerotis; is a thin vascular coat of a brownish colour, and generally said to derive its origin from the pia mater covering of the optic nerve. From the colour of part of this membrane it hath been called *uvea;* the external surface of which is called the *iris;* but at present the entire fore part only of this coat is called *iris;* and the rest *choroides*. It consists of two laminæ; the exterior is slightly connected with the sclerotica, and is also covered with a black matter, called *nigrum pigmentum*. Both laminæ are extremely vascular: the extremities of the vessels of the inner surface project from it, and are termed *villi* and *papillæ*. As this internal lamina was first noted by Ruysch, it is called *Ruyschiana tunica*. The black substance which lies between the sclerotica and choroides, is also found betwixt it and the retina. Near where the sclerotica becomes transparent, the choroides is firmly united to it; and, at this circle of adhesion, the choroides seems to change its colour and texture, appearing as a whitish ring, of a compact substance, and is termed *ciliare ligamentum*. Here the internal lamina of the choroides dips inwards, to make what are termed the processes. The ciliary processes are on the inside, between the iris and choroides, as the ligamentum ciliare is on the outside. The choroides is continued on the inside of the transparent part of the sclerotis, and there forms the iris: the per-

foration in the middle is called *pupilla*. The artery is a branch of the carotid. The veins empty themselves into the optic sinuses, which are again discharged into the internal jugulars; but some of these veins communicate with the external veins of the eye, so that part of the blood is emptied into the external jugulars. The nerves are from the ophthalmic branch of the fifth pair, and a branch of the third pair.

Opposite to the insertion of the optic nerve, the choroides is wanting: and thus is formed that white speck, on which, if the picture of an object falls, we are incapable of perceiving it.

CHOROI'DES PLEXUS. A plexus of blood vessels; a congeries of blood vessels on the lateral ventricles of the brain. See CEREBRUM.

CHOU DE PALMI'STE. (French.) The cabbage of the palm tree. See PALMA NOBILIS.

CHOWDER, is an antiscorbutic, used on the Newfoundland station, and consists only of fresh fish boiled with the salted ship provisions.

CHOWDER BEER, is an infusion of spruce in water, from which beer is prepared in the common way.

CHRI'STI MA'NUS. See SACCHARUM.

CHRISTOS, (from χριω, *to anoint*). Whatever is applied by way of unction.

CHROME. A newly discovered metal. See CHEMISTRY.

CHRO'NICUS, or CHRO'NIUS, (from χρονος, *time*). CHRONICAL.

Diseases which continue long, and are without any, or at least a considerable degree of, fever. On the contrary, those which proceed rapidly, and terminate soon, are termed acute.

In the cure of chronical disorders, Dr. Fothergill intimates, that those means or medicines which enable the stomach duly to perform its office, are the most effectual, if not the only remedies. (See Lond. Med. Obs. vol. i. p. 314.) Dr. Cadogan seems to corroborate this, by his observations on the causes of chronical disorders; which, he says, are indolence, intemperance, or vexation: though now and then he allows, that an acute disorder, imperfectly cured, may be the cause of chronical ones. (See his Essay on the Gout and Chronical Diseases.) In general, however, chronical diseases depend on an obstructed discharge, or an infarcted gland, usually the liver. Atonic gout may be another cause; but, in general, an attention to the state of the bowels is essentially necessary, and a preservation of the balance of the circulation, particularly an attention to the warmth of the surface and extremities. Wallis's Sydenham, vol. i. p. 4.

CHROS, (from χρωα, *the skin*). Galen says, that the Iönians mean, by this word, the flesh in our bodies; *i. e.* all except bones and cartilages.

CHRU'PSIA, (from χρουα, *colour*, and οψια, *sight*). A disease in the eyes, in which the person perceives objects of colours different from their real ones.

CHRYPSO'RCHES. See PARORCHIDIUM.

CHRYSA'NTHEMUM, (from χρυσος, *aurum*, and ανθεμος, *a flower*). Called also *bellis lutea foliis profunde incisis major; chrysanthemum segetum* Lin. Sp. Pl. 1254; CORN MARIGOLD. It is an annual plant, frequently met with amongst corn. The Germans commend it in the jaundice; but it is not employed in practice with us.

It is likewise a name for the GARDEN MARIGOLD, and many other herbs, whose flowers are of a bright yellow colour. See CALENDULA.

CHRYSA'NTHEMUM BIDENS. See ACMELLA.

CHRYSA'NTHEMUM COTU'LÆ FO'LIO. See BUPHTHALMUM VERUM.

CHRYSA'NTHEMUM I'NDICUM. See BATTATAS CANADENSIS.

CHRYSA'NTHEMUM LEUCA'NTHEMUM. See BELLIS MAJOR. It is also the name for several species of *sunflower*, *cotula*, and the *common ox eye*.

CHRYSA'TTICUM. An epithet of a sort of passum, recommended by P. Ægineta to be drunk with the seed of atriplex for the jaundice.

CHRY'SE. The name of a yellow plaster in P. Ægineta for fresh wounds; from χρυσος, *gold*.

CHRYSISCE'PTRUM, (from χρυσος, *gold*, and σκιπ]ρον, *a rod*, or *staff*, so named from the yellow colour of its stem). See VIRGA AUREA.

CHRYSI'TIS, or CHRYSI'TIS SPO'DOS, (from χρυσος, *aurum*). See LITHARGYRUM.

CHRYSOBALA'NUS GALE'NI, (from χρυσος, and βαλανος, *a nut*, on account of its colour). See NUX MOSCHATA.

CHRYSOCA'LLIA. See CHAMÆMELUM.

CHRYSO-CERAU'NIUS, (from χρυσος, *gold*, and κεραυνος, *thunder*). See AURUM FULMINANS.

CHRYSOCHA'LCUM, (from χρυσος, and χαλκος, *brass*). See ÆSECAVUM.

CHRYSOCO'LLA, (from χρυσος, *gold*, and κολλη, *glue*, or *solder*). See TINCAL and BORAX.

CHRYSOCO'MA, (from χρυσος, *gold*, and κομη, *hair*, from its resembling golden hair). See ELICHRYSUM.

CHRYSO'GONUM, (from χρυσος, and γονυ, *a knot*). RED TURNIP.

CHRYSOLA'CHANON, (from χρυσος, and λαχανον, *the olus;* so called from its leaf and root being yellow like the olus). See ATRIPLEX.

CHRYSOME'LIA, (from χρυσος, and μηλον, *an apple*). See AURANTIA HYSPANICA.

CHRYSO'PUS, (from χρυσος, and ωψ, *face* or *appearance*). See GAMBOGIA.

CHRY'STALS, and CHRY'STALLOGRAPHY. This subject can scarcely be considered as a medical one, since, perhaps, the deposition of bony matter, more certainly calculous concretions, are the only instances of crystallization in the human body. Yet, as chemistry has made such gradual and effectual encroachments on medicine, and as the variety of crystals are often mentioned in these pages, a short account of this subject is, in every view, necessary and proper.

Linnæus, who made, very early, some imperfect and ineffectual attempts to arrange minerals from their external appearances, spoke of the more obvious and common forms, which salts and other bodies assume, when passing from a state of fluidity to that of a solid. The chemical mineralogists, who, under the guidance of Cronstedt, succeeded, turned the attention of philosophers from the obvious properties to the component parts; when, in 1772, the first edition of Romé de l'Isle's Chrystallography appeared; and the second edition, in five volumes, was published in 1783. About this period Bergman, in a separate dissertation, greatly illustrated the subject. Since that time, the attention of

mineralogists was again directed to external forms, by the abbé Haüy; who, in numerous papers, published in the Journal des Mines, and afterwards, in 1801, in a separate work, in four volumes octavo, explained, with mathematical accuracy, all the different forms of crystals; taught us the mode of their construction, by a successive application of molecules; and pointed out the way in which the primitive chrystal may be detected. The form of the crystals, in a great variety of solids, has thus been traced; and so constant is the crystallization of the same ingredients, that, in more than one instance, the crystallographer has instructed the chemist; in general, his fiat has confirmed the chemical analysis.

CHRY'SUN, (from χρυσος, *gold*). An epithet of two collyria for the eyes, and also of two pessaries for the uterus, in Ætius.

CHU, or CHUS. The name of a measure. The same as CHOA, *congius*. This was a liquid measure among the Athenians, containing six sextarii, twelve Attic cotylæ, or nine pints or pounds of oil, ten of wine, thirteen and a half of honey, according to Galen. Linden says, at least eight of wine and four ounces. Rhodius asserts, that the *chus*, or *congius*, weighs ten pounds. Castelli.

CHUNDRI'LLA VERCU'RIA. See ZACINTHA.

CHU'NNO. See BATTATAS.

CHYLA'RIA, (from χυλος, *chyle*). See DYSURIA.

CHYLIFE'RA VA'SA, (from χυλος, *chyle*, and φερω, *to carry*). See LACTEA VASA.

CHYLIFICA'TIO, (from χυλος, and *fio*, *to make*). CHYLIFICATION. The first digestion, or the changing of the aliment into chyle. See DIGESTION.

CHYLIS'MA, (from χυλος, *juice*). In Dioscorides it signifies expressed juice.

CHYLI'STA. Hartman's chylista is glass of antimony obtunded by levigating it with mastich dissolved in rectified spirit of wine.

CHYLOPOI'ETIC, (from χυλος, *chylus*, and ποιεω, *facio*,) applied to the organs which form chyle.

CHYLO'SIS, (from χυλιζω, *to express the juice*). See CHYLIFICATIO.

CHYLOSTA'GMA DIAPHORE'TICUM MINDERERI, (from χυλος, *juice*, and σταζω, *to distil*); called also *theriacalis bezoardica aqua*. It is a fluid distilled from the theriaca Andromachi, or from Mithridate.

CHY'LUS, χυλος, (from χυλος, *juice*,) called, in Paracelsus, *chymosum*. In general it is a juice inspissated to a middle consistence between fluid and dry.

In Hippocrates the word χυλος is used to express the juice and sorbile liquor of barley, called strained ptisan, being the expressed substance of the barley; not what the Latins called *cremor*, which is only the barley water. To χυλος is opposed ptisan unstrained.

By chyle, however, is commonly meant the oily part of our aliment, mixed with the saliva and other juices poured into the stomach and duodenum. It assumes the form of chyle only in the duodenum, since it never appears in the lymphatics of the stomach. It is apparently an uniform fluid, whatever be the food employed, or the animal in whose stomach it is digested. It has been supposed, though without sufficient foundation, to resemble milk; but milk in the stomach is not absorbed till it has undergone the digestive process, and milk injected into the blood vessels produces the most formidable symptoms. The real nature of chyle is not known. It seems to consist of a serous and a coagulable part, with distinct globules, which give it opacity, and have been supposed, rather than proved, to be oily. The small quantity of chyle that can be obtained, is the reason why its nature has not been more carefully examined.

The chyle, when it enters the blood, does not immediately mix with it, but in many instances seems to pass in a separate state through the whole circulation: for the chyle has been seen to float on the surface of blood, when taken from the arm: in the last stage of a diabetes, the urine manifestly points out the presence of chyle in it. See Haller's Physiology on the chyliferous vessels.

CHYMA'TION. The name of a penetrating medicine in Marcellus Empiricus.

CHY'MIA. See CHEMIA.

CHYMIA'TRIA, (from χυμια, *chemistry*, and ιατρεια, *healing*). The art of curing diseases by chemical medicines.

CHYMO'SIS, (from χαινω, *to gape*). It is when, from inflammation, the white of the eyes swells above the black circle, so that there appears a gaping aperture. Galen, de Euphoristis, calls it a red and carnous inflammation of the cornea tunica. Paulus calls it *chemosis*, when, from a vehement inflammation, both the eye lids are turned outwards, so as scarcely to cover the eye, and the white of the eye appears higher than the black, and partly hides it. Le Dran calls it a tumour on the white of the eye.

It is really a species of ophthalmia, called by Sauvages OPHTHA'LMIA CHEMO'SIS, and by De Meserey, TRAUMATICA. The CHEMOSIC, or CONJUNCTIVA CORNEA PALPEBRAIC OPHTHALMY. Sauvages ascribes it to an external cause, as a violent contusion of the eye, whence an hyposphagna, or to a chirurgical operation performed on the eye, as an extraction of a cataract; to the operation for the unguis, or empyesis, or to an internal cause, as metastasis, or severe catarrh in cacochymic habits. It is known by the black red swelling of the conjunctiva, with a depression and obscurity of the cornea, which seems to lie, as it were, in a cavity. The inflammation is severe, with excruciating pains of the eyes and head, and a sense of weight above the orbit; pervigilium, fever, pulsation, a swelling, and shutting of the eye lids. It terminates sometimes in the suppuration of the eye, and an irremediable blindness or leucomata succeed.

In Dr. Cullen's Nosology, it is a variety of that species of ophthalmy which he names the *ophthalmia membranarum*. When the ophthalmy is in this state, it is for the most part accompanied with violent pain; the white part of the eye resembles raw flesh, or sometimes the pile of red velvet. All the transparent part of the cornea often comes away by suppuration, which destroys the anterior chamber of the eye. The cicatrix, subsequent to the suppuration, hinders the crystalline and vitreous humours from falling out, and by that means the entire destruction of the globe is prevented: sometimes, however, both happen. This disease is often fatal; loss of sight generally follows, and the pain sometimes destroys the patient.

The violence of the disease requires the speediest and

most powerful aids. Repeated bleeding, according to the strength of the patient, with the most active purges, chiefly of the saline kind, will be necessary. A blister may be applied on the forehead, or leeches to the temples; and after them a blister over the part where they were applied. Goulard's saturnine poultice may be applied cold over the eye lids, and renewed as often as it grows warm. Antimonial diaphoretics may be given inwardly, and opium in the largest doses is indispensable. Indeed every method ought to be pursued which can most immediately subdue the inflammatory symptoms. See Nosologia Methodica Oculorum, with Notes by Dr. Wallis, and Ophthalmia.

CHYMO'SUM, (from χυμος, *succus*). See CHYLUS.

CHY'MUS, χυμος, HUMOUR or JUICE, (from χυω, *fundo, to pour out*). In the common signification of the word it is every kind of fluid which is incrassated by concoction. Sometimes it means the finest part of the chyle when separated from the fæces; but in general it implies the food in the state in which it passes out of the stomach previous to its mixing with the bile. In Galen, it is the faculty or quality in plants and animals which is the object of our taste.

CHY'TLON, (from χυω, *to pour out*). In Hippocrates it means a plentiful inunction with oil and water.

CIBA'RIUS, SAL. See MARINUM SAL.

CIBA'TIO, (from *cibus*, *food*). By this is meant the assumption of aliment; synonymous also with the application of the nutritious juices.

CIBO'RIUM, CIBO'TIUM, (from κιβωλος, *a bag*, which its pods resemble.) See FABA ÆGYPTIA.

CIBOU'L. A sort of ONION nearly allied to the scallion. They have no bulb at the root, and are cultivated in the kitchen garden.

CI'BUS, from the Hebrew term *kibash*, *food*, or *nourishment*.

CI'BUS A'LBUS. WHITE FOOD. It is a species of jelly, which in Fuller's Pharmacopœia is thus made: take four pints of milk, the breast of a boiled capon, and two ounces of blanched sweet almonds; let them be well beat, then boil them over a gentle fire, adding three ounces of rice meal. When they begin to coagulate, add eight ounces of white sugar, and ten spoonfuls of rose water: mix all well together.

The Spaniards give the name of *cibus albus* to a certain American plant. But by WHITE MEATS we now mean milk, butter, cheese, custards, and other foods consisting of milk or eggs; as WHITE POT, made of milk or cream, baked with the yolks of eggs, fine bread or rice, sugar, and spice, in an earthen vessel. There are a variety of dishes under this denomination; but, strictly speaking, white meats are fish, veal, and chicken.

CICA'DA, (*quod cito cadit, because it soon disappears*). The BAUM CRICKET. It hath wings, is very noisy, and is said to live on dew, which it sucks from the dwarf ash or manna tree. Its species we cannot ascertain, though we have examined all those of Gmelin, amounting to 237. These insects, when dried and burnt, are used in the colic or stone as a solvent.

CICATRISA'NTIA, (from *cicatrico*, *to skin over*). See EPULOTICA.

CICA'TRIX, (from the same). A seam or elevation of callous flesh, on the skin, after the healing of a wound or ulcer, commonly called a *scar*.

It is the destruction of the cellular membrane by inflammation that causes cicatrices to be drawn inwards. Some commend the steams of hot water to be often applied to the growing skin to prevent a cicatrix, and to dress the wound with a cerate of wax and the oil of eggs.

CI'CER, (from *kikkar*, *a round mass*,) *álbum*, *nigrum*, vel *rúbrum*; *cicer satívum*, *cicer arietínum*, *erebínthus*; CHI'CHES, CICHES, CICERS, CICH PEAS, and VETCH. The sort used as aliment is the *cicer arietinum* Lin. Sp. Pl. 1040.

Chiches, a leguminous plant, cultivated in warmer climates, where our finer peas do not thrive so well. They are a strong flatulent food, hard of digestion. They are sown in France, Italy, &c. flower in June, and the peas are ripe in July.

CI'CERA, (from *cicer*, because of their size).

CI'CERA TA'RTARI. Small pills composed of turpentine and cream of tartar, of the size of a vetch.

CICHO'REUM, CICHO'RIUM, (γπαρα το δια των χωριων κιειν, *because it creeps about and scatters itself in the fields*). *Sylvestre*, and *sativum*. WILD and GARDEN SUCCORY. The wild is the *cichorium intybus* Lin. Sp. Pl. 1142.

It is a plant with oblong, dark green, hairy leaves, deeply jagged, like those of dandelion, but larger; in the bosoms of which, towards the tops of the branches, the flowers come forth in spikes, consisting each of a number of blue flat flosculi, set in a scaly cup, which afterwards become a covering to several short angular seeds: the root is long and slender, of a brown colour on the outside, and white within. It is biennial, grows in hedges and by road sides, and flowers in June and July.

It abounds with a milky juice, of a penetrating bitterish taste, and of no remarkable smell: the roots are bitterer than the leaves or stalks, and these much more so than the flowers. But by culture in gardens it loses its green colour, and in a great measure its bitterness, and in this state is a common sallad herb: the deeper coloured and the deeper jagged the leaves are, the bitterer is the taste of the whole plant, which is mildly aperient, and, if freely used, it loosens the belly. The virtue resides in the milky juice, which may be extracted by boiling in water, or by pressure. The wild and the garden sorts are used indifferently, and chiefly as food. If the root is cut into small pieces, dried and roasted, it resembles coffee, and is sometimes a good substitute for it.

CICHO'REUM LATIFO'LIUM. See ENDIVIA.

CICHO'REUM VERRUCA'RIUM. See ZACINTHA.

CICILIA'NA. See ANDROSÆMUM.

CICINDE'LA, (a dim. of *candela*, i. e. *a little candle*; so called from its light). The GLOW-WORM, also called λαμπουρις, *noctiluca terrestris*, *scarabæus*, *cicendela mas et fœmina*.

The flying glow worms are males, and the creeping ones the females. Some think them anodyne, others lithontriptic; though probably neither.

CICI'NI OL. (from κικι, *the ricinus*). See RICINI OL. under CATAPUTIA.

CI'CIS, κικις. In some places of Hippocrates and Theophrastus it is put for κεκις. A GALL. See GALLÆ.

CI'CLA. See BETA ALBA.

CICO'NGIUS. Blancard says it is a measure containing twelve sextaries or pints.

CICO'NIA, (from *Cicónes*, the people of Thrace, who held this bird in veneration). The Stork.

CI'CUS, (from κικκος, *the core*). The skin which envelopes the seed.

CICU'TA, (quasi *cæcuta*, *blind*, because it is said to destroy the sight of those who use it.) Hemlock; called by some *camarum*; by others *abiotos*; and, according to Erotian, *cambeion* is an old Sicilian word for *cicuta*.

Cicu'ta ma'jor fœ'tida. The *conium maculatum* Lin. Sp. Pl. 349. Spotted hemlock. It grows wild in almost every climate, and with us is found about the sides of the fields, under hedges, and in moist shady places. It is a tall umbelliferous plant, with large leaves, of a blackish green colour on the upper side, and a whitish green underneath, divided into a number of small oblong somewhat oval segments, which stand in pairs on middle ribs; these segments are again deeply cut, but not quite divided on both sides; and many of these ultimate sections have one or two slighter indentations. They much resemble parsley or chervil, especially the leaves of the smallest sorts, whose poisonous quality is the most violent. The stalk is round, smooth, hollow, irregularly variegated with spots and streaks of a red or blackish purple colour; the flowers are white, and blow in June or July; the seeds greenish, flat on one side, very convex, and marked with five furrows on the other. The root is oblong, about the size of a middling parsnip, yellowish without, white and fungous within, and part of it hollow; it changes its form according to the season. The leaves have a rank smell, but do not much affect the taste.

Internally and externally it is narcotic and anodyne: it abates inflammations of the eyes; promotes rest, and eases pain, without producing thirst or headach the next morning, and as rarely creates costiveness; is supposed to possess a property of altering thin, corrosive cancerous ichor, and of rendering it mild. It hath been used with some advantage in sanious ulcers, cancers, gleets, painful discharges from the vagina, fixed pains supposed to arise from acrid serum, fluor albus, and scirrhous tubercles; but its efficacy is seldom permanent, and it injures the stomach, sometimes the constitution. Though it does not cure cancers, yet it is an anodyne more effectual than opium; and in phthisis is often useful for relieving pain and cough. It is useful in syphilis, according to Mr. John Hunter.

Dr. Cullen observes, that if hemlock, either in form of powder or extract, has no sensible effect when taken to twenty grains for a dose, the medicine may be supposed to be imperfect, and that if it is to be continued, another parcel of it should be employed. He adds, that he has known it useful in resolving and discussing scirrhosities of different kinds, particularly those of a scrofulous nature; in healing the ulcers of scirrhous tumours, which continued to be surrounded with such scirrhosity; and in some ulcers certainly that approached to the nature of cancer. In those that might be considered truly cancerous, he has known it relieve the pains, meliorate the quality of the matter proceeding from the sore, and even to make a considerable approach to its healing, though it never completed the cure. Mat. Med. It has been considered also as very useful in the chin cough and rheumatic complaints. See Butler on the Chin Cough.

When hemlock is imprudently eaten, it causes a vertigo, a dimness of sight, hiccough, madness, coldness of the extremities, convulsions, and death: sometimes by the spasms, which it produces in the stomach and other parts, hæmorrhages, or an epilepsy come on, which, without very speedy relief, are fatal. The proper method of relief is to discharge the contents of the stomach by means of the most active emetics, and then to administer frequent doses of sharp vinegar, as in the articles Amanita and Venenum.

The proper method of administering hemlock internally is to begin with a few grains of the powder or inspissated juice, and gradually to increase the dose until a giddiness affects the head, a motion is felt in the eyes, as if pressed outwards, with a slight sickness and trembling agitation of the body. One or more of these symptoms are the evidences of a full dose, which should be continued until they have ceased, and then after a few days the dose may be increased; for little advantage can be expected but by a continuance of the greatest quantity the patient can bear. In some constitutions even small doses greatly offend, occasioning spasms, heat and thirst; in such instances it will be of no service.

The college of physicians of London order the inspissated juice of hemlock, succus cicutæ spissatus, instead of the former extract, to be made in the following manner: let the expressed juice of hemlock, cleared from its fæces, be evaporated in a water bath saturated with sea salt to a proper consistence.

As the powder of the dried leaves has been thought to act, and may be depended upon, with more certainty than the extract, the following direction should be observed in the preparation: gather the plant about the end of June, when it is in flower; pick off the little leaves, and throw away the leaf stalks; dry the small selected leaves in a hot sun, or in a tin or pewter dish before the fire. Preserve them in bags made of strong brown paper, or powder them, and keep the powder in glass phials, where the light is excluded; for light dissipates the beautiful green colour very soon, and thus the medicine loses its appearance, if not its efficacy; this mode is recommended by Dr. Withering. The extract should also be made of the plant gathered at this period. That which grows in exposed places is generally stronger than what grows in the shade; and that in dry places is also to be preferred.

This plant has been taken a long time without any bad effect. When considerable inconveniences have arisen from its use, the *cicuta aquatica* has probably been mistaken for it. Externally it is applied with advantage, and particularly in the form of fomentation and poultice.

Fotus cicutæ. *Hemlock fomentation.*—℞. Fol. cicutæ recent. ℥ vi. vel siccæ ℥ iij. coq. in aquæ fontanæ ℔ iij. et ℔ ij. et fiat fotus. This is commonly made use of to foment cancerous or scrofulous ulcers, previous to the application of the succeeding cataplasm.

Catapla'sma cicu'tæ, *Hemlock cataplasm.*—℞. Fotûs cicutæ, q. v. inspissetur avenæ farina ad crassitudinem cataplasmatis. This is not only applied in cancerous and scrofulous cases, but to inveterate ulcers, and very often both meliorates their discharge and lessens their sensibility, though Mr. Justamond preferred the application of the fresh herb bruised. An ointment is also made of hemlock, by bruising the plant very well

in a marble mortar, then mixing with it an equal quantity of hog's lard, and gently melting them over the fire; afterwards the composition is to be strained and stirred till cold. This has been recommended to be applied to cancerous or scrofulous sores.

In this mode it has been useful in resolving some indurations, especially that of the scrofulous kind; but in the indolent scirrhosities in the breasts of women it is seldom of any service; and the frequent applications of hemlock poultices have been known to do much harm, by bringing these tumours sooner to an open cancer. The hemlock bath requires no direction. The proportions are those of the fomentation. See Wilmer's Observations on Poisonous Vegetables. Withering's Bot. Arrangement, vol. i. p. 161. Cullen's Mat. Med.

CICU'TA AQUA'TICA, vel VIRO'SA. WATER HEMLOCK, also called *sium majus alterum augustifolium*, *sium erucæ folio*. LONG-LEAVED WATER HEMLOCK and COWBANE. It is the *cicuta virosa* Lin. Sp. Pl. 365. Dr. Withering gives the following description of it:—Rundle roundish, with many equal spokes. Rundles roundish, with many bristle shaped spokes. Empalement; general fence none. Partial fence of many leaves; little leaves, bristly, short. Cup scarcely evident. Blossom general, uniform. Florets all fertile. Individuals: petals five, egg shaped, nearly equal, bent inwards. Chives; threads five, hair like, longer than the petals. Tips simple. Pointal; seed bud beneath. Shafts two, thread shaped, longer than the petals, permanent. Summits roundish. Seed vessels none. Fruit nearly egg shaped; slightly furrowed; divisible into two. Seeds two, somewhat egg shaped; convex, and scored on one side; flat on the other. To this he adds, with rundles opposite the leaves. Leaf stalks with blunt borders; leaves with about seven pair of little leaves, which are variously divided and indented. Petals yellowish pale green. It is met with in shallow waters, and flowers in July.

It is one of the most active of the vegetable poisons. Early in the spring, when it grows in the water, cows often eat it, and are killed by it; but as the summer advances, and its smell becomes stronger, they carefully avoid it.

Mr. Wilmer observes, that the poison is of that class which produces epileptic symptoms. Wepfer notices some children, who, on eating the roots of this plant, were seized with pains of the precordia, loss of speech, abolition of the senses, and terrible convulsions; the jaws were locked, blood started from the ears, the eyes were distorted, and some of them died in half an hour. Others have observed that the old roots are a more active and sudden poison than arsenic or corrosive sublimate.

If any of this plant is taken, a quick vomit should be instantly given, after which vinegar in water should be drunk freely. See VENENUM.

See Lewis's Mat. Med. Lond. Med. Obs. and Inq. vol. iii. p. 229, &c. 400, &c. vol. iv. p. 104, &c. Neumann's Chemical Works. Medical Museum, vol. iii. p. 566. Withering's Botanic Arrangement, vol. i. p. 177.

CICUTA'RIA AQUA'TICA, (from *cicuta*, *hemlock*). PALU'STRIS. See PHELLANDRIUM AQUATICUM.

CICUTA'RIA VIRO'SA. See CICUTA AQUATICA.

CICUTA'RIA. See CHÆROPHYLLUM SYLVESTRE, and MYRRHIS.

CI'DRA. See POMACEA.

CI'GNUS. A measure so called, containing about two drachms.

CI'LIA, (from *cileo*, *to move about*). The extreme parts, or edges of the eye lids; they are semicircular, and cartilaginous, with hairs fixed in them, which are sometimes called *cilia*. See TARSUS.

CILIA'RES, (from *cilia*, *the eye lids*,) vel MEIBO'MII GLA'NDULÆ; from Meibomius, the discoverer. On the inner edge of each eye lid, in the tarsus, is a row of small holes, which are the excretory ducts of what are called the *ciliary*, or *Meibomius's glands*. The glands themselves appear of a whitish colour, and are situated on the internal surface of the tarsus; their ducts are short, resembling white lines running down towards the edge of the eye lids: like the miliary ones, they secern an unctuous matter, which prevents the attrition of the eye lids, from their frequent motion; keeps the edges soft and free from excoriation, and prevents the tears from falling down the cheeks. See TARSUS.

CILIA'RE LIGAME'NTUM, also called *processus ciliaris*. It is a range of black fibres, in the eye, circularly disposed, having their rise in the inner part of the choroides, and terminating in the prominent part of the crystalline, where the sclerotis, choroides, retina, cornea, processus ciliaris, and iris, end: they surround the crystalline humour, or rather the part where the sclerotica joins the choroides, and round the edge of the cornea they adhere firmly; at this circle, the choroides seems to change its colour and texture, appearing as a whitish kind of ring, termed *ligamentum ciliare*: here the internal lamina of the choroides dips inwards, to make what are termed the processes, which are little folds of the inner lamella of the choroides. These folds become broader until they terminate in a broad point in the crystalline humour; the whole radiated ring, made by the ciliary processes, is sometimes called *corona ciliaris*. See CHOROIDES.

CILIA'RIS MUSCU'LUS. That part of the musc. orbicularis palpebrarum which lies nearest the cilia, considered by Riolan as a distinct muscle.

CILIA'TUS, (from *cilium*, *the eye lash*). In botany it means having the margin guarded with a sort of bristles like the eye lashes.

CI'LLO. One who is affected with a perpetual trembling of the upper eye lid; from *cillendo*, being in continual motion.

CILLO'SIS, (from *cilium*, *the eye lid*). A trembling of the upper eye lid.

CI'LO, or CI'LLO, (from *cilium*, *the eye lid*). One whose forehead is prominent, and temples compressed, called *beetle browed*; the eye lid in these is also very protuberant.

CI'MEX. *Cimex domesticus*, *cimex lectularius*, (from κειμαι, *to inhabit*: so called because they infect houses). The WALL-LOUSE, or BUG: called also *cotula*. It is of a rhomboidal figure, a dark brown colour, and hath six legs. The skin is extremely tender, so that it bursts with the least compression, and emits an offensive smell. Six or seven are given inwardly to cure the ague, just before the fit comes on, and have the same effect with every thing nauseous and disgusting.

CIMO'LIA A'LBA, Terra: called also *creta fullonica*, *terra* and *argilla candida*, *creta cimolia*. Tobacco pipe clay.

It takes the name *cimolia* from the island Cimolus, in the Cretan sea, now called Argentiere, where it is procured. It hath nearly the same absorbent quality with the boles, and is often substituted for them. Its soft viscous quality is its only medicinal one, and in this particular it excels most of the earths of its kind. It is the *cimolite* of modern authors, of a greyish white, inclining to red, by exposure to air. It sticks to the tongue, and though difficult to break, is scratched by the nail. It becomes white in the flame of a blow pipe, and does not melt but with the assistance of a flux. Haüy, vol. iv. 446.

The cimolia alba of the ancients seems to have been a sort of loose marle; probably it was our fuller's earth. In Cornwall the *steatites*, a magnesian earth, is used as soap, as well as the cimolia alba of the ancients. It is usually marked with a seal, and called *terra sigillata alba*: the *terra samia* is only a fatter pipe clay.

Ci'molia purpure'scens te'rra. The *smectis* of Wallerius; *terra saponaria Anglica*, *terra fullonica*, and fuller's earth. It hath its name *smectis* from σμηχω, *to absterge*.

It is a kind of marle rather than a compact earth, and of the same qualities as bole. Indeed Wallerius has given this name to a true marle and to a steatite.

CI'NA CI'NÆ. See Cort. Peruv.

CI'NÆ, sem. See Santonicum.

CI'NARA, (from κινεω, *to move*, *quia movet urinam*). Some write it *cy'nara*, and derive it from κυων, *canis*, *a dog*; because the plant is sharp, like dog's teeth. The artichoke. Also called *alcocalum*, *articocalus*, *artischócus lævis*, *costus nigra*, *carduus sativus non spinosus*, *cinara hortensis*, *scolymus sativus*, *carduus domesticus capite majore*, *carduus altilis*. The species used in medicine is the *cynara scolymus* Lin. Sp. Pl. 1159.

Artichokes are so well known as not to require a description: they are natives of the southern parts of Europe, perennial, and cultivated in our kitchen gardens.

The bottoms of the heads, and the fleshy parts of the scales, are easily digested, though flatulent, and afford but little nourishment. They are preserved by drying them to a horny consistence, and are then so light, that forty scarcely weigh a pound. The leaves are bitter, and give out their bitterness with the juice, on being bruised and pressed. This juice is powerfully diuretic and useful in dropsies; it should be mixed with an equal quantity of white wine, and three or four table spoonfuls taken every night and morning. An infusion of the leaves is likewise diuretic, and may be employed with the same intention. The leaves themselves are astringent, and contain tanin. In France they have been employed instead of galls.

In England we only eat the heads, but the Germans and French eat the young stalks after boiling them.

Ci'nara spino'sa, called also *carduus esculentus*, vel *spinosissimus elatior*, *chardone*, *cactos*. *Cynara cardunculus* Lin. Sp. Pl. 1159. According to some authors it is a species of *carduus*. The chardon.

As a medicine it is similar to the artichoke. It is a culinary plant, which is blanched like celery, and, like that, eaten raw with pepper and salt in Italy.

Ci'nara sylve'stris, also called *scolymus sylvestris*, *agriocinara*, wild artichoke, or cardonet. *Carline acaulis* Lin. Sp. Pl. 1160. They grow in Italy and France, but the flowers are only used. See Dale, Ray.

Ci'nara acau'lis gummi'fera. See Carduus pinea.

CINCHO'NA. See Cortex Peruvianus.

CINCLE'SIS, or CINCLI'SMOS, (from κιγκλιζω, *to shake*). They all mean a morbid nictitation, or an involuntary winking. Vogel uses the term *cinclesis*. Hippocrates means by the term a small and repeated motion.

CINERA'RIUM, (from *cinis*, *ashes*). The ash hole of a furnace.

CI'NERES RU'SSICI. See Clavellati cineres.

CINERI'TIUM, (from *cinis*, *ashes*; because it is generally made of the ashes of vegetables or bones). See Cupella.

CINE'RULAM. See Spodium.

CINE'TUS. See Diaphragma.

CINGULA'RIA, (from *cingulum*, *a girdle*; because it grows in that shape). See Lycopodium.

CI'NGULUM, (from *cingo*, *to bind*). A girdle or belt. Dr. Cheyne, in his Essay on Regimen of Diet, says, "Cincture, with a broad quilted belt about the loins, to keep the bowels in their natural situations, and the chylous vessels in the best locality in flabby constitutions, weak bowels, and atrophies, is of great benefit." This belt is chiefly useful for fat persons.

Ci'ngulum mercuria'le. A mercurial girdle, called also *cingulum sapientiæ*, and *cingulum stultitiæ*. It was an invention of Rulandus's; different directions are given for making it, but the following is one of the neatest:

Take three drachms of quicksilver; shake it with two ounces of lemon juice until the globules disappear; then separate the juice, and mix with the extinguished quicksilver half the white of an egg; gum dragon, finely powdered, a scruple; and spread the whole on a belt of flannel.

Ci'ngulum sa'ncti Joha'nnis. See Artemisia.

CINIFICATUM, (from *cinis* and *facio*, *to turn to ashes*). See Calcinatum.

CINNABARI'NUM BA'LSAMUM, (from *cinnabaris*). Cinnabar balsam. The simple balsam of sulphur is a proper substitute, and nearly a similar medicine.

CINNA'BARIS, cinnabar. Also called *cinnabar nativum*, *minium purum*, *minium Græcorum*, (*magnes epilepsiæ*, from its supposed usefulness in epilepsies,) *alzemafor*, *ammion*, *azamar*. Vitruvius calls it *anthrax*. Mineralogie de Haüy iii. 437.

Native cinnabar, a ponderous, red, sulphureous ore of quicksilver. It is found in Spain, Hungary, the East Indies, &c. The finest is brought from the East Indies. It is found sometimes in veins, occasionally in grains, or crystallized. Its crystals are tetraedrous.

Sometimes it is brought to us in a large irregular mass; at others in smaller roundish ones, smooth without, and striated within; and of a bright red colour throughout; its streak red and metallic; and its specific gravity from 5.419 to 10.1285. It is insoluble in the nitric, and soluble in the muriatic acid.

This ore consists of sulphur and quicksilver; the finer the colour, the more quicksilver it contains: with these constituents there is generally much earthy matter, from which it is easily sublimed. M. Proust, in the Journal de Physique, vol. liii. has shown that the mercury is in the proportion of 85 to 15 of sulphur, in 100 parts. The mercury seems, however, to be in a metallic state, since, on distilling a mixture of muriat of mercury and sulphur, the product is oxy-muriat of mercury and cinnabar. Æthiops mineral, according to Berthollet, differs only from cinnabar by its containing sulphurated hydrogen. See ARGENTUM VIVUM. See Dict. of Chemistry, Lewis's Mat. Med. Neumann's Chem. Works.

Cinnabar is a name now confined to the native and factitious sort; but formerly it was applied to dragon's blood, madder root, ceruss calcined to redness, and to some other articles.

Artificial cinnabar, *hydrargyrus sulphuratus ruber*, is prepared by mixing purified quicksilver forty ounces, and pure sulphur eight ounces. The quicksilver must be stirred into the sulphur melted; and if the mixture takes fire, it is to be extinguished by covering the vessel. Then let the matter be reduced to powder and sublimed. Ph. Lond. 1788.

The quicksilver in the cinnabars is rendered inert by the sulphur, and of no efficacy as an internal medicine. The factitious or native cinnabar is supposed never to be active without having lost a portion of its sulphur, though it has been esteemed an useful medicine in diseases of the skin, in arthritic, rheumatic, and epileptic cases. Its chief use is for fumigating venereal ulcers; when the quicksilver is resolved into vapour, and blends in part with a volatile vitriolic acid, derived from the sulphur, forming a mercurial salt. This method is useful when a rapid effect is to be produced; but in general the salivation excited is violent and profuse, so that this remedy has been lately neglected.

If adulterated with red lead, it may be discovered by putting a little on a hot iron, for the cinnabar is all evaporated, and the lead remains.

This preparation is used by painters under the name of VERMILION; and the colour is improved by lessening the proportion of sulphur; and if a little arsenic be added in the sublimation, though the preparation is injured as a medicine, it is improved as a pigment.

An oval earthen jar is the best subliming vessel. The great art of making this cinnabar is first to manage the fire so as continually to keep the matter subliming, yet not so as to force its way through the mouth of the vessel, which is covered with an iron plate. Secondly, to put in but little at a time.

CI'NNABARIS GRÆCO'RUM. See SANGUIS DRACONIS.

CINNABA'RIS ANTI'MONII. See ANTIMONIUM.

CINNAMO'MUM, (from the Arabic term *kinamen*). Also called *cinnamum*, *canella*, *canella Zeylanica*, *cassia cinnamomea*, *cassia fistula*, *canella cuurdo*, *kurudu*; CINNAMON. The best sort of which the Arabians distinguish by the term *karfe*, and the ordinary, by *darsini*; the choicest sort by many is called *mosyllon*; the wood of the tree *xylocinnamomum*.

It is the bark of a tree of the laurel kind, growing in the island of Ceylon, freed from the outer green or greyish part, and cut into long slices, which curl up in drying into quills or canes, the form in which it is brought to us. Cinnamon is very thin, light, and of a reddish yellow, or pale rusty iron colour, somewhat tough in breaking, and of a fibrous texture. It is the bark of the *laurus cinnamomum* Lin. Sp. Pl. 520. The CINNAMON TREE.

It is often mixed with the cassia bark; but the cassia hath a close smooth fracture; when chewed, is slimy; and is of a dark brown colour: the cinnamon is rougher to the sight and taste, having an astringency and brittleness in chewing, is of a paler brown colour, and breaks in splinters.

It is one of the most grateful aromatics, both to the palate and stomach, of a fragrant smell, moderately pungent but not fiery, sweetish to the taste, and somewhat astringent, but not in so considerable a degree as to be trusted alone. It proves of service in several kinds of alvine fluxes, and immoderate uterine discharges. The fine flavour is said to reside in the thin pellicle which lines the interior surface of the bark, and which abounds with vesicles of essential oil; the rest of the bark, while fresh, being merely astringent, receiving its flavour from the inner pellicle; accordingly the thinnest pieces are most cordial, and the thicker most astringent. Its stimulus and astringency are said to be occasionally inconvenient; but neither quality is in so great a degree as to be dangerous.

Infused in boiling water in a close vessel it yields the greatest part of its virtue. The watery decoction, after distillation, retains only the astringency, without the flavour of the cinnamon. The watery extract is similar.

Rectified and proof spirits extract its virtues better than water, even without heat; but, in distillation, they carry over very little of the flavour.

An extract made with rectified spirit of wine has all the virtue of the spice: cinnamon affords about 1-16th of its weight of extract.

The cinnamon water of the London college is prepared by adding to a pound of cinnamon as much water as is sufficient to prevent burning; after maceration for twenty-four hours, a gallon is distilled off. As the oil of cinnamon is very heavy, in time it falls to the bottom; and the water loses, with its milky appearance, its aromatic and cordial quality: sugar keeps the oil divided and suspended.

The spirituous cinnamon water, now called *spiritus cinnamómi*, SPIRIT OF CINNAMON, is directed to be prepared by adding of cinnamon a pound, of proof spirit a gallon, and as much water as is sufficient to prevent burning. A gallon is distilled. In distilling with proof spirit, that which arises first is almost flavourless; for the water, which arises after, brings the oil with it; and as the oil is dissolved by the spirit, it is limpid. As the oil of cinnamon is very heavy when cinnamon water is distilled, a low flattish still and a quick equal fire are proper. As very little of the oil rises with the spirit, the best method is first to distil the cinnamon with water only, and then to add a proper quantity of rectified spirit of wine.

The aromatic principle in cinnamon resides in the essential oil, which rises, when distilled with water, slow and with difficulty, rendering the liquor milky. When a large quantity is distilled at once, a small portion of the oil is found at the bottom of the receiver. To

obtain this oil more easily and plentifully, let the water, after it is distilled, stand in a cold place. A pound of good cinnamon affords a drachm, or a drachm and a half of oil; which, if exposed to the air, loses its virtue, without any sensible loss of its weight; so that it is not the oil which is efficacious, but the spirit in the oil. The oil of cassia bark is substituted for the oil of cinnamon; but as they are the same in their medicinal virtues, no objections can be reasonably made. The oleum canellæ albæ and the oleum caryophillorum are mixed with the oleum cinnamomi.

Oil of cinnamon is one of the most immediate and most powerful cordials in languor, hiccoughs, and debility of every kind; it is so extremely pungent, that, on being applied to the skin, it produces an eschar; though a drop or two may be given in a draught, mixed up with a little sugar or mucilage of gum arabic.

Cinnamon, when fresh, affords a larger proportion of oil; but the Dutch extract great part of it in India, so that the oil may be most advantageously bought of them. In proportion as the oil is separated, the cinnamon loses its pungency. It is said that the Dutch obtain above an ounce of essential oil from every pound. If this oil be genuine, the point of a penknife dipped into it will smoke only when it approaches a candle. Should it soon flame, it contains rectified spirit of wine. The use of the cinnamon tree is not confined to the bark; for the leaves, root, and fruit, all yield oils of different qualities, and of considerable value. That produced from the leaves is called oil of cloves, and *oleum malábathri;* from the bark of the root, an aromatic essential oil, or what has been called oil of camphor, and of great estimation as a medicine, is extracted, with a species of camphor which is much purer and whiter than the common kind: from the fruit is obtained a white sebaceous matter extremely fragrant, resembling the oleum nucis moschatæ per express. of a thick consistence, which in Ceylon is made into candles for the sole use of the king. It is white, and is called *cera cinnamomi.*

The *tincture of cinnamon* is thus prepared: Take of cinnamon an ounce and a half; of proof spirit a pint. Digest without heat for ten days, and strain. It contains all the cordial and restringent qualities of the cinnamon itself: if it is continued for some time daily, it warms and strengthens the stomach; but this daily use is often the parent of the most pernicious custom, dram drinking. *Hæ nugæ seria ducunt, in mela.*

Neumann, in his Prælectiones Chemicæ, says, that a pound of cinnamon contains near three-fourths of its quantity of an indissoluble earth, two ounces of resin, an ounce and a half of gum, and about two scruples and a half of essential oil. See Neumann's Chem. Works, Lewis's Mat. Med. and Cullen's Mat. Med.

The compound tincture of cinnamon, formerly the *tinctura aromatica*, is prepared by adding, cinnamon bruised six drachms; lesser cardamom seeds, freed from their husks, three drachms; long pepper and ginger, reduced to powder, of each two drachms; to two pints of proof spirit: after digesting for eight days it is strained. Ph. Lond. 1788.

CINNA'MOMUM A'LBUM, CINNA'MOMUM MALABARICUM. See CANELLA ALBA.

CINNA'MOMUM CRASSIO'RE CORTICE VULG. i. e. MALABATHRUM. See FOLIUM.

CINNA'MOMUM MAGELLA'NICUM, vel CORTEX MAGELLANICUS. See CORT. WINTERANUS.

CINNA'MOMUM MALAB. See CASSIA LIGNEA.

CINNA'MOMUM SPU'RIUM, i. e. CORT. CARYOPHILLOI'DES.

CI'NNUM, or CI'NNUS. See CYCEON.

CINZI'LLA. See ZONA.

CI'ON, κίων, a COLUMN. The uvula is so named from its pyramidal shape. (See UVULA, HIMAS.) Hippocrates gives this name to a carunculous excrescence in the pudendum muliebre.

CIO'NIA. In Dioscorides it is the middle part of a whelk, or purple fish, near the centre of the striæ; which, being calcined, is supposed to be more caustic than the other parts.

CIO'NIS, (from κίων, *the uvula*). A painful thickness of the uvula.

CIRCÆ'A, (from *Circe, the famous enchantress;* on the supposition that it was used in her enchanted preparations). ENCHANTER'S NIGHTSHADE. *Circæa lutetiana* Lin. Sp. Pl. 12. Called also *dipsæa.* Its leaves resemble those of the garden nightshade: the flowers are small and black; the seeds like those of the millet; they are inclosed in a sort of corniculated capsule; the roots are three or four spans long, white, scented, and heating. It grows on rocky ground, where it is exposed to the sun. Its virtues, if any, resemble those of the garden nightshade.

CIRCOCE'LE, (from κίρσος, *varix*, and κήλη, *a tumour*). A corruption of CIRSOCELE, q. v.

CIRCULA'TIO, (from *circulo, to compass about, moving as it were in a circle*). CIRCULATION. For what is understood by it in chemistry, see CIRCULATORIUM and DIGESTIO.

In anatomy it is the circulation of any fluid through the vessels destined for its conveyance. Strictly speaking, circulation is only applied to the blood, because it moves from the heart to return to it again; but the other fluids do not return to the organ from which they were first discharged.

The honour of the discovery of the circulation is undoubtedly due to Dr. Harvey; but it has been claimed for Servetus, Columbus, and Cæsalpinus.

Servetus was an opponent of Calvin, and persecuted by him. He was a Spanish physician; but was not the author of any known medical work. In a theological tract, by way of allusion, he mentions the circulation of the blood through the lungs, rather indeed as an hypothesis than as an established fact. It is of more importance, in another view, to remark, that he considers the object of the circulation through the lungs to be the inhaling a spirit from the air, and the escape of a fuliginous vapour. He was unacquainted, however, with the structure of the heart, or the uses of the valves; and, with Galen, confines the blood to the liver and veins, while he supposes the heart and arteries filled with a spirit. Columbus, in 1569, followed him in describing this lesser circulation, and first explained the structure and use of the sigmoid and tricuspid valves; but with little consistency adopted, also, the fancies of Galen first mentioned.

Cæsalpinus published about twelve years after Columbus, viz. in about 1681; and had not the authority of Aristotle and Galen possessed his imagination so strongly as to shut out the most obvious consequences of the best established facts, the honour of the discovery must

have been his own. But his claims to genius of the highest rank are undisputed without this additional laurel. Aristotle first misled him by distinguishing two kinds of blood; one for the increase and the other for the nourishment of the body: the first he supposed to be derived from the liver, and poured into the vena cava, attracted by the heat of the heart. From the right ventricle he traces the blood, with Columbus or Servetus, to the lungs, where he supposes it to be cooled only. The blood, now become spirituous and alimentary, in successive periods, according to this system, causes, by the fermentation excited, the succession of pulsations, while the aliment destined for increase is elicited from the veins; yet in sleep this effervescing blood, he admits, is returned by the veins, the valves of which had been described by J. B. Cannanus, and, more accurately, by Fabricius ab Aquapendente.

Such were the opinions which Harvey found in the schools; and he need only have recollected that simplicity was the criterion of truth, to suppose that blood, which circulated in the night, might also circulate in the day. This was the foundation of our remark in the history of surgery (see CHIRURGIA), that the facts were already established, and that it required only "patient thinking" to connect them. The claim to this quality distinguished both Harvey, Newton, and Columbus; nor, if we know any thing of the human mind, does this representation diminish their credit. Peaches had for ages fallen from the tree; the structure of the valves of the heart been for years known; and the Indies long discovered by an eastern course; when the calm dispassionate examination of these three first of philosophers drew consequences which had escaped all their predecessors. They have received their reward; for they have demonstrated how high human intellect can soar: it is for their opponents to show how low it can descend.

With regard to the circulation, however, it is thus clearly described. The blood is conveyed from the left ventricle of the heart, by the aorta and its branches, to the minutest and most remote parts of the body; and then passing from the extremities of the smallest arteries into the incipient veins, whether continuous or not anatomists have not decided, circulates through them into their larger branches into the right auricle of the heart, and in succession to the right ventricle. It is forced with the fresh supplies that it receives from the chyle, passing into the subclavian vein, from thence into the pulmonary artery; and after circulating through the lungs, in its passage, is returned by the pulmonary vein into the left auricle, and thence into the left ventricle. The same round recurs until death concludes the progress.

When Harvey promulgated this doctrine is uncertain. It has been supposed, that he delivered his new system in the Lumley lectures, 1615. It is, however, singular, that a discovery so important should have passed unnoticed; though little doubt can be entertained that this important fact was established in his own mind early in the following year. This appears clearly from his MS. De Anatomia Universa. In the year 1619 this great discovery was promulgated; for, if we are not mistaken, in that year his Exercitatio Anatomica de Cordis, and Sanguinis Motu, appeared at Frankfort; a choice probably dictated by the convenience of circulation on the continent. This treatise is a masterpiece of simple, but cogent and decisive argument. After shortly confuting the errors of his predecessors, he describes the motion of the heart as it appears in a living animal; points out the alternate dilatations and contractions of its different auricles and ventricles, and their effect as regulated by the various valves. He then shows, by calculation, that the blood flows faster into the arteries than it can be supplied by aliment imbibed by the veins; and, as the arteries can receive no supplies but from the veins, the former must be gradually more distended, or the latter more emptied, unless the veins and arteries anastomose, which was supposed less improbable, as this communication takes place in the lungs. A few simple experiments illustrate this idea, and establish it beyond contradiction.

The clamour that this publication excited was inconceivable. It was either not true, or the ancients had already taught the same. Riolan, a more respectable antagonist than the common herd, was alone honoured with an answer: and the venerable antagonist retired with some disgrace from the field, accused of cavilling, unmeaning quibbles, rash unfounded assertions, and even unfaithful experiments. The number and names of his other antagonists which lie before us would fill our page, with little advantage or satisfaction to our readers.

During the dilatation of the heart, when the blood enters the ventricles the coronary arteries receive that fluid, contrary to all the other arteries of the body, and thus supply the muscular fibres of the heart with the blood; for the passage of the blood is freer through the arteries during the heart's inflation than at the contraction, because those vessels are then less convoluted. That the heart is not the one and sole cause of circulation appears, because the arteries all perform their diastole at the same instant in healthy people. If the heart's propelling the blood was the sole cause of the circulation, the pulsation of the artery would be an undulation, and in different parts it would be perceived at different times, as the impulse at different distances of the artery from the heart would be in succession.

That some other power than the velocity of the blood dilates the capillary arteries to give passage to the globules, seems evident also from the experiments of Dr. Hales. He poured water into the aorta and other arteries of dogs; and though its force and velocity were equal to that given to the blood by the heart, yet it never passed by the anastomoses of the arteries and veins, but through the sides of the arteries; and this seems to prove that the arteries are totally stopped by the contraction of their fibres after the vital power no longer continues to act, and that the force of the heart hath not a power equal to what is required to dilate them. To this experiment indeed objections may be made; but strong arguments may be adduced to render the principal position highly probable. It is supported with great force by Dr. Whytt.

The whole arterial tube, therefore, contributes to the emotion of the blood; and the heart, instead of moving a weight equal to the whole mass in this way, impels no more than about two ounces, the quantity supposed to be contained by the ventricle in each diastole. See ANIMALIS MOTUS, also Haller's Physiology.

The *laws of the circulation*, or the general circumstances that influence its various modifications, must detain us a

little longer. Physiologists have anxiously endeavoured to ascertain the quantity of blood thrown out by each contraction of the heart, as well as its velocity. But these circumstances are of little real importance, and we need not examine nor attempt to refute the calculations and errors. It is enough that the left ventricle contains about two ounces; and that probably somewhat less is thrown out at each contraction. Whatever the velocity may be, it is gradually diminishing; for the areas of all the branches exceed that of the aorta, and the angles must sometimes impede rectilineal motion. A proportion of the impetus is in this way lost; nor is the resistance of the coats of the arteries, or the friction, to be wholly overlooked; though the elasticity and the muscular power, as well as the mucous secretion on the internal surfaces, greatly lessen its effects.

The velocity of the blood in the arteries will be in proportion to the frequency of contraction; and this in proportion to the return of blood in the veins, which is influenced by a variety of causes, chiefly exercise and agitation of mind. The frequency of the contraction, which arises from irritability, does not increase the velocity of the blood, since, in such instances, the left ventricle contracts before it is filled, and this state is not attended with a determination to the surface. In a healthy state the arteries are always full, and consequently each impulse gives successive momenta to the whole mass: but this succession is so rapid, and the action of the arterial coats so immediate, that the pulsation, which is the consequence, is apparently synchronous over the whole body. As, however, the velocity diminishes from the causes mentioned, this pulsation must be at last imperceptible; and at some distance from the heart, and more particularly in the veins, it is of course lost. The velocity of the blood will therefore vary in proportion to the power of the heart, to the distance from it, to the causes influencing the action of the arteries, and to the direction as affected by gravity.

The quantity of blood distributed to any part of the system will differ in proportion to the action of the arteries of that part; an action increased by resistance of every kind: but the effects of that resistance, at first owing to the action of the arteries of that part, and afterwards to the general consent of every part of the circulating system, is little affected by the state of the circulation in a distant part. The contrary idea has induced the most singular and preposterous practice. It is the parent of the doctrines of *derivation* and *revulsion*, which we shall afterwards notice. Thus, if the head was affected, blood was drawn from the feet; but it will be at once obvious, that sixteen ounces of blood from a vein, if affecting one thousand six hundred arteries, will lessen the quantity of blood in each only 0.01; consequently, on the contraction of the left ventricle, only one hundredth part less of blood will be sent to the head. But if the sixteen ounces be taken from the temporal arteries, or jugular veins, the head will be depleted in the same proportion, without any diminution. It is to be regretted that this idea continues to prevail among practitioners; and we still find blisters and cataplasms applied to the legs to relieve congestions in the head or lungs.

The quantity of blood distributed to different parts varies at different periods. In the growing state, the heart evidently increases in its bulk in a less proportion than the capacity of the arterial system. As age approaches, the number of the arteries lessens, and the proportion of the heart gains the ascendancy. In this state the venous system is proportionably fuller than the arterial. In young animals the head is large, and its vessels full. Diseases of the head, from fulness and hæmorrhages from the nose, are then common. At a subsequent period the determination is to the lungs, and soon afterwards to the genital system in both sexes; at a more advanced period to the hæmorrhoidal vessels. When the number of arteries diminishes from age, we find venous plethora in the head, with serous apoplexies and palsies; in the lungs, with humoral asthmas and catarrhus suffocativus; in the abdomen, with discharges of black bile; in the extremities, with varices.

Any general increase of the action of the arteries determines the blood rather to the surface than the internal parts; but, if checked in its determination to the surface, or irregularly accelerated or retarded, the viscera chiefly suffer. If, from the continued action of any cause, a fixed determination to any part is established, it becomes a necessary part of the constitution, and cannot without danger be altered.

The whole of the blood sent from the heart is not returned to that organ by the veins. The exhalations from the arteries into the cellular substance employ a part of it; the various secretions also greatly lessen it. The arterial system, however, always continues full, in consequence of the contractility of its muscular coat. The venous system has not this advantage, but the motion of the blood is slower in these; and, as it is kept up by the pulsation of the arteries, muscular action, &c. while advantage is taken of every action by the frequent interposition of valves, these vessels must continue full, since, from the want of any active force, a portion must be discharged into the heart, before that below can be propelled forward.

Some other circumstances respecting the circulation can only be understood when the structure of the heart is known. See Cor.

We have remarked, that there is some doubt whether arteries terminate by continuous vessels in veins: in the corpora cavernosa penis they do not, and the veins there certainly absorb the effused blood. The course of the circulation also, when minutely examined, is not regularly progressive. It sometimes is retrogade for a little way, favoured by an anastomosis, chiefly when the vessel will not admit the red globules. The veins too do not all pass immediately to the heart; for, as we have remarked, those of the abdomen unite in forming the vena portæ dispersed in the liver, apparently for the secretion of bile.

The circulation of the blood in the fœtus hath some peculiarities different from what is observed in adults. 1st, The blood does not all pass through the lungs; a very small part only takes that course each time that it returns to the heart. 2dly, The blood brought by the two venæ cavæ into the right auricle of the heart passes chiefly into the right ventricle, but not entirely; for some portion goes immediately through the foramen ovale into the left auricle, and especially that brought up by the cava inferior. Suppose, then, two-thirds of the blood passes into the right ventricle, in order to circulate through the pulmonary artery; yet all the blood that flows into it in the fœtus will not circulate through the

lungs, for a considerable part must necessarily pass by the ductus arteriosus, directly to the aorta, before it hath arrived at the lungs; so that probably not above one-third of the blood circulates through the lungs every time it is brought back to the heart. That blood which was thrown out directly from the right to the left auricle, goes thence to the left ventricle, and so on to the aorta, without touching at either the right ventricle or pulmonary artery, and consequently not arriving at the lungs. After the child is born, and a little grown up, the foramen ovale is closed up in most subjects; though, in some instances, it is found to continue more or less open during the whole life of the person.

CIRCULA'TORES, (from *circulo, to compass about*). See AGYRTÆ.

CIRCULATO'RIUM, (from the same). A CIRCULATORY GLASS. It is a vessel in which the contained liquor, when put over the fire, circulates by ascending and descending in such a manner, that the more volatile parts of the liquor, raised by the fire, not finding a passage, may always fall back again. Thus chemical circulation is only a species of digestion. Repeated distillation sometimes answers the end of circulation. See DIGESTIO.

CIRCULA'TUM. According to Boerhaave, the *circilatum* of Paracelsus was a liquor prepared from sea salt. Paracelsus obtained from this salt a perpetual oil, which he called *circulatum minus*, *circulatus sal minor*, *ens grimum salium*, *oleum salis*, *aqua salis*. He had also a *circulatum majus*, which he called *materia mercurii salis*, and *ignis vivens*. See Barchusen in his Pyrosophia-Maets, Collectanea Chimica Leydens, and Blancard's Lexicon Renovatum.

CI'RCULI I'GNEI. See ECLAMPSIS.

CI'RCULUS, (dim. of *circus, a circle*). A CIRCLE. Besides its proper signification, it is applied to different parts of the body; as, by Hippocrates, to the balls of the cheeks, the orbs of the eyes, or the cavities which surround the eye. Circulus is also the name of an iron instrument used by the chemists for cutting off a neck of glass vessels. The circulus is heated, then pressed close to the glass where to be divided; and when the glass is hot, the application of a blast of cold air, or a few drops of water, separates it. The circulus is sometimes called *abbreviatorium*.

It is also reckoned among surgical instruments, figures of which may be seen in Scultetus's Armamentarium Chirurgicum, tab. xxii. fig. 6, 7; tab. xliii. fig. 5.

CI'RCULUS QUADRU'PLEX. See CIRCUS QUADRUPLEX.

CI'RCULUS ARTERIO'SUS I'RIDIS. It is composed of two arteries going round the basis of the iris. From the arteries of the external lamina are sent several ramifications to the circumference of the iris, where they produce a vascular circle, called *circulus arteriosus*. From this vascular circle pass off many smaller vessels, which form themselves into arches; and from these arches still finer vessels are sent, which probably secrete the aqueous humour.

CIRCUMCALUA'LIS. See ADNATA.

CIRCUMCI'SIO, (from *circumcido, to cut about*). CIRCUMCISION. Albucasis describes several methods of performing this operation; but the best is to stretch the prepuce over the glands, and make a ligature about it, then with a razor cut of all that extends beyond. In warm countries this operation seems to be sometimes necessary, and always convenient, in point of cleanliness; for the discharge of the glandulæ odoriferæ lying under the prepuce, corrupts and becomes acrid; corrodes and inflames the glands and the prepuce.

CIRCU'MFERUS, (from *circumfero, to twist about*). In botany it means twisting round like the tendrils of a hop round the pole.

CIRCUMFLE'XUS PALA'TI, (from *circumflecto, to fold about*; so named from its winding position). Called also *musculus tubæ novus Valsalvæ*, *palato-pharyngæus*, *spheno-salpingo-staphylinus*, *peri-staphylinus externus*, *tensor palati*. Of this muscle Valsalva was the discoverer. It rises from the spinous process of the sphenoid bone, behind the foramen ovale, which transmits the third branch of the fifth pair of nerves from the Eustachian tube, not far from its osseous part; it then runs down along the pterygoides internus, passes over the hook of the internal plate of the pterygoid process by a round tendon, which soon spreads into a broad membrane. It is inserted into the velum pendulum palati, and the semilunar edge of the os palati, and extends as far as the suture which joins the two bones. Its use is to stretch the velum, to draw it downwards, and to a side towards the hook. It has little effect upon the tube, being chiefly connected to its osseous part. Innes.

CIRCUMFORA'NEI, (*quia circum fora versari soleant*, because they attended markets). See AGYRTÆ.

CIRCUMGYRA'TIO, (from *circumgyro, to turn round*). CIRCUMGYRATION. A turning of the limb round about in its socket.

CIRCUMLI'TIO, (from *circumlino, to anoint all over,*) in general, is any medicine applied by way of unction, or as a liniment; but, in a particular manner, it is appropriated to ophthalmic medicines, with which the eye lids are anointed.

CIRCUMOSSA'LIS, (from *circum, around*, and *os, a bone*). See ADNATA and PERIOSTEUM.

CIRCUMSTA'NTIÆ, (from *circumsto, to stand round*). CIRCUMSTANCES. In medicine, they are whatever are not essentially necessarily connected with the principal indicant. Of this kind, in what are commonly called *res naturales*, are the condition of the patient and the part affected; the strength, age, sex, custom, and way of life; in the *præternaturales*, or the times of diseases, paroxysms, number, and symptoms. In the *non-naturales* are the air and soil. These circumstances often regulate the conduct of a physician.

CI'RCUS, QUADRU'PLEX, from the Chaldee term *carka, to surround*,) also *circulus*. The four fold circle. It is a kind of bandage; called also *plinthius laqueus*. See Galen de Fasciis.

CI'RRHUS, rather CI'RRUS, (from κιρρος, *cornu, a horn*; because cirri resemble the figure of horns in their spiral girations). It is one of the fulcra of plants, called also *clavicula*, *tendril*, *capreolus*; the spiral string, by which some plants fix themselves to other bodies. They are of various textures: some of them emit a glue at their termination, by which they stick as well as cling; others have points, by which they stick into trees and walls, serving also for roots.

CI'RRI. In Pliny they signify the four lesser claws of the polypus. See also CERÆÆ.

C'IRSIUM ARVE'NSE, (from κιρσος, *a vein*, or

swelling of a vein; which this herb was supposed to heal). See CARDUUS HÆMORRHOIDALIS.

CIRSOCE'LE, (from κιρσος, *a varix*, and κηλη, *a tumour*). It is also called *varicocele*, *circocele*, *ramex varicosus*, and *hernia varicosa*.

This is an irregular, elastic tumour of the spermatic arteries and veins. Any large tumour in the abdomen, or external force pressing the veins, or a large tumour of the scrotum stretching the vessels or impeding the return of the blood, may occasion the veins of the scrotum, or the spermatic veins, to be dilated with blood; in which case, they are also here and there diversified with large and unequal knots, and the testicles hang lower than in their natural state. This disorder, however, generally depends on a relaxed state of the veins themselves.

Sometimes young men of a salacious turn, abounding with seminal fluids, are subject to this disorder; but when neither pain nor other troublesome symptoms attend, no regard need to be paid to the case, except it be to apply to matrimony for the cure. As this disorder is symptomatic, to remove the circumstances on which it depends will be its relief. It sometimes depends on the pressure of an hernial truss upon the spermatic process; and then an alteration in the bandage will probably succeed. If tumours of a scirrhous kind are the cause, and they are so situated as to admit of extirpation, they should be removed. However, when the veins have been long distended, so that their coats are become very weak, incisions may be made longitudinally into them, after which, dressing as in a common wound, a cicatrix will prevent the return of the complaint. Before incisions are made in the veins, it will be proper to try a suspensory bandage, the cold bath, the application of a solution of alum, or other astringents. Before opening the knot in these veins, it will be proper to employ evacuants, lying in an horizontal posture, by which the course of the returning blood is facilitated; the scrotum and its contents should be supported by a proper bandage, and strengthening embrocations may be applied to the part affected. See Heister's Surgery. Bell's System of Surgery, vol. i. p. 493. Pott's Works, 4to. White's Surgery, 334.

For the distinction between this complaint and bubonocele, vide in VERBO.

CIRSOI'DES, (from κιρσος, *varix*, and ειδος, *forma, likeness;* so called from its resembling a varix). It is an epithet in Rufus Ephesius for the upper part of the brain. He also applies this name to two of the four seminal vessels.

CI'RSOS. Κιρσος, (from κιρσοω, *to dilate*). See VARIX.

CI'SSA. (Greek.) See PICA.

CISSA'MPELOS PAREI'RA, (from κισσος, *ivy*, and αμπελος, *the vine*). The WILD VINE; so called because it has leaves like ivy. See PAREIRA BRAVA.

CISSA'RUS. See CISTUS.

CISSI'NUM, (from κισσος, *ivy*). The name of a plaster mentioned by P. Ægineta.

CIST, or XIST. A measure of wine containing about four pints.

CISTE'RNA, (from *cista, a cist*). A CISTERN. A name of the fourth ventricle of the brain, and of the concourse of the lacteal vessels in the breasts of women who suckle.

CI'STHORUS, and CISTUS, κιστος, (from the Hebrew term *kiss*). The *cistus*, or ROCK ROSE; also *cissarus*, *cistus creticus*, *dorycinium*. It is a shrub which grows in stony places: it is full of branches and leaves, but not tall: the leaves are round, black, and hairy. The leaves of the male cistus resemble those of the pomegranate tree, but those of the female are white. See LADANUM.

CI'STUS HU'MILIS. See PARNASSIA.

CI'STUS LADANI'FERA. See LADANUM.

CI'STUS LE'DON. See LEDUM PALUSTRE.

CI'THARUS. According to Hesychius, it signifies the breast, the side, and a species of fish.

CITRA'GO, CITRA'RIA, (from *citrus, the citron;* because of its smell). See MELISSA.

CI'TRAS, and CI'TRATS, (from *citrus, the citron*). CITRATE. Salts formed by the union of acid of lemon with different bases. The common saline draught is styled *citras potassæ*.

CITRE'UM, (from *citrus*). Called also *citron*, *malus medica*, *malus citria*. The CITRON TREE. *Citrus medica* Lin. Sp. Pl. 1100.

It was first brought from Assyria and Media into Greece, and thence into the southern parts of Europe, where it thrives, and produces perfect fruit, called *cedromela*, which is larger and less succulent than the lemon; but in all other respects the citron and lemon trees agree: the lemon is a variety only of the citrus medica.

As to its medicinal qualities, the chief differences from those of the lemon are, that the citron juice is less acid, the yellow rind is hotter, bitterish, and its flavour more volatile, so that it rises with rectified spirit of wine. The citron juice, when sweetened with sugar, is called by the Italians *aigre di cedre*.

Oils obtained from the fresh peels of the more odoriferous kinds, by rolling the fruit on a plane stuck full of points, are brought from Italy, and used as perfumes; these are more grateful and less pungent than such as are drawn by distillation with water. The oil prepared either of these ways is subject to lose its flavour, and become thick and resinous in keeping; when distilled with rectified spirit of wine, and afterwards separated from the spirit by dilution with water, it retains much longer its odour, fluidity, and limpidness. See Lewis's Mat. Med.

CITRINA'TIO. COMPLETE DIGESTION.

CITRI'NULA, (a dim. of *citrus, a citron;* so named because its smell somewhat resembles that fruit). SPEARWORT. See RANUNCULUS LONGIFOLIUS, &c.

CI'TRON, and CI'TRUS. See CITREUM.

CI'TRONELLE. So the French name the liquor which we call *Barbadoes water*. Take the dry yellow rind of citron ℔ ij. of French brandy ℔ vi. infuse cold for a month, then distil in a sand bath, in a retort, with a receiver luted to it. When the strongest part of the spirit is drawn off, add to the remainder the pulps of the citrons; let them macerate five or six days, and distil them; add what comes over to the former strong spirit; and to this mixture as much sugar and orange flower water as is needful to render it agreeable.

CITRU'LLUS, called also *anguria*, *jace Brasiliensibus*, *tetranguria;* the WATER MELON, or CITRUL. It is the *cucurbita citrullus*, *foliis multipartitis* Lin. Sp. Pl. 1434. It is a gourd, called by the Greeks αγγουριον,

from ἀγγος, which signifies any vessel or receptacle. This name was probably given, because, when the pulp is taken out, the shell will hold any liquor. The branches run along the ground; the fruit is very large, the rind is smooth, of a green colour, variegated with specks of a paler green, though in this it is not always the same. The pulp is grateful to the taste; the seeds are oblong, broad, rhomboidal, and blackish. The seed only is used in medicine; and is one of the four greater cold seeds, but not employed in this kingdom.

CI'TRUS AURA'NTIUM, (from κίτρος, *quasi* κέδρος, or κιδρος, from its pleasant cedar-like smell). See AURANTIA HISPALENSIS.

CI'TTA. (Greek.) A PIE. A voracious bird. See PICA.

CIVE'TA, or CIVE'TTA, (from the Arabic term *sebet*). See ZIBETHUM.

CLÆR. A chemical term for the BONE FLOUR, which is prepared from the bones of the fore part of the cranium of a calf, depurated from the fat by boiling, then calcined to whiteness, and levigated finely, afterwards moistened with water, and calcined again in an earthen pot closed: after cooling, it is reduced again to a subtile powder, which is sprinkled through a sieve upon earthen vessels, to prevent their contracting chinks.

CLA'MOR, (from *clamo, to cry out*). An eager exaltation of the voice.

CLA'NGOR, κλαγγη. It is properly the cry of cranes, geese, &c. A shrill noise. Clangosum de voce dicitur, quæ à gravi tono inchoata in acutum desinit. Ainsworth.

CLARE'TA, (from *clareo, to be clear*). See ALBUMEN OVI.

CLARE'TUM, CLARET, or CLAIRET, a diminutive of *clair*, bright, transparent. By this name is generally understood an infusion of aromatic powders in wine, which is afterwards edulcorated with sugar and honey. This sort of liquor is also called *vinum Hippocraticum*, and by the Germans *Hippocras;* because when the infusion is finished, it is strained through a filter, styled *Hippocrates's sleeve*. It is prepared of various ingredients, according to the intentions of the prescriber. *Claretum purgatorium* is mentioned by Schroeder, and is a vinous infusion of glass of antimony in cinnamon water with sugar.

Extemporaneous clarets are made by pouring into those wines a small quantity of tincture, according to the intention, made with spirit of wine, which was formerly kept under the name of the tincture of claret. Of this kind is an extemporaneous mulled wine, made with the vinous tincture of cinnamon and port wine, sweetened with fine sugar. It is also a name given by the French to such of their red wines as are not of a deep or high colour. See VINUM.

CLARIFICA'TIO, (from *clarifacio, to make clean*). See DEPURATIO.

CLA'SIS, CLA'SMA, (from κλαω, *to break*). See FRACTURA.

CLA'SPER. See CIRRHUS.

CLASSIFICA'TIO, and CLA'SSIS, (from *classes facere*, and ultimately from κλαω, *to divide*). Classification may perhaps scarcely at first appear to be a subject which belongs to the present work; but as we wish not to conceal that we consider the arrangement of diseases as an object of importance, and as we have tacitly acquiesced in the propriety of the classification of plants, animals, and minerals, connected with medicine, by adopting the plans of naturalists, it is proper in this place to explain their principles.

Nature, it is said, has created only species: it is not true; for she has created only individuals. The similarity of these has occasioned the establishment of *species;* for similar individuals form a species. Individuals, differing in circumstances arising from accident; in plants and animals, from soil and climate; in diseases, from constitution; in minerals, from locality, are styled *varieties:* and these, when circumstances are changed, return to the species from which they started. These distinctions, though apparently simple and obvious, are, however, necessary; for naturalists have usually begun at the other extremity, and formed "*methods*" (see BOTANY), classes and orders, before they have established species, and, at this moment, in nosology and mineralogy, the great impediments to improvement arise from the uncertainty of what are species. Even in botany this difficulty was once so great, that more than half of Tournefort's supposed species have been found to be varieties only. Three fourths of Sauvages' species of diseases are varieties or symptoms. This latter subject we hope in future to illustrate. (See NOSOLOGY). Having shortly then pointed out the distinctions between species and varieties, as well as the means by which the former are ascertained, we shall next consider *genera*. This is the first step in arrangement; for the establishment of species consists in ascertaining identity; of genera, similarity. A striking discriminating mark, in many species, sometimes establishes a genus; at others, a general similarity. The conduct of botanists, however, has differed in this part of their labour, from the difference of their dispositions. Some naturalists, catching hastily at analogies, have included numerous species under a genus: others, more wary and exact, have retrenched them too rigorously. The latest botanists have rendered the genera more, sometimes too, numerous; but this of the two is the more venial error, since new discoveries continually enlarge them.

An *order* is an association of genera; but orders are usually too comprehensive, including too great a number of genera; and, to facilitate investigation, these are often divided into separate groups, as in mineralogy the species are sometimes again divided into sub-species. Each is a proof of imperfection in arrangement.

A *class* contains the different orders; and though, in reality, it should be the last, or nearly the last, labour, it has usually been the first; and, to make the system elegant in appearance, the classes have been few and comprehensive. The classes are connected by what in botany is styled a "*method*," which we have already mentioned. Thus, in the Linnæan system of plants, they are said to have evident or concealed fructification; and in nosology Dr. Cullen has first divided diseases into general and local, forgetting that with little change of appearance or treatment they pass insensibly into each other.

CLAUDI'ACON. The name of a collyrium in P. Ægineta.

CLAUDICA'TIO, (from *claudico, to halt*). STAGGERING, HALTING, or LIMPING, as when one leg is

shorter, weaker, or less under the power of the will, than the other.

CLAU'STRUM, vel CLEI'THRON GU'TTURIS, (from *claudo*, and κλειω, *to shut*). The passage to the throat which lies immediately under the root of the tongue and tonsils. The term is preserved in common language, and it is styled the gleik of the throat.

CLAU'STRUM VIRGINITATIS. See HYMEN.

CLAUSU'RA, (from *claudo*, *to shut*). An imperforation of any canal or cavity in the body. Thus *clausura uteri* is a preternatural imperforation of the uterus; *clausura tubarum Fallopianarum*, a morbid imperforation of the *Fallopian tubes*, mentioned by Ruysch as one cause of infecundity.

CLA'VA RUGO'SA. See CALAMUS AROMATICUS.

CLAVA'TA. The name of a suture. See SUTURA.

CLAVA'TIO, (from *clava*, *a club*). See GOMPHOMA.

CLAVA'TUS, (from *clavis*, *a nail*). In botany it means shaped like a nail.

CLAVELLA'TI CI'NERES, (from *clavus*, *a wedge*; so called from the little wedges or billets into which the wood was cut to make them). Also called *alumen catinum*, *soda*, *sal alkali fixum*, *cineres Russici*, *kali*, *potassa*, *gastrinum*, POTASH, and PEARLASH.

The ancients call the ashes of burnt wood *lix*, from whence the modern appellation *lixiva:* the moderns call them also *cineres clavellati*. The English name *potash*, is from the pots in which the lixivium was boiled.

Potashes are made in most countries that abound with the hard kind of wood; particularly the north of Europe and America, from which last the best is brought to us; produced from the ashes of vegetable substances, by dissolving their salt in water, decanting the clear solution, and evaporating it to dryness.

Oak, ash, and other trees that shed their leaves in autumn, are proper, and the smaller shrubs, commonly called underwood; but evergreens, as the pine, cypress, &c. yield very little salt. Fern, bean straw, and the greater number of annual plants, afford a large quantity of salt; dead trees seldom afford an alkali.

The timber may be cut down at any season of the year, but should be burnt as soon as possible. Pieces of eight or ten feet long should be laid in piles, filling the interstices with the chips and smaller wood; and the fire kindled at both ends. As soon as the pile is burnt down, rake such ashes as lie thin on the outside, a little towards the middle: add no fresh fuel, nor stir the ashes till you can bear your hand in them. When placed in a shade on a plank floor, they must be wetted until brought nearly to the consistence of mortar in the first mixture of lime and sand, or so as to stick together; then rammed in a heap, in which they must continue not less than twenty days, though they may remain many months. This is called *wood ash*.

Kilns are also made for the more advantageous burning of wood into ashes.

Wood ashes, put into vessels with latticed bottoms, covered with clean straw, are to be firmly pressed together; their surface covered, four or five inches deep, with soft water, and as it subsides more added. A receiver is then placed underneath to receive the solution, and water continually added until the ley is very weak. The weak ley is strengthened by again filtering through fresh ashes, and the whole conveyed into a pan to be evaporated to a dryness: the produce is called *potash*.

The ley of wood ashes, made strong enough to bear an egg, is boiled briskly, until a pellicle appears on the surface, then gently boiled until it thickens, and continued just bubbling until it is very hard. In that state it is taken out in pieces, which are cut out with a cold chisel, and spread on the floor of a furnace, so contrived that the salt may be just covered with the flame: if it is thus continued until it begins to look fair, and incline to look red, afterwards kept red hot, and turned occasionally, until it is of a pearl colour, it is called *pearlash*. When this pearlash is cold enough to handle, that which is imperfectly calcined, with such as falls into powder, must be replaced in a caldron, with fresh ley. From contact with some inflammable matter, or calcining with too much heat, it hath sometimes a blue colour, but it should be of a pearl colour.

Potash is said to be a creature of the fire. In some parts of Germany it is prepared from the same wood of which charcoal is made. A number of tubes, made of copper, or of iron, are so disposed in the pile of wood intended to be burnt into charcoal, that the water, acid, and oil, which are obtained in ordinary distillations, shall, when separated from the wood by fire, pass through these tubes into buckets placed to receive them. The oil is next to be separated from the acid liquor, which is then to be boiled in copper or iron vessels, and the residuum dried and calcined. By this calcination, the acid is decomposed and the alkali remains. These and many similar facts show that the alkali is a production of fire.

Pearlash is entirely soluble in water, and is, in all respects, the same as the fixed alkaline salt. See ALCALI.

Potash often, though carefully prepared, contains some portion of earth and a neutral salt, which is either a vitriolated tartar or sea salt. The earth is separable by dissolving the salt in water. The neutral salt dissolves with difficulty, and so may easily be separated by solution in cold water, which readily dissolves the alkaline salt, but leaves the neutral unaffected. The sea salt discovers itself by decrepitating, if laid on red hot iron; and is separated by dissolving one part of potash in two parts of water, for in this the sea salt will not dissolve.

Potash is met with of various colours; but when good, if it is exposed to the air, it first grows clammy, then runs to an oily liquid, which, when dried, leaves an impalpable powder of a whitish colour. It hath but little smell, and is of a pungent, urinous taste; does not crumble in solution, but dissolves gradually; it ferments with acid, and it unites, when pure, with oil.

As a medicine, the virtues of the alkaline salt of potash are the same as those of any other vegetable fixed alkaline salt.

See ALCALI. Neumann's Chem. Works. Dict. of Chemistry, 4to.

CLA'VI SI'LIGINIS. See SECALE.

CLAVI'CULA. See CLAVICULUS.

CLAVI'CULÆ, and CLAVES. In anatomy, the clavicles, (from *clāvis*, *a little key*). So the collar bone is called, from its likeness to an ancient key, called also *furcula*, sometimes *clidion; clavis*.

Each clavicle resembles the Italian letter *f:* they bend forwards near the sternum, and backwards near

the scapula. They are more straight in women than in men. They are placed almost horizontally, between the sternum and acromion, and are connected to the sternum by the articulation called *arthodia*. At their extremities, next the sternum, is a ligament, which runs across to the other clavicle, and it is connected to the first rib likewise by a ligament. These bones, by keeping the scapulæ in their proper situation, serve for the more free and easy motion of the arms. The clavicles in infants are perfect bones without any epiphyses.

CLAVI'CULUS, vel CLAVI'CULA. See CIRRHUS.

CLA'VUS, (from *claudo, to shut*). A NAIL OR BUTTON. An instrument in surgery mentioned by Amatus Lusitanus, to be introduced into the ulcerated palate, for the better articulation of the voice. Sometimes this word signifies indurated tubercles of the womb, and are distinguished by a similar appellation.

CLAVUS, a CORN, called also *spinæ pedum*, *calli*, *condylomata*, and *tyllomata*. Dr. Cullen defines a corn to be a lamellated hard thickening of the cuticle. He ranks it as a genus of disease in the class *locales*, and order *tumores*.

Corns are a sort of horny excrescence growing on the feet and toes, sometimes on the hands of labouring people. These callosities resemble an inverted wart, and are seated in the cutis and cuticle, arising chiefly from pressure and irritation, and are excessively painful when rooted near a nerve. The easiest and best method of cure, is to take off all uneasy pressure, and apply a piece of plaster, spread with soap, or plaster of litharge, with some opium, little more than the size of the corn, which may be closed on the part for four or five days together, to render its surface soft. That part which appears sodden must be pared away, but by no means so low as to touch the cutis vera; after which the plaster is to be renewed, and the whole process may be repeated in five or six days, till the corn appears likely to separate with its root, or waste away. Soaking the part in bran and warm water is very useful previous to each cutting. Hog's gall dried in the bladder, spread thin upon a rag and applied to the corn only, has often proved efficacious: it is apt to inflame the part a little, but the corn generally withers after a few applications of this kind, and is wholly separated. See White's Surgery; also Bell's Surgery, vol. v. p. 539. See SPINÆ PEDUM.

CLA'VUS HYSTERICUS, (so called from *clavus, a nail;* as the sensation resembles the driving a nail into the head). A symptom attending some cases of hysteria, which is thus described by Sydenham: "Hysterics sometimes attack the external parts of the head, between the cranium and the pericranium, occasioning violent pain, which continues fixed in one place, not exceeding the breadth of one's thumb; and it is also accompanied with enormous vomitings." (See CEPHALALGIA.) Such again attend a venereal caries, or an exostosis of some bone of the cranium.

CLA'VUS OCULORUM. See STAPHYLOMA.

CLEI'DION, vel CLI'DION. The epithet of a pastil described by Galen and P. Ægineta; and it is the name also of an epithem, described by Ætius. Sometimes it is synonymous with claviculæ.

CLEIDOMASTOIDE'US, (from κλειδιον, *the clavicle*, and μαστοειδες, *the mastoideus muscle:* so called from its origin and insertion). See CLINOMASTOIDEUS.

CLEISA'GRA, (from χλεις, *the clavicle*, and αγρα, *a pain*). See ARTHRITIS.

CLEI'THRON. See CLAUSTRUM.

CLE'MA, (from κλαω, *to break;* so named from its frangility). A twig or tendril of a plant.

CLE'MATIS, (from κγημα, *a tendril*). See ATRAGENE and VINCA PERVINCA.

CLEMA'TIS RE'CTA. See FLAMMULA JOVIS.

CLEMATI'TIS PERUVIA'NA. See BEXUGO.

CLEO'NIS COLLY'RIUM. The name of a collyrium described by Celsus.

CLEO'NIS GLU'TEN. It is mentioned by Oribasius. lib. iv. and recommended for restraining fluxes: it consists of terra Samia, myrrh, grains of frankincense, of each equal parts; the white of egg, a sufficient quantity; spread on linen cloth, to be applied to the temples and forehead.

CLE'PSYDRA, (from κλεπτω, *to conceal*, and ὑδωρ, *water*). Properly an instrument to measure time by the dropping of water through a hole from one vessel to another; but it is used to express a chemical vessel perforated in the same manner. It is also an instrument mentioned by Paracelsus, contrived to convey suffumigations to the uterus.

CLI'BANUS, (quasi καλαβανος, from καλυπτω, *to conceal*). A little portable oven.

CLIFTON WATER. This well lies a mile from Deddington in Oxfordshire. It is a weaker water of the same sort with TILBURY, which see.

CLIMACTE'RICUS A'NNUS, (from κλιμαζω, *to proceed gradually*, as upon (κλιμηξ,) *a ladder*. The CLIMACTERIC YEAR. Every seventh year is usually styled a *climacteric;* but others reckon only those years that are produced by multiplying seven by odd numbers, viz. 3, 5, 7, 9, to be such. These years they say, bring with them some remarkable changes with respect to health, life, or fortune. The grand climacteric is the sixty-third year; some add to this the eighty-first year. The other remarkable ones are the seventh, twenty-first, forty-ninth, and fifty-sixth. The credit of climacteric years depends on Pythagoras's doctrine of numbers, and seven times nine (63) is the grand climacteric, since it is the peculiar number, seven, multiplied by the perfect number. Nine is the perfect number as the square of 3, which is perfect, because it is the only number made up of its parts one and two. Such were once the trifles dignified by the name of science!

CLIMATE. The term is employed by geographers, who divide the globe into parallel bands or zones of a determined breadth. By physicians it implies different regions either of more steady or more temperate warmth, more or less dry or damp.

Each state of climate may be adapted to different situations and constitutions; but, in this article, we must confine ourselves to more general remarks. Climates, as distinguished geographically, can form no part of our present subject, since we may freeze within the tropics, for even there we find regions of perpetual snow, and be relaxed by the short, though warm and humid atmosphere within the arctic circle, during its short but unremitted summer heat. In general, the interior of islands or continents offers the highest mountains, consequently the coldest situations; and these are usually, from causes unnecessary to explain in this place, gene-

rally much nearer the western than the eastern coasts. In cold climates, the body is robust, and the constitutions subject to inflammatory diseases: in these regions the invalid seeks the bracing and elastic breezes; but he must inhale them with caution; they may prove too astringent; the excitability may be accumulated in a noxious degree; and an accidental cold induce the most dangerous inflammatory diseases, more imminently dangerous as the constitution cannot bear to be depressed, since the former debility may be rapidly induced. The invalid should therefore proceed with caution, and mount the lesser heights before he ascends the Alpine mountains. The hills of Devonshire may prepare him for the mountains of Wales, and these again for the Highlands of Scotland. It is an advantage that in these situations there are numerous shelters from the eastern blasts, which are proverbially baleful.

In every country the climate near the sea is mild and moist, if we except the eastern shore of this island during the spring and early summer months. The coasts have been consequently recommended to consumptive patients, though not always with the expected advantages. Yet the air is more temperate in winter, and the heat more tolerable in summer; and in situations not exposed to the east, it would appear, *à priori*, a situation truly desirable. Dr. Rush has suggested that disadvantages may arise from the mixture of sea and land air; but until these have been found to differ, we may neglect the distinction as an unnecessary refinement. It is probable that the air is of a lower quality, that is, contains a less proportion of oxygen; but this state of the air is certainly beneficial to hectics: and, as we have hinted, if Bristol is ever advantageous, it must be in the lower situations. By a refinement, not unlike Dr. Rush's, it has been supposed that sea coasts, where no river conveys its water to the ocean, are preferable to the large estuaries. If the mixture of water and dry air is not injurious, we cannot suppose that this idea is well founded; on the contrary, where no river leaves an opening for free ventilation, storms most tremendous occasionally burst from the mountains with the most piercing coldness. This happens in many of the boasted retreats on the northern side of the Mediterranean.

In general, as we have said, we must not look for heat or cold by the measure of the latitude, but by contemplating the situation; and we can only look for a steady even temperature where the ventilation from land to sea, or the contrary, is free from obstacles. In the lower (or comparatively the lower) regions, surrounded with hills, we shall chiefly find damp situations, air of a lower quality, and a steady temperature, though occasionally interrupted by storms. Such spots are seldom unhealthy, and the asthmatic patient breathes in them with more freedom. Such is the famous valley of Cashmire; and such spots abound on the Alps, particularly in the once happy country of Switzerland. They may be sought for as remedies; but confinement in them, without change, predisposes to diseases, arising from languor and diminished irritability.

The famous resorts of invalids were Lisbon, Madeira, and the south of France. To Lisbon there seems little objection, but that the temperature is not steady, and it is occasionally subject to piercing colds. Madeira has the inconveniences attributed to those coasts not ventilated by large rivers; and the most favourite spots in the south of France are equally subject to sudden and violent storms. When a change of climate is requisite, every advantage apparently may be gained by different situations in our own island, with the additional one of customs, language, &c. familiar to the patient. Illness, in the best regulated minds, occasions peevishness, at least irritability; and the want of the accustomed indulgences seldom fails, even though in trifles, to occasion fretfulness, which astonishes the attendants, and indeed the patient himself on recovery.

The French physicians have set an example well worthy of our imitation, viz. the publication of a medical topography of different situations. Such accounts, including the temperature, the state of the air, the rains, and prevailing winds and diseases, would be highly valuable if executed without prejudices. Our "Guides to watering places" are unfortunately dictated by the most interested motives: every advantage is magnified, every inconvenience concealed. Such topographies should be executed by medical visitants, could they be candid; and not, like Smollet, view every thing with a prejudiced eye, and a distempered imagination.

CLI'MAX, (from κλιμαζω, *to proceed*). Also called *scala sacra*. A name given by the ancients to some antidotes, the ingredients in which gradually diminished in quantity, e. g. Chamædryos ℥ iij. centaurii ℥ ij. hyperici ℥ i. See PULVIS AD RHEUMATISMUM, under CHAMÆDRYS.

CLI'MIA. See CADMIA.

CLI'NICUS, (from κλινη, *a bed*, also *cataclines*). CLINICAL. It is applied to patients who keep their beds. Hence a clinical physician is one who attends the sick; and clinical lectures are those in part, at least, delivered at the bed side on the cases of the patient.

CLINOI'DES. The four small processes of the os sphenoides, which form the *sella turcica*, (from ειδος, *resemblance*, and κλινη, *a bed*).

CLINO-MASTOIDE'US, for CLEIDOMASTOI'DEUS. See MASTOIDEUS MUSCULUS.

CLINO'PETES, (from κλινη, *a bed*, and πετο, *to seek*). A person who, on account of great weakness, or any disorder, is obliged to lie in bed, or on a bed.

CLINOPO'DIUM, (from κλινη, *a bed*, and πους, *a foot*; so called because it has leaves like a bed's foot). See MARUM.

CLINOPODIUM MAJUS ACINOS. See BASILICUM.

CLI'SSUS, is a chemical technical term, and denotes mineral compounded spirits. But antimony is considered as the basis clyssi. A spirit of antimony is called *clyssus*.

CLITO'RIDIS FLOS TERNATE'NSIBUS. A beautiful flower growing in the island of Ternate. The inhabitants boil and eat it; but no medical virtues are attributed to it.

CLITO'RIDIS MU'SCULUS. Innes calls it *erector clitoridis*, and describes it as arising from the crus of the os ischium, internally covering in its ascent the crus of the clitoris, as far up as the os pubis. It is inserted into the upper part of the crus and body of the clitoris. Its use is to draw the clitoris downwards and backwards, and may serve to make the body of the clitoris more tense, by squeezing the blood into it from its crus.

CLI'TORIS, (from κλειω, *to inclose*, or *hide*, because in its natural state it is closed in the vagina,) called also

centrum Veneris, *columella*, *dulcedo Veneris*, *epideris*, *hypodermis*, *myrton*. It is a part of the external pudendum situated at the angle which the nymphæ form with each other. Within the labia externa, at the upper angle, we observe the prominent extremity of the clitoris, which is covered with a preputium similar to that of the penis. It is very vascular and villous, to occasion a greater irritation in coitu. The clitoris is, in many respects, analogous to the penis; the two crura clitoridis, which are two spongy bodies, and form the clitoris by their union, arise from the ischium, and, running along the lower edge of the os pubis and the os ischium, unite, to form the corpora cavernosa of the clitoris. It is furnished with two erector muscles, whose origin and insertion are the same as in the penis; but though the clitoris has a glans, there is no corpus spongiosum urethræ; its trunk is sustained by a suspensory ligament, fixed in the symphysis of the ossa pubis. Like the penis, it has an erection, and it is thought to be the principal seat of venereal pleasure.

The clitoris is of different sizes in different women, but, in general, it is small, and covered with the labia; when preternaturally enlarged, it constitutes an hermaphrodite.

When the clitoris is too large, it is styled *cercosis*, and may be so extirpated as to remove the unnecessary part; but this requires much care, for if too large a portion is extirpated, the patient is subjected to an involuntary discharge of urine.

CLITORI'SMUS. A morbid enlargement or swelling of the clitoris.

CLOA'CA, (quasi colluaca, from *colluo*, *to cleanse*). A REPOSITORY OF FILTH. In comparative anatomy, it imports the canal in birds through which the egg descends from the ovary. It is remarkable, that the part which is next the ovary is jagged like the morsus diaboli, and fluctuates in the abdomen without any attachment to the ovary. It must, therefore, like the fimbriæ of the Fallopian tube, be erected to grasp the ovum.

CLOATHING. See COOPERTIO.

CLO'NICUS, (from κλονεω, *to agitate*). See CLONOS.

CLONO'IDES, (from the same). An epithet for a sort of pulse which is vehement and large, at the same time unequal in one and the same stroke.

CLO'NOS, (from the same). Κλονος, also *clonicus*. Any tumultuary, inordinate, interrupted motion. It is applied to the epileptic and convulsive motions. See SPASMUS CLONICUS.

CLO'US. (French). See CARYOPHILLUS AROMATICUS.

CLU'NES, (from κλυω, *to cleanse*, because they are the parts through which the alvine fæces are ejected). The BUTTOCKS; called also *ephidsanæ pygæ*: the two posterior and lower parts of the abdomen are separated by a fossa, which leads to the anus: each buttock is terminated downwards by a large fold, which distinguishes it from the rest of the thigh. They consist of skin, fat, and muscles, principally of the glutæi.

CLUNE'SIA, (from κλυνες, *the buttocks*). See PROCTALGIA.

CLUPE'A, (from *clypeus*, *a shield*; so called from its shape). See ALOSA.

CLUS. et CLUS. HIST. An abbreviation of Caroli Clusii rariorum Plantarum Historia.

CLUS. HISP. An abbreviation of Caroli Clusii rariorum aliquot stirpium per Hispanias observatorum Historia.

CLUS. CUR. POST. An abbreviation of Caroli Clusii Curæ Posteriores.

CLUSIA. *Flava* Lin. Sp. Pl. 1495. A tree in Jamaica that produces a kind of turpentine called *hog's gum*.

CLUTTO'NI DOM. SPI'RITUS FEBRIFU'GUS. See FEBRIFUGUS SPIRITUS, &c.

CLY'DON, (from κλυζω, *to cleanse*). A fluctuation and flatulency in the stomach and intestines.

CLY'MA, (from κλυζω, *to cleanse*). The fæces of silver and gold, which have been cleansed by washing.

CLYME'NUM ITALO'RUM, (from *Clymenes*, who first used it). See ANDROSÆMUM.

CLYPEA'LIS CARTILA'GO, (from its resemblance to a shield, *clypeus*). See ASPERA ARTERIA.

CLY'PEUS, a shield. It is supposed to be an instrument used in the ancient baths to increase or diminish their heat, by admitting or excluding air; so called from its resemblance.

CLY'SMA, (from κλυζω, *to wash out*, *a clyster*). See ENEMA.

CLYSSIFO'RMIS DISTILLA'TIO, (from *clissus* and *forma*, *a likeness*). A distillation of such substances as are subject to take fire and fulminate by a tubulated retort.

CLY'SSUS. *Clissus* vel *clistus*, (from κλυζω, *to wash*). Among the ancient chemists, this word imported an extract prepared of various substances mixed together. Among the moderns, it signifies a mixture, containing the various productions of one substance united with each other; *e. g.* when the distilled water, the spirit, the oil, the tincture, and the salt of wormwood, are so blended, that the mixture is possessed of all the united virtues of the simple, from which these preparations are obtained. Clyssuses were formerly prepared from the vapours of different matters joined with nitre, several instances of which may be seen in the Dictionary of Chemistry; and as their virtues merit not the trouble of preparing them, the curious are referred to that work.

CLY'SSUS ANTIMO'NII, CLY'SSUS MINERA'LIS. It is obtained by deflagrating a mixture of antimony, nitre, and sulphur, in a red hot retort, fixed to a receiver, in which is some water. But as it is only a weak spirit of sulphur, it is not worth the labour of preparing. It is recommended as an antiseptic, and as useful in early stages of hectics. See Dict. of Chemistry, and Neumann's Chemical Works.

CNA'PHOS. See HIPPOPHÆS.

CNE'CUS, (from κνακω, *to scratch* or *rasp*). See CARTHAMUS; also the seeds of the carthamus.

CNEMI'U. Any part connected with the tibia. Galen.

CNEMODACTYLÆ'US, (from κνημη, *the tibia*, and δακτυλος, *the toe*; so named from its origin and insertion). See EXTENSOR DIGITORUM LONGUS.

CNEO'RON. See THYMALÆA.

CNE'SIS, CNE'SMOS, Κνησις, the same as *cnismos*, and *cnyma*, (from κνακω, *to scratch*). That eager scratching observed in brutes; but it more generally means the itching itself.

CNE'STON, (from the same). It is a species of thymalæa; a *rasp*, which is also called *cnester*, and particularly a rasp for scraping cheese.

CNICELÆ'ON, (from κνικος, *cnicus*, and ελαιον, *oil*). Oil made of the seed of cnicus. Its virtues are the same with those of the oleum ricini, but in an inferior degree.

CNI'CION. A name of the trifolium.

CNI'CUS, (from κναω, *to scratch*). The heads are surrounded with a crown, formed of a complication of numerous leaves. Many of the species of the former genus are removed to that of carduus and attractylis, q. v.

That used as a purge by Hippocrates is supposed to be the carthamus; but modern botanists exclude it from the species of this plant.

CNI'CUS A'LBIS MA'CULIS NOTA'TUS. See CARDUUS LACTEUS SYRIACUS.

CNI'CUS SYLVE'STRIS. See CARDUUS BENEDICTUS.

CNI'DE, (from κναω, *to scratch*). See URTICA.

CNIDELÆ'ON, (from κνιδη, *the nettle*, and ελαιον, *oleum*). Oil made of the cnidia grana.

CNI'DIA CO'CCUS. See THYMALÆA.

CNI'DIA GRA'NA. CNIDIAN BERRIES; called *Ætolion*, *cocca cnidia*, *coccalos*. *Daphne gridium* Lin. Sp. Pl. 511. These berries are highly acrid and poisonous.

CNIDO'SIS, (from κνιδη, *nettle*). An itching and stimulating sensation, such as is excited by the nettle.

CNIPO'TES, (from the same). ITCHING. It sometimes signifies a dry ophthalmy.

CNI'SMOS. See CNESIS.

CNISSORE'GMIA, (from κνισσα, *a nidorous smell*, and ερευγη, *an eructation*). A nidorous eructation.

CNY'MA, (from κναω, to *scrape* or *grate*). In Hippocrates it signifies a rasure, puncture, or vellication; also the same as *cnesmos*. See CNESIS.

COAACHI'RA INDO'RUM. See INDICUM.

COA'CUS. An epithet of a treatise of Hippocrates, called *Coacæ Prænotiones*, from Cos, his birth-place.

COADUNA'TOS, (from *coadunatos*, *united*). In botany it means united together in some expressed manner, as *coadunata folia*, leaves joined together at the base.

COAGULA'NTIA, (from *coagulo*, *to incrassate* or *curdle*). In general such bodies as coagulate fluids; but in medicine it signifies more particularly such remedies or poisons as coagulate the blood and juices flowing from it.

Though poisons were generally accused of coagulating the fluids, yet various other substances were employed for this purpose; and, at the present moment, spermaceti is sometimes given after lying-in, to prevent the excessive lochial discharge, and occasionally as a check to the hæmorrhages from the lungs. In the humoral pathology the class of coagulants are still numerous, and with those who retain the theory of preternatural tenuity or lentor, they must be still cherished as remedies, or dreaded as injurious. We see no instance, however, of coagulation of the vital fluids, but in cases of polypi in the heart or larger arteries; and these concretions are rather owing to occasional stagnations of the circulation from faintings, or similar temporary causes of suspended circulation, than any fault in the fluids. Some effects formerly attributed to coagulation, we now know to be the effect only of adhesive inflammation. Externally, these are undoubtedly coagulants; for whatever favours the concretion of the blood flowing from a wound may be styled such. Of this kind arel int, especially when mixed with flour, spiders' webs, sometimes the white of an egg, or similar applications, which have been styled styptics. Internally we find an effect from one medicine that may be supposed to resemble it, viz. that of gum arabic, which, when used in large quantities, we think has sometimes lessened the flow of urine. Authors, however, who claim some credit, have arranged under this head the consolida, pulmonaria, aloes, gum benjamin, the balsams, spirit of wine, sarcocolla, lapis hybernicus, the leaves of the elm, hypericum, and caprifolium, some of which certainly act as styptics when applied externally.

COAGULA'TIO (from the same). COAGULATION is when a fluid, or some part of it, is rendered more or less solid. This is variously effected, and from the different methods, as well as means, the appellations vary.

Heat and cold are the two principal natural agents for coagulating fluids. When heat is used by art, its effect is called *coagulatio per separationem*. When cold is thus made use of, its effect is called *coagulatio per comprehensionem*; implying that no part of the fluid is lost, but the whole brought into a solid state.

Different means coagulate different matters: thus heat coagulates salts by dissipating their moisture; cold coagulates water by freezing it; water coagulates camphor when dissolved in spirit of wine, by uniting with the spirit and rendering it a less perfect menstruum for the camphor; spirit of wine, if pure, coagulates the white of egg and other matters; and motion coagulates milk into butter, by uniting the particles of oil.

The coagulatio-continua is produced either by impastation, that is, when powders, &c. are mixed with the fluid, or by condensation, that is, when coldness is applied to water so as to congeal it.

The coagulatio-partis is when one substance so adheres to another as to form a more solid body; for example, dry things with moist, oil with water, &c.

The coagulatio-totius is preternatural when heterogeneous matter is united; and natural, when homogeneous fluids are coagulated by way of generation.

Such are the logical distinctions of the Stahlians; but it is necessary to be more chemically accurate. Coagulation consists chiefly in precipitation, when the attraction of the fluid to the solid which keeps the latter suspended is weakened. Coagulations by heat are sometimes owing to evaporation, but more often to a chemical change, as in an instance soon to be mentioned. In many instances of apparent complete coagulation, the fluid is only entangled between the spiculæ of the crystals; and this is the case with the coagulation from cold or rapid crystallization. Sometimes it is occasioned by a chemical change. Albumen, for instance, when coagulated, is not again soluble in the same fluids as before; and butter will not again become milk with the albumen and whey. There are various instances of increased density, occasioned by different additions, which are not readily explained. The thickening of leather by astringent substances *was* one of these; but we now know it to proceed from precipitation of gelatine. The use of alum by the soap boilers, and in the coagulation of curd to produce whey, is not yet understood.

COA'GULUM, (from the same). Curdled concretions, formed by the mixture of two liquors, are thus

called; such, for instance, as the curd for cheese, separated from the serous part of milk, by means of rennet infused in warm water. Rennet, or runnet, is the stomach of a young sucking animal, and curdles milk without any previous preparation. The common method is, to take the calf's stomach, clean it well, salt and hang it up in brown paper: when this is used, the salt is washed off, a piece is macerated in a little water during the night, and in the morning the infusion is poured into the milk to curdle it. This property of the stomach has been attributed to the remains of the food, or to its acid; but the stomach retains its power when nicely cleaned, and no acid can be discovered in it by the most delicate taste. The whole stomach produces this singular change, and it is undoubtedly a chemical one. Some other substances, not acid, are said to produce the same effect; and Spallanzani mentions his having found similar changes from infusions of the liver of the gallinaceous tribe, particularly turkeys.

COA'GULUM ALU'MINIS, called also *cataplasma aluminis*. In ophthalmia it is found very serviceable, particularly in that species called purulent, applied between two pieces of fine soft linen rag. It is also said to be very effectual as a remedy for chilblains. See also ALUMEN.

COALESCE'NTIA, (from *coalesco, to grow together*). COALESCENCE. The union or growing together of two bodies, or two parts which before were separate.

COALTE'RNÆ FE'BRES, (from *con*, and *alternus, alternate*). Fevers mentioned by Belini. He describes them as two fevers affecting the same patient, and the paroxysm of one approaching as that of the other subsides. It is a rare occurrence, but by no means imaginary.

COARCTA'TIO, (from *coarcto, to straiten*). COARCTATION. A contraction of the diameters of the vessels. A coarctation of the pulse is a diminution of the capacity of the arteries, from the increased tone of the muscular coat.

COARCTA'TUS, (from the same). In botany it means pressed together very closely.

COARCTICULA'TIO, (from *con*, and *articulatio*). See ARTICULATIO.

COA'TLIS. See BEN.

COBA'LTUM, *kobalt*, (Germ.) called also *cadmia metallica*. COBALT. It is a ponderous hard metallic substance, found in some parts of Asia, now chiefly dug up in Saxony, but also met with in England. The best way of distinguishing it from other minerals is to melt it with glass, for it imparts a sapphire blue colour: from it the greatest quantity of arsenic is obtained that is used all over Europe.

When dug, it is mixed with various other substances; it is then broken into small pieces, and calcined in a reverberatory furnace, so formed as that the flame of the fire may pass over the calcining matter, and keep it ignited: the flame, in passing over the cobalt, carries off a copious fume, which is conveyed from the top of the furnace into a large long winding wooden chimney, to the inside of which the fumes adhering in the form of a white soot, are at proper intervals swept down, and when melted form the white arsenic. The cobalt is next repeatedly calcined, and then finely ground with two or three times its weight of powdered flint. From this mixture, when melted, zaffer is produced.

If two parts of calcined cobalt, one part of potash, and three parts of common sand, are melted together, a vitreous opaque, bluish mass is formed, which, when ground to powder, is called *smalt*, or *encaustum cæruleum, powder blue*.

On the outside of the mines where cobalt is found, there is a mineral of the colour of streaked roses, called the *flower of cobalt*.

The chief use of this mineral is for obtaining arsenic, and the reguline part is the blue made use of for colouring glass or china. See Lewis's Mat. Med. Dictionary of Chemistry, and Neumann's Chem. Works.

COBA'STOLI. ASHES.

CO'BBAN. A small tree resembling the peach tree. It grows in Sumatra: the fruit quenches thirst, and the kernel affords an oil by expression, which is externally used against pains. Raii Hist.

COBHAM WATERS. These arise from a spring which lies a mile south from Church Cobham, about twenty-four miles from London. It is considered as one of the weaker saline purging waters. See AQUÆ CATHARTICÆ AMARÆ.

CO'BRA DE CAPE'LLO, (from *cobra, the head*, or *covering*; Spanish). A venomous serpent, which is also called *serpens Indicus coronatus, vipera Indica vittata, vipera pileata*. The RATTLE SNAKE. *Crotatus horridus* Lin. Syst. Nat. (Gmelin) 1080. The part in use is a stone taken out of its head, whence its name of *cobra*; called *piedro del cobra*, and by mistake *piedra di cobra*: it is of an oval figure, plain on the outside, and gibbous on the other, of a brown colour, shining, with pores interspersed. It is said to be an antidote to the poison of venomous animals; but neither this quality nor the truth of its being a natural production is ascertained; for the Pierres de Cobras were discovered by Fontana to be artificial productions, and to consist only of calcined hartshorn.

CO'BRE VERD. See BOJOBI.

COBRE'LLO. See EPILEPSIA.

CO'BUS DE CIPO. See BOITIAPO.

CO'CAO AMERICÆ. See CACAO.

CO'CCA BA'PTICA. See CHERMES.

Co'CCA CNI'DIA, or GNI'DIA, (from κοκκος, *a berry*). See CNIDIA GRANA.

COCCA'RIUM, (from κοκκος, *a berry*). The name of a very small pill mentioned by Oribasius in his Synop. lib. iii.

COCCEI'RA I'NDICA. See PALMA COCCIFERA.

CO'CCI ORIENTA'LES. See COCCULUS INDICUS.

CO'CCIÆ MINO'RES PIL. *colocynth.* pil. cum aloe. See CATHARTICUM EXTRACTUM.

COCCINI'LLA, (a dim. of *coccus, a berry*,) also called *coccinella, ficus Indiæ grana, scarabæolus hæmisphericus, cochinelifera cochinella, coccus Americanus, cochinelle, coccus Indicus tinctorius*. COCHINEAL. *Coccus cacti* Lin. Syst. Nat. (Gmelin) 2220.

It is an insect, but, as brought to us, appears in little grains, wrinkled, of an irregular figure, convex on one side, and flat or hollow on the other; externally they are of a dark red colour, generally sprinkled with a whitish clammy powder; internally of a deep bright red. It is brought from Mexico and New Spain; but the plant has been lately cultivated in India with some success. The insects are found adhering to the leaves and branches of the opuntia, called *nochetzli, nopalli*; or

nocheznopatli in New Spain; the AMERICAN PRICKLY PEAR TREE, or INDIAN FIG; *cactus opuntia* Lin. Sp. Pl. 669. The natives carefully collect, preserve, and cure them. The male insects have wings, and are about the size of a flea; the females have no wings, and are larger: when full of young they swell so as to resemble berries, in which state they are swept off from the leaves and branches of the opuntia with a pencil; if left until the young ones creep out, the parent dies, and its body becomes an empty husk. From their state when thus hiding their young, they have been styled the gall insect; or, more strictly, the pro (false) gall insect; the true one being the kermes, which belongs to the same genus. It is the female sort that we use for dying scarlet and making carmine. By different management it affords all the shades of red, from the lowest to the highest.

Carmine is a fecula or powder that settles at the bottom of the water in which cochineal hath been mixed: with this the drapers rub scarlet cloth where it has not taken the dye.

Cochineal gives a fine durable red to proof and rectified spirits, and a deep durable crimson to water: both retain their colour when inspissated to an extract.

This insect hath been commended as diuretic, diaphoretic, and corroborant; but they are now employed only for their colour. See Neumann's Chem. Works; Dict. of Chem. Lewis's Mat. Med.

COCCO BA'LSAMON, (from κοκκος, *a berry*, and βαλσαμον, *balsam tree*). The fruit of the true balsam.

COCCO'NES, (a dim. of *coccus*, *a berry*). The grains or acini of the pomegranate. See GRANATA MALA.

CO'CCOS, or CO'CCUM. See PALMA COCCIFERA. In Hippocrates, when without any addition, it signifies the cnidia grana: but coccus implies any berry or grain.

CO'CCULI I'NDI AROMA'TICI, (from the same). See PIPER JAMAICENSE.

CO'CCULUS I'NDICUS, called also *cocculæ officinarum*, *cocci orientales*. *Menispermum cocculus* Lin. Sp. Pl. 1468. INDIAN BERRY. It is a brown fruit of the size of a very large pea; rough, brittle, and when perfect hath a white kernel. It is brought from Malabar and the East Indies, where it grows in clusters on a large tree called *natsiatam*. It is poisonous if swallowed, bringing on a nausea, fainting, and convulsion. The noxious quality resides in the kernel, and it operates both as an emetic and purgative. It is only, and rarely, used externally: made into an ointment, or infused in water, it destroys lice more effectually than the staves-acre. Mixed with paste it stupifies fishes so that they will lie on the water, and not attempt to escape from the hand that takes them. Wepfer takes notice of several experiments made with them in his work De Cicutâ Aquaticâ. See also Raii Hist. and Neumann's Chem. Works.

CO'CCUM BA'PHICUM, *infectorium*, *tinctorium*, *chermesinum* vel *scarlatinum*. See CHERMES.

CO'CCUS DE MALDI'VIA. See PALMA COCCIFERA.

CO'CCUS PO'LONICUS, CO'CCUS RA'DICIS TINCTO'RIUS, is found of different sizes, from a poppy seed to a pepper corn, and in greater or less numbers adhering to the roots of the *polygonum cocciferum* of Ray, the *scleranthus perennis* Lin. Sp. Pl. 580. Breynius describes it as being round, smooth, and of a purple violet colour: it has a thin skin, inclosing a blood red juice; one half or more of it is covered with a rough dark brown crust, by which it adheres to the roots. It is gathered in summer and dried in earthen platters. One of these exposed to the sun, by the latter end of July produces a small worm, which, after a few days, lays numerous eggs. The young ones fix to the roots of the plants, or their lowest branches, and suck their juice. These berries are used as a colour in dyeing, for they abound with a purple juice. As a medicine, their virtues are the same with the chermes, and for these they are a good succedaneum. The insect is the *coccus polonicus* Lin. Syst. Nat. (Gmelin) 1218. See Neumann's Chem. Works, and Raii Hist. Plant.

COCCYGÆUS Musc, (so called from *coccyx*, where it is inserted). It arises from the spine of the ischium, and is inserted into the side of the os coccygis; this muscle and its fellow form a sling to bring that bone upwards and inwards. It is only a continuation of the posterior part of the levator ani; *coccygæus posterior* of Winslow.

COCCYGÆ'US ANTERIOR, called also *ischio coccygæus*. The muscle is fixed in the anterior portion of the small transverse ligament, at the upper part of the foramen ovale of the os innominatum; from thence it runs between the great transverse ligament of the pelvis and the musculus obturator internus, and is inserted in the lower part of the os coccygis.

COCCYGÆ'US POSTERIOR. This muscle is fixed to the inner concave edge of the two first vertebræ of the os sacrum, to the inner and lower edge of the ligamentum sacro-sciaticum, and to the spine of the os ischium, and is inserted in the inside of the os coccygis, above the coccygæus anterior; it is called also *sacro coccygæus*.

CO'CCYGIS OS, (from κοκκυξ, *a cuckoo*, whose bill it is said to represent). Also called *cauda*, *coccyx*, *ossis sacri acumen*. It is situated at the extremity of the os sacrum, and is in some measure an appendix of it; it is bent in a concave form towards the pelvis, to support the rectum and enlarge the cavity of the basin; the fore side is flat, the back part rather convex; it is made up of four or five pieces, like false vertebræ, joined together by cartilages, more or less pliable; sometimes all are cemented together. The first piece is the largest; it consists of two parts, betwixt which and the os sacrum is a notch, through which a pair of nerves pass. The other pieces are irregular squares, diminishing as they descend. In children it is almost wholly cartilaginous.

Daventer and some other writers say, that difficult labours are often caused by these bones being anchylosed: but experience manifests that the difficulty was owing to their impatience; for it is generally found that when the head advances but slowly, or not at all, if we wait, nature generally will perform her office safely and effectually.

CO'CCYS. See PALMA COCCIFERA.

CO'CCYX, κοκκυξ. See COCCYGIS OS.

CO'CHIA, (from κοχαω, *to make round*). A name formerly of some officinal pills. There were two com-

positions bearing this name; the *pil. cochiæ majores* from Rhases, and the *pil. cochiæ minores* from Galen: the first is totally excluded from practice; the second is called *pil. colocynth. cum aloe*, or *extractum colocynthidis compositum*. See Colocynthis.

CO'CHLEA, CO'CHLIAS, (from κοχλιζω, *to turn round*). Called also *antrum buccinosum*. The first mention made of this part of the ear is by Plutarch, who says, that Empedocles, a scholar of Pythagoras, was acquainted with it and its use, for he said that sounds were formed there. It is a winding cavity, which turns round a nucleus in a spiral manner. It is larger where it begins, becoming smaller like a horn; the second turns almost within the first, and the third within the second, making about two turns and a half. It is divided into a superior and an inferior cavity, by a partition in the middle, perpendicular to the axis of the spindle of the cochlea, so that in reality it consists of two semi canals: that part of the partition next to the axis is bony, which terminates in an edge, where it is membranous; it grows narrower towards the apex. The scala, which is next the basis, opens into the tympanum by the fenestra rotunda; that towards the apex into the vestibulum by the fenestra ovalis.

That the cochlea is a part of the organ of hearing may be concluded from its spiral laminæ, which are hard, dry, slender, and easily broken; conditions required in bodies susceptible of tremulous motions. Again, when the large branch of the portio mollis of the seventh pair of nerves arises at the basis of the cochlea, it is divided into a great number of smaller branches, which, passing through all the smaller meatuses with which the spindle is perforated, are distributed to the various windings and meanders of these spiral laminæ, where they are lost. These laminæ are not only calculated for receiving the vibratory motion of the air, but their structure has been looked on as a convincing proof that this part of the organ is qualified and disposed for accommodating itself to the different characters and degrees of sounds; for since it is broader at the beginning of its first circumvolution than at the extremity of its last, and since the breadth of its other parts is in like manner proportionably diminished, its broadest parts are supposed to be fit for the reception of those slow and languid vibrations, which are productive of grave tones, since they may be put into a commotion without the other parts undergoing any change; and, *vice versâ*, that when its narrower parts are struck, their vibrations are brisk and lively, and consequently produce acute tones. Therefore, according to the various commotions of the spiral laminæ, the nerves distributed through its substance may probably receive the various impressions of the air, which exhibit and represent various tones or modulations of sound. See Sonus.

Co'chlea cela'ta. See Ardrosace.

Co'chlea fo'ssilis and lapide'a. See Cochlita.

COCHLE'Æ, (from κοχλω, *to wind*, or *wreathe*). Snails.

The snail is an animal lodged in a short thick turbinated shell, whose aperture is closed in the winter with a kind of cement. The land snails are called *operculares*: that sort which adheres to briars and tendrils of vines are sometimes called *seselon* and *pomaticæ*.

Before the time of Serenus Samonicus, who flourished in the third century after Christ, shell snails were not recommended in phthisical cases. The shell, however, does not alter the nature of the animal.

Snails abound with a viscid slimy juice, which they readily impart, by boiling, to milk or water, so as to render them thick and glutinous. They are a tender substance; easily digestible; very nutritious and demulcent; employed in cases of emaciation and hectic fever: though as animal food they cannot be refrigerant, still perhaps they are only slightly stimulant.

The sea snail, called the *periwinkle*, is often eaten as a common food; in France the land snail, called the *vine shell snail*, is an article of diet; but the small white shell snail is the most valued.

Naturalists describe a great variety; but the large ash coloured snail is said to be that which is intended for medicinal use; though the smaller, dark coloured, spotted, or striped sort, more common in gardens, is taken indiscriminately, and their qualities do not appear to differ.

If salt is put upon the snail it soon dies; but it first contracts itself, so as to force out all its mucus.

Cochle'a cæla'ta, antonoma'stica. This is a good shell snail, found in the Mediterranean. Its operculum or cover, is, according to some, the *umbilicus marinus* of the shops.

Cochle'a magariti'fera. See Concha magaritifera.

COCHLE'ARE, (from *cochlea*, *a cockle*; whose shell its bowl represents). A spoon. Perhaps so called from resembling a shell. The ancients had two kinds of spoons; the greater, which contained a drachm; and the lesser, which contained a scruple. Various indeed are the accounts of the ancient cochlearia; but in the present London and Edinburgh dispensatories, a large spoonful is, of syrup half an ounce in weight, and of distilled waters three drachms in weight, by measure half an ounce.

COCHLEA'RIA, (from *cochleare*, *a spoon*; because its leaves are like the bowl of a spoon). Scurvy grass, a low plant, with thick juicy leaves, somewhat hollowed, so as to resemble a spoon: those from the root standing on long pedicles; those on the stalk joined close to it without pedicles; producing toward the upper parts of the stalks small white tetrapetalous flowers, followed by roundish seed vessels. It is annual, grows wild in several parts of England, particularly about the sea coasts and salt marshes, and flowers in May, or sooner. In Greenland, and some other northern parts, it is mild and totally destitute of pungency, and yet as effectual as that which grows with us, when eaten for the same purposes: it is the *cochlearia officinalis* Lin. Sp. Pl. 903. The common or garden scurvy grass. A variety of this is the *cochlearia officinalis minor, rotundo folio*. Small leaved scurvy grass.

Cochlea'ria Bata'via, called also *cochlearia hortensis*, vel *rotundifolia*; round leaved, dutch, or garden scurvy grass. The radical leaves are unevenly roundish, those on the stalks oblong. It is cultivated in gardens, and is probably also a variety, though it is said not to change its qualities with the soil.

Cochlea'ria Britannica, called also *cochlearia marina, cochl. folio sinuato.* English or sea scurvy grass. It is the *cochlearia anglica* Lin. Sp. Pl. 903. All its leaves are alike, oblong, pointed, deeply irregularly indented and sinuated.

The fresh leaves of all these plants have a disagreeable smell, and a penetrating acid taste: the first is by much the strongest. The leaves are the strongest part of the plant: they are antiseptic, attenuant, aperient, and diuretic; supposed to open obstructions of the viscera and remoter glands, without heating or irritating. They have long been considered as the most effectual antiscorbutic plants. Sydenham and Lewis recommend the first species highly, combined with arum and wood sorrel, in rheumatic and wandering pains, accompanied with fever. It is said to be of service also in paralytic and cachectic indispositions; but for these purposes its powers are too weak. A small quantity of nutmeg covers their disagreeable flavour.

Their active parts are wholly in the expressed juice. Water or spirit alike extracts their whole virtue. The pungent part exhales in drying, or in evaporating the liquors which contain it.

The method of preserving the herb, with all its virtues, is to beat it up with sugar into a conserve, and keep it in a close vessel. But as an antiscorbutic it is not so beneficial as the fresh plant, or the expressed juice directed in the Pharmacopœias.

The principal virtue has been said to reside in an essential oil, separable in small quantities by distillation in water; this oil sinks in water, yet it is very volatile, subtile, and penetrating, and is carried over in distillation with rectified spirit of wine. A pint of spirit will take with it all the oil from two pounds weight of the leaves. The virtues, however, of all fresh vegetables in scurvy are so nearly the same, that it is not easy to refer them to any one principle; nor, on the whole, is any one preferable. Of equal virtue with the scurvy grass is fresh lemon juice and the tops of turnips. But this is not a place for the discussion. See Scorbutus. Lewis's Mat. Med.

Spi'ritus cochlea'riæ. Take ten pounds of the leaves of fresh scurvy grass, of rectified spirit of wine five pints: macerate the herb twelve hours, and with a water bath draw off five pints. This is called simple spirit, in contradistinction to what is called golden. The dose is from twenty to a hundred drops. Horse radish may be mixed, or wholly substituted, without any sensible difference in any point of view. In this form, however, the plant is wholly inert, and the preparation is now disused.

Su'ccus cochlea'riæ co'mpositus, formerly su'cci scorbu'tici, is prepared by adding two pints of the juice of garden scurvy grass to a pint of the juice of brook lime, as much of the juice of water cresses, and twenty ounces of the juice of Seville oranges; mix them, and after the fæces have subsided, decant off the liquor, and strain. The dose, to be effectual, must be at least a pint in a day. This is antiscorbutic, gently diuretic, and slightly laxative. There is some difficulty in procuring it fine. An apothecary, who had gained the credit of preparing it very neatly, owned that the only secret was, suffering a little fermentation to begin before the juices were strained, which he had been taught by once carelessly neglecting them.

Su'ccus cochlea'riæ au'reus. To a pint of the simple spirit of scurvy grass add an ounce of gamboge. The dose is from twenty to sixty drops, and it operates as an aperient and a stimulating diuretic, added to the virtues of the gamboge, which acts in a mild manner. All the preparations of scurvy grass are now, however, deservedly neglected. See Gambogia.

Cochlea'ria armora'cia. See Raphanus rusticanus.

COCHLEA'TUS, (from *cochlea, a snail*). In botany it means resembling a snail's shell.

CO'CHLIAXON. A name for a part in a machine described by Oribasius.

COCHLI'TA, (from κοχλιας, *a snail's shell*). It is also called *cochlea fossilis* or *lapidea*, and is a stone of the shape and figure of a certain shell snail; said to be lithontriptic.

COCHO'NE, (from κοχωνω, *to turn round*). Galen gives this appellation to the juncture of the ischium, near the seat or breach; whence, says he, all the adjacent parts about the seat are called by the same name. Hippocrates often mentions these parts. Hesychius says, that cochone is the part of the spine adjacent to the os sacrum and breech, and tells us that some call the parts on both sides of the os sacrum by this name; and adds, that the ischia are sometimes thus called.

COCILIO. A weight of eleven ounces.

CO'COS. See Palma coccifera.

CO'CTIO, (from *coquo, to boil*). Boiling; and metaphorically preparing. Also *decoctio* and *apozema*. The effect of boiling differs greatly from that of infusion. In the heat of boiling water the essential oils of vegetables, in which their virtue generally resides, are dissipated; and when the medicine to be obtained is to consist of the more volatile parts of the ingredients, infusion is obviously preferable to decoction. The grosser parts of many substances are only extracted by boiling. The infusions of animal substances are of much lighter digestion than the decoctions; and boiling water extracts, for instance, the rougher and more disagreeable portions of camomile flowers, and the carduus benedictus: cold water, the milder and more aromatic.

In decoctions, those ingredients should be boiled first from which their virtues are most difficultly extracted; and those which more readily impart them may be reserved until a later period. Volatile ones may be added when the decoction is removed from the fire; they may stand closely covered until the liquor is cool.

Agglutinants, astringents, and emollients, are the chief subjects of this operation, and such other materials as require some force to separate their parts. See Decocta.

By decoction the tendency to fermentation in fermentable liquors is lessened. See Dict. Chem. 4to.

By the coctions of humours is meant the digestion of the aliment into chyle; the reduction of the chyle into blood; and the separation of the juices from the blood, by means of the glands. These are styled the first, second, and third coction.

COCU'STA. See Courbaril.

CO'CYTA. See Malis.

CO'DAGA PA'LA. See Conessi.

CODDAM-PU'LLI. See Carcapuli and Gambogia.

CODESE'LLA. See Carbunculus.

CO'DIA. The bulbous head of any plant. In Hippocrates it signifies a POPPY HEAD. See PAPAVER ALBUM.

CODIA'MINUM, CODIA'NUM, (named from its round head). See NARCISSUS LUTÆUS SYLVESTRIS.

CODI-AVA'NACU. An under shrub growing in sandy soils in the East Indies. The juice of the whole plant taken in wine is a good remedy for fluxes. Some other preparations are made from it. We can find no traces of it in later authors: but it is the *tragia chamelæa* Lin. Sp. Pl. 1391.

CODOCE'LE, (from κωδια, *a bulb*, and κηλη, *a tumour*). See BUBO.

CŒCA'LIS VE'NA, (from *cæcum*, *the blind gut through which it runs*). A branch from the concave side of the vena meseraica major: it runs to the beginning of the colon; dividing by two arteries, one of which communicates with the gastro-colica; the other, after sending branches to the intestinum cœcum and appendix vermiformis, communicates below with the extremity of the great meseraic vein.

CŒLA, (from κοιλος, *hollow*). The hollow of the eyes, or rather above and below the eye lids. They are puffed up in a cachexia. The cœla of the feet are the hollow parts at the bottom of the foot, adjacent to the heels.

CŒLIA, (from κοιλος, *hollow*). It signifies a cavity in any part of the body, or in any of the viscera; it is also the same with ALVUS: if ανω is joined with it, it signifies *stomachus*, and sometimes the *thorax;* with κατω, it is the *abdomen*, lower belly, or intestinal tube, from the cardia to the anus.

CŒLIA'CA ARTE'RIA, (from κοιλια, *venter*, *the belly*). The cœliac artery arises anteriorly from the aorta descendens, as soon as it has passed through the diaphragm; its trunk is short, but it sends off from the right side two small diaphragmatic arteries, though sometimes there is but one. The left branch, which rises from the intercostales and mammariæ, sends ramifications to the superior orifice of the stomach, and to the glandulæ renales of the same side, as the right furnishes the renal gland on the right side, and the pylorus. After these the cœliac artery sends off the arteria ventriculi coronaria, and the gastrica superior; then divides into the arteria hepatica on the right hand, and the arteria splenica on the left. Sometimes this artery is divided into the coronaria, hepatica, and splenica; in the same place, very near its origin, the trunk going out from the aorta in a straight line, and the branches from the trunk almost at right angles, like radii from the axis, whence this trunk has been called *axis arteriæ cæliacæ*.

CŒLIA'CA PASSIO. The CŒLIAC PASSION is a species of diarrhœa, in which the aliment is carried off in a liquid state, but not well digested; the discharges resemble chyle. Aretæus calls those afflicted with this disorder κοιλιακοι; Cœlius Aurelianus, *ventriculosi;* Hippocrates does not name the disease. Sauvages enumerates four species, the *chylosa*, *purulenta*, *mucosa*, and *lactea;* but the first is generally understood by the *cæliac passion*, which is a chronic discharge of liquid indigested aliment: in this disease, on account of the debility of the assimilating power, the aliment is left half digested, and becomes depraved both in colour, smell, and consistence, for the colour is white; there is a rumbling in the intestines, and flatus is exploded with some violence; the pain of the stomach is severe, resembling pricking; the patient becomes weak and emaciated. The disease continues long, is periodical, and difficult to cure. Dr. Cullen considers it as synonymous with diarrhœa, and mentions it in his third and fourth species, under the terms *mucosa* and *cæliaca*, making the purulenta only symptomatic.

It is said to be caused by a disorder in the first passages, which admits of the aliment being dissolved, but not properly digested. Dr. Friend says that it originates from an obstruction of the intestinal glands, on which account a sufficient quantity of lymph cannot, by these, be supplied for diluting the chyle, and rendering it fit to pass into the lacteals; hence it passes off with the excrements. He distinguishes it from the chylous flux, by observing, that in this the cause is an obstruction of the lacteal vessels.

This, though the most simple and obvious view of the subject, admits of many doubts; and its periodical return leads us to consider it in a different view. This explanation will explain the appearances of lientery, but by no means of the cœliac passion. As we find a sweet chylous matter occasionally thrown out by the kidneys, sometimes floating in the blood, and in a few instances by the salivary glands, it is more reasonable to suppose that this matter may be again deposited after being received into the circulation. Were it only a discharge from the first passages, opiates and astringents would relieve it, nor should we find its removal rapid, its return irregular, but certain. It is by no means also a symptom of obstructed mesenteric glands; and though the bile is usually wanting, it is more probably concealed by the colour than absent, since we have reason to suppose that chyle is only formed by its means.

It must be distinguished from other intestinal discharges, and from what Celsus calls *cæliacus ventriculi morbus*.

The cure is always tedious; often uncertain. The disease sometimes ceases, but, generally, often periodically returns. Astringents are usually prejudicial, and those remedies which gently stimulate the bowels, are manifestly the means of relief. Vomits of ipecacuanha may occasionally be given, and gentle purges frequently repeated in small doses. As the disease seemingly consists in the defective application of the nourishment, exercise, free air, and perhaps sea bathing, would be useful. See DIARRHŒA and DIABETES.

See Aretæus, lib. ii. cap. 7. Cœlius Aurelianus Morb. Chron. lib. iv. cap. 3.

CŒ'LIE, κοιλιη. See VENTER.

CŒ'LI-FLOS, CŒLIFO'LIUM, (from *cælum*, *heavenly*, *flos*, or *folium*, *a leaf;* so called because it was supposed to be a fallen star). In some places it is known by the name of STAR FALL. *Purgamentum stellarum;* commonly *nostoch*. *Tremella nostoch* Lin. Sp. Pl. 1625.

It is a species of jelly, sometimes clear, at others greenish, and agitated with a kind of tremulous motion so long as it is fresh.

It is found after rain in meadows, and in dry parched grounds, generally betwixt the spring and summer seasons. If not gathered before the rising of the sun, it will be shrivelled up to a thin membrane of a brownish colour.

The nostoc is in reality a moss, adhering to the earth by one or more slender roots. The embryo at first appears like a small tubercle; which is fleshy, soft, and diversified with inconsiderable inequalities, like those on strawberries, of a greenish blue colour, but afterwards clear. This membrane is gradually unfolded on the earth, and remains while the weather is moist. It affords a clear insipid liquor, that turns hydrargyrus muriatus white, and syrupus violarum green. It affords a volatile salt well crystallized, ammonia, and a fetid oil. The Germans use it to make the hair grow.

CŒLO'MA, (from κοιλωμα, *hollow*). See BOTHRION.

CŒLOSTO'MIA, (from κοιλ@-, *hollow*, and στομα, *the mouth*). A defect in speaking, when a person's speech is obscured by sounding, as if his voice proceeded from a cavern.

CŒMENTA'TIO, CŒME'NTUM, (from *cædo*, *to beat together*). CEMENT, also *cæmentum*. It is a tenacious matter, by which two bodies are made to adhere. What is used by the chemists is commonly called *lute*. See LUTUM.

Cements are also those powders and pastes with which any body is surrounded in pots or crucibles, producing, by the help of fire, changes in the substance round which they are spread. The COMMON CEMENT, directed by Schroeder, is the following: take half a pound of finely powdered brick dust, four ounces of common salt, and of nitre and verdigrise, each an ounce.

There are many compositions for cementing, which may be seen in chemical authors; one of the chief is what is called the ROYAL CEMENT, because used in purifying gold and silver. It is made with four parts of fine brick dust, one part of green vitriol, calcined to redness, and one part of common salt: when mixed, they must be worked into a firm paste with water. See Dict. of Chem. 4to. Neumann's Works.

CŒ'NA, (from κοινος, *common*; as a meal necessary to all). SUPPER. Suppers that are heavy should be avoided, because digestion produces a slight fever, which increases the natural evening paroxysm; and, though the robust feel no inconvenience from neglecting this rule, the invalid will suffer greatly by the error. Suppers should, therefore, be eaten long before bed time, that they may be nearly digested before the hour of sleep; and then a draught of pure water will usefully dilute what remains in the stomach. Indeed suppers, in many constitutions, are very pernicious; inducing disagreeable dreams, disturbed rest, the incubus or night-mare, particularly in those who have weak digestions.

CŒNO'TES, (from κοινος, *common*). The physicians of the Methodic sect asserted, that all diseases arose from relaxation, stricture, or a mixture of both. The last were called *cænotes*, because diseases have these in common.

CŒRU'LEUM MONTA'NUM, (quasi *cæluleus*, from *cælum*, *the sky*, *of a sky blue colour.*) MOUNTAIN BLUE. It is a blue ore of copper.

CŒRU'LEUM FO'SSILE. See ARMENUS LAPIS.

CŒRU'LEUS LAPIS. See VITRIOLUM CŒRULEUM.

CO'FFEA, (from *kofuah*, *mixing together*). Called also *jasminum Arabicum*, *choava*, COFFEE TREE OR BUSH. It is the *coffea Arabica* Lin. Sp. Pl. 245; natural order *rubiaceæ*, called also *bon*. When fit to drink it is then named *caova*.

The tree is of the jessamine kind, with leaves like those of the bay tree: from Arabia Felix it was introcuced into the West Indies; but is said to be a native of the higher Æthiopia, from whence it was carried to Persia before it was known in Arabia. The fruit is a juicy berry, including two of the seeds, joined by the flat sides, and covered each with a thin shell. The seeds are of a pale colour and an oval shape, convex on one side, flat on the other, with a remarkable furrow.

Coffee was but little known in Europe before the seventeenth century. The first coffee house in London was erected in the Tilt Yard, in the year 1652. In Paris it was scarcely known until 1669: though at Marseilles it was used in 1644. Rauwolfius, a German, and Prosper Alpinus, an Italian, were the first Europeans who wrote on the use of it.

The Arabian is called the *Levant coffee*, and is the smallest; the Java, the *East Indian coffee*; it is larger and of a whitish livid colour: the American, *English* or *Surinam coffee*; the berries are large, and of a greenish colour; but the best are small, close and somewhat transparent. This last seems to be an indigenous variety of this part of America, and it is doubtful whether the plant is not also a native of Arabia. The Arabic word *cahoua* signifies any kind of liquor, consequently the liquor made with coffee. Hence the Turks derive their *cahveh*; whence again the European word *café*. In Arabia, persons of rank only use the seminal capsules, and the pellicles immediately covering the berries; these produce a grateful liquor, but for this purpose the capsules must be fresh. The French call this *café à la sultane*.

The coffee berries have a farinaceous, somewhat unctuous, bitterish taste, and little or no smell. They are roasted to destroy the watery part of the mucilage, and, of course, that flatulence that they have in common with all farinaceous substances. Many seeds by roasting acquire the flavour for which coffee is admired. Dillenius hath enumerated in the Ephemerides Naturæ Curiosorum the substances which in smell and taste resemble coffee; and finds that roasted rye, with a few roasted almonds to furnish the necessary proportion of oil, comes the nearest to it.

Coffee contains a large portion of acid, a gummy, resinous, and astringent extract, a large proportion of oil, and some salts. The oil in roasting becomes empyreumatic, and gives the desired flavour.

From sixteen ounces of roasted coffee, Neumann obtained seven ounces, two drachms, and two scruples of watery extract; and afterwards five drachms and one scruple of spirituous extract. On reversing the operation, he obtained four ounces and four scruples of spirituous extract, and four ounces of watery: the residuum, in both cases, was nearly the same; viz. about one half of the whole.

The roasted seeds ground into powder soon lose their flavour in the air, impart it to water and to spirit by light coction or digestion, and give over a great part of it with water in distillation. The roasted berries keep very well; and, to recover their brisk flavour, lay them before the fire a few minutes, and, when warm, they may be ground for use; they are then as agreeable as when first roasted.

Coffee should be boiled eight or twelve hours before it is drunk; and if the liquor is mixed with an equal quantity of milk it is excellent.

It is the most approved method to prepare the coffee by infusion only. An ounce and quarter of coffee is allowed to a pint of water, which must be added in a boiling state, and continue simmering, closely covered, for two hours. In this time it must be frequently shaken, or agitated with a chocolate mill: in the common vessel, styled the coffee biggin, it is prepared very completely. The inferiority of the West Indian to the Levant coffee, is said to arise from plucking the berries too soon. They are then larger, but have not attained their true flavour.

If coffee is drunk warm within an hour after dinner, it is of singular use to those who have head achs from a weakness in the stomach, contracted by too great attention, or from irregularity. The phlegmatic and corpulent are much benefited by its use. In some delicate habits it produces nervous symptoms; but, in general, gives cheerfulness and serenity of mind. It soon carries off the disagreeable effects of opium; and has been said, by sir John Pringle, to relieve obstinate spasmodic asthmas. It certainly prevents sleep in many constitutions; and we have known it prove a quick, easy, laxative. Prosper Alpinus is immoderate in his praises of coffee; and the Persians say it was revealed by the angel Gabriel, to relieve Mahomet after his fatigues. It is slightly astringent and antiseptic, moderates alimentary fermentation, and is powerfully sedative. Drunk too soon after port wine, it often produces a disagreeable acidity in the stomach; and indeed an acidity is obvious, at once, to the taste, on mixing coffee and port wine. See Lewis's Mat. Med.; Neumann's Chem. Works; Percival's Ess. Med. and Exp. vol. ii.; Lettsom's edit. of Fothergill's Works, vol. ii.

COHOBA'TIO, COHO'BIUM, COHOPH. Cohobation. It is the returning a liquor, distilled from any substance, back again upon the same substance, and redistilling it with or without an addition of fresh ingredients. The alembic, called a pelican, was invented for the more easily effecting this operation; modern chemists neglect it. Paracelsus uses the word *cohob* when a disease does not easily yield to the remedies applied. Medicines, therefore, are to be given secundum cohob; that is, repeated at intervals.

CO'HOL, (from *cohol, antimony*). See Alcohol. Castellus says, that it is used in Avicenna to express collyria for the eyes, in fine powder.

COI'LIMA, (from κοιλια, *the bowels*). A sudden swelling of the belly from wind.

CO'IRA. See Terra Japonica.

COI'TIO, (from *coëo, to cohabit*). The act of venery. See Venus.

COLATO'RIA LACTE'A. See Fluor albus.

COLATO'RIUM, (from *colo, to strain*). A strainer of any kind.

COLATU'RA, (from the same). Any strained or filtered liquor. See Depuratio.

COLCAQUAHUI'TL. An American plant, commended in palsies and uterine disorders. Raii Hist.

COLCESTRE'NSIS A'QUA. Colchester water. This mineral water is of the bitter purging kind, similar to that at Epsom, but not so strong. See Aquæ minerales.

CO'LCHICUM, (from *Colchis*, a city in Asia, where this plant abounds). Called also *coum, colchicum commune; Anglicum, purpureum, et album. Colchicum autumnale* Lin. Sp. Pl. 485. Nat. Ord. *liliaceæ* of Murray. Meadow saffron.

It grows in meadows that are moist and rich, and sometimes in marshy grounds. It hath two fleshy bulbous roots; the one producing, from its lower part, a smaller bulb. From the last arises, in autumn, along a furrow, in the side of the old root, a slender, hollow, transparent pedicle; widening at the top into a flower, like that of a crocus; divided into six segments, of a purplish or whitish colour; withering in two or three days. From the same root spring, early in the following season, three or four upright leaves, like those of the lily; in the middle of which appear, on short pedicles, commonly three triangular pods, about the size of small walnuts, divided into three cells, full of roundish dark coloured seeds. The outer root is barren and shrivelled, the inner one produces the plant.

When the root is young and fresh, its taste is very acrid; but, when old, it is mealy and faint. For medical purposes it is best when full of sap. Two drachms of this root killed a large dog; after occasioning violent pain for about thirteen hours, it operated by vomit, stool, and urine. One grain of it swallowed by a healthy man produced heat in the stomach, and, soon after, flushing heats in different parts of the body, with frequent shiverings, followed by colic pains: itching in the loins and urinary passages was soon afterwards perceived, and then came on a continual inclination to make water, a tenesmus, pain in the head, a rapid pulse, thirst, and other disagreeable symptoms.

Notwithstanding these effects, when dissolved in vinegar, or made into an oxymel, it becomes a safe, but powerful medicine. The roots should be fresh and full of sap when they are used. In slicing them, they emit acrid particles, which affect the head, irritate the nostrils, throat, and breast; the fingers which hold them, when cutting, are benumbed for a time. Their acrimony is wholly taken up by vinegar.

When this root is imprudently swallowed, a pint of water, with an ounce of vinegar, or lemon juice, and half an ounce of the syrup of poppy heads, form a salutary mixture, which should be drunk frequently.

Ace'tum co'lchici. Take of the fresh roots of meadow saffron, sliced, an ounce; white wine vinegar, a pint. Mix and digest in a glass vessel, over a gentle fire, during forty-eight hours; then strain the liquor.

This vinegar is made into an oxymel, by adding to each pint two pounds of clarified honey, mixing them by boiling. This is the *oxymel colchici* of the London Dispensatory.

As it is of consequence that the bulbs be in perfection, they should be taken up in autumn.

This oxymel is agreeably acid, gently pungent, and moderately astringent, clearing the tongue effectually from mucus. In an increased dose it is an emetic, and sometimes purgative; but its most general effect is diuretic, and as such it is very constant, and remarkably powerful.

The dose should be small at the first; half a teaspoonful may be given two or three times a day, increasing the dose as the stomach will admit. In dropsies and tertian agues its success has been great; as an

expectorant, it succeeds when squills fail; and when opiates are joined with expectorants, this oxymel should be preferred, for no medicines in conjunction interfere with its operation. See Dr. Storck's Essay on the Use and Effects of the Root of the Colchicum Autumnale. For its use in dropsies, see London Med. Journal, vol. i. p. 395. In Germany and France, it continues still to be a favourite medicine. In England, it is generally thought a less efficacious diuretic than the squill, which yet excels it as an expectorant. We have, however, often found it a more effectual diuretic.

Co'lchicum Illyricum. See Hermodactylus.

Co'lchicum Zeyla'nicum. See Zedoaria.

CO'LCOTAR. See Vitriolum.

CO'LCOTHAR, SAL, is the salt obtained when the colcothar of vitriol is washed in water; it is also named fixed salt of vitriol. If borax is added to this salt, and the mixture exposed to the fire, it easily sublimes in the form of silver-coloured saline flowers, thus forming the *sal sedativus Hombergii;* already mentioned as the acid of borax (see Chemistry). Two ounces of this salt of vitriol, well calcined, must be dissolved in a quart of warm water; the same quantity of borax must be dissolved also in a quart of warm water: these solutions being mixed and filtered, the clear liquor must be evaporated in a glass alembic to dryness, then the dry mass must be sublimed. By mixing oil of vitriol with twice its weight of borax, the same sedative salt may be more easily obtained.

COLD. Cold is an agent peculiarly powerful in producing diseases, and removing them; indeed almost the fabled spear, which heals the wounds that it has inflicted. Though we have styled cold an agent, it is seemingly a privation of heat; and the application of cold to the human body, is only the application of such bodies which powerfully attract heat in consequence of their lower temperature: apparently, in some cases, from their possessing a greater affinity for caloric, or from carrying off heat in consequence of their evaporation.

In the human body, cold is a relative term. We style it cold when the thermometer is at 70°, if it has suddenly sunk from 84° to that point; but it is cold only at 32°, if the air has been long at 40°, with little wind. Temperate heat is generally placed at 62°; but the uniform heat of the earth in England is about 51°. From about these two last points—for, from many circumstances, there must be a considerable variety—cold diminishes the irritability of moving fibres: they contract more slowly; but, as cold condenses the skin, it presses more firmly on the subjacent vessels, and gives additional tone to the whole system. This effect of general pressure is evinced by the hilarity which we feel in a dense elastic atmosphere; and the same effect sometimes arises even from the support of clothes: an advantage felt by the weak and irritable of the softer sex. In this state of the atmosphere, the perspiration is diminished; but the discharge of that gaseous, insensible halitus, which contributes so powerfully to our feelings of health, seems to be continued with unabated vigour, and to be occasionally increased. The discharges from the bronchial glands, from the lacrymal, and from those of the whole Schneiderian membrane, are augmented; and these, with the increased discharge of urine, seem chiefly to supply the deficiency of the perspiration: for in steady continued cold, the bowels are by no means relaxed, often in a contrary state.

The nervous system seems to suffer in nearly the same manner with the moving fibres. Its sensibility is diminished; but the mental powers, we mean the intellectual, do not suffer. They seem to acquire vigour with the tone of the body; while tenderness, sensibility, and those feelings connected with an irritable system, are, in proportion, less acute. The stomach, which partakes of the state of the nerves and moving fibres, experiences an increased tone. Its functions are less rapid, but performed more perfectly; and, for similar reasons, the bowels are frequently less active, and the nutritious particles, by delay, more completely separated. In short, if we were to fix the limits where the animal system was in its most perfect vigour, we should say it was in those regions where the heat seldom rises above 70°, or falls below 32°.

When, during a great part of the year, the heat is below the latter point, we find all the effects mentioned more striking, except the vigour of the intellectual faculties. When the irritability is further lessened, strength of mind becomes torpor; energy and vigour are sunk in sensibility, and roused only by violent causes to temporary exertions. When still further lessened, the distinguishing features of humanity are almost wholly lost. Even parental affection has little influence; and the great duties of religion are heard with indifference. The exertions necessary for the support of life, few as they are, occupy the mind and body. Love, which in warmer and more genial climates refines the heart, and awakens every finer feeling, here sinks into an animal passion, neither importunate nor refined; and the same want of irritability protracts the period of puberty, and lessens the proportional number of the offspring. A truly wise provision, where the means of support are so scanty.

The temporary effects of cold we have, in part, anticipated, under the article of bathing, q. v. All the changes just noticed come on rapidly; but the accumulated irritability, when no longer repressed, restores the glow. If, however, the cause continues, the debility is increased; the pulse flutters with an irregular, interrupted action; the senses become gradually weaker; a propensity to sleep so irresistible, that the victim is content to purchase it with his life, supervenes, and death creeps imperceptibly on this lethargy. The torpid animal, who passes his winter in this state of apparent death, recovers on the approach of spring. His irritability, suspended for a time, is accumulated; and he wakes from his death-like sleep with new vigour. When examined with a microscope, the vessels appear like dark lines; for the fluids are apparently coagulated. The action is first perceived in the vessels: this breaks the line into minute portions before these become undistinguishable in a circulating fluid.

The partial action of cold has similar effects; but they are confined to the part only. The bulk of the organ is diminished; the vessels are less distinguishable; the skin becomes pale; and, if the cold is too long continued, its life is destroyed. Before, however, this last effect takes place, we avail ourselves of the change: the hernia is reduced; the puerperal discharge checked; inflammation diminished.

The diseases which cold produces are not numerous, if we speak only of continued cold. It checks, as we have said, the growth; it protracts the period of puberty; and renders the female less prolific. All these, however, are within the limits of health: and we may as well say, that the Italian female, full of fire and passion, is diseased from excess of fulness and irritability, as the Laplander from the defect of both. But, when the paucity of the menstrual discharge becomes a suppression; when the circulation can be no longer carried to the extremities, but chilblains and sphacelus affect the fingers and toes; when the whole system languishes; disease must be present. Yet, if we consider the variety of climates; the rigour of the arctic winters; the hardships of the Esquimaux, or of the sailor, in pursuit of the whale and seal; when we see, at the same time, the few diseases to which they are subject; we are almost tempted to assert, that continued cold is very rarely the cause of disease.

The principal disorders attributed to cold are owing to its irregular application to the body overheated, or to a partial stream of cold air on one particular organ. From hence arise catarrhs, with all their attendant symptoms, and their accustomed danger; from hence fevers, rheumatisms, diarrhœa, and all the variety of epidemics, with their attendant evils, date their origin. Even the most destructive miasmata often rest innocuous in the body, unless excited to action by cold; and when we hinted that all catarrhs may originate from miasmata, we admitted that cold was an exciting cause.

In this enumeration we have omitted two diseases attributed to cold: the chaps on the lips and skin, from the contraction of cold air; and the fragility of the bones, the *fragile vitreum* of Gaubius, supposed to be equally the effect of condensation. The former are scarcely diseases; and there is much reason to conclude, that the deep seated bones are little affected by the inclemency of the air. The internal parts preserve their usual heat in air of every temperature, without increase or diminution, as we have already shown; and if fractures are more common in cold weather, it must be recollected that our steps are then more unsteady, the ground harder, and irregularly uneven.

It has been contended, that cold is, in its primary action, a stimulant; but the idea arises from the refinements of system, rather than observation. From the first effects of cold, what has been styled reaction so suddenly follows, as to mislead the incurious or the prejudiced attendant. The dispute will, however, at last, become verbal: for it is in no case contended that its stimulus will be injurious; and generally admitted, that with little, often imperceptible stimulus, it may be quickly rendered a powerful sedative.

If we look to cold as a remedy, we shall find a more cheering prospect. In our observations on cold bathing, we have distinguished it in its immediate, its continued, and repeated action. When we speak of cold in this place, we treat chiefly of its immediate and its continued action; for cold applications are principally useful in these ways. We were almost led to confine our remarks to the latter; but there are some facts which will not admit wholly of this explanation.

Cold is highly useful in FEVERS of almost every kind, though it will often admit only of the slight application of cold air; and rheumatic fevers seem to be the only exception. The heat forms the true indication for its use; since, in the early stage of intermittents, or in the exhausted state of protracted typhi, it is less admissible. When there is considerable heat, and no fixed organic affection of the internal parts, cold is often a very salutary remedy. We have, indeed, some instances, where, in a protracted cold fit, the application of cold has hastened the reaction; but the practice will be dangerous, unless the patient is strong and active. The effect of cold in the hot fit of fevers is to lessen the heat, and hasten the perspiration. This discharge is checked when the heat is considerable, and seldom takes place when it is much above 100°. Dr. Alexander places the perspirable heat too high, viz. at 108°.

Synocha is well adapted to this remedy; but it seldom occurs without the combination of internal inflammation, except when owing to worms, or sordes in the abdomen. In each case, cold must be employed with some caution and discrimination. Yet cool air and cool drinks may be allowed. Let us take this opportunity of making the distinction. By *cold*, when we speak of drinks, we mean, in general, from 51° to 40°; by *cool*, from 48° to 60°. The coolness of air is more relative; and, in general, means from 10° to 15° below the mean heat of the chamber, which should never exceed, if possible, 62°. It will be obvious, that these numbers are not to be taken with minute precision, but only as a general standard.

In *typhus*, the use of cold is a subject of greater nicety. Cool air and cool drinks are always proper, except when the patient sinks from faintness. Yet De Haen, as we have already observed, used it in a low epidemic fever, at Breslaw, with some appearance of success; Dr. Gregory has sponged the body with cold water or vinegar; and the practitioners of America have employed it even more boldly in this, and its kindred disease, the yellow fever. The exhibition of calomel, at the same time, does not seem to deter them; and, indeed, till some effect on the gums appears, no benefit is derived from the medicine. Should it produce this peculiar symptom, its worst consequence, little disadvantage would probably arise. In some instances, very cold water has been employed as a clyster; and ice, in a bladder, applied to the stomach, or other parts, suffering under acute pain. From ourselves we can say little; we have, in a few instances, employed it certainly without injury; we can scarcely say with any striking advantage. Where the heat is great, it may be most freely used: when inconsiderable, sponging is the most adviseable application of cold, and vinegar mixed with water may have its advantages. The different parts of the body should be sponged also in succession.

PHLEGMASIÆ. *Ophthalmia* has been constantly benefited by cold applications; and the fact is so generally understood, that we need not enlarge on it. Even ether, which produces a considerable degree of cold by evaporation, has been employed. *Cynanche*, we are told by Dr. Rogers, is relieved in the northern climates by rubbing ice externally on the throat. A practice not very dissimilar is recommended in some parts of England, holding a piece of nitre or sal prunella in the mouth. Some caution is necessary, that this remedy be not employed in the malignant angina. In *phrenitis*, the

utility of cold applications is sufficiently known and well established: but in the other internal inflammation it is a suspicious remedy. From its utility in *hernia* we may be led to employ it in *enteritis*. In this disease, cold water has been dashed against the legs and thighs with advantage; but it will be recollected, that, in hernia, enteritis, and cynanche, we approach so near the part affected, that the cold is almost an external application; and, though we have mentioned among the effects of cold a costive state, we then spoke of its continued application in a cold climate. In *nephritis* we are told, by Mercurialis, that cold is useful; and, as we can so nearly reach the bladder, either by the perinæum or above the pubes, we suspect it may be useful also in *cystitis*.

In external *phlegmone*, and all *inflammations of the joints*, cold is a more doubtful remedy. It has never, we believe, been employed in rheumatism; and in gout we still think it must be injurious. In strains, in the white swellings of the knee, and in the morbus coxarius, cold, in the early stages, is advantageous; and it is rendered more effectual, by increasing the momentum of the water, the form in which it is usually employed, by pumping, which also regularly renews the cold application to the part.

In the HÆMORRHAGIÆ, with scarcely, if any, exception, cold is useful; and cold drinks, cold air, cold applications, are of the greatest importance. Even in hæmorrhages from the lungs it may be employed with little apprehension; and nitre, a remedy so powerful in every case of hæmorrhages, acts only by the cold which it produces. *Hæmorrhages from the uterus* are restrained by cold, though they often require it in the most active degree; and, perhaps, iced injections into the rectum would be serviceable. Cold injections in the *hæmorrhoides* are powerful and efficacious remedies. Cold is, perhaps, best adapted to the active hæmorrhages; but even those from debility and tenuity of the blood reap little less advantage from its use.

In the EXANTHEMATA, cold is also a very useful remedy. In the *small pox*, we know it is freely and advantageously employed in the form of cold air and cold drinks. Accident has even shown, that cold bathing, in the worst kinds of the complaint, has preserved the patient from the most imminent danger. If, however, cold is used in these eruptive diseases, it must be employed with steadiness and perseverance. Slight cold, soon discontinued, will be rather injurious than beneficial. The effect of cold in these cases is to moderate the too active determination to the skin; which, pouring the fluids under the cuticle faster than they can be transmitted, are detained, and by their irritation produce the peculiar pustules. When this determination is restrained, moderate perspiration, or the insensible halitus, which we have before called, with Chenot, the *diapnöe*, succeeds. The eruption of the small pox may be thus in a great degree, or even entirely, suspended with safety: we scarcely dare to say the same of the other exanthemata.

In *measles*, the poison is directed to the eyes, the bronchial glands, and often to the breast. These affections have prevented the free use of cold. In peripneumony, the advocates for its use can only allege, that when cold has been employed in other diseases with which the peripneumony was complicated, it has done no injury. In catarrh we find a few instances, but from a suspicious source, in which it is said to have been useful; but, on the whole, we find little foundation for pronouncing cold *even generally* safe in affections of the breast. We must, therefore, dissuade the practitioner from employing it in measles; nor is it necessary, when we find that we can easily diminish all the dangerous symptoms by cathartics. In *scarlatina*, the experience of Dr. Currie, and the decisive conduct of Dr. Gregory, have established the utility of cold affusions. They are employed to counteract the heat, and must be continued while any considerable heat remains.

In the *miliaria*, the use of cold drinks and cool air has been long established; and such is their success, either in preventing or removing the disease, that we seldom want actual cold: at least such has been the fortune of the author. In violent cases, there is certainly no objection to actual cold.

In *erysipelas*, some apprehensions have been entertained of the effects of cold as a repellent; we believe without foundation. When, in this disease, the brain is affected, subsequent to the tumour and inflammation of the face and head, the latter does not subside: it is a continuance of the same affection, or rather a greater extent of disease; and authors of credit have employed it with success.

In the *plague*, if it be really a genus of this order, our late experience in Egypt has fully established the advantages of cold applications, cold air, and cold affusions. These are particularly said to prevent bubos; and it is highly probable that considerable and continued cold would be useful to anthrax and other situations. The practitioner should, however, recollect, that anthrax is sometimes *apparently* critical.

Profluvia, the next order, contains but two genera; and in one of these, catarrh, we have said that cold is inadmissible: yet in the epidemic catarrh, cool air and cool drinks have been generally useful. We know not that the application of cold has been carried further.

In *dysentery*, cold affusions are recommended by Dr. Lind. An Italian physician, Signor Rosa, recommends clysters of the coldest water.

In the *sanguineous apoplexy* (of the order COMATA), cold applications will undoubtedly be useful; but we find little authority for their use. In the *hydrocephalus*, which has been lately classed under this genus, the coldest water applied to the head is said, by Dr. Rush, to be serviceable; but it is not easy to say in so early a stage what the disease really is. Little danger will, however, probably ensue from cold applications in any kind of headach. The apoplexy from narcotic poisons is always greatly relieved by cold applications. (See BATHING). Tissot mentions the good effects of cold affusions in the *coup de soleil*. In partial palsies, pumping on the affected limb, and then covering it with warm flannel, is often serviceable; and in weak joints, a similar remedy is equally beneficial.

In the SPASMI, cold is chiefly useful in the form of cold bathing, which we have already noticed. In *colic* and *cholera*, cold drinks will be useful; but they should be administered with caution in small quantities, frequently repeated.

The success of cold, in every form, in *maniacal cases*, is well established by a great variety of the most respectable evidence; particularly of cold applications to the head. In *tympanites* it is recommended by Dr.

Cullen; and in *ischuria*, placing the patient on a wet stone floor, on his naked feet, has often removed the obstruction. It has been common to recommend bathing *scrofulous tumours* with sea water: but the effect is apparently from the cold; and we have often employed common water with similar success. In *burns* we have already mentioned the utility of cold water. See Combustio.

It may not be amiss to add an account of some easy methods of producing a considerable degree of cold. When ice or snow are to be procured, we want no further assistance, for we can cool water only to the freezing point. When these are not at hand, water from a deep well will be found to be at the heat of about 50°. By adding gradually a mixture of nitre and crude sal ammoniac (muriated ammonia), in the proportion of 8 to 5, this water may be gradually cooled down to about 38°. When we reflect that the heat of the body is 98°, and that of the diseased part at least 104°, even the first degree will be considerable; and by repeating the application we shall often obtain the expected relief. From the water artificially cooled, the benefit may be increased. But if this water be put into a bladder, and moistened with ether, spirit of wine, or indeed with common water, in a free current of air, the temperature will be nearly that of ice, and fully equal to any of the indications before laid down. The greatest extremity of cold required, is in some cases of puerperal uterine hæmorrhage. In this we have known the patient exposed to the severest winter cold, covered only with a sheet, which has been kept constantly wetted; and life has been only preserved by such severe treatment. But we must repeat that in every case, where cold is indicated, its use must be steady and constant.

CO'LES, or CO'LIS, (from *καυλος, a stalk*). See Penis.

CO'LI DE'XTRUM, LIGAME'NTUM. Where the mesentery changes its name for that of mesocolon (near the extremity of the ileum) the particular lamina, which is turned to the right side, forms a small transverse fold, which is thus named.

Co'li sini'strum, ligame'ntum. It is a contraction of the mesocolon, a little below the left kidney.

CO'LICA, (from *κωλον, colon*, the name of one of the intestines). The colic; sometimes called *rachialgia*; but this term is more particularly confined to the *colica pictonum*, the second species.

The appellation of colic is commonly given to all pains of the abdomen, almost indiscriminately; but from the different causes and circumstances of this disorder, it is differently denominated, and some difference in the mode of cure is also to be observed in different cases.

When the pain is accompanied with a vomiting of bile, or with obstinate costiveness, it is called a *bilious colic*; if flatus causes the pain, that is, if attended with temporary distention, relieved by the discharge of wind, it takes the name of *flatulent* or *windy colic*; when accompanied with symptoms of heat and inflammation, it takes the name of *inflammatory colic*, or *enteritis*. The different kinds seem to be properly included, under the distinctions of inflammatory, spasmodic, and flatulent colic.

The inflammatory is when actual inflammation seizes some part of the intestinal canal; the disorder will then be considered and treated as an inflammation of the respective part. See Inflammatio ventriculi and intestinorum.

The *spasmodic* is when pain affects the belly principally about the navel, attended with an obstinate costiveness, and either a nausea, or actual vomiting. In the beginning it is without inflammation, though inflammation is often a consequence.

Dr. Cullen places this genus of disease in the class *neuroses*, and order *spasmi*; and defines it, pain of the abdomen, particularly round the umbilicus, attended with vomiting and costiveness. He enumerates seven species.

1. Co'lica spasmodica, with retraction of the navel; and spasm of the muscles of the belly.

2. Co'lica pictonum, called also *rachialgia pictonum; metallica; traumatica*. It is also called *bellon*, when produced by lead. Beasts and poultry, as well as men, are subject to it, if in the vicinity of smelting houses. The symptoms of this species in men are a sense of weight or uneasiness, first affecting the abdomen, particularly round the navel; succeeded by pain, in the beginning slight, not continued, and increased especially after eating: at length the pain is more violent, and remains almost constant, terminating in paralysis.

3. Co'lica stercoraria, which happens from obstinate and long continued costiveness.

4. Co'lica accidentalis, called also *cholera sicca*, from acrid undigested matters.

5. Co'lica meconialis, in infants, from a retention of meconium.

6. Co'lica callosa, from a sensation of a stricture in some part of the colon, and frequently of previous flatulence gradually passing off; the habit costive, or fæces liquid, and in small quantity.

7. Co'lica calculosa, from calculi formed in the intestines, attended with a fixed hardness in some part of the abdomen. It is distinguished by the previous discharge of calculi.

8. Co'lica flatulenta may be added to these species. It is distinguished by a sudden fulness, with pain and constipation, relieved by a discharge of wind from the mouth or anus.

The early symptoms of the two first species do not greatly differ. A pain, chiefly confined to the umbilicus, with a costiveness, attends both. The difference arises from a more peculiar obstinacy of the bowels in colica pictonum, from its attacking in paroxysms, and from a weakness of the hands soon coming on. It is styled from the place where it is endemial, the Poitou, the Surinam, the Devonshire colic; from its victims, the plumbers and the painters colic; from its symptoms, the dry belly ach, the nervous and spasmodic colic. It has been attributed to the poison of lead; and this is undoubtedly the cause, when it occurs to glaziers, painters, and those employed in lead works; but though this is one, it is by no means the only, cause. In Devonshire it certainly more often arises from the early cyder, made of harsh, unripe fruit, and in the West Indies from new rum. The whole region of the intestines is the subject of this disorder: in any part of them it may manifest its presence; but in whatever part the true colic occurs, the pain is usually felt round the navel. The real spasm is often very distant. If the lower part of the

colon, or the intestinum rectum, is affected, the colon in the left hypochondrium, towards the spleen, together with that part of it which is seated beneath the stomach, and near the liver, become greatly inflated. When, as it often happens in hypochondriac and hysteric disorders, the beginning of the jejunum, or the end of the duodenum, is spasmodically affected, a severe pain in the loins, on account of the superior mesenteric and intercostal branch of the nerves, which spread themselves on the jejunum, comes on; but more probably from the attachment of the mesentery. In this case the duodenum and stomach are inflated, the breathing is considerably affected, and great anxiety follows.

Spasms may be excited by extraordinary agitations or uneasiness of mind; or by acrid and stimulating matter thrown upon the bowels. Bile, and other excrementitious sordes, may be too long retained, or change their milder qualities; acrid substances may be swallowed, or conveyed to the intestines by other means; particularly lead from vapours, as well as its solutions in different ways. This cause is, however, comparatively very uncommon. Gouty matter diverted from its original seat to the intestines, worms, obstructed periodical evacuations, may have a similar effect.

Whatever be the cause, the approach and progress of this disorder are nearly the same. It begins with a sense of weight, or pain, at the pit of the stomach, attended with loss of appetite, yellowness in the countenance, a slight sickness, and costiveness; the pain gradually increases, no longer wanders, but becomes fixed about the navel, from whence painful dartings proceed in various directions; wherever pain is felt, a soreness and tenderness remain some time afterwards. The sickness increases with the pain, and, at length, a vomiting of bilious matter comes on; the urine is diminished in its usual quantity, and a tenesmus sometimes adds to the distress. While the pain is spasmodic, the pulse remains unaffected, except concurring circumstances produce a change in it; the urine is various; if the smaller intestines are the seat of the pain, it is felt more acutely; if the larger intestines are the parts aggrieved, the sense of pain is more dull and heavy; sometimes there is a bitter taste in the mouth, and a yellowness in the countenance: if the symptoms are not relieved, an inflammation or a gangrene may ensue; or the excrements returning, are ejected by vomit, and death soon follows.

The colic should be distinguished from a fit of the gravel; stones passing through the ureters; rheumatic pains in the muscles of the belly; a beginning dysentery; the blind piles; from a stone passing through the gall-duct; and from the more transitory flatulent pains, styled flatulent colic. Gravel in the kidney produces often colic pains, not easily distinguishable; but, when stones pass through the ureters, the testicle on that side is often retracted, the leg is benumbed, a pain shoots down the inside of the thigh; symptoms occasioned by the stone passing through the ureter over the spermatic chord, or the sacro sciatic nerve. Rheumatic pains in the muscles of the belly rarely affect so accurately the umbilical region, but dart, in various directions, to the chest or to the pelvis, and are attended with soreness, not confined to the abdomen. A beginning dysentery differs little from colic, and the remedies are the same. The pain from the blind piles is confined to the rectum; and that from a stone in the gall duct is felt in the pit of the stomach, occasionally shooting through the body to the back.

Of the remarkable symptoms that sometimes come on in consequence of this disorder, a palsy is the chief. Dr. Thierry says, that it is the natural crisis of a colic; but, in general, it accompanies the colic from lead, though it sometimes follows colic where this cause is not suspected. It sometimes comes on during the fit, but more generally follows.

When the colic attacks with a shivering, and the pain is very violent, great danger attends it, for an inflammation usually follows. A sweat, a salivation, an hæmorrhage at the nose, or from the hæmorrhoidal veins, spontaneously occurring, is said sometimes to terminate the colic: though, if after the strength is exhausted a colliquative sweat come on, the danger is considerable. If the violence of the pain continues to increase, and the pains suddenly cease, fatal consequences are to be expected.

As preventatives of this complaint, those who are at times afflicted with pains in the belly, should be careful to keep from all violent agitations of the mind; shun exposures to the northern winds; keep the feet dry and warm; abstain from flatulent food and spirituous liquors; and attend carefully to the bowels, to prevent constipation. Those whose occupation subjects them to the fumes of lead, or to the influence of any of its preparations, should breakfast on fat broth, or eat bread that is spread with sweet lard, before they begin their work; and frequently interpose oily purgatives.

As a spasm is the immediate cause, its resolution is the chief indication of cure; for this purpose, relaxing and antispasmodic medicines, with purges, which, while they solicit the internal discharge, will not greatly increase the morbid irritation, are the more proper means.

If the pains are violent, and the pulse full, some blood may be taken, in proportion to the strength: vomits must be carefully avoided; for, if any irritability of the stomach, afterwards so troublesome, be induced, it will not be easily quieted.

Opium should be next given; and the dose, which may be more or less, according to the violence of the pain, must be repeated every two or three hours, until ease is obtained.

As soon as, by a due use of opium, the sickness and pain abate, ʒ ii. of the sal catharticum amarum may be taken in warm water: if repeated every two hours, it will operate sometimes with sufficient efficacy; though the ol. ricini should be preferred, if the stomach will bear it, because its repetition need not be so frequent. The ol. ricini may be given to ℥ ss. with any warm agreeable mixture. If the ol. ricini is not to be procured, any other purgative, not painful in its operation, may be used. When a free passage is obtained downwards, laxatives must still be continued, until all danger of a relapse is removed.

It often happens, however, that these and every purgative are rejected; and, in the continuance of the disorder, the obstruction is too firmly fixed to be removed by such gentle medicines. We must then apply to more active ones; and the infusion of sena ℥ iv. with manna, sal rupellens, tinct. senæ and jalap. aa. ʒ ss. will form a mixture, of which two or three spoonfuls may be given every two hours. Should this fail, two scruples of

the colocynth pill, with 15 grains of calomel, may be formed into ten pills, two of which may be given every two hours till stools are procured. At the same time, the bowels must be solicited downwards by clysters. A convenient one is half an ounce of common soap, or as much black soft soap, dissolved in three quarters of a pint of water, to which an equal quantity of milk should be added. If this fails, three drachms of colocynth, boiled in a pint and half of water, adding two ounces of oil, and as much common salt, given as a clyster, will seldom fail.

If doses of a grain or two of opium, repeated every six hours, fail to relieve, from 100 to 120 drops of the tinct. opii may be mixed with four ounces of warm olive oil, injected as a clyster; and repeated as often as the pain returns.

In case of a relapse, after the relief from purges, the medicines should be repeated; but the previous use of opium is unnecessary.

Fomentations and warm baths may prove auxiliaries, but no great dependence is to be placed on them. It is true, that while the patient sits in the warm bath the pain abates; but when he is taken out it returns. In this disorder, the pain must be allayed during some hours before the intestines will be disposed to perform their office; and few, if any patients can continue in the bath so long as ease is required. In general, as we have before mentioned, we think, we have found gangrene a more frequent consequence when the warm bath has been freely and frequently employed, than when it has been omitted.

Dr. Warren and Dr. Biss relate their success in attempting the cure of the colica pictonum, as it is denominated by one, and the dry belly ach by the other, by means of a salivation with mercury; and observe, that as soon as the ptyalism was perceived, the pain abated, and returned no more. One of these gentlemen observes, that in mild cases, where a salivation seemed not necessary, blisters applied to the upper and fore part of the thighs, near the groin, were sometimes effectual. Dr. Hugh Smith advises to apply the blisters on the belly.

Dr. Grashuis commends alum as a specific in this disorder: and Dr. Percival, in his Ess. Med. and Exp. relates the success which hath attended his use of this medicine in various painful disorders of the bowels. He gives it from gr. x. ad xx. every four or six hours; and a few doses, thus administered, never failed to procure relief, and, duly repeated, to effect a cure.

"In violent colics," remarks Dr. Percival, (Med. Commentaries, vol. v. p. 172.) "attended with vomiting and an obstinate constipation of the bowels, it has been the common practice amongst physicians to give opiates, in conjunction with purgatives. This method of treatment has been lately improved by administering the opiate first, and the purgative an hour or two afterwards. But I take the liberty of suggesting to you another mode, which, as far as my own experience extends, has proved the most successful. I directed three or four ounces of a strong decoction of poppy heads, with twenty, thirty, or forty drops of tinctura opii, to be injected into the intestines, and retained as long as possible. If it be speedily discharged, the clyster is repeated till the pain is relieved, and the vomiting ceases. A dose of calomel and jalap, or any other brisk cathartic, is then administered; and its operation quickened by the use of sena tea, of a solution of the neutral salts, or of castor oil. By this process, evacuations are procured with more ease, certainty, and expedition, than by any other which I have tried. For opium, when given in a clyster, does not check the peristaltic motion of the intestines, nor counteract the operation of any purgative so powerfully as when received into the stomach. And, in this way, it is most efficacious in alleviating the sickness, and in putting a stop to the violent retchings, with which colics are often attended. The taste of laudanum is often so nauseous, that it is frequently rejected as soon as swallowed. And, if the extractum opii be given in a solid form, time must be allowed for its solution, before any effect can be expected from it."

On this subject we need scarcely repeat the remark, which we have had occasion to make, viz. that the opiate should be first given, and left to produce its full effects, before the purgative is administered; nor have we found the remark of Dr. Percival confirmed by practice, that opium in clysters is less constipating than by the mouth.

The palsy which remains after the removal of the colic is best relieved by the use of Bath water; but as the circumstances sometimes do not admit of this method, the whole length of the spine may be rubbed with Barbadoes tar, dissolved in rum; and such other antiparalytics may be used as the constitution of the patient, and other circumstances, may admit.

The third species, the *colica stercoraria*, arises in almost every instance, from a want of irritability in the bowels. In old people, it amounts to a paralytic torpor; and, though it may arise from calculi, yet this cause is exceedingly rare, and it is more often owing to palsy. It is then attended with no pain; and the disease scarcely admits of even temporary relief. The most active purgatives have no effect; and we gain little benefit from the warmest liniments rubbed on the spine, or into the abdomen. In younger persons it is removed by powerful cathartics: the oily ones have been preferred; but we have found the resin of jalap, combined with soap, the most successful.

The fourth and fifth species, *c. accidentalis* and *meconialis* require little comment. Manna, sweet oil, or a common clyster, easily relieve the latter: and any common purgative the former.

The *colica callosa* is the disease styled the *scirrho contracted rectum*. The contraction is, however, beyond the reach of a topical remedy; and the disease is distinguished by the alternation of obstinate constipation, with a thin watery ineffectual discharge. It is a very rare occurrence; and the patient is usually left with little exertion in his favour. In a long practice, we have not seen more than four cases. Should another occur, we shall be tempted to employ a remedy some time since fashionable, mercury, divided by the extract of cicuta. If it is ever useful, which we doubt, the scirrho contracted rectum may be relieved by it. The c. calculosa scarcely ever occurs in the human body.

Colica flatulenta. The FLATULENT COLIC is usually a symptom or consequence of some other disorder, and is neither accompanied with fever nor thirst; however, the pain is acute, as the seat of the complaint is in the small intestines. Cardialgic symptoms, with efforts to vomit, sometimes attend; and a costiveness is the consequence of the great distention.

It is frequently caused by wetting the feet, or otherwise checking the perspiration. Rubbing the legs with warm cloths, and afterwards keeping the feet for some time in warm water, will be the most effectual remedy.

When a person is subject to frequent returns of this disorder, it proves that the digestive powers are weak; and warm tonics are the most effectual remedies. The columbo root and quassia are, however, preferable to bark and cascarilla.

To promote the discharge of wind, clysters of warm water, with a large proportion of carui seeds, may be frequently repeated. Warm gums, as in the gum pill, are useful; and a solution of the asafœtida may be injected as a clyster. Warm camomile tea may be now and then drunk; and tincture of rhubarb, with a few drops of the oil of mint, will be occasionally necessary. Sometimes the conf. opiata, joined with rhubarb, gives speedy relief.

See Trochin on the Colica Pictonum, with Schomberg's Notes. Thierry on the Colica Pictonum. De Haen on the Colica Pictonum. Huxham on the Colic of Devonshire. Warren's Account of the Colica Pictonum, in the Lond. Med. Trans. vol. i. ii. Sydenham's Works, with Notes, by Wallis. Percival's Essays, Medical and Experimental, vol. ii. p. 194, &c. Medical Musæum, vol. iii. p. 579, &c. Cullen's First Lines, vol. iv.

Co'LICA SINI'STRA, and Co'LICA SUPE'RIOR, ARTE'RIA. See MESENTERICÆ ARTERIÆ.

Co'LICA VE'NA is a branch from the *meseraica vena major*, running from the anterior part of the trunk before it joins the artery, to the middle of the colon, where it divides to the right and left, and forms arches. On the left it communicates with the upper branch of the hæmorrhoidalis, and on the right with the second branch of the meseraica.

Co'LICA RE'CTA, VE'NA. It is a branch of the *gastrocolica vena*; it goes to the right portion of the colon, from thence to its upper part, where it divides, and anastomoses with the colica and the cœcalis.

COLIFO'RME OS, (from *cola*, *a strainer*, and *forma*, *likeness*; so called from having many perforations). See ETHMOIDES OS.

CO'LINIL. Called also *nil; Indigo spuria; polygala Indica minor. Convolvulus nil* Lin. Sp. Pl. 219. The name of an American plant, the juice of which, with a little honey, cures pustules in the mouth. Raii Hist.

COLI'PHIUM, (from κωλον, *a limb*, and ιφι, *strongly*). BOMPOURNICKEL. A sort of bread made of the flour and bran as it comes from the mill. It was made for wrestlers, and used by the Greeks, as more nourishing than bread. The Romans, for three hundred years, only made bread of this kind. In Norfolk and Westphalia, that sort of bread is now in use. Some of the most ancient nations called the bread thus made *panis furfuracius*; (see Aulus Gellius, lib. ii. cap. 9). *Panis impurus*; (see Hippocrates.) Athenæus, lib. iii. calls it bread prepared of unsifted meal, *syncomiston*. Cœlius Rhodiginus, lib. ix. c. 16. calls it *panis cibarius*, and *panis gregarius*; Terence, *panis ater*. The foundation of its nutritious quality we now understand, since the bran contains the gluten, which is of an animal nature.

COLLATE'NNA. A certain specific for the cure of wounds. It is mentioned by Paracelsus in his work De Vitâ Longâ.

COLLA'TERALES, (from *con*, and *laterales*, *on the same side*). See ERECTORES PENIS.

COLLATI'TIUM, (from *colla*, *glue*, or *jelly*). A sort of food prepared, according to Blancard, of the flesh of a capon, or a pullet bruised, and then mixed with mutton broth, and eaten with verjuice, or lemon juice.

COLLE'TICA, (from κολλα, *glue*). Conglutinating or healing medicines. See COAGULANTIA.

COLLI'CIÆ, (from *colligo*, *to collect*). The union of the ducts which convey the humours of the eyes from the puncta lachrymalia to the cavity of the nose.

COLLI'CULA, and COLLI'CULUM. A diminutive of *collis*, *a hill*. See NYMPHÆ.

COLLIGA'MEN, (from *colligo*, *to bind together*). See LIGAMENTUM.

COLLIQUAME'NTUM, (from *colliqueo*, *to melt*). An extremely transparent fluid in an egg, observable after two or three days incubation, containing the first rudiments of the chick. It is included in its own proper membranes, distinct from the albumen. Harvey calls it *oculus*.

COLLIQUA'TIO. COLLIQUATION, (from *colliquo*, *to melt away*). A dissolving or wasting.

COLLI'SIO, (from *collido*, *to beat together*). See CONTUSA.

CO'LLIX, (from κολος, *food*). A sort of round loaf or cake; but in Hippocrates, and other Greek medicinal writers, κολλιξ imports a sort of pastil, or troche, of the form above mentioned. See TROCHISCI.

COLLO'DES, (from κολλα, *glue*). Glutinous.

CO'LLUM, (from *columna*, *the pillar and support of the head*). See CERVIX.

COLLUTO'RIUM O'RIS, (from *colluo*, *to wash*). See GARGARISMA.

COLLU'VIES, (from *colluo*, *to wash* or *rinse*, in its primitive sense means *filth*. In a medical sense, it is expressive of any corrupted or contaminated fluid.

COLLY'RIUM, (from κολλα, *glue*, ρεω, *fluo*,) as they were usually glutinous, or designed to dilute the glutinous discharges. Suppositories, tents, and other things, have been styled *collyria* from their form; but as they were used whole, or in their proper shape, they were called *entire*: what were called *collyria*, without the epithet *entire*, were finely powdered and applied to the eyes. At present, a *collyrium* only means a topical medicine for the eyes, called EYE WATER. It differs not from a lotion, but in the term and application.

Collyria made with vegetable infusions and salts that entirely dissolve are more elegant, and agree better with the eyes, than when they contain powders.

Hoffman condemns all acrid, astringent, cooling, drying, and mucilaginous applications to the eyes. Wedelius observes, that aloes relieves the eyes more than opium; but experience proves this opinion erroneous. After proper evacuations have preceded, two drachms of tincture of opium, mixed with two ounces of rose water, will very often produce considerable relief; or, in some obstinate cases, the tincture of opium may be used alone with success. The usual collyria are either sedative or astringent. The preparations of lead are of the former kind; those of zinc and copper are astringent: each is applicable in different states of the disease. See OPHTHALMIA.

COLLYRIUM CŒR'ULEUM. See CUPRI AMMONIATI AQUA.

COLOBO'MA, and COLLOBO'MA, (from κολοβόω, *to maim*,) the growing together of the eye-lids. Also a want of a particular member or part of the body.

COLOBO'MATA, (from the same). In Celsus, this word is expressed by *curta*. Both the words signify a deficiency in some part of the body, particularly the ears, lips, or alæ of the nostrils.

COLOCA'SIA, (from κολος, *food*, and καζω, *to adorn*; so called from its use as a food, and the custom of wearing its flowers in wreaths). See FABA ÆGYPTIA.

COLOCHIERNI CARDUUS CRETENSIBUS. A plant which differs very little from the atractylis.

COLOCY'NTHIS, (from Κολον, *the colon*, and κινεω, *moveo*, from its active purging powers). BITTER APPLE. Also called *alhandala*, *colocynthidis medulla*, *coloquintida*. BITTER OR WILD GOURD. It is the dried pulpy part of a species of gourd; the *cucumis colocynthis* Lin. Sp. Pl. 1435. Nat. order *cucurbitaceæ*: differing from the common sort only in the leaves being deeper jagged, and the fruit not eatable. It is brought from Aleppo, and grows in many parts of Turkey. It is very light, white, and of a fungous texture, composed as it were of membranaceous leaves, with a number of roundish seeds lodged in the cavities.

The seeds are unctuous and sweetish, like those of cucumbers, but not purging: the fungous medulla, freed from the seeds, is acrid, nauseous, and bitter to the taste, and is a strong irritating cathartic. It is commended also, in less doses, as an alterative in chronical disorders. It is rarely used alone, though ten or twelve grains will purge violently, frequently producing violent colic, bloody discharges, and even disordering the whole system; but if mixed with other purgatives, it quickens their operation.

When boiled in water, it gives out a large quantity of gluten; to proof spirit it does the same: the watery decoction, inspissated to an extract, purges briskly, but with less irritation than the colocynth itself in half its weight. Mr. Bolduc thinks that the active matter resides in its salts, which far exceed the resin and the oil in quantity, and that water is its best menstruum. But the most effectual method of abating its virulence, without diminishing its purgative quality, seems to be by triturating it with gum, farinaceous substances, or the oily seeds; by which means its resinous particles are prevented from adhering to the membranes of the intestines, so as to irritate and inflame them.

COLOCY'NTHIDIS COMPO'SITUM EXTRA'CTUM. It is directed to be prepared by the London college in the following manner; viz. pith of coloquintida six drachms; aloes an ounce and a half; scammony half an ounce; lesser cardamom seeds one drachm; proof spirit a pint. Digest the coloquintida with the spirit for four days, with a gentle heat. To the extracted tincture add the aloes and scammony. When these are dissolved, draw off the spirit by distillation, evaporate the water, adding the seeds towards the end of the process.

CO'LON, (from κοιλον, *hollow*). It is the first and most considerable of the large intestines, called also *enteron*. From the cœcum it reaches in the form of an arch above the umbilical region, and extends to the lower part of the left hypochondrium, running down before the left kidney, to which it is connected, and below which it turns towards the spine; then forming two opposite convolutions, called the *sigmoid flexure*, it terminates in the rectum. When it has passed below the last vertebra of the loins to the inside of the os sacrum, it is bent backwards on the concave side, to which it is joined; and running in the direction of the os coccygis, bends a little forwards, and terminates in the extremity of that bone.

The continuity of the colon is a little interrupted by the intestinum ilium, which advances into the cavity of the colon; not at its extremity, but at the distance of about two inches, penetrating through its longitudinal fibres. It thus forms the valve of the colon, which is shut only when the colon is distended. From this structure, it is evident that no sphincter is necessary to prevent the fæces returning to the ilium: yet this sometimes happens from a retrograde peristaltic motion; and even clysters are thrown up by vomiting.

The whole convex side of the colon is divided longitudinally into three parts, by three ligamentous bands, continued from those of the cœcum, and of the same structure with them. Two of these bands run on each side along the great curvature of the colon, and the third along the small curvature. This last was first noticed by Morgagni. Between these ligaments the intestine is formed into cells, from the ligaments being shorter than the duct, called the *cells of the colon*. The cellular coat does not differ from that of the small intestines; the internal coat is not villous, but papillous; the rugæ are waved and irregular.

From the apparent course of this intestine, warm clysters may, it is said, be applied to almost all the abdominal viscera; for it begins under the right kidney, and runs up on its fore part, passes under the gall bladder, then runs upon the first curvature of the duodenum, to all which it is contiguous; from thence it runs before the great convexity of the stomach, then touches the spleen, and goes on to the left kidney, as above mentioned. This representation is, however, the offspring of theory and ignorance; for no clyster, except when thrown up by an injecting syringe of strong powers, furnished with a lateral pipe, can pass even the sigmoid flexure. De Haen, in this way, has sometimes filled the colon of a dog, and forced the valve; but he often failed.

The colon on its upper part receives arteries from the mesenterica superior and inferior: the lower portion is supplied from the mesenterica inferior, one of which forms the internal hæmorrhoidal artery. The veins are from the vena portæ ventralis, the meseraica major and minor, or hæmorrhoidalis interna. The nerves of the arch of the colon are the two mesenteric plexuses.

When pain is in the colon, it is less acute, and with a sense of weight; when in the small guts, there is not any sense of weight, but an acute pain. If fever attends pain in the colon, the pain extending to the ribs gives a suspicion of pleurisy, though the colon in reality is only affected. The colon is narrower in the right side than elsewhere, whence colic pains arise more frequently, and are more acute in this part. The excrements are long retained in the colon, and often much indurated before they pass on.

COLOPHO'NIA, (Κολοφωνια, a city of Iönia, from

whence it was first brought). COLOPHONY, or BLACK RESIN; called also *berrionis resina fricta torta*, vel *nigra*; DRIED OR BLACK RESIN. *Phrycte* is used alone in this sense, as a distinction from the liquid sort called *hygra*. It is only resin whose humid and volatile parts are most dissipated. It receives its names as above from the city, which formerly furnished the best kind.

Two sorts are mentioned in ancient writings, the dry and liquid. The latter seems to have been liquid pitch, which is the crude resin of the pine brought from Colophon; the former was the resina fricta. The latter Greeks called every kind of resin colophony.

The best colophony is the resin of turpentine, which, after the ethereal oil is distilled, is again urged by a strong continued fire.

COLOQUI'NTIDA, (from κολον, and κινεω, *moveo*). See COLOCYNTHIS.

COLORA'TUS, (from *color*, *colour*). In botany it means varying from its usual colour, as when leaves which ought to be green are of the colour of the flower.

COLORI'NDUS is a mixture of blue and purple.

COLO'STRUM, (from κολος, *food*, because it is the first food of the young). The first milk of any animal, after bringing forth its young; that from cows is called BEESTINGS. It is thin, gently cathartic, and carries off the meconium; serving both as aliment and medicine.

An emulsion prepared with turpentine, dissolved with the yolk of egg, is sometimes called *colostrum*.

COLOTOI'DES, (from κολωτης, *a lizard*, and ειδος, *likeness*). Variegated like the skin of a lizard. Hippocrates applies it to the excrements when of different colours.

COLPOCE'LE, (from κολπος, *sinus*, and κηλη, *hernia*). A hernia of the urinary bladder protruding into the vagina. Hence called *cystocele vaginalis*, or *clytrocele*. A patient had been for many years liable to violent hysteric affections, which at last were succeeded by a dry, convulsive cough. When this cough disappeared, she was seized with a suppression of urine, together with great pain and tenseness in the abdomen. When other remedies had failed, the catheter was employed; but with difficulty introduced. This suppression returned very frequently, was always preceded by the convulsive cough, and sometimes attended even with convulsions, which commonly ended in faintings. The obstruction which occurred to the introduction of the catheter seemed to proceed from a considerable weight and pain which the patient complained of in the fore part of the genitals, and which was always most severe when the suppression of urine was not considerable. On examining the parts, the hypogastric region was tense and painful, but there was no considerable tumour perceivable, as there usually is, in the under part of the belly, when the urine has been long suppressed; but, upon introducing the finger into the vagina, while the suppression continued, a large tumour was discovered, which occupied the whole cavity of the vagina. In this swelling a fluctuation was perceived, but no urine could be evacuated by compressing it, unless the catheter was at the same time introduced, and then a plentiful evacuation ensued; though, even in this manner, the contents of the swelling could not be entirely discharged, unless the compression was continued. When the urine was entirely evacuated, the catheter could be easily introduced; the tumour disappeared; the superior part of the vagina felt lax and flaccid; and the finger could be easily pushed up to the mouth of the uterus, till the tumour began again to increase, by the urine collecting in the bladder. Then the former symptoms returned; and were relieved, as before, by the catheter. The urine, which at first was of a natural appearance, after the disorder had subsisted for some time, became less pure, and seemed to contain a number of small membranous filaments, as if the internal coat of the bladder had been eroded. From this time the sensibility of the bladder became so much increased, that it was found necessary to introduce the catheter much more frequently than before. On considering the case, it appeared that a pessary, properly adapted for the support of the relaxed parts, would, in this case, probably be the most effectual remedy; and an instrument of that kind being procured, and so constructed as not to prevent the discharge of the menstrual flux, it was introduced; and being continued for several years, till the parts had again recovered their tone, a complete cure was at length obtained. The pessary was then no longer necessary, and the patient discharged her urine with perfect ease. See Edin. Med. Comment. vol. v. p. 257. Sauvages' Nosol. Meth. vol. i. p. 216.

COLPOPTO'SIS, (from κολπος, *the vagina*, and πιπτω, *to fall down*). See PROCIDENTIA VAGINÆ.

CO'LPOS. See SINUS.

CO'LUBER BE'RUS; (*quad colat umbram*, because he delights in a shade). See VIPER.

COLUBRI'NA, (from *coluber*, *a snake;* from the snake-like contortions of its roots). See SERPENTARIA, DRACONTIUM, and BISTORTA.

COLUBRI'NA LUSITA'NICA, HE'RBA. See CAACICA.

COLUMBRI'NUM, (from *coluber*, *the snake*; *colubrinum lignum*, *radix colubrina*, *nux vomica minor moluccana*, vel *altera modira caniram*, *solanum aborescens Indicum*, SNAKE WEED TREE.

It is the wood of one species of the genus which affords the nux vomica, viz. *strychnos colubrina* Lin. Sp. Pl. 271. (See STRYCHNOS). It is brought from the East Indies in pieces about the size of a man's arm, covered with a brownish or rusty coloured bark, internally of a yellow colour, with whitish streaks.

It hath a faint but not disagreeable smell; after chewing for some time the taste is bitterish: it gives a gold colour to water and to spirit; affords a fourth of its weight of extract by means of spirit, but not so much by water.

It hath been given in doses of half a drachm, as an anthelmintic; in quartan agues and some other disorders. It operates differently, sometimes passing off by urine, at others by sweat, or by stool. In a less degree it displays the deleterious qualities of the nux vomica.

COLUBRI'NUS LA'PIS, or SERPENTIS. It hath its name from the snake *coluber*, from which it was thought to be taken; but it is now known to be an artificial composition. It is made of hartshorn, burnt to blackness, and afterwards polished; or of clay. It is fabled to be a cure for the bites of serpents, by applying it to the wound.

COLU'MBAC. See AGALLOCHUM.

COLU'MBO, COLU'MBA, COLUMO'BE, or, in the Portuguese language, *raijs de Mosambique*.

It is produced in Asia, from whence it was trans-

planted to Columbo, a town in the island of Ceylon, and from whence all the East Indies are supplied with it.

The plant is not known; but from a note in Commerson's Herbal, it appears probable that it is a species of the *menispermum*, which he styled *palmated*, not known to Linnæus. It is bristled with hair, has leaves with five lobes, often palmated; the base at the heart and the lobes are often sharp pointed.

It is brought into Europe in circular pieces of different sizes, some of which are three inches diameter; its sides are covered with a thick wrinkled bark, of a dark brown hue externally; when cut transversely, they exhibit a large central disk, with brown streaks, and yellow points. The root consists of three laminæ; viz. the cortical, which in the larger pieces is a quarter of an inch thick; the ligneous, which is about half an inch; and the medullary, which forms the middle, and is near an inch in diameter. This last is softer than the other parts, and, when chewed, seems to be very mucilaginous. Many small fibres run longitudinally through it. The cortical and ligneous parts are divided by a circular black line.

It hath an aromatic smell, but is disagreeably bitter, and slightly pungent to the taste; is supposed to be almost a specific in the cholera morbus, nausea, vomiting, diarrhœa, bilious fever, indigestion, and most other disorders of the stomach and bowels. It is slightly sedative, corroborant, and antiseptic. The bark resists the putrefaction of animal flesh; and the root exceeds it in preserving the bile from putridity, or in correcting the putrescency which has already commenced. As it is not heating, it may be used in hectic fevers. A tincture of this root in brandy is a very useful remedy for moderating the retchings during the first months of pregnancy. Dr. Cullen says it is a strong and agreeable bitter, and he has employed it in many instances of dyspepsia with great advantage. In checking vomiting it has frequently succeeded; but he has found it to fail even where there seemed to be a redundancy of bile; nor, in correcting the acrimony and putrescency of the bile, has it appeared more powerful than other bitters.

It may be given in powder from ten grains to two drachms, but the common dose is from fifteen to thirty grains, every three or four hours; and in bilious cases it should be joined with an equal part of vitriolated kali. The powder has been applied to ulcers, which, by common remedies, cannot be brought to a healing state; and Mr. Home thinks it next in efficacy, for this purpose, to rhubarb; nay, when rhubarb begins to lose its effect, columbo will frequently renew the healing process, and ultimately be successful.

Distilled with spirit, it sends over little of its taste or smell; but the extract, made by evaporating its decoction in rectified spirit of wine, is better than the root itself in powder: about two thirds of this root is obtained in the spirituous extract.

The London college order the following preparation of the TINCTURE OF COLUMBO: Take of columbo root, powdered, two ounces and a half; proof spirits of wine, two pints; digest for eight days, and strain: one or two drachms, or more, may be taken repeatedly in mint water, or in an infusion of orange peel: the last renders it the most grateful. It powerfully and speedily relieves those colic pains which arise from flatulence or indigestion.

The EXTRACT OF COLUMBO ROOT is made by digesting twelve ounces of columbo root in powder four days, in three pints of rectified spirit of wine. After filtering this tincture, the residuum is boiled repeatedly in different waters, until it yields little or no taste to the liquor. The decoction is then strained and evaporated until six pints only remain: this is evaporated in a vapour bath: and, when nearly finished, the tincture is added, and the whole reduced to the consistence of a pill.

See Cullen's Mat. Med. Percival's Essays Medical and Experimental, vol. i. ed. 2. Notes to Sydenham by Wallis, vol. iv. p. 221.

COLUME'LLA, (a dim. of *columna, a column;* so called from its shape). The *clitoris*, also the *uvula*, and *hypostaphile*, or falling down of the uvula. See also CAPSULA.

COLUMELLA'RES DE'NTES, (from *columella*, on account of their shape). See CANINI DENTES.

COL. ET COLUM ECPH. An abbreviation of Fabii Columnæ minus cognitarum rariumque stirpium Ecphrasis, 1, 2. Romæ, 1616, 4to.

COL. ET COLUM. PHYT. An abbreviation of Fabii Columnæ Phytobasanos sive Plantarum aliquot Historia. Neap. 1592.

COLUMNA O'RIS. See UVULA.

COLUM'NA NA'SI. The lowest and fleshy part of the nose, which forms a part of the septum.

COLU'MNA SEPTI PA'LATI. See PALATUM MOLLE.

COLU'MNÆ. Many parts of the body which, in their shape or orifice, resemble columns, viz.

COLU'MNÆ. See CARDUUS PINEÆ.

COLUM'NÆ CO'RDIS, vel CARNE'Æ. These are small, long, and round fleshy productions from the ventricles of the heart. According to Le Dran, the basis of the heart is also thus named. See COR.

COLUMNIFERUS, (from *columna, a column*, and *fero, to bear*). An order of plants bearing columns or pillars.

COLUTE'A, (from κολυω, *to mutilate;* so called because it perishes if any of limbs are cut off;) *senna pauperum*, *colutea vesicaria*, *senna Mauritanorum*, *senna Europea*, *senna spuria*, BASTARD SENNA. *Colutea arborescens* Lin. Sp. Pl. 1045.

It is a bush whose flowers are succeeded by large, swelled, thin bladders, flattish on the upper part, sharper and carinated underneath, with a crooked appendix at the end, full of black kidney-like seeds. It grows wild in Italy, and flowers in July. The leaves and seed purge and vomit violently; but it is scarcely found in the lists of the materia medica.

COLUTE'A caule genistæ fungoso. See POLYGALA VERA.

COLUTE'A I'NDICA HERBA'CEA. See INDICUM.

COLUTE'A SCORPIOI'DES, MA'JOR, HU'MILIS, et SILIQUO'SA. See EMERUS.

COLYMBA'DES, (from κολυμβαω, *to swim*). Olives pickled in salt, or *swimming* in their own oil.

COLYMBE'THRA, (from the same). See DEXAMENE.

COLYTE'A. See SILIQUASTRUM.

CO'MA, (κομη, *a head of hair*). The hair of the head. In botany, a species of bracte, terminating the

stem in a tuft, or bush. A spike of flowers terminating by a coma is called *comose.* And plants with such flowers are ranged in the thirty-sixth of the natural orders of Linnæus' Philosophia Botanica.

CO'MA, (from κω or κεω, *to lie down*). In Galen's Exegisis it is expounded by *cataphora;* and in his treatise on a coma, he says, that coma includes every cataphora, both the sleepy and wakeful. By the word coma the author of Prorrheticon often expresses a lethargy. The coma is sometimes called by the name typhomania, being supposed to consist of a mixture of phrensy and lethargy. It is the coma somnolentum of authors; in reality, a less violent degree of apoplexy, in which the loss of sensation is not so considerable. See CAROS.

CO'MA AU'REA. GOLDEN LOCKS, also GOLDEN CUDWEED. See ELICHRYSUM.

CO'MA VI'GIL; called also *agrypnocoma.* A disease wherein the patients are apparently sleepy, but can never sleep. Blancard. See CAROS.

COMAROI'DES, CO'MARUS, (from κωμη, *a lock of hair;* so named from its strings, which are like hair). See ARBUTUS.

CO'MATA. See COMA. The first order of Dr. Cullen's second class *neuroses;* defined a diminution of voluntary motion, attended with sleep, or a deprivation of the senses. In this order he ranks APOPLEXIES, PALSIES, and adds the species of TREMOR. He therefore comprehends those affections which have generally been called *soporose diseases;* but observes, that they are distinguished by consisting in some interruption or suppression of the powers of sense and voluntary motion, or of what are called the animal functions. These, he observes, are usually suspended in the time of natural sleep; but in all these diseases, sleep, or even the appearance of it, is not constantly a symptom. They are also termed *nervorum resolutiones.*

COMBINATION OF MEDICINES. In the rage of reformation, it is not uncommon to step beyond the proper limits; and, in almost every science, it is necessary, in different eras, to review dispassionately the conduct of its professors; to correct, at times, their intemperate zeal, or to supply their omissions. Physicians have for many years aimed at simplicity in prescription, with propriety and success; but they have sometimes failed, in wholly rejecting combinations with which their ancestors succeeded. And it was rather a spirit of empiricism than philosophical induction which gave a general currency to Dover's sweating powder, and many of Ward's compositions.

To check, in some degree, the rage of simplicity, and the general tendency to too great refinement, we shall, from the different classes in medicines, select some instances, where combination is not only defensible but advantageous. We have already hinted at this subject under the head of CATHARTICS, and pointed out the paper of Dr. Fordyce on the same subject. Though we may employ some of his instances, we shall not servilely follow his steps; but in the principal part of this article follow a different direction.

In the exhibition of *emetics*, we are often disappointed, by the medicine remaining inactive in the stomach, and escaping, with its stimulant powers unimpaired, into the intestines. The addition of an antimonial to the ipecacuanha may quicken its action; but this is subject to a similar inconvenience. By the addition of a few grains of the white vitriol, we can often, with either of the others, produce the effect. A sedative emetic, less dangerous than the tobacco or the foxglove, would be a great acquisition to the materia medica; but, even at present, in some pulmonic cases, the foxglove may be actively given for this purpose. The union of the squills with the ipecacuanha has often been highly useful, and equally so with the antimonials.

In the class of *cathartics*, combination is often essentially necessary. We have distinguished cathartics as operating by increasing the secretions from the glands of the chylopoietic viscera, and thus affording the natural stimulus to the intestines; as increasing the action of their moving fibres, by a stimulus peculiarly their own; or, as occasioning an extraordinary effort of the constitution, to throw off a poisonous substance introduced. It will be obvious, by uniting the two first, we gain many advantages. The effect of rhubarb, for instance, will be quickened and increased, if the polycrest salt assists in increasing, at a more early period, the motions of the alimentary canal; soap will sheath the acrid particles of aloes, and extract of jalap, while it assists their action; and the warmer gums, as in Dr. Fordyce's formula, gently stimulate the superior part of the canal, while they sheath and mitigate the too great acrimony of some of the ingredients. The old formulæ of manna with the salts, quickened by some of the more active tinctures, or occasionally with metallic preparations, though apparently a disagreeable and discordant union, had many advantages, which are, in vain, expected from the more elegant formulæ of modern times. In general, the more gentle laxatives should be quickened by the more powerful purgatives; and the latter (if indicated), softened by the oily, saccharine, the mucilaginous, or the saponaceous cathartics. There is, perhaps, no class of medicines in which greater latitude of combination may be allowed with advantage.

The subject of *diaphoretics* we must not anticipate; yet in this a judicious combination produces the most singularly beneficial effects. Generally speaking, the fluids are thrown to the surface by the stimulus of warmth, or other powers exciting the action of the heart and arteries. This stimulus, however, requires regulation; for we have found (see COLD), that excess of temperature is unfavourable to the discharge from the skin. Stimulus, when fever is not present, will, however, often succeed; but, in general, it requires the addition of a relaxant. Thus opium has, in every age, been the chief ingredient in sudorifics. But Dover refined on the former plans, by adding another relaxant; Ward, by the union of the white hellebore, which he, perhaps, supposed to be a stimulant, but which acted probably in a different way. Some poisonous medicines, by exciting nausea, relax the skin, and prove diaphoretic. Of this kind is the veratrum album, which Ward employed; and all the variety of narcotic vegetables will produce the same effect. In combination with the warmer stimulants, therefore, a great variety would probably form useful diaphoretics, did we want any more powerful than those we possess.

Diuretics are of a similar nature; and, independent of the more immediate and active stimulus conveyed to the kidneys, narcotics, by inducing general relaxation, promote greatly the flow of urine Some combinations of the two kinds we have employed with effect; and, if

Bacher's tonic pill is useful, it is from a combination of this kind. The necessity of the union is sufficiently perceived, by joining aromatics with the foxglove. Why not rather the oils of juniper or turpentine?

Errhines are also of two kinds, the stimulant and evacuant: these are usually combined. We have but one internal sialogogue: but the Hindoo unites the stimulant with the sedative in the preparation of his betel.

In the exhibition of *emmenagogues* we occasionally combine with advantage, the more general stimulants and tonics with the topical stimulants of aloetic purgatives; sometimes the latter with relaxants: and, under *lithontriptics*, we have mentioned the union of the bitters, designed to counteract the calculous diathesis, with medicines that act on the calculus itself. We have even expressed our doubts, whether refinement has not too far simplified the medicine of Mrs. Joanna Stephens.

Medicines of a more general action do not so frequently require combination. We allude to *stimulants* and *sedatives*. *Astringents* and *tonics*, however, demand a more exact attention, properly to appropriate the medicine to the disease, as each is seldom without an admixture of the other, and a stimulant principle is sometimes combined. But this part of the subject requires a minuteness of detail, which can only be advantageously pursued when connected with the consideration of separate diseases.

In many of these classes, Dr. Fordyce seems to think, that the union of two or more substances of the same class can be more easily borne, and be more effectual, than the same bulk of a single medicine; as water, when saturated with one salt, will dissolve a portion of a different kind. It is not improbable; and while, as in the classes just alluded to, we are measuring the degree in which we shall add the warmer to the purer astringent, we may perhaps increase the activity of the medicine. On this subject we cannot properly decide; for *we*, too, are of "St. Thomas, and hard of belief."

Another method in which combination will be useful is, where two indications can be at once answered by the union of different medicines. The instance given by Dr. Fordyce is the union of tormentil with ipecacuanha in old diarrhœas. The one strengthens the bowels, while the other determines to the skin: an effect highly advantageous in the cure. This consequence of combination is peculiarly important, and we would strongly recommend it to the practitioner's attention: but it will be obvious, that it rather relates to the management of particular diseases; and to pursue the subject would require a volume. See Transactions for improving Medical and Chirurgical Knowledge, vol. ii. p. 314.

COMBU'STIO, and COMBUSTURA, (from *con* and *uro*, *to burn*). See Calcinatio.

COMEDO'NES, (from *comedo*, *a glutton*). A sort of worms, which eat into the skin and devour the flesh. See Bovina affectio, and Crinones.

COME'TES, (from κωμη, *a bush of hair*; so named from its appearance). See Amygdaloides.

COME'TZ. Half a drop.

COMI'SDI. See Gummi arabicum.

COMI'STE, (from κομιζω, *to provide*). Food, nourishment.

COMITIA'LIS MORBIS, (from *comitia*, *an assembly*). See Epilepsia.

COMITISSÆ PULVIS, (from *comitissa*, *a countess*). See Cort. Peruv.

Comitissæ palmæ, or Palmeri pulv. See Magnesia alba.

COMMAGE'NUM, (from *Commagene*, a place in Syria, from whence it was brought). The name of an ointment mentioned by Galen. It is also called *Syriacum unguentum*.

COMMANDUCA'TIO, (from *commanduco*, *to eat*). See Masticatio.

COMMA'NSUM, (from *commando*, *to eat*). See Apophlegmatica.

COMMEL. PLANT. USU. An abbreviation of Caspari Commelinis Horti Medici Amstæledamensi, Plantarum Usualium Catalogus. Amstel. 1724.

Commel. prælud. An abbreviation of Caspari Commelini Præludia Botanicæ, Ludg. Batav. 1715.

Commel. flor. mal. An abbreviation of C. Commelini Flora Malabarica, sive Horti Malabarici Catalogus.

Commel. Indig. An abbreviation of Casp. Commelini Catalogus Plantarum Indigenarum Hollandiæ.

COMMENDATO'RIUM (Bals.) (from *commendator*, *the commander*). The balsam of the commander of Berne, Balsamum Traumaticum, now *tinctura bezoës composita*. See Benzoinum.

COMMINU'TIO, (from *comminuo*, *to break in pieces*). Comminution. *Contritio*. It is the reduction of any solid body into finer particles, and is of two kinds, viz. contusion, or pulverisation, and levigation, or trituration; which differ, however, only in degree.

Subsequent to pulverisation, where extremely fine powders are required, two secondary processes are necessary, viz. searching and elutriation: the first is the passing of any pounded matter by agitation through the interstices of cloth of different fineness, stretched across a cylinder, covered with a similar one. The latter is by diffusing the powdered substance in a proper quantity of water; then decanting the liquor with the lightest part of the powder, as directed in the preparation of crude antimony.

In powdering any substance, care should be taken to accommodate the substance to the instruments: such medicines as will dissolve metal should be prepared in stone or glass mortars; very hard bodies will abrade soft marbles: to prevent then the mixture of the instruments made use of with the medicine that is prepared by them, such mortars, stones for levigating on, must be chosen, as cannot be affected by the uses they are employed in.

Light dry substances, resins, roots of a tenacious texture, are more easily pulverised if the mortar is previously rubbed with oil; camphor and cortex require a little water: tough substances may be grated or rasped: hard minerals, as flint, calamine, or stone, should previously undergo an extinction; that is, should be made red hot, and then quenched in water; the alkaline and calcareous stones should be converted into lime by this process.

Some metals, if heated to a proper degree, are rendered brittle, and then by agitation are easily powdered: of this kind is tin. This comminution of metals is called *granulation*.

Simple as this pharmaceutic operation is, its importance is considerable in medicine; resinous purgatives, when well triturated, are more easily soluble in the animal fluids, and operate more briskly with less irritation: antimony, finely powdered, discovers but little efficacy; but exquisitely levigated, is said to be a powerful alterative. Mercurials, and many other medicines, owe their virtue in part to comminution.

Roots, and such other articles as consist of different parts, viz. a resinous, ligneous, &c. should be completely powdered, and then the whole powdered substance should be well mixed together; for, without this precaution, one part which yields more easily to the pestle than another, as more friable, will be too active, and another too inert.

In levigating, some fluid must generally be added. Earthy and other hard bodies, that are not soluble in water, must first be finely powdered in a mortar, then levigated with water on a hard marble stone, and afterward dried on a chalk stone. Bezoar should be levigated with spirit of wine.

COMMISSU'RA, (from *committo, to join together*). See Sutura, and Articulatio. This term is also applied to the apparently fibrous structure which unites different portions of the base of the brain.

COMMISSU'RES, (from the same). See Labia pudendi.

COMMO'SIS, (from κομμι, *gluten*). The first stratum of gummy matter with which bees line their hives. It also signifies that art which is employed in concealing natural imperfections with respect to beauty; from κομμοω, *ornatum adhibeo*. This is distinguished from the cosmetic art, which consists in preserving the beauty that is natural.

COMMUNICA'NTES FE'BRES, (from *communico, to participate*). According to Bellini, they are two fevers which infest a person at one and the same time, the paroxysm of one beginning as soon as the other ceases.

COMMU'NIS SAL. See Marinum sal.

COMO'SE. See Coma.

COMPA'CTUS, (from *compingo, to put together*). In botany it means being of a firm and close texture.

COMPA'SSIO, (from *compatior, to suffer with*). Compassion. In nosology it is the suffering of one part on account of an affection of some other part: more commonly called suffering by consent, or *sympathy*. See Sympathia.

COMPE'BA, and COMI'PER. See Cubebæ.

COMPLE'XUS, (from *complecto, to comprise*). Called also *trigeminus*. This muscle runs obliquely, rising from the transverse processes of the six inferior cervical vertebræ: and sixth, seventh, or eighth superior dorsal verterbræ: it then directs its course upwards, and is inserted into the cavity, below the transverse line of the occiput, and bends the head back. It sometimes receives a few slips from the spinal processes of some of the vertebræ of the dorsum. The complexus being removed, we see the two recti and the two obliqui.

Comple'xus mi'nor, called also *mastoidæus lateralis, trachelo-mastoidæus, et capitis, par tertium Fallopii*. When the splenius muscle is removed, we see the *complexus* and the *complexus minor*; the complexus is nearer the spine, and the complexus minor is under the upper edge of the splenius; it is various in different bodies. Albinus describes its origin twelve different ways: it rises from the transverse processes of the three uppermost vertebræ of the back, and from the five lowermost of the neck, where it is connected to the transversalis cervicis, by as many thin tendons, which unite into a belly, and run up under the splenius. It is inserted into the middle of the posterior side of the mastoid process by a thin tendon. Its use is to assist the complexus, but it pulls the head more to one side. Innes.

COMPOSI'TUS, (from *compono, to compose*). In botany it means compound, aggregate, in opposition to single. In pharmacy a more complicated preparation of a common medicine.

COMPREHE'NSIO, (from *comprehendo, to understand*). See Catalepsis.

COMPRESSIO, (from *compremo, to press upon*). See Cerebri compressio.

COMPRE'SSOR NA'RIS. See Nasalis.

COMPU'NCTIO, (from *compungo, to prick*). See Paracentesis.

CONA'RIUM, (from κωνος, *a cone*). The pineal gland; so called from its shape. See Cerebrum.

CONCAUSA, (from *con*, *with*, and *causa*, *a cause*). A cause which co-operates with another in the production of a disease.

CONCENTRA'TIO, (from *con*, and *centrum*, *the centre*). Concentration. To concentrate a body is to approximate its principal parts by removing those which keep them asunder, and which are not proper to the body concentrated. This word is generally applied to the dephlegmation of acids, and particularly of the vitriolic by distillation, of vinegar by congelation, and of salts by evaporation.

CONCE'PTIO, (from *concipio, to conceive*). Conception may be perhaps defined the first animation of the ovum, at the moment when it escapes from the ovarium, passing through the Fallopian tube to the uterus. The definition, which is undoubtedly connected with a theory, will be further illustrated under the article Generation, q. v.; but it is sufficiently supported by the weight of evidence. It is only necessary to observe in this place, that the ovum is very probably a part of the mother's system; that it has not life while in the ovarium, and that in every part of the progress pointed out, a living full grown fœtus has been found.

But, however secretly conception is effected, its symptoms are soon conspicuous. These consist in a preternatural irritability of the whole system, particularly of the stomach. Vomiting frequently occurs, after a few weeks, in the morning, and often incessant through the day. For some months nothing is seemingly retained in the stomach, and yet the child grows, though the mother is often greatly reduced. The whole nervous system is equally disturbed, and fancies the most strange and incoherent often agitate the mind. See Pregnancy.

See Malpighius, De Graaf, Harvey, and Hamilton's Outlines.

CONCE'PTUS, (from the same). The very first rudiments of the fœtus in the uterus after conception.

CO'NCHA, (from παρα το χαινειν, *from its gaping*). A shell. Some confine this word to the shell, while others intend by it the animal with its shell.

Sea shell fish, when boiled, are wholesome food, though supposed to be alkalescent; their shells are

absorbent; if calcined, they become a quick lime, possessing all the properties of pure calcareous earth.

Co'ncha anati'fera, (from *anas, a duck*). Shell-fish, ridiculously supposed to produce a species of duck.

Co'ncha auri'culæ. See Auricula.

Co'ncha cytheria'ca, Co'ncha erythræ'a. See Concha veneris.

Co'ncha Margariti'fera. This word belongs to every shell fish in which pearls are found; but because the best pearls are found in the East Indies, it is confined for the most part to the *concha Indica magna*, whose shells are moderately hollow, thick, and externally of a yellowish colour, rough, uneven, and not striated; internally they are smooth, and shine like pearls. It is a species of oyster, principally found in the Persian sea, and is eaten raw or roasted. The shell of this fish is the *mater perlarum*. It is also called *cochlea margaritifera*. See Mater perlarum.

Co'ncha stri'ata. The cockle. This is a shell fish employed as a nutriment, but being of a firmer substance than the oyster, is not so easily digested: in other respects it possesses nearly the same properties. See Ostrea and Aliment.

Co'ncha vene'ris, or erythræ'a. Venus's shell, is an univalve wreathed shell, having a small longitudinal and denticulated chink or aperture in it. It is also called *concha porcellana*, from its aperture resembling the mouth of a hog; and *concha cytheriaca*, from Venus, or its being found in the island Cythera.

As a medicine, for this shell the cockle or any other shell may be substituted; but it is now never demanded.

Co'ncha. A liquid measure among the Athenians, which contained half an ounce; from three to five spoonfuls; in fact, nearly six drachms. Galen says, that the *concha magna* was the same as the *acetabulum*, which of liquid contained an ounce and a half, and in weight fifteen drachms; and that the *concha minor* was half an ounce of liquid, and five drachms of weight. It is a term applied also to some of the smaller and shallow cavities of the body.

CON'CHÆ NA'RIUM INFERIO'RES; *convoluta inferiora, laminæ spongiosæ inferiores.* The inferior spongy laminæ of the nose. They are situated in the nasal fossæ, one on each side; suspended like the ethmoidal concha, without resting on any thing. The inferior edges are the most considerable of the three; they are rough, thick, a little rounded, and turned toward the os maxillare. By their anterior superior edge, they are joined to the anterior transverse eminences of the os maxillare; their posterior superior edge is the longest, and is joined backwards to the small transverse eminence of the middle portion of the os palati. See Winslow's Anatomy, and Monro on the Bones.

Co'nchæ narium superio'res; *convoluta superiora ossa*, and *laminæ spongiosæ interiores*. So Winslow calls the inferior part of each lateral portion of the os ethmoides.

CONCHARUM ANTIFEBRI'LE. Muscle shells are macerated in vinegar for twenty-four hours, after wiping off the external mucus. They must then be dried and reduced to a powder; during which operation a spoonful of carduus water, to prevent the light parts from flying off, is added. A drachm is the proper dose as a febrifuge and diaphoretic. Bate's Pharmacopœia.

CONCHIFO'LIA, (from *concha, a shell*, and *folium, a leaf;* from its bearing leaves bent in the form of a shell). See Manga.

CON'CHIS, (from κογχη, *a shell*). Among the Romans it is an entire bean wrapped up in its perfect capsule.

CONCHY'LIA FOSSI'LIA, (from the same). Fossile shells. They are ridiculously supposed to be lithontriptic, because other shells when calcined are of that nature.

CONCHYROI'DES. See Coracoides processus.

CONCIDE'NTIA, (from *concido, to decay*). A decrease of bulk in the whole or any part of the body, or the subsiding of a tumour.

CONCOAGULA'TA, (from *con* and *coagulo, to coagulate together*). The confused concretion, or crystallization of different salts, first dissolved in the same fluid.

CONCO'CTIO, (from *concoquo, to digest*). Concoction. It is generally understood to be such a change upon the morbid matter, by the power of nature, generally with assistance of art, as renders it fit for separation from the healthy parts of our fluids, and to be thrown out of our bodies. But this doctrine, at least in fevers, is certainly false. That morbid matter, when it exists, passes off from the blood in its pristine state, appears from the matter of the small pox and measles, both which communicate the same disease at every period after the eruption. It is most probable also, that, in every infectious fever, the morbid matter, after assimilating some of the fluids of the patient affected, passes of in the same state that it was received. Acrimony in the blood is in no case rendered mild by any process in our constitutions: on the contrary, it is always expelled unaltered by some of the emunctories. Pus is never formed of a kindly nature whilst the heat of the body much exceeds the degree that is proper to health.

The theory of concoction, however, which has prevailed since the days of Hippocrates, has been of the most fatal consequence to the science of medicine, and to patients affected with fevers. It precluded all observation of the effects of medicines in the early stages of such fevers, and left the patient to the ravages of their cause. When the idea was added, that heat was the instrument by which the change was effected, the miseries of the sufferers were greatly augmented. The curtains were drawn; the windows shut; the fires large and incessant; and the medicines of the most stimulating kind. It was truly said, that those who recovered escaped δια πυρος, through the fire.

Sydenham supposed that the concoction of the febrile matter meant no mo rethan a preparation and separation of the morbific from the sound particles. See Kirkland on Fevers, p. 14, 27.

CONCREMA'TIO, (from *con* and *cremo, to burn together*). See Calcinatio.

CONCRE'TIO, (from *concresco, to grow together*). In chemistry it is the condensation of any fluid substance into a more solid mass, importing the same as coagulation. In surgery it is the growing together of any parts which are separate in a natural state.

CONCU'RSUS, (from *concurro, to meet together*). See Syndrome.

CONCU'SSIO, (from *concutio, to shake together*). A concussion. A jolt or shock in consequence of blows or falls.

Concussion of the brain. An affection of the brain, produced by a violent shock, without a wound or fracture, though it must have been often the subject of observation, has been but lately distinguished with accuracy. It has been confounded with the effects of depression and extravasation; with inflammation and abscess of that organ. The two latter are often its consequences; but should be clearly distinguished in the origin. To take the simplest idea of the disease, we will suppose a cannon ball to pass near the head. The person falls insensible: if it passes near the spine, death, or a paralysis of the lower limbs, is often the consequence. From this there can be no organic injury; none can be traced by dissection: and though the momentum of the air may account for the fall, it will not explain the subsequent disease. This, however, will be a future consideration.

In concussion, the greater number of symptoms which distinguish compression are present. The great distinction is, that the pulse is soft, often weak, and sinks on bleeding. A discharge of blood from the nose or ears, and the apoplectic stertor, are wanting. After a short period has elapsed, the insensibility in concussion is not so great: the patient will complain on the head being moved. The muscles retain their natural tone, and the pupils are often contracted; they are, indeed, sometimes dilated; the insensibility is then extreme, and concussion and compression often so much resemble each other, that they cannot, perhaps, always be distinguished. What adds to the difficulty is, that after the insensibility from the simple concussion begins to wear off, inflammation often comes on; not active inflammation, with violent pain and delirium, but the milder kind, from a dilatation of the vessels, exciting, in consequence, a slight increased action. This, in many cases, unsuspectedly runs its course, till symptoms of compression come on; and, after death, an abscess is found generally at the base of the brain, though, occasionally, in other parts of that organ.

The best foundation of the distinction in these very difficult emergencies is the effects of remedies. In every accident of this kind, blood should be taken. If there is no wound, if there is no evidence of an actual blow, it should be taken sparingly. Should the pulse sink, the insensibility continue, we must content ourselves with injecting a clyster, and consider it to be a concussion. Should, however, any blow be discernible; should the patient, on pressing the cranium on every part, show more sensibility when pressed on one rather than any other part; should the pulse *not* sink on a moderate bleeding; we have reason to think the accident has produced a fracture or an extravasation.

Concussion is a disease similar to the effect of insolation, an affection of the nervous aura, equally produced by noxious vapours, by the simoon of the desert, particularly by lightning or electricity, which probably produce their effects only by the momentum communicated to the air. Why this concussion of the air should affect the nervous aura it is impossible to say, until its nature is better known. Shocks, however, of every kind produce, in different parts of the body, similar effects. How often will a fall in old persons occasion infarctions or abscesses in the liver, independent of any topical bruise, or obvious inflammation! By such concussions the vessels are weakened, and admit of congestion: the load is greater than the debilitated powers can overcome, and suppuration is the consequence.

In cases of concussion, our conduct is by no means cleared from difficulties. When the pulse sinks from bleeding, and when we are satisfied, from the other symptoms, that no depression or extravasation has taken place, the warmest cordials have been ordered. Yet, as we have a second stage to dread, they should be employed with caution. Evacuations by clyster, topical discharges from the head, not, with the hasty rashness of some modern practitioners, *at once*, but in a gradual manner to keep up a constant effect, and prevent too great a stimulus in the early period, are necessary. We may, for instance, apply immediately leeches; but not more than four. At this time, a blister at the nape of the neck may be operating. After its discharge has begun, two may be applied behind the ears; and, after a similar interval, another to the vertex. During this period, the bowels should be kept moderately open; wine and nourishment supplied in sufficient quantities to support the strength, and preserve a vital warmth, without heating. The extremities should be kept warm by friction, and hot bricks, if cold.

Mr. Bromfield was led, seemingly by a happy accident, to give the Dover's powder; for which he afterwards substituted an antimonial with opium. When we consider the extent of the vessels over the whole surface of the body, and recal to our recollection the advantages we derive from an evacuation from the skin in every topical congestion, we shall at once see the foundation of this practice, which, in his and other hands, has been found very successful. In reality, we consider it as one of the greatest improvements in modern practice; and, from the views we have given, the foundation of its use is particularly explained. Time, however, can only perfect the cure. The functions of the brain, if not hurried out of their regular train, exerted with too much energy, or too early, gradually recover, and the patient, at last, regains his former health: the time, however, is usually long.

If the patient has been neglected, or the plan not fully answered its intended purpose, though he appears to recover, yet, at an uncertain interval, shiverings, a low delirium, with marks of compression, come on. An abscess has then taken place, and death is inevitable.

Mr. Pott, in his description of concussion, has not distinguished sufficiently between the effects of the shock and extravasation; and Mr. Dease, though he approaches nearer to an accurate view of the subject, still confounds the two diseases.

From Mr. Schmucker's view of the cause of the disorder, is suggested the idea of astringent applications; and he informs us, that he employed them with the greatest advantage. The following he seems to prefer: R. Aq. pur. ℔ x. acet. acerrim. ℔ i. sal nitri ʒ iv. sal. ammon. crud. ʒ ij. m. With this embrocation he orders the part affected to be frequently well bathed; at the same time that blood letting is prescribed, together with the internal use of nitre, stimulating injections, and laxatives. In all the slighter affections of the head, the

greatest success, he says, has been observed from such a course; and, even in those which have required the trepan, Mr. Schmucker thinks he has often seen it employed with advantage. In concussions of the brain, even without any external wound, cold epithems and fomentations, he says, are very serviceable, especially if conjoined with stimulating clysters, and the application of leeches to the temples. Mr. Schmucker further observes, in the same work, that violent concussions of the brain are often produced merely from the passage of cannon balls near to the head, without any external affection being observable. In such cases, and in all similar concussions, emetics, he says, are commonly attended with the best effects; venesection, however, must always be premised.

See Berengarius de Commotione Cerebri; Mons. Bertrandi's Dissertation on the *Concussion* of the Brain, in the 3d vol. of the Memoirs of the Royal Academy of Surgery; Wiseman's Surgery, book v. ch. ix. obs. x. Gooch's Cases and Remarks, ed. 2. and Bromfield's Chirurgical Obs. and Cases, vol. i. ch. i. Dease's Obs. on Wounds of the Head; Pott's Works; Bell's Surgery, vol. iii. page 132. Abernethy's Surgical Essays.

CONDENSA'TIO, (from *condenso, to make thick*). Condensation. It implies a contraction of the cutaneous pores by means of cooling, drying, or astringent medicines. It is also an inspissation of any fluid; *condensantia medicamenta* are such as authors have fancied possess a power of inspissating the fluids.

CO'NDER. See Olibanum.

CONDIME'NTUM, (from *condio, to preserve*). *Artyma, conditura.* A condiment or preserve. It signifies whatever procures sweetness and a grateful taste to any substance. But, in a more restrained sense, that is called *condimentum* which is used in preparing aliments, whether with an intention of rendering them palatable, or assisting their digestion.

Condiments make so considerable a part of modern luxuries, that a more particular consideration of the poignant substances employed to give a relish, which health and hunger have denied, becomes necessary. We mean not to say that every condiment is designed to give an artificial appetite. Spices in the warm climates are essential to health; and salt in every climate seems to be the same. But we must be more particular.

The condiments employed are those used to preserve meat from putrefaction, and those added occasionally in the process of cooking, or at table. Of the former kind, some merely preserve animal food without adding to the poignancy of the taste, as ice, vinegar, or a few pepper corns. Others give a poignancy, and alter the quality of the food, as salt, sugar, nitre, and smoke; vinegar and spices more intimately mixed, or in a larger proportion. Of the first we need not speak particularly, but only to suggest the necessity of gradually thawing meat preserved by ice, as its texture is otherwise destroyed. Salt condenses the muscular fibres, and renders them harder of digestion; but a large proportion of sugar lessens the inconvenience, and nitre is said to have a similar effect. Nitre, however, in the quantity employed, is by no means a powerful antiseptic; and, as a condiment, it seems of little importance. It chiefly imparts a more uniform and pleasing red colour than salt. The poignancy of the salt, however, renders many substances much more digestible, particularly the fatter part of the hog, the bacon. This, if cut thin, is easily, when broiled, borne by the tenderest stomach, and the addition of vinegar assists its digestion. Sugar, we have said, does not harden the animal fibres, and it preserves meat very successfully. It is usually mixed with salt, though in too small a proportion. The weight of each should be equal, or of the sugar superior; and the kind used should be the coarsest brown. Smoke is employed sometimes alone to preserve fish and animal food; sometimes, as in the herring, bacon, and some forms of Indian cookery, to give a peculiar flavour. If not carried so far as to dry and harden the meat, it seems to render it by no means unwholesome, or difficult of digestion. If the red herring is peculiarly indigestible, it is owing to the rancidity which its oil acquires in the preparation.

Vinegar is seldom employed to preserve animal food. Brawn owes little to it; for, composed of gelatinous matter not easily putrescible, it is preserved by preventing the access of air, in consequence of its being tightly rolled. To vinegar and salt we owe the preservation of many different kinds of fish; but for a long continuance of their perfect state, spices must be added. In the sauer kraut, the acetous acid, which contributes to the preservation of the cabbage, is formed by its spontaneous fermentation. Potted meats owe their preservation to spice, and to the air being excluded.

In all these instances, hard salted meat excepted, we do not find that the food is rendered less digestible. The warmth of the condiment may prevent this effect; but we must at the same time reflect, that these highly seasoned dishes are eaten only in small quantities.

The condiments added in the cookery, or at table, are, salt, vinegar, pickles, spices, wine, ardent spirit, soy, ketchup, mushrooms, oil, sugar, and various indigenous roots and vegetables, with a slight preparation, or in their natural state, as well as some animal substances, particularly fish. Of the ancient condiments we cannot speak with precision. The asafœtida supplied the flavour of garlic; the garum was not very distant from the anchovy; and many of their native vegetables are supplied at our tables, by the more pleasant aromatics of the east. What seems disgusting in ancient cookery, was perhaps not really so; as partly from custom, more certainly from the proportion employed, the effect might be pleasing. We know that even asafœtida, rubbed only on a warm plate, gives a more pleasing flavour than garlic; and that a judicious mixture of different spices is not only more agreeable, but often more wholesome than a large proportion of one only. Who would think of adding a red herring to soup? yet it is often done with success; and, in a small proportion, gives the flavour of ham. We should have apologised for entering so largely on the subject of cookery, but that a most respectable "brother of our order" has indulged his taste in publishing a collection of receipts, in a work entitled Culina Famulatrix. We shall, however, chiefly enlarge on condiments, as salutary or otherwise, and shall notice each in its order.

Salt, we have already remarked, is almost the universal condiment of animated nature; and it is by no means improbable that the extinction of the vast animal, the mammoth of America, was, in a great degree, occasioned by their collection in search of their prey

near the salt lakes of the Alleghany mountains, at the time of some general convulsion; such at least is probable from the vast collection of their bones in that spot. Salt, in this instance, acts as a stimulant; for its excess is as destructive as its moderate use is salutary. Even an oyster may be killed by an additional quantity of sea salt to sea water. As it is void of flavour, we seldom use it in excess; and we only see the effects of its increased quantity, in the constant use of salt provisions at sea. But to the effects of salt at sea must be added the unalimentary quality of animal food long kept in this state, as well as the almost constant moisture to which sailors are exposed. In some instances, when used too largely, it is said to have brought on symptoms of sea scurvy even on shore.

Vinegar we now speak of as a condiment, occasionally used. When in a perfect state, it is scarcely ever, in a moderate quantity, injurious. Even the most acid stomachs, and pregnant women most injured by acescents, may use it with safety. The fact is, that its ulterior change corrects acidity; and with animal food little injury will result. With vegetables *alone* it is not so innocent; yet in this way it is rarely taken but by the robust, to whom no diet is particularly inconvenient. Vinegar, as has been observed, renders some gross animal substances more digestible; but others it seems to harden, and to lessen their solubility. Yet we have seldom found it injurious but with shell fish; and oysters, cockles, muscles, crabs, and lobsters, are we think less easily digested when vinegar is added. The three first when pickled are certainly less soluble. The various flavours given to vinegar, which is by this means so infinitely diversified, must not be an object of our attention, for it is still vinegar unaltered in its essential qualities. We know a gentleman who never makes a salad without five kinds of this vegetable acid.

Pickles are little more than vinegar in a solid, and, we may add, in its most inconvenient and indigestible form. These are vegetable substances preserved by means of salt and vinegar; but the salt, in the early part of the process, chiefly hardens and contributes to their preservation. Should the curious reader wish to pursue the subject more closely than our limits will admit, we would refer him to the fourth volume of the Amænitates Academicæ, in which he will find (p. 536) an entertaining and a not uninteresting essay "De Acetariis," by M. Van der Burg, in reality by Linnæus himself.

The simplest form of the acetaria is that of the salad, which takes its name from the ingredient, which should be in the least perceptible proportion, salt. The advantages and disadvantages of salads arise from the choice. The lettuce is soporific, the endive and celery acrimonious; but the power of the first is inconsiderable, of the latter lessened or destroyed by blanching (etiolation). The young mustard, the cresses, and the water cresses, are warmer; but these will be spoken of under another head. In general, salads to the young and strong are extremely wholesome, and excellent correctors of alkalescency. In the weaker stomachs, the addition of mustard renders them less inconvenient, though the coldness is often troublesome. Sliced cucumber can seldom be rendered digestible, even by the warmest spices, except in young and robust stomachs.

Vegetables which are preserved by vinegar are chiefly those which are smooth, tasteless, and tolerably firm. Modern luxury flavours them highly with shalot, garlic, or the seeds of the nasturtium, and with advantage. The mango, the Indian plum, is highly flavoured with garlic; and we emulate it in a similar preparation of the unripe melon. The yellow and the warmer pickles of the East and West Indies we also imitate by the admixture of a variety of substances, preserved and flavoured in the same way, styled pickalilla. The warmth of the West India pickle we obtain by the addition of the capsicum, raised in our green houses.

The pickles of our own climate are chiefly the cabbage, red or white, rendered yellow by art; the young cucumbers (gerkins,) the larger cucumbers, or unripe melons (mangos,) the unripe walnuts, the naturally acid gooseberries, berberries, lemons, the samphire (crithmum maritimum Lin.), the buds of the capparis, the tops of broccoli, sliced beet root, &c. In general, the firmer vegetables are the least wholesome; and those, without the additional warmth of other vegetable substances or spices, often produce inconvenience in weak stomachs. Perhaps, in general, they are injurious by exciting a false appetite, without carrying with them sufficient correction.

Spices are more harmless condiments; since, if they contribute to convey a larger proportion of nutriment, they warm the stomach, and enable it to perform its office more perfectly. It must be indeed admitted, that the organ will be ultimately weakened by over distention; but if not greatly abused, the use of spices does no real nor permanent injury. The safest of the spices is, apparently, the common pepper. It is at the same time the most durable and inflammatory; but the quantity employed renders the last quality of little effect. The Cayenne pepper is more pungent, but more transitory in its stimulus; and we have had great reason to think that much of its warmth is lost on the throat and fauces. Ginger is peculiarly warm, and its warmth is permanently exerted in the stomach, which renders it an excellent addition to cold and flatulent drinks. The warmth of cloves is more inflammatory, and in a small proportion not unpleasant. Mace is milder; but, from its strong flavour, is used in too small a quantity to be either useful or injurious. The capsicum and chili, though scarcely meriting the name of spice, as void of aroma, are, in qualities and botanical analogy, nearly related to Cayenne. The pimento, uniting the flavour of different spices, seems also to unite their qualities; and the cinnamon, chiefly employed for its flavour, unless used medicinally, has little pretensions to either praise or blame.

Wine must be reckoned among the condiments; for though its addition to sauces is in too small a proportion to produce any considerable effect; yet it is often drunk at table, and adds to the inclination for an additional quantity of food, and the power of the stomach to digest it. This advantage, if it may be styled one, is chiefly obtained by the drier and stronger wines, as Madeira, sherry, and white port; more effectually by the strong and sharp wines, as rhenish, vin de grave, and old hock. The sweeter wines pall the appetite, and are reserved for the dessert, whose sweetness would destroy the flavour of the others. We then find the Malmsey, Madeira, the Frontiniac, Tokay, and Cape wines, introduced. This finishes the studied luxury of a modern

dinner, where every thing is nicely calculated to add to the quantity, since the second is more poignant than the first course, and the dessert more attractive than the second: the wine joins in the conspiracy against the powers of the stomach, which is thus daily undermined, and its tone gradually destroyed. Wine is perhaps sometimes really useful in this view; we mean, in some instances where the stomach requires the assistance of a stimulus to take even the necessary quantity; and in such cases it may be even taken with advantage before dinner. In this situation hock is preferable: the next is Madeira; sherry, white and red port, follow in succession. When the whole body is exhausted also by fatigue, the stomach will often refuse the necessary food, until it is a little revived by a glass of wine.

Spirits, either alone or with water, are occasionally taken with similar design; but these are in every form, except occasionally as medicines, injurious. Brandy is chiefly preferred; but it is scarcely less hurtful than either of the others.

Soy is imported from the east. It is the production of the bean, the *dolictos soia* Linnæi Sp. Pl. 1023, which is chiefly prepared by a spontaneous fermentation, with the addition of salt, and a small proportion of flour. It merely gives a flavour to sauce.

Ketchup is prepared from mushrooms or walnuts, with the addition of salt, and generally some spice. These two fluids are infinitely diversified with the flavour of shalot, the warmth and pungency of Cayenne vinegar, the taste of anchovies, &c.; and sold in many forms, with a great variety of names, according to the fancy of Mr. Burges and others. They are not injurious if they do not tempt the appetite too far, and increase the load beyond the powers of the stomach to digest. *Mushrooms* we have added to the list, which, though in a slight degree nourishing, are chiefly taken for their flavour. See Amanita.

Oil must be reckoned among the condiments occasionally used, though void of flavour. Its chief use is as a sauce with vinegar, to pickled fish, or in salads. It is said in the former to correct the alkalescency of the fish, and assist its solubility. But if this advantage be denied, it may be at least pronounced innocent. It is not easy to conjecture the origin of its use in salads. We have suspected that it may have arisen from a suspicion of some poisonous herbs being incautiously mixed with the others. Its more obvious advantage is, that it gives a richness to the salad, and by the assistance of the egg employed to mix it with the vinegar, conveys the poignancy of the latter more uniformly to every part of the vegetable, in consequence of its viscidity. Whatever may have been the cause or effect, it is very generally employed; and if not advantageous, is pleasant and innocent.

Sugar is not commonly used as a condiment except in the form of currant jelly, or occasionally with mint sauce in the early season of lamb. In every instance it is at least innocent.

Various indigenous vegetables furnish also a variety of condiments. We employ the root of the horse radish, the capsules and seeds of the nasturtium, the seeds of the mustard, the cresses, the water cresses, and the young mustard, in their earliest periods, sometimes when even the seed leaves only are expanded. These plants belong to the order *siliquosæ*, all of which are in the same groupe, the *tetradynamiæ* of Linnæus, one of the most natural classes of the sexual system. They are, without any exception, pleasant and salutary. Indeed they have been commended more highly than they merit, from circumstances that may for a moment be allowed to detain us. When stall feeding was not common, families in general preserved their winter's stock of food by means of salt; and symptoms of scurvy and of biliary calculi were often the consequence, after some months confinement to this diet. The early vegetables were then sought with alacrity, and their powers were consequently more conspicuous. These vegetables still retain their character, though the occasion of their use is removed. The flour of the mustard seed seems not to have been employed very early, but it is now a general favourite; and in France it is prepared with peculiar care, and enriched with a variety of additional flavours. Were we to write another culina famulatrix, we might enlarge copiously on this subject, and some similar ones, from a pleasant work published annually in France, of which the third year has just appeared, viz. Almanach des Gourmands, the Almanack of Epicures. In this the variety of mustards and other sauces are described; "which have the inestimable advantages of enabling you to eat much, and for a long time without inconvenience." It is sufficient, however, in our situation to remark, that all these indigenous condiments are wholesome.

Another kind, the last of which we shall speak, is that prepared from fish. Caviare prepared from the roe of the sturgeon is sometimes employed in this way, though more usually eaten alone. Anchovies, which dissolve by heat, are employed as a sauce for fish; but what is styled their "essence," is little more than the sordes that remain. When the fish itself is employed, and the solution clarified, it is almost equally clear with water; and the flavour of the anchovy is delicate and pure. Crabs, lobsters, oysters, cockles, and prawns, are all in turn employed as sauce for fish, and occasionally the oysters for some kinds of fowl; but when dressed, they are far from being easy of digestion.

It may be supposed that we have been too lenient to these condiments, which have excited the indignation of the moralist, and of the diætetic physician. Could we return to a state of nature, or indeed were such a return desirable, we might have employed a different language; but while they assail us in numerous shapes, it was of more importance to appreciate with some accuracy their various merits than to reject them with indignation.

The experimental physician, who endeavoured to imitate the process of digestion in his phials, was surprised to find that all the condiments, which he employed, retarded the spontaneous changes; and all were at once condemned. Independent, however, of the common argument, that digestion is a process connected with a being possessed of life, we might ask what reason induced him to confound a rapid with an easy digestion. Various inconveniences we know attend a quick digestion; among which we may reckon flatulence, headach, and a symptom not generally attributed to this cause, a faintness within about an hour or two after eating We recollect that Psalmanazar, who in support of his fiction was obliged to eat his meat raw, found great inconveniences from too quick digestion, which he removed by mixing large

quantities of pepper with it. In fact, then, condiments may be serviceable by retarding this process; and we have employed them medicinally for this purpose. Their use has been thought disgraceful, as implying a deficiency of appetite and impaired health, but without reason. The person who employs them may indeed often eat without their assistance, but he can dine more agreeably with it; and while "to enjoy is to obey," we find little objection to condiments but in their abuse.

CO'NDIO, TO EMBALM; also *conditura*, and *pollincio*. Embalming is as ancient as the first record of the character of physician. See Genesis, ch. l. v. 2. It is still practised, but not generally. On this subject see Paré Dionis's Surgical Operations; Gooch's Treatise on Wounds, p. 456; Greenhill's Art of Embalming; Bell's Surgery, p. 465.

CO'NDITUM, (from *condio, to preserve*). PRESERVES. They are made by steeping, or by boiling recent fruits in syrup or a solution of sugar. It is afterwards either kept moist in the syrup, or taken out and dried, that the sugar may candy upon it: this last is the most usual method. The art was formerly a branch of the apothecary's business, but now is wholly in the hands of confectioners.

The Latins and the latter Greeks meant by *conditum* a sort of *acratomeli*; that is, a wine impregnated with honey and aromatics. See MULSUM.

CONDITU'RA. See CONDIMENTUM and CONDIO.

CONDU'CTIO, (from *conduco, to draw along*,) in Cœlius Aurelianus it means a spasm or convulsion.

CONDU'CTOR, (from *conduco, to guide*). A CONDUCTOR is an instrument used in surgery for the direction of a knife when a sinus is laid open. It is also a name of the instrument called a GORGET, which is used as a conductor in the operation of lithotomy.

CONDUPLICA'TUM FO'LIUM, (from *con* and *duplicor, to be doubled*). A term in foliation, signifying that the sides of the leaf, while in the bud, are doubled over each other at the midrib. It is used also in the sleep of plants in the same sense, when the leaves during the night fold together in the same manner.

CONDYLOI'DÆ, (from κονδυλος, *a joint*, and ειδος, *forma, likeness*). APOPHYSES. See MAXILLA INFERIOR.

CONDYLO'MA, (from κονδυλος, *a joint* or *tubercle*). A TUMOUR; so called from its resemblance to a *condyle*, a joint bent, or a tubercle. It is a hard eminence, which arises in the folds of the anus, or a hardening or a swelling of the rugæ. These tumours also sometimes happen in the orifice of the uterus, and other parts. It is variously described by authors; by some as a tumour of the cuticle; by others as an instance of sarcoma. An anonymous French writer says, it is in general a fleshy excrescence which appears on the fingers, hands, feet, and principally about the anus, the perinæum, and the private parts of both sexes. He adds, that warts, the tumours called *ficus*, *marisca*, *sycosis*, and *thymus*, are different instances of *condyloma*. See ATRICES.

Authors abound with unnecessary distinctions respecting these tumours; but all tubercles and fungi, whether within the verge of the anus or more outward, are of the same nature, and are cured by the same method, whether called *condyloma*, *ficus*, *fungus*, or *crista*, and are tumours of the glandules of the part; which, increasing by degrees, prove painful and troublesome. Those who are troubled with the piles frequently suffer from them; and they often appear in the pudenda from the lues venerea.

If the roots are small, a ligature may extirpate them; if broad, they are best removed by a caustic, but care must be taken that it doth not injure any other part.

See P. Ægineta, Celsus, Heister, Turner, Wiseman; Bell's Surgery, vol. ii. p. 264.

CONDYLO'MA. A CORN. See CLAVUS.

CO'NDYLUS, (from κονδυ, *an ancient cup shaped like a joint*). A CONDYLE. It is a protuberance in any of the joints, formed by the epiphysis of a bone. In the fingers it is called the knuckles. See PROCESSUS. In botany it signifies the joints of plants.

CONEI'ON. In Hippocrates it is an appellation of the *cicuta*; from κονος, *turbo, a turning* or *whirling round*; because it produces a vertigo in those who take it internally.

CONE'SSI. (Indian). Called also the *codaga pala*, *conessi seca*, *cadaguspali*. It is the bark of a small tree, called *arbor Malabarica lactescens; jasmini flore odoro, siliquis oblongis*, growing in Ceylon and Malabar, and on the Coromandel coast, where it is called *conessi*. It is blackish outwardly, and covered more or less with a whitish moss or scurf, which should be scraped off. To the taste it is gratefully austere and bitter. It is commended in diarrhœas, and half a drachm may be taken three times a day; or in sour milk it restrains not only alvine fluxes but hæmorrhages. The root, boiled in water, makes a useful fomentation against inflammatory tumours; and, taken inwardly, destroys worms. When used, it should be fresh powdered, for it soon loses its medical qualities under any form or preparation. When taken to restrain a diarrhœa, an emetic of ipecacuanha should precede its use. Those with whom a diarrhœa is frequent, in moist weather, are much benefited by its use, if a dose is taken morning and evening. Its genus is unknown. Raii Hist.

CONFE'CTA, (from *conficio, to make up*). COMFITS or SUGAR PLUMS. Seeds or other substances incrusted with sugar. These, when impregnated with purging ingredients, are given to children who will not take the usual forms of medicines.

CONFE'CTIO, (from the same). A CONFECTION; called also *aligulus*. In general it is any thing prepared with sugar, and the same with *conditum*. The latter is usually dry; the confectio a soft electuary. The dry confects are now a branch of the confectioner's business, and are the roots of eringo, the peels of oranges, &c. which are incrusted with sugar, and are called CANDIED ROOT, or PEEL. The London college prescribes the following soft electuary: the CORDIAL CONFECTION, now called the AROMATIC CONFECTION.

Take of zedoary in coarse powder, saffron, of each half a pound; distilled water, three pints; let them macerate for twenty-four hours, then press and strain them. Evaporate the strained liquor to a pint and a half, to which add the subsequent ingredients reduced to very fine powder; compound powder of crab's claws, sixteen ounces; cinnamon, nutmegs, of each two ounces;

cloves, one ounce; lesser cardamom seeds husked, half an ounce; double refined sugar, two pounds; and thus form the confection. Pharm. Lond. 1788. This is altered from the last Dispensatory, and may be considered as an improvement. It is certainly an agreeable cordial and carminative, but should not be long kept, as it loses its efficacy. It is substituted for the confect or cordial of Sir Walter Raleigh.

CONFE'CTIO ALKE'RMES. See CHERMES.

CONFE'CTIO ANACA'RDII. See ANACARDIUM.

CONFE'CTIO AROMA'TICA. See CONFECTIO CARDIACA.

Confectio Damócratis. DAMOCRATES'S CONFECTION.—This was formerly called *mithridatium*, from Mithridates, king of Pontus and Bithynia, who, after the example of Attalus of Pergamus, is said first to have experienced the virtues of simples separately, and then to have combined them. But it should be noted that the original compound, as prepared by Mithridates, consisted of but a few ingredients. Serenus Sammonicus says, that when Pompey took the baggage of this prince, he was surprised to find that this antidote consisted of only twenty leaves of rue, two walnuts, two figs, and a little salt. Of this he took a dose every morning, to guard himself from the effects of poisons. It is, however, probable this was designed to deceive, as the preparation used by the king of Pontus has been handed down with great care, and is a combination of aromatics and nervous medicines with opium. If, as Dr. Fordyce alleges, a variety of aromatics is more useful than a large dose of a single one, we cannot see with what propriety the mithridate is rejected, except on the common principle, "Est modus in rebus et certi denique fines." At all events, the mithridate—for we well remember its use, and its being faithfully, at least with tolerable fidelity, prepared—was a warm useful opiate. It is now, however, thrown out of the London Dispensatory of 1778.

CONFECTIO OPIA'TA. See PHILONIUM.

CONFECTIO SAPIE'NTUM. See ANACARDIUM.

CONFE'RTUS, (from *confero, to bring together*). In botany it means very numerous, and crowded together. See ATHROOS.

CONFIRMA'NTIA MEDICAME'NTA, (from *confirmo, to strengthen*). Medicines which restore or confirm the strength of the body, or any part of it: or medicines which fasten the teeth in their sockets. See TONICA.

CONFLUE'NTIA, (from *confluo, to flow together*). A term used by Paracelsus to express the agreement, conjunction, or confederation of the microcosm with the stars, or of a disease with remedies: in botany it means growing together in partial masses, so as to leave the intermediate parts quite bare; and in small pox, the running together of the pustules when crowded.

CONFŒDERA'TIO is of the same import. From *confœdero, to agree together*.

CONFORMA'TIO, (from *conformo, to shape*, or *fashion*). CONFORMATION. Some diseases are called *morbi malæ conformationis*, or organical diseases; that is, which depend upon the original ill conformation of the parts, or on the change of their structure from disease. These, if external, may admit of a chirurgical cure; and proper exercise, regimen, and medicines, may sometimes contribute much to the relief even of those which are internal. See also DIAPLASIS.

CONFORTA'NTIA, (from *conforto, to strengthen*). See CARDIACA.

CONFRICA'TIO, (from *con* and *frico, to rub together*). In pharmacy it is the reducing of any easily friable substance to powder by rubbing it with the hands; or the rubbing any soft and succulent vegetable with the hands to express the juice.

CONFRICATRI'CES, (from the same). Lascivious women, who induce a variety of chronic diseases from unnatural practices.

CONFU'SÆ FE'BRES, (from *confundo, to confuse*). Bellini thinks that he has met with two fevers attending at the same time, beginning and ending together, but so confusedly as not to be distinguished. Bellini, however, in his distinctions, is too refined, and often himself confused.

CONFUSA'NEUS PA'NIS, (from *confundo, to mingle together*). Bread made of meal, from which the bran has not been separated.

CONFU'SIO, (from the same) A disorder of the eyes, which happens when, upon a rupture of the internal membranes which include the humours, they are all confounded together. It is also a mental disease when the ideas are not clear and discriminated. Some authors have laboured under it during their whole lives.

CONGELA'TI, or CONGELA'TICI. Persons afflicted with a catalepsis. See CATALEPSIS and CONGELATUS.

CONGELA'TIO, (from *congelo, to freeze*). CONGELATION, and COAGULATION. It is such a change produced by cold in a fluid body, that it becomes apparently, sometimes really solid. Water is rarified or expanded by congelation; but this depends on the sudden separation of the air. Iron, plaster of Paris, and many other substances, expand at the moment of congelation. Animal fats, and some oils, usually contract.

The calcareous stalactites produced in caverns from the drops of petrifying waters are called congelations.

CONGELATI'VA MEDICAME'NTA, (from *congelo, to congeal*). Medicines which inspissate and dry; or are employed to check discharges.

CONGELA'TUS, and COGELA'TIO, (from *congelo, to freeze*). FROZEN or FROST BITTEN. Persons thus affected by the cold are compared to cataleptic patients, but still there is much difference between the diseases.

When a man is benumbed with cold, and he attempts to warm himself at the fire, the parts exposed to the heat are painful, and a mortification is the general consequence. Thus frozen fruit, if put into water nearly freezing, recovers; but in warm water, or in a warm place, soon rots. Those who are severely affected with cold, should first put the frozen part into cold water, or cover it with snow; and next into water somewhat above the freezing point, until a sense of warmth is perceived, or some degree of motion returns. At this time a little warm wine, mixed with camomile tea, may be drunk, and the warmth gradually increased. A mortification will be in this way avoided.

When travellers begin to be drowsy in the cold, they should redouble their speed to extricate themselves from

danger; for though their sleepiness is urgent, it is always fatal.

The heat of our bodies, when in health, very commonly exceeds that of the ambient air: a considerable degree of cold is consequently required to freeze our fluids, and the extremities are the first affected, as most distant from the centre. When a mortification from cold approaches, the part affected by it is first pale, then red: this redness is attended with a troublesome pain and a violent itching; after which the colour becomes almost purple, and at last black.

In these cases, the parts, by their sedative powers of the cold, are deprived of life; or at least their irritability is suspended, and consequently accumulated. Should heat be applied, the excessive action, which is the consequence, soon induces mortification, that would otherwise be avoided. By introducing the heat gradually, the accumulated irritability is sufficient to restore the life of the part. When gangrene has actually taken place, the increased action of the vessels, as usual in such instances, is excited to separate the morbid from the sound part. There is not the slightest evidence, that the organic structure is destroyed by the expansion of the fluids during congelation.

See Tissot's Advice to the People; Van Swieten's Com. on Boerh. Aph. 422, 427, 454; Med. Mus. vol. i. p. 71.

CONGE'NERES, (from *con* and *genus*, *of the same kind*). When spoken of muscles, it imports those which concur in the same action.

CO'NGER, or CO'NGRUS, κογχρος, (from γραω, *to devour;* so called from its voracity). The CONGER EEL. It is a large sea eel, often called the serpent. The flesh, when deprived of its rancid flavour by soaking in salt and water, resembles bad veal.

CONGE'STIO. CONGESTION, or COLLECTION. (From *congero*, *to gather into a heap*). A swelling which gradually arises, and slowly ripens; in opposition to that defluxion which is quickly formed and terminated.

CO'NGIUS. A GALLON. This is a very ancient measure, and is generally said to have been equal to ten pints of wine, and nine of oil. The Athenian congius, or conchus, weighed nine pounds, and the Roman weighed ten, or contained ten Roman pints of wine. In the London and Edinburgh Dispensatories the gallon is only eight pints. See CHU.

CONGLOBA'TA GLANDU'LA. A CONGLOBATE GLAND, (from *conglobo*, *to gather into a ball*). All the glands are either conglobate or conglomerate. A conglobate gland is a little smooth body, covered with a fine skin, by which it is separated from every other organ, only admitting an artery and a lymphatic, and affording a passage to a vein, or another to the same lymphatic. See Winslow's and Keil's Anatomy.

CONGLOMERA'TA GLANDU'LA, (from *conglomero*, *to heap up together*). A CONGLOMERATE GLAND is composed of many little glandular bodies, united in one common membrane. All their excretory ducts sometimes unite, through which the secreted fluid passes. Sometimes the ducts uniting form several ducts, which communicate with one another by anastomosing canals, as in the mammæ. Others again have several ducts without any communication with each other; as the glandulæ lacrymales et prostatæ; and occasionally each gland hath its own excretory duct, through which it transmits its fluid to a common reservoir, as the kidneys. See Winslow's and Keil's Anatomy. See GLAND and SECRETION.

CONGLUTINA'NTIA, (from *conglutino*, *to glue together*). Healing medicines.

CO'NIA. LIME, (from κονιαω, *to whiten*). When joined with στακτη, it means lixivium, or ley of vegetable ashes; or wine impregnated with cones of fir; from κωνος, *a cone*. Dioscorid. lib. v. c. xlviii.

CONI'FERÆ A'RBORES, (from *conus*, *a cone*, and *fero*, *to bear*). Trees which bear cones, as the cedar, fir, and pine.

CONI'LE. See MYRRHIS.

CO'NIS, (from κονις, *dust*,) fine powder; ashes; a nit in the hair; scurf from the head; and sometimes lime.

CONISTE'RIUM, (from the same). See APODYTERIUM.

CONJUGA'TA, (from *con* and *jugo*, *to yoke together*). In botany it means growing in pairs.

CO'NIUM MACULA'TUM and MA'JUS. See CICUTA MAJOR FŒTIDA.

CONJU'NCTA CAU'SA, (from *conjungo*, *to join together*). The IMMEDIATE CAUSE. See CAUSA.

CONJU'NCTA SI'GNA. The pathognomonic signs of a disease.

CONJUNCTI'VA TU'NICA, (from the same). The conjunctiva is erroneously confounded with the adnata; they are two distinct coats, and both but partial coverings of the fore part of the eye, though the conjunctiva is reflected, and also spread over the inside of the eye lids. This is a thin transparent membrane, which lines the inner surface of the eye lids, and at the edge of the orbit has a fold, that is continued forward over the anterior half of the globe of the eye. It is exterior to all the other coats of the eye, and connected with the albuginea, by means of a cellular substance, from which it may easily be separated in the dead subject by dissection. The conjunctiva of the eye lids is perforated by many minute foramina, which suffer a thin serum to exhale, to keep a moisture over the globe of the eye. This membrane is transparent, and, covering the albuginea, gives the whiteness to the portion of the eye usually distinguished by this appellation. See Ware's Remarks on the Ophthalmy, &c. p. 5. It is sometimes called the *mucous coat*.

CO'NNA. See CASSIA FISTULARIS.

CONNA'TUS, (from *con* and *nascor*, *to grow together*). In botany it means two or more distinct things growing together, and having the appearance but of one; as two apples, two nuts, or two leaves.

CONNE'CTIO, (from *con* and *necto*, *to knit together*). See SYMPHYSIS.

CONNE'XUS, (from the same). In botany it means growing in pairs.

CONOI'DES, (from κωνος, *a cone*, and ειδος, *likeness*). Any body in the shape of a cone. See PINEALIS GLANDULA.

CONQUASSA'TIO, (from *con* and *quatio*, *to shake together*). CONQUASSATION. In pharmacy it is a species of comminution, or an operation by which moist concreted substances, as recent vegetables, fruits, or the softer parts of animals, are agitated and bruised till they are reduced to a soft pulp.

CONSE'RVA, (from *conservo*, *to keep*). A CON-

SERVE. Conserves consist of recent vegetable matters and sugar, beat together into one uniform mass.

On account of the large quantity of sugar contained in conserves, it is obvious that they are chiefly useful as an auxiliary to other more efficacious drugs. Though of the conserves of lavender, wood sorrel, mint, rosemary, orange and lemon peels, arum, or wormwood, a useful dose may be taken, if the proportion of sugar is diminished.

Mucilaginous substances, if mixed with sugar, become glutinous, and astringents soft. The more intense bitters are improper for this form; and lightly flavoured vegetables soon spoil: the latter must, therefore, be prepared extemporaneously.

The general observations for properly making conserves are but few: leaves are to be picked from their stalks, and flowers from their cups. When the flowers or leaves are properly prepared, they must be beat into an uniform mass, in a marble mortar, with three times their weight of powdered lump sugar; but we are often obliged to diminish the proportion to twice, or sometimes to an equal weight. Orange peel may be rasped, or ground in a mill, and then beat up with the sugar. Roses are to be ground before they are beat into a conserve. If they are infused in a large proportion of water, and this is separated by expression, their bitterness, perhaps their virtue, is extracted.

CONSERVA'TIO, (from *conservo, to keep*). In pharmacy, the same as *asservatio;* pickling, or preserving from putrefaction and evaporation, by some additions; or exclusion of air, heat, or moisture.

CONSERVATI'VA MEDICI'NA, (from the same). That part of medicine which relates to the preservation of health. But for this purpose medicine is of little use.

CONSILI'GO, (from *con*, and *siligo, a kind of fine corn;* so called from its being usually found among corn). See HELLEBORUS NIGER HORTENSIS FLORE VIRIDI.

CONSISTE'NTIA, (from *consisto, to abide*). The state or acme of a disease. When applied to the fluids, excrements, or excretions, it imports their consistence.

CONSOI'DES. See AMIANTHUS.

CONSO'LIDA, (from its supposed power of consolidating and agglutinating things broken). COMFREY; called also *alum*, and *alus Gallica*.

CONSO'LIDA MA'JOR; *symphytum majus;* GREATER COMFREY. *Symphytum officinale* Lin. Sp. Pl. 195.

A rough hairy plant, with large, somewhat oval, pointed leaves, producing, on the tops of the branches, spikes of white or purplish pendulous, nearly cylindrical, flowers, followed each by four shining black seeds. The root is thick and fleshy, black on the outside, and white within. It is perennial, grows wild in moist grounds, and flowers in May or June. There is a sort with purple flowers, but it is rarely to be met with. The purple and the white flowers are but varieties of the same species.

The whole plant is used, but the root is the only part that deserves notice; it yields in boiling about two thirds of its weight of mucilage, almost void of smell and taste, and similar to that from the althæa, but more tenacious. The comfrey is, therefore, probably preferable. This mucilage is its only medicinal principle. See Lewis's Mat. Med. Neumann's Chem. Works. Raii Hist.

CONSO'LIDA AU'REA, and AU'REA CO'RDI. See CHAMÆCISTUS.

CONSO'LIDA ME'DIA, and MINIMA. DAISY. See BUGULA, BELLIS MAJOR and MINOR.

CONSO'LIDA MI'NOR, and RUBRA. See PRUNELLA and TORMENTILLA.

CONSO'LIDA SARACE'NICA. See VIRGA AUREA.

CONSO'LIDANS. CONSOLIDATING, (from *consolido, to make firm*). This is applied to medicines that produce new flesh.

CONSO'MME, CONSUMMA'TUM, (from *consummo, to make perfect*). It is a broth so strong as to concrete into a jelly when cold. Frequent mention is made of it in the French medicinal writers.

CONSPE'RSIO, (from *conspergo, to sprinkle*). See CATAPASMA.

CONSPICI'LUM, (from *conspicio, to behold*). SPECTACLES.

Spectacles are either convex, concave, or plain. The first are adapted to old persons; the next to those who see only with distinctness at a small distance; and the third, formed of glass with a light green or blue shade, are designed to defend weak eyes from too strong light. The form of the eye in old and near sighted people has been explained under the terms AMBLYOPIA; and the subject will again recur, vide PRESBYTÆ and MYOPES.

Those who wear spectacles should be very cautious to have the glasses ground with the most perfect accuracy, and should apply to opticians of credit, rather than to itinerant Jews; for the aberrations of the rays produced, by an imperfect figure of the glass, strain the eye to distinguish the image; from this cause indistinct. For a similar reason, the glasses of old people should be not at all, or very slightly, tinged: and the glare which arises from a candle, or a strong sun, may be better avoided by a shade against the former, or over the eyes, to guard against the latter.

It has been doubted whether spectacles should be used to preserve the sight. We think that in old persons they will be useful: with the near sighted, who are usually young, they should be discouraged. Old people will save their eyes, and there is little danger of exhausting the degrees of convexity: indeed none. The young will not, indeed, exhaust the degrees of concavity; but the other senses should be kept "on the alert," while they can supply the place of distinct vision. The hearing, the feeling, even the facility of conjecture, are kept alive by disusing spectacles; and we should improve all our powers. As we have already hinted, the near sighted person should use the number next below that of distinct vision, and he will soon attain it. Habit, in this way, will coincide with the change which age induces; and not to see with the utmost acuteness, is still an advantage to those who could otherwise see very imperfectly.—All this is, however, refinement; for spectacles used with little caution or discrimination have seldom done harm, if the glasses are good.

Pebbles, which admit not of scratches, should be in every instance preferred.

CO'NSTANS, (from *consto, to stand firm*). When applied to the strength, or vital powers, it imports firmness, or a good condition.

CONSTELLA'TUM UNGUE'NTUM. It is an

ointment made of earth worms, cleansed, dried, powdered, and mixed with the fat of boars or bears.

CONSTIPA'TIO, (from *constipo, to crowd together*). *Obstipatio, adstrictio.* Costiveness. Dr. Cullen gives this disorder the name of *obstipatio.* A person is said to be costive, not only when the contents of the intestines are not daily discharged, but also when what is discharged is too hard to receive its form from the impress of the rectum upon it. The daily discharge is, however, relative; for the constitution, accustomed only to this relief every four days, can scarcely be said to labour under disease, if a week should elapse between the periods. See Obstipatio.

Hoffman observes, that costiveness is generally owing to spasms in the intestines themselves, or is propagated by consent; but various causes conduce to this habit, particularly a want of irritability of the intestines and a sedentary life.

This habit of body is generally attended with headach, vertigo, disagreeable taste in the mouth, and want of appetite: it is a frequent cause of chronic complaints, which will be easily understood by what we have remarked respecting Cathartics; q. v.

The costiveness peculiar to studious people is much relieved by magnesia, with rhubarb, or the ol. ricini. Artificers who sit much, and work with their bodies leaning forward, are best relieved by the same medicines. In cases of melancholy, neutral salts, if long continued, are most effectual; for they leave no tendency to costiveness.

Women, during pregnancy, are sometimes costive; from the pressure of the child's head against the rectum. Care should be taken to prevent an accumulation of fæces by an early administration of mild purges, for harsher ones are dangerous. Old people, from the weakness of their muscles, have hard fæces collected in the rectum: and though laxative medicines procure a discharge of the thinner fluids, the indurated matter still lodges, except manual assistance is given. The late Dr. Warren employed, from an obvious connection, a *marrow* spoon.

Aloes, given in small doses, prove sufficiently laxative: and this effect is continued longer after its use, than is observed with respect to many other medicines. When flatulencies are very troublesome, if a little asafœtida is joined with it, more considerable relief may be expected. Calomel also often prevents other purging medicines from leaving costiveness behind. The extractum colocynthidis compos. united with calomel, and corrected by the addition of oleum carui, seu anisi, forms an excellent remedy for relieving and preventing costiveness, if used occasionally. The utility of Dr. James's analeptic pills have led to a suspicion of the utility of the antimonials, joined to the more active forms of resinous purgatives; and we have already mentioned the advantages derived from adding a grain of emetic tartar to a drachm of the colocynth pills for this purpose. A form we have often employed with success, consists of half a drachm of the gum pill, as much pill Rufi, with ten grains of antimonial powder. Two or three of these pills approach very nearly in their effects to the analeptic pills of Dr. James. Habitual costiveness hath been much lessened both by the cold and hot baths, by early rising, and walking in the open air.

In the Lond. Med. Obs. and Inq. vol. iv. are two cases of costiveness which resemble diarrhœas.

CONSTRI'CTIVA, (from *constringo, to bind together*). See Styptica.

CONSTRI'CTOR A'LÆ NA'SI, (from the same; for all muscles, called *constrictores*, have the power of straitening). *Triangularis; depressor labii superioris.* Fallopius first described these, though Placentinus claims the discovery. They rise fleshy below the root of the nares, immediately above the gums of the dentes incisores, and, ascending transversely, are inserted into the coats of the alæ nasi, and the superior part of the upper lip.

Constri'ctor ani. See Sphincter ani.

Constri'ctor i'sthmi fau'cium. From the uvula two arches run down on each side, and there is a cavity between them, where the tonsils are lodged. The anterior arch goes to the basis of the tongue, and is thus called; the other passes down the palatum molle, and goes to the pharynx, whence it is distinguished by the name of *palato-pharyngæus.*

Constri'ctor labio'rum. See Sphincter labiorum.

Constri'ctor mu'sculus. See Buccinator.

Constri'ctor palpebra'rum. See Orbicularis palpebrarum.

Constri'ctor phary'ngis infe'rior. See Cricopharyngæi.

Constri'ctor phary'ngis me'dius. See Hyopharyngæus.

Constri'ctor phary'ngis supe'rior. See Cephalopharyngæus.

Constri'ctor vesi'cæ urina'riæ. See Detrusor urinæ.

CONSTRICTO'RES PHARYNGÆ'I. See Pharynx.

CONSTRICTO'RII, (from the same). Diseases attended with constriction.

CONSTRINGE'NTIA, (from the same). See Astringentia.

CONSUETU'DO, (from *consuesco, to be accustomed to.*) Custom. Custom and habit are two terms often used synonymously, and indeed the former is often confounded with the latter. By custom is meant a frequent repetition of the same act; by habit, the effect that custom has on the mind or body; so that the former is the cause of the latter.

It has been often alleged, and with truth, that we are creatures of habit. Custom produces a regularity in all our returning wants; and the hour of dinner, of exercise, or sleep, brings on the feeling of want, independent of any real demand. In general, the frequent and regular repetition of small impressions produces habit, and their influence is soon unperceived: violent impressions never become habitual; for, when repeated, the body or mind would sink under their force. The influence of custom on our sensations is singular. Accustomed sensations, as we have just remarked, are soon unnoticed; and it requires a little increased action to render them the objects of our attention. Yet, when the energy of the mind is excited by the sensation, custom adds to the power of discrimination. The shepherd will distinguish every individual sheep of a large flock; the painter discover beauties and faults invisible to the common eye; and the musician feel with pain the minutest deviation from tune. Custom, therefore, which blunts bodily sensations, renders the mental

ones more acute. Volition is not an exertion of mind, but apparently a simple impulse, directed almost necessarily to an end; and it is affected by custom, nearly like the organs of the body. Thus a sensation, which excited a perceptible exertion of volution, will, in time, produce it and the correspondent action, without our being sensible of its interference; and so rapid is this progress, that we seem to will two ends or objects at the same time, though they are evidently, when examined, distinct operations. But though by custom we are no longer sensible of bodily impressions, or the exercise of volition, yet the corporeal organs in their several functions acquire, like those of the mind, peculiar accuracy of discrimination. The musician is not, for instance, sensible of his willing any one motion; yet, with the most exquisite nicety he touches a particular part of the string, and executes a variety of the nicest and most complicated motions with the most delicate precision. Indeed, it appears to be a general rule in the animal economy, that if an idea has frequently produced a motion, its power is increased; but if the motion connected with the idea has been prevented, the power is diminished or lost.

It has been supposed that the will, by custom and exercise, may acquire a power over motions in the body not originally subject to it; and we think we have observed some instances of this power in a slight degree on the motions of the alimentary canal. The most striking instance of this kind, however, was the power which colonel Townsend obtained over the heart and arteries; and we know an eminent professor who, in his youth, could, and is perhaps still able to, produce a considerable effect on his pulse. But this effect of custom is very limited. Its power of increasing the force and facility of action of the moving fibres is sufficiently well known. In the action of medicines on the moving fibres we find some variety. Moderate power, by custom, loses its peculiar effect. Thus, the dose of emetics and laxatives, when repeated, must be increased; and the dram drinker gradually requires additional quantities, or augmented strength, of his liquor: but if the power be very active, the repetition gives greater facility of motion, as, by the repetition, the mobility of the moving fibres is increased. Another effect of custom on the moving fibres resembles the association of ideas. If two muscles, or the different parts of one muscle, have been used to act together, exciting the action of one will produce that of the other. If, however, this kind of association is prevented by a strong effort of volition, and strengthened by a different habit, they are induced to act separately, with the greatest precision. This power is constantly attained by musicians.

A singular effect has been attributed to custom, which may perhaps be more satisfactorily explained on other principles. As we usually feel only in the sentient extremities of the nerves, it has been supposed, that from custom we refer every affection of the nerve, in its course, to the extremities; and thus the sailor, who had lost his leg many years before, feels a pain in the toe. This, however, certainly does not depend on custom; for a disease of the origin, or in the course of a nerve, is at once referred to its extremity, though the sensation was never before experienced.

Custom, we find, regulates the degree of tension necessary to produce sensation. The sailor used to the sound of cannon can hear a person speak in a common tone during their loudest roar; and a deaf person will hear more easily while a drum is beating, or in a carriage. It equally regulates the degree of tension necessary to the action of muscular fibres, as the musician experiences by the degree of pressure suitable to the production of a given sound, from a piano-forte or an organ; and it associates motions with sensations not otherwise connected. There is no necessary connection, for instance, between a particular figure of a country dance and a given tune, since many different figures may be suited to it; but when the music begins, the accustomed movements, without any apparent exertion of volition, follow. Custom also associates different motions, though not necessarily connected; and from the habit established they cannot be performed separately. It determines the degree of force and velocity with which motions can be performed, and which, after the habit is established, cannot be violated: a blacksmith can never become a watchmaker. Custom establishes also the order in which certain sensations and motions return. An infant can soon be brought to feed only at regular hours; and those who retire regularly to the garden immediately after breakfast, will feel little or no inconvenience should their breakfast be delayed for an hour or two. The same call will also regularly return with almost every change of the constitution in other respects.

These motions, established and associated by custom, are sometimes broken with difficulty, and occasionally with injury to the constitution. If the supply of food, or the discharge of the excretions, be not obeyed, the call will often not again recur till the next period, and the feelings be uncomfortable in the interval. Indeed, the deprivation of the most trifling accustomed gratification frequently injures the health, while the most discordant noises, the most offensive smells, or the most disgusting objects, lose every unpleasing effect from habit. It was this which occasioned the ancient sage to remark, "Optimum vitæ genus eligito, nam consuetudo faciet jucundissimum." *Choose the best occupation, for custom will make it the pleasantest.* On the other hand, these accustomed associated motions constitute the most obstinate diseases. Intermittent fevers, epilepsies, comata, &c. when the periodical return is established, are most difficult of cure. In such circumstances we cannot often succeed without stopping all motion, to begin again a new and more salutary series.

CONSU'MPTIO, (from *consumo*, *to waste away*). See PHTHISIS.

CONTABESCE'NTIA, (from *contabesco*, *to pine* or *waste away*). See ATROPHIA.

CONTA'GIO, (from *contingo*, *to meet* or *touch each other*; vel INFE'CTIO, from *inficio*, *to infect*). CONTAGION, or INFECTION.

It has been lately attempted to distinguish these two words, though not with a happy discrimation. We should approach more nearly to common language, if we employed the adjective "infectious" to diseases communicated by contact; for we *infect* a lancet, and we catch a fever by *contagion*. In the present state of our knowledge of the subject we must perhaps employ these terms as synonymous, though we shall, in general, follow the distinction now suggested.

Contagion, then, exists in the atmosphere; and we

know distinctly but of one kind, viz. marsh miasmata, which probably consists of inflammable air. All moist earth seems to be also injurious; and we now know that moistened earth absorbs the oxygen, and leaves, of course, the azote. Putrefying vegetable and animal substances have also been accused, particularly of producing the yellow fever of America; and there is no doubt of their being highly pernicious, though from what kind of exhalation we cannot say: mineral exhalations seem never to have produced fever. Another kind of contagion is that which produces the epidemic catarrhs; others which occasion the plague, the dysentery, the cynanche malignata scarlatina. Egyptian ophthalmia, &c. but these we need not anxiously enumerate, as their nature is obscure; and the security, if it can be obtained, rests only on the general principles of avoiding cold, damp, night air, and whatever checks perspiration or debilitates the nervous system. The fevers which may arise from moistened earth cannot be avoided; but those from marsh miasmata we may escape, by choosing a situation where the prevailing winds do not blow from neighbouring marshes; or, at least, where the winds at the period the marshes emerge from under the water, the only time of considerable danger, are not frequent from that quarter.

Many of the diseases above mentioned are "*infectious*" also; and though it has been lately the fashion to deny contagion or infection, yet numerous are the victims that have been sacrificed to this pernicious system. The plague may still be pronounced eminently infectious. The small pox, the measles, the yellow fever, the ulcerated throat, the scarlatina, catarrhus epidemicus, and the hooping cough, are probably so, in a decreasing ratio, according to the order. Others, less infectious, require somewhat of more immediate contact. The dysentery, perhaps, connects both classes: then follow the itch, the sibbens, and the venereal disease; perhaps the yaws. Other complaints supposed to be infectious, are apparently so from their being the offspring of contagion only.

We have omitted in this enumeration the jail and hospital fever, as of doubtful origin, partaking both of infection and contagion. The miasmata are undoubtedly diffused through hospitals, jails, and transports; but the diseases usually received from the human body, or the recent effluvia, give activity to the contagion before introduced. Thus we find a person, apparently without fever, coming from an infected hospital or jail will convey the disease, while he himself, having constantly imbibed the poison, is habituated to it; and the infection requires an exciting cause, or the effluvia in a more active state.

Contagious or infectious matter acquires peculiar virulence from confinement, especially with woollens or cotton; and in this way infection is diffused from distant countries. The last plague which infested the town in which we now write arose from a traveller remarking to his companion that, in a former journey, he had the plague in the room where they sat. "In that corner," said he, "was a cupboard, where the bandages were kept: it was now plastered; but they are probably there still." He took the poker, broke down the plastering, and found them. The disease was soon disseminated and extensively fatal.

People are very variously susceptible of infection. The slightest breath will sometimes induce the disease, while others will daily breathe the poisonous atmosphere without injury. We remember a young lady having a violent fever in a boarding school. Each scholar constantly passed the door of her room, and no one caught the disease. When recovered, she was removed, with fresh clothes, to a lodging, where there was no communication with the persons of the house; but two young women, of the latter, were soon affected with a similar fever, and narrowly escaped. We mention this fact, not to alarm, but to induce the extremest caution, particularly in those who have previously lived in perfectly wholesome air.

The period at which the disease takes place subsequent to infection, is different in different circumstances. Should a case of fever occur within a few hours after a person has been exposed to it, the fever will assume the contagious type. Generally speaking, however, most febrile infections appear active from about ten to fourteen days. The period is scarcely ever less than seven, or more than twenty-one days. Infection is, indeed, more often taken than is supposed. A slight shiver is followed by perspiration, by a diarrhœa, or some other spontaneous discharges, and nothing more is heard of the fever. But its nature is shown by prostration of strength, want of appetite, &c.; which continue, at least, during the first septenary period, if not to the fourteenth day. It is generally received with the air in breathing; but its effect is felt at the back of the fauces only, and from thence in the stomach.

During the progress of contagion, and while exposed to infection, cold chills, indigestion, and the depressing passions, should be as much as possible avoided. The sick room should be kept well ventilated, and the discharges immediately removed: it should be also frequently exchanged for free open air; the mouth and throat gargled with oxymel, a decoction of bark, rendered pungent with spirit of vitriol or port wine. We had almost said brandy, which we once saw recommended in a very respectable scientific journal, the Critical Review, and have since used with some success. But that author was violently reprehended by a gentleman, "scrupulous," perhaps "over much," as encouraging dram drinking. We may, at least, *pace tanti viri*, recommend it to those who have no propensity to that pernicious custom. A decoction of bark, taken two or three times a day, with a few glasses of port wine, may be useful, when infection is around; and an attention to the state of the bowels is essentially necessary. But nothing will effectually preserve without *air—free open air.*

Fevers, however, caught by recent infection are mild, compared with those which arise from contagion long pent up, styled *fomites;* and, in our experience, very few such fevers have been fatal. There are other means proposed of guarding against infection. To persons exposed to it, camphor worn in a bag on the stomach has been recommended. We know not its efficacy; but recollect a late recorder of London (serjeant Glyn) mentioning his having worn it in the earlier period of his appointment, but afterwards disusing it. He added, that he thought himself cooler in court since he had rejected it. Another mode of avoiding infection is, fumigations with vinegar and the mineral acids in the form of air. Vinegar has been frequently employed;

but the discovery of the power of the mineral acids is contested. The late Dr. Johnson, of Kidderminster, evidently first proposed this method; but from his *publications* there appears to be no evidence of his having employed the acid gases. It seems, however, from his manuscripts, that he had done so; and, indeed, the ease with which it could be tried is a strong evidence that he had really used it. Dr. C. Smyth, who received a parliamentary reward for this supposed discovery, seems to rest his claim, in a great measure, on his having substituted the nitrous gas, since the muriatic is so offensive to the organs of respiration; but certainly, previous to Dr. Smyth's application to parliament M. de Morveau had recommended similar trials. We mean not to decide hastily or rashly; but, though the casual notice of this plan by Dr. Johnson is certainly anterior to the hints of any other author, yet to our recollection, M. de Morveau preceded Dr. Smyth. Our countryman may not have borrowed the hint; but, in the present state of chemical science, it lay too much on the level for any one to plume himself greatly on the discovery. The method of preparing each gas is extremely simple; and consists only of adding the sulphuric acid to nitre, or sea salt, deprived of their water of crystallization.

We have omitted mentioning vinegar, as it connects the former with some other modes of destroying infection. The volatility of the acetous acid adapts it for this purpose without any preparation; and it is probably highly useful, though perhaps less efficacious than the gases of the mineral acids. It is used in another form, viz. in a highly concentrated state, with aromatic oils. The first idea was taken from a preservative, said to be employed by four thieves, who plundered the victims of the plague with impunity, secured by the aromatic vinegar. It is prepared with great elegance and efficacy by Mr. Henry, of Manchester, and sold under his name.

A more recent plan of this kind is the *disinfecting bottle* of M. de Morveau. The materials are preserved in a bottle made of strong glass, secured in a wooden case, and the stopper kept down by a screw. In this glass about eleven French drachms of finely powdered black oxide of manganese are put; and to these are added about three ounces by weight, of pure nitric acid of the specific gravity of 1.40, with an equal bulk of muriatic acid, of the specific gravity of 1.134. About two thirds of the bottle must be empty: it is covered with a plate of glass, which is raised by a single turn of the screw. This plate must be ground and polished, so as to close the bottle accurately, and every particle of dust must be carefully wiped off. When used, it must not be held near the nose, as the pure oxygen gives pain when respired; but in a few minutes it will fill a large room with the gas. These materials, if the bottle is opened daily, will last six months. The price, when properly filled, is, in Paris, twenty one francs for each. Annales de Chimie, vol. lii. p. 347.

M. Dumotiez prepares bottles of a smaller size, with less proportions of the same materials. The chief improvement is, that a small aperture is made by a turn of the screw. They are cheaper, and adapted for apartments of a common size.

When infection or contagion has taken place, an emetic is the first necessary step; and this should be followed by active purging. After these medicines, a warm cordial diaphoretic, and sometimes a blister, is necessary. If, however, any one medicine is peculiarly and essentially requisite, it is the cathartic; but the emetic must be premised. The reasons for this plan will be afterwards explained.

Mineral exhalations have been sometimes supposed to be causes of fever; but we have not found any well authenticated instances of such effects, though Dr. Webster, in his History of Epidemics, has endeavoured with great earnestness to connect epidemics with volcanic explosions, and other physical phenomena. Those who work in mines of lead or quicksilver are, however, subject to nervous colics and palsies.

CONTAGIO'SI, (from *contagio, contagion*). Disorders from infection or contagious diseases.

CONTEMPERA'NTIA, (from *con* and *tempero, to moderate*). See TEMPERANTIA.

CONTE'NSIO, (from *contineo, to restrain*). It sometimes is used to express a tension or stricture.

CONTE'NTA, (from *contineo, to contain*). CONTENTS. Any fluids contained within a solid part of the body.

CONTE'NTUS, from *contendo, to stretch*). STRETCHED.

CONTINE'NS FE'BRIS. A CONTINUAL or a CONTINENT FEVER, which proceeds regularly in the same tenor, without either intermission or remission. This rarely, if ever, happens. See FEBRIS.

CONTI'NUA FE'BRIS, (from *continuo, to persevere*). A CONTINUED FEVER, attended with exacerbations, and slight remissions, but no intermission; sometimes called *assidua*. See FEBRIS.

CONTO'RSIO, (from *contorqueo, to twist about*). CONTORSION. In medicine this word hath various significations. See ILIACA PASSIO, LUXATIO, LUXATION OF THE VERTEBRÆ and CAPUT.

CONTO'RTUS, (from *contorqueo, to twist aside*). In botany it means ravelled, curled, or twisted.

CONTRA APERTU'RA, (from *contra, against*, and *aperio, to open*). A COUNTER OPENING. This is sometimes necessary in wounds made by puncture, or by a bullet, to discharge what is contained in them, or to prevent their growing fistulous. The circumstances requiring this procedure are so various, as to demand considerable sagacity in the surgeon. The opening is sometimes made by passing a trochar to the bottom of the wound, directing its point to the nearest skin, and continuing it through, so as to make the old and the new aperture one continued passage; more frequently by cutting through the skin directly upon the intruded body, or upon the button of the probe, which may be introduced to the bottom of the wound to direct the incision. See Petit and Heister's Surgery.

CONTRACTU'RA, (from *contraho, to draw together*). CONTRACTION; called by Dr. Aitkin, *beriberia*. An immobility of any of the joints from a preternatural contraction of some of their muscles, or from a derangement of the osseous or ligamentous parts of the joint affected. Dr. Cullen ranks this as a genus of disease in the class *locales*, and order *dyscinesiæ*; and defines it "a continued, rigid contraction of one or more of the limbs." He distinguishes two species.

1. CONTRACTU'RA PRIMARIA, from a rigid contraction of the muscles, termed also *obstipitus*; a word,

that with any other annexed distinguishes the variety of the contraction.

Of this species he forms four varieties. 1st. When the muscles become rigid from inflammation. 2d. From spasm. 3d. When contracted, from the antagonists being paralytic. 4th. From irritating acrimony.

2. CONTRACTU'RA ARTICULARIS, from rigid joints.

Dr. Aitkin observes, that the disease is most frequently symptomatic: and when it depends on muscular contraction only, he advises the tepid bath, with bandages, and counteracting by proportional weights the increased power of the muscle. Mechanical contrivances, either to assist the paralytic muscles or gradually extend the contracted ones, are chiefly useful. In each instance, the vapour bath is a valuable assistant. Dominiceti Buzaglo, and at present Mr. Pugh, have often succeeded in this disease by a bath of this kind.

CONTRA-FISSU'RA, (from *contra*, *opposite*, and *findo*, *to cleave*). CONTRA-FISSURE. See FISSURA.

CONTRAHE'NTIA, (from *contraho*, *to contract*). Medicines which shorten and strengthen the fibres. Astringents are the only medicines of this nature, q. v.

CONTRA-INDICA'TIO, (from *contra*, *against*, and *indico*, *to show*). See ANTENDEIXIS.

CONTRA-LUNA'RIS, (from *contra*, and *luna*, *the moon*). An epithet given by Dietericus to a woman who conceives during the menstrual discharge; but we believe there is no instance of this kind.

CONTRARIUS. CONTRARY. In botany it means not parallel in situation. In medicine, any thing opposite in its nature or tendency.

CONTRA-VE'RMES, (Sem.). See SANTONICUM.

CONTRAYE'RVA, (from *contra* and *yerva*, *a herb*, Spanish). A herb good against poisons. *Drakena*, *Cyperus*, *longus odorus Peruanus*, *dorstenia*, *bezoardica radix*. COUNTER POISON. It is the *dorstenia contrayerva* Lin. Sp. Pl. 176.

The contrayerva was first brought into Europe about the year 1581 by sir Francis Drake, whence its name Drakena. It is the root of a small plant found in Peru, and other parts of the Spanish West Indies. There are two kinds; the one *placenta ovali*, the other *angulari et undulata*. The sort generally brought to us is about an inch or two long, half an inch thick, full of knots, surrounded on all sides with numerous long tough fibres, most of which are loaded with scaly knobs, of a reddish brown colour on the outside, and pale within.

The tuberous parts of these roots are the strongest, and should be chosen for use. They have an agreeable aromatic smell; a rough, bitter, penetrating taste; and, when chewed, they give out a sweetish kind of acrimony.

It is diaphoretic and antiseptic; formerly used in low nervous fevers, and those of the malignant kind; though taken freely it does not produce much heat. It is, however, now seldom used; though, with the Peruvian bark in decoction, we have sometimes employed it in ulcerated sore throats as a gargle.

Dr. Cullen observes, that this and serpentaria are powerful stimulants, and both have been employed in fevers in which debility prevailed. However, he thinks, wine may always supercede the stimulant powers of these medicines; and that debility is better remedied by the tonic and antiseptic powers of cold and Peruvian bark, than by any stimulants.

By the assistance of heat, both spirit and water extract all its virtues, but they carry little or nothing in distillation; extracts made by inspissating the decoction retain all the virtues of the root.

The London college forms the compound powder of contrayerva, by combining five ounces of contrayerva in powder, with a pound and a half of the compound powder of crabs' claws.

This powder was formerly made up in balls, and called *lapis contrayervæ*; employed in the decline of ardent fevers, and through the whole course of low and nervous ones. The *radix serpentariæ Virginiensis* in all cases may be substituted for the contrayerva. See Lewis's Materia Medica; Neumann's Chem. Works; Raii Hist. and Cullen's Mat. Med.

CONTRAYE'RVA NO'VA, or MEXICAN CONTRAYERVA. It was introduced into Europe after the former, and is brought from Guiana, as well as from Mexico. The root is longish, about two fingers thick, externally rough, and of a brownish colour, internally white, with a pith in the middle, of a sweetish aromatic taste, and but little inferior to the contrayerva introduced before it. This is the root of the *psoralea pentaphylla* Lin. Sp. Pl. 1076.

CONTRAYE'RVA A'LBA. CONTRAYE'RVA GERMANO'RUM. See ASCLEPIAS.

CONTRAYE'RVA VIRGINIA'NA. See SERPENTARIA VIRGINIANA.

CONTRI'TIO, (from *contero*, *to break small*). See COMMINUTIO.

CONTU'SA, (from *contundo*, *to bruise*). *Contusio*, *collisio*, *phlosma*. CONTUSED WOUNDS, CONTUSIONS, or BRUISES. When any part is bruised, the small blood-vessels are broken, and the blood they contained, effused in the adjoining cellular membrane; or these vessels lose their tone, and no longer contributing to the circulation, their contents stagnate. In either of these cases, if the impediment is not removed, an inflammation comes on, followed by suppuration, sometimes by gangrene. There are also peculiar symptoms from any injury done to a nerve, a blood vessel, or a bone.

In general, the symptoms consequent on bruises may be reduced to three classes.

First, They arise either when the solids are destroyed, and the fluids they contain discharged: those functions are consequently abolished which depend upon a due and determinate motion of the fluids through the sound vessels.

Secondly, The discharged fluids, collected either in the natural or preternatural cavities of the body, by their bulk and quantity press upon the adjacent parts, and either totally destroy or at least disturb their respective functions.

Thirdly, The humours thus discharged, may, by their continuance and stagnation in their cavities, acquire such a degree of acrimony as to corrode and destroy the adjacent parts.

When the internal parts are bruised, and the external integuments are entire, or confine the extravasated fluid, the consequence is, 1. An echymosis. 2. A spurious aneurism. 3. A sugillation. 4. Ulcers and gangrenes. 5. Caries; or, 6. Scirrhus.

Boerhaave observes, that contusions on fleshy parts may produce suppuration, gangrene, palsy, or a contraction. On a large nerve, a palsy, atrophy, incurable insensibility, and a gangrene on all their parts below

the injured part: this may peculiarly follow contusions of the spine and its marrow. Contusions of the viscera, he justly observes, are often speedily fatal; they are tender; and their vessels easily burst.

Contusions from gun shot wounds are dangerous from the destruction of the organized parts which are bruised, as well as from the general concussion that the whole body suffers from the air violently impelled against it. The effects of concussion we have already noticed, though we have been unable to explain them. In no case should we be more cautious of pronouncing on the event of any disaster, than where a concussion or a contusion happens; and where both may have occurred, the caution, if possible, should be greater. See Bohnius de Renunciatione Vulner. § 2. cap. 1.

When bruises are received inwardly, it is not easy to judge readily of the extent of the injury done by them; and when the case becomes more manifest, it is often too late to attempt relief. See Concussion.

The remedies must be those chiefly which, by their stimulus, restore the tone of the vessels. For external use, where the skin is not much destroyed, a mixture of sharp vinegar, with twice its quantity of water, may be applied frequently by means of linen cloths wrung out of it, and, as often as they dry, moistened again. If there is much inflammation present, the following, called *embrocatio ammoniæ acetatæ cum sapone*, acetated ammoniated embrocation with soap, is very useful. R. Aq. Ammoniæ, acetatæ solutionis saponis āā ℥ss. l. m. But where the inflammation has subsided, two drachms of aqua ammoniæ puræ added to the above is considered as very efficacious. Spirituous applications should not be used, except where the sole intention is to strengthen the injured fibres immediately on the occurrence of the accident; in slighter cases, a small quantity of spirit may be mixed with vinegar, and used on the first reception of the bruise. Even such friction as the bruise will bear on the part, or around it, will be generally useful. See Discutients.

If the bruise is considerable, and particularly if any internal part is affected, bleeding, a cooling liquid diet, with repeated gentle purgings, are of the greatest advantage. If the bruise is in the lower belly, clysters are necessary; and where the internal parts are greatly affected, leeches or blisters, as near the seat of the complaint as can be admitted, are useful. Poultices, which were formerly applied to carry on the circulation by relaxing the over distended vessels, are now disused, as they are found to promote suppuration. Cold vinegar poultices act as stimuli; but cold, in the other forms, is seldom admissible, as the vessels are too weak to restore the action. This remedy is, however, useful in relieving the weakness which is often the consequence.

The advantages of the tinct. opii externally as a resolvent, of Dover's powders, and the anodyne antimonial drops, recommended in the article Concussio, deserve the same attention when contusions happen, and on the same principles.

See Bohnius de Renunciatione Vulnerum; Van Swietan's Commentaries on Boerhaave's Aphorisms; Tissot's Advice to the People; Bilguer's Dissertation on the Inutility of amputating Limbs, p. 69, 73. Bell's Surgery, vol. v. 446.

CONTU'SIO, CONTUSU'RA. See Contusa.

CO'NUS. (Greek.) A cone. The fruit of the pine, fir, or cedar tree; or any fruit with a broad basis, which gradually diminishes to a point. The trees which bear such fruit are called *coniferous*. Dioscorides says, that κονος is a name of liquid pitch.

Co'nus fuso'rius, also called *pyramis*. A cone. It is a vessel resembling an inverted cone, made of brass or iron, and is used for separating a regulus from its scoriæ; for while the fused metal is pouring into the crucible, it is struck with a mallet, in order to produce a tremulous motion in it, by which the heavier parts fall to the bottom.

CONVALESCENCE, (from *convalesco, to grow well*). This state implies a recovery from disease, when nature, with little assistance, is supposed capable of restoring health. In all acute diseases, considerable attention is, however, requisite, to prevent a relapse. On recovery from fever, the appetite often returns before the powers of digestion, and, of course, cannot be always safely indulged. In recovery from other diseases, the principal complaints should be cautiously kept in view. Thus, after peripneumony, the expectoration should be anxiously kept up; after enteritis, the constant action of the bowels; after affections of the head, the utmost tranquillity of the body and mind preserved. In short, convalescence requires, in almost every situation, care equally unremitted with that which the continuance of disease demanded.

CONVALLA'RIA, (from *convallis, a valley*). See Lilium convallium.

Convalla'ria, polygonatum. See polygonatum.

CONVOLU'TUS, (from *convolvo, to roll round*). In botany it means rolled up, like a scroll of paper.

CONVOLU'TA SUPERIO'RA, et INFERIORA O'SSA, (from *convolvo, to roll round*). See Conchæ narium superiores, and inferiores.

CONVO'LVULUS, or VOLVULUS, (from *convolvo, to roll together*). (See Iliaca passio.) It is also the name of a genus which affords the Jalapa, Mecoachana, Turbith, and Scammony; q. v. The whole genus usually abounds with plants containing a milky juice strongly cathartic and caustic.

Convo'lvulus sepium, Lin. Sp. Pl. 218. It is the *c. major albus* of authors, and resembles, in its virtues, the scammony.

Convo'lvulus scoparius, a new species, vide Lin. Supplem. 135. Aiton's Kew, vol. i. p. 213. Wildenow, vol. i. p. 872. Probably the plant which affords the lignum rhodium.

Convo'lvulus colubri'nus. See Pareira brava.

Convo'lvulus I'ndicus radi'ce tubero'sa e'duli, co'rtice ru'bro. Potatoes. See Battatas Hispanica.

Convo'lvulus mari'timus. See Brassica maritima.

Convo'lvulus mari'timus Zeyla'nicus, &c. See Bintambaru Zeylanensibus.

Convo'lvulus canta'brica, convo'lvulus spi'cæ fo'liis, convo'lvulus li'nariæ fo'lio. See Cantabrica.

Convo'lvulus soldane'lla. See Brassica maritima.

Convo'lvulus syri'acus. See Scammonium.

Convo'lvulus pere'nnis. See Lupulus.

CONVUL'SIO. A CONVULSION, or involuntary contraction of the muscles, (from *convello, to pull together*). Called also *hieranosos*, *distensio nervorum*.

Dr. Cullen places this genus of disease in the class *neuroses*, and order *spasmi;* and defines it, "an irregular clonic contraction of the muscles without sleep," of which he enumerates nine idiopathic species; and five symptomatic. See Nosologiæ Methodicæ Synopsis, p. 216, vol. iii.

Under the spasmi Dr. Cullen includes the tonic and the clonic spasms, where the muscles are rigidly and immovably contracted; and where the violent, irregular contractions are alternated with equally sudden relaxations. This arrangement is formed with the strictest propriety, as we shall afterwards find.

Convulsions attack persons of all ages, but chiefly the young, or the debilitated; all constitutions, but principally the fair, the delicate, and the irritable; each sex, but particularly females. Its causes are various; but the chief source of convulsions is, in the opinion of every author, irritation. It is certainly irritation, in systems peculiarly mobile, in other words, easily excited to action; but, as the mobility is greater, the irritation necessary to produce convulsions is less; and sometimes so slight as to be imperceptible.

If we examine the functions of the nervous system, we shall find life and health depend on the regular distribution of the nervous power. If it is hurried, irregularly exerted, or deficient, various diseases, and particularly convulsive ones, ensue. Joy, grief, surprise, will equally produce them. Violent exertions, and tone, suddenly relaxed, are also causes of these irregular motions. We do not find, however, that with high health, full vessels, and a firm constitution, however the circulation is accelerated, or the nervous power excited, convulsions ensue, unless the tone is *suddenly* remitted. Whatever effect therefore may be attributed to predisposition, the causes are chiefly debilitating ones; and the constitutions chiefly affected, those which are weak. It is then irregular action, in weak habits, which constitutes the disease. In palsies of every kind, tremors attend every exertion; and the various species of tremor in Sauvages', one only excepted, are obviously from debility. In hysteria there is usually considerable debility, though the circulating system is often full; and indeed there is no more common cause of weakness than over distended vessels. This is the exception noticed in Sauvages' species of tremor. In epilepsy this debility is less obvious, but the most obstinate cases occur in weak constitutions; and, in others, the irregular action is excited by peculiar and violent stimuli, chiefly affecting the organic structure of some part of the nervous system. The palpitations in chlorosis, the gesticulations in chorea, the convulsive agitations in raphania, the causes of true convulsive asthma, all confirm the idea, that debility is the cause of irregular action. Nor need we add, for it is the subject of common observation, that convulsions close the scene, particularly of disorders induced by excessive evacuations and worn out constitutions; that they are effects of narcotics of every kind, of deleterious gases, mineral exhalations, and even of stimulants that exhaust the vital power, and increase, in consequence, the irritability. We may therefore rest safely on the position, that irregular action, either spasmodic or clonic, has its foundation in debility or in irritability; but the former is most frequent, as it is a very common cause of increased mobility.

From the effects of narcotics, of deleterious gases and similar powers, we have reason to conclude, that irregular action may arise from debility alone, or at least from obscure and unperceived irritation. Yet in practice we must always keep in view the existence of irritation; and we often find it necessary to check this exciting, at the risk of increasing the power of the predisposing, cause. There is little doubt, for instance, that the irritation of the meconium sometimes produces the locked jaw and convulsions in new born infants; this must be evacuated. The sedative power of lead produces the Poitou colic: this irritation must be soothed by opium before laxatives will succeed. A wounded nerve will occasion a locked jaw; the irritation on the nerve must be removed by destroying its sensibility, and the increased action of the muscles at the same time counteracted by appropriate remedies, general and topical. Other convulsions are more effectually remedied by warm stimulants and tonics: the warmest stimulants are often required in the convulsions from sedative poisons or the deleterious gases. In this short disquisition, our first object was to establish the principle, that convulsions are rather *irregular* than *increased* action, and that their primary cause was debility: our second, not to mislead the young practitioner, who, by attempting to counteract debility, may lose sight of the exciting cause, irritation.

How debility acts in producing convulsions we pretend not to say, nor is the inquiry of importance; there seems, however, to be a ruling power in the constitution, which regulates the distribution of the nervous influence; and, when it is weakened, this influence is irregularly distributed. We mean not to say, with Stahlians, that this power is all wise, and directs every thing for the general good; exciting these convulsions to throw off some noxious matter, threatening destruction to the whole system. If such a power exists, it is implanted by the Almighty; regulated according to his fiat by secondary causes; and acting necessarily from the organisation of the machine. In another view, the whole nervous influence may be regulated by its state in the brain; and, if that arrangement is altered by any violently stimulant or sedative impression, the rest must suffer a similar change: and, when we contemplate the various phenomena which diseases of the nervous system present, we are rather inclined to adopt this opinion. We have, however, already observed that our object is to establish principles, not to build systems.

Sometimes convulsions attack suddenly, without any warning; at others their approach is indicated by certain symptoms, such as coldness of the feet, or a sense of creeping, rising like a blast of cold air from a particular part of the extremities to the head; the left hypochondrium is sometimes affected with tensive and flatulent pains, and a costiveness attends; the urine is thin and pale; tremors and various unusual sensations are perceived, and in different patients other symptoms also attend, as the prelude to more violent ones. During the fit the motions are violent and involuntary, continuing in different cases for a longer or shorter period, and returning after different intervals, occasionally after regular intermissions. Languor, delirium, sleepiness, vomiting, or headach sometimes follow the cessation of a convulsive

paroxysm; but there are cases in which little or no sensible uneasiness is perceived on recovery from it.

Infants when disposed to convulsions are affected with a cough, vomiting, or diarrhœa; their features are at times distorted; a blueness appears about their eyes and upper lip, and twitchings or startings are often observed, particularly a contraction of the fingers into the palm of the hand; and during the intervals of the fits they are drowsy. As death draws nigh, the convulsions are more frequent.

Convulsions, however, which have appropriate names will occur in the different articles. It is now only necessary to mention the species included by Dr. Cullen under the genus *convulsio*. The nine idiopathic species differ only from their causes, where there is any real distinction; for the "universal," the "habitual," the "intermittent," convulsions are varieties only, and the symptomatic convulsions are less objects of particular attention. The result is, that convulsion is a symptom only, and does not deserve a particular generic distinction. There are, however, some forms of the disease so important and dangerous, that they require a more minute attention. The first of these is the *convulsio puerperarum*.

Dr. Bland thinks that convulsions in pregnant women, and during labour, have nothing peculiar in their cause from those which happen to women differently situated; and though external agents, particularly violent affections of the mind, may sometimes, as at other periods, excite them, yet this will rarely happen, unless there is some peculiar vice in the constitution disposing to them. From observation he thinks he is justified in saying, that the puerperal state is far from favouring them; as women at that time will do and suffer, almost with impunity, what at any other would be attended with the most serious consequences. But whatever may be the cause, he observes, there is evidently in the fit, as in the apoplexy, a too rapid and dangerous determination of the blood to the head, which demands the most immediate and serious attention. To remedy this, blood must be immediately drawn, and, if possible, from the jugulars. The state of the labour should then be inquired into; and if the child is not too far advanced in the pelvis, it will be right to prescribe a large stimulating clyster to empty the bowels, and at the same time lessen the determination to the head; this, if not sufficient for the purpose, should be assisted by a few grains of jalap and calomel, or some other brisk purge. If the labour is far advanced, the convulsions will act upon the fœtus; and if there is no impediment, either from wrong presentation or disproportion of the child to the pelvis, will, in a little time, safely expel it. If any obstacle to delivery is found, the position of the child, if faulty, must be altered; or we ought to have recourse to other necessary assistance, in the same manner as if convulsions were not present. In either way the termination of the labour will frequently put an end to the convulsions. But if this is too hastily performed before the vessels have been properly emptied, and the rapid motion of the blood in them diminished, there will be danger, from the torrent rushing too impetuously into the intestines or other abdominal viscera, of inflammation in some of those parts, inducing puerperal fever, and often death. But where the labour is not far advanced, after the exhibition of the clyster and purgative, thirty drops of the tinct. opii may be given, and repeated, interposing occasionally the clyster or cathartic, as symptoms shall indicate. See Dr. Bland's Essay on the Treatment of Convulsions during Parturition.

Though we, however, allow Dr. Bland's authority to merit every attention which his judgment and long practice demand, we think that convulsions of puerperal women are really connected with that state. They occur to those who never otherwise have been affected with the disease; and they cease when labour pains force down the child, as if its pressure on some of the nerves of the pelvis had occasioned the irritation. The necessary doses of opium also are much larger than he recommends, and even ten grains of solid opium may be given in a clyster. We have seen half a drachm ordered. Dashing cold water in the face has sometimes succeeded, according to Dr. Denman's recommendation, and the foxglove, according to Dr. Hamilton's; but the chief object is to hasten delivery. In every other respect, Dr. Bland's directions appear to us highly judicious.

Convulsions are sometimes a symptom attending fevers, and may be produced by inanition, as when hæmorrhages or diarrhœa have occurred; or by repletion. Relief will most readily be procured by evacuations from the bowels in the last case; and by antispasmodics, particularly opiates, in the former. When they are caused by wounds, warm oil, or the warmer balsams, applied to the injured part, often effect a speedy cure, when stricture in the part has been previously relieved by manual operation: the causes of irritation are indeed various, and therefore different means will be required to effect this end.

Convulsions in children, from teething, require the loss of blood, particularly if the gums are swelled and painful. When depletion is the cause, cordials must immediately be administered, and a generous nourishing diet allowed.

If, as we have said, plethora is a cause of debility, suppressed evacuations, which also occasion it, become a source of irritation. The repulsion of cutaneous diseases, of the hæmorrhoidal discharge, sometimes of the menses, are therefore frequent causes. In such cases, some evacuation is necessary; but so much only as will take off the immediate effects of the plethora. The other remedies must be adapted to the local fulness; these are chiefly laxatives, diaphoretics, and aloetic medicines, interposing in every instance opium, and, in the uterine obstructions, opium with camphor.

Convulsions in children are owing to irritation of almost every kind; to flatulence; to the irritation of the gum distended by teeth; to acrimony in the stomach and bowels, or worms. In every such instance we must guard against the peculiar irritation, as it occurs to our notice. The stomach and bowels must be certainly kept clear, and opiates then administered, either by the mouth or by clyster. When flatulence is apparently the cause, to the opium in a clyster, the asafœtida should be added. Worms are a more important source of irritation; but all children have worms: and if symptoms of irritation continue after rhubarb and calomel have been repeatedly given, worms may be fairly accused as a cause, and medicines for this purpose employed. Not to anticipate what will be the subject of more particular consideration, we may now add, that the bear's foot, the helleborus fœtidus, is the only certain remedy.

The more general remedies for convulsions are musk and the whole tribe of fetids. These seem to act as sedatives, or rather as *inirritants*, a class of medicines whose nature we shall explain under that term. Warm bathing appears to relieve in a similar way. Nor can we attribute the effects of valerian to any other power. The union of the valerian with bark seems to give it an additional efficacy, from some influence which we cannot explain. The remaining observations on the remedies for convulsions have been anticipated in the article ANTISPASMODICS; q. v. See also SPASMS.

CONVU'LSIO IN'DICA. See TETANUS.

CONVU'LSIO A NE'RVI PU'NCTURA. See TRISMUS.

CONVU'LSIO RAPHA'NIA, SOLONIENSIS, et AB USTILAGINE. See RAPHANIA.

CONVU'LSIO U'TERI. See ABORTUS.

CONY'ZA, (from κονις, *dust*; because the powder is sprinkled to kill fleas in places where they are troublesome). FLEA-BANE. The leaves of this plant are commonly glutinous and strong scented, the cup of the flower generally scaly, and of a cylindrical form. The flowers consist of many florets, which are succeeded by seeds covered with a downy substance.

CONY'ZA ÆTHIOPICA. See ELICHRYSUM.

CONY'ZA MA'JOR VULGA'RIS. *Mas Theophrasti, conyza major* Diosc. GREATER FLEA-BANE. See BACCHAR.

CONY'ZA MI'NOR FLO'RE GLOBO'SO, *pulicaria, conyza minima, et media*. SMALL FLEA-BANE. See INULA DYSENTERICA.

The chief use of all the flea-banes is to destroy fleas and gnats by burning.

COOKERY. (See ALIMENT, page 72.) Though in this article we have, perhaps, introduced all the more essential remarks, yet we must still add what fancy, fashion, or refinement, has suggested. It is not generally understood how profuse and prodigal civilized nations are in the expenditure of aliment. A large proportion escapes unchanged, and becomes, with the excrementitious fluids, a manure. Many substances, rejected as useless, are employed in the same way. We shall begin with the latter.

Fish, when caught in a proportion beyond that which the inhabitants can consume or preserve, are scarcely objects of the present attention; but the bones, which we reject, after the modern processes of cookery still contain useful aliment. When ground, they yield gelatine to the common processes. The stomach of dogs extract it, so that they discharge almost pure calcareous earth. Later refinements have extracted nutritious particles from bones, by an instrument styled a digester, and, from its inventor, Papin's digester; in which water, in a strong well secured iron vessel, is heated far beyond the boiling point. The fins of fish, some parts of the skin, have been in a similar way dissolved.

Boiling in close vessels has been recommended by some authors, as preventing the evaporation of the finer parts, or what may be styled the aroma of animal food. This is, however, an useless refinement; for this aroma is soluble in water, if not carried off by too great heat. To preserve it, the water should be kept immediately below the boiling point, and the process longer continued. This makes beef, mutton, and chicken tea, superior to the broth of either; and, if we would be still more nice, the meat should be put in a close earthen vessel without any water, and placed in a water bath, at about 200°o f Fahrenheit. It is stewed in the steam raised from the food; and the jelly, thus formed, contains the more delicate and nutritious particles of the food, with the flavour unimpaired and unaltered. In this state it is well adapted for delicate stomachs, and for food in febrile cases. When, as in baking, the volatile parts are not closely confined, they are altered by heat, and acquire a kind of empyreuma not agreeable to the taste, nor easy in the stomach. In the common ovens, this compound, empyreuma, is often very offensive.

The great refinement of modern cookery is, however, the minute division of the aliment. In this consists the real secret of the effects of the soup prepared according to count Rumford's plans; which are only the decoctions of the farinacea, with a proportion of animal food, deprived, by the continuance of heat, of all their nourishment, which is communicated to the water. To this various condiments are added; of which the cheapest and most useful is the red herring, more often used in the soups of the luxurious than they are themselves aware. It is an instance of what we remarked in the condiments of the ancients, of the effects of even unpleasant substances in a very minute proportion.

COOPE'RTIO, (from *cooperio, to cover over*). COVERING, CLOTHING, OR A SMALL CLOAK, by which the body is defended from the air, the same as περιστολη, *amictus*, from περιστελλειν, *co-operire, tegere, to cover*, in which sense it is several times used by Hippocrates. It is applied to the belly, and uterus investing the fœtus; and also to a medicament, which is placed upon the tooth, involving it like a plaster, by Scribonius.

To this article we have referred a most important subject, viz. CLOTHING in general, on which the health greatly depends, and in diseases meriting also the most scrupulous attention.

The ancients furnish little information; for their clothes were uniformly woollens, seldom probably cleansed in the washing tub. The inconvenience from this source they avoided by frequent bathing, while the limbs were anointed with oil, on coming from the bath.

Linen was unknown till after their connexion with Egypt in the time of Augustus, and then not generally used: the sericæ vestes were cotton; for the country of the Seres, the lesser Bulgaria, is unfavourable for the propagation of the silk worm, and the ancients were unacquainted with China, or any country to the east of the Gulf of Martaban. A proof of their ignorance of silk is, that in the time even of Justinian it was sold for its weight of gold. We mention these circumstances chiefly to explain the cause of the slight attention paid to this subject by the ancient physicians; for, however changeable the climate, they suffered little in consequence of their woollen dresses, which we have no reason to think were peculiarly fine or thin. In more modern periods it is a subject of peculiar importance; and, when we consider the *most modern* fashions, calls for the strictest attention.

How can you bear the access of cold air to your naked body? asked an European of a Canadian Indian. I am all face, he replied; meaning that custom had rendered it familiar. Were we in a state of nature, this reply might be satisfactory: yet we know that catarrhs

and-rheumatisms are the most constant diseases of the savage. In polished life, a more particular inquiry is necessary.

The interior clothing of the present period consists of linen, of cotton, or of flannel. The first, usually worn next the skin, must be frequently changed. The effect of frequent change is to keep up perspiration, and it was even supposed to produce emaciation. The only real inconvenience of linen is, that it absorbs moisture slowly; in other words, its hygrometrical affinity is inconsiderable, and if for a short time removed from the body after copious perspiration, it feels damp and cold. We bear, however, with this inconvenience from the comfort we feel in changing it; nor, when used only as the garment, next the skin, is it ever materially injurious.

The hygrometrical affinity of cotton is more considerable, and calico, for shirts or bed gowns, is preferable. For children, on many accounts, it is the only proper shirting. To the feeling it is warmer than linen, though less pleasant; though it equally at least promotes perspiration. In the more improved state of the manufacture of calicos, there is little distinction either in point of comfort or salubrity between them and linens; yet, in the latter view, they are on the whole preferable.

The hydrometrical affinity of flannel is still more considerable; and copious indeed must be the perspiration that makes them inconveniently damp. To this must be added, that the spiculæ of the wool stimulate the surface and excite the action of the cutaneous vessels, while the inconvenient roughness is soon, from custom, unobserved. It may now appear that we have proved little more than the superiority of flannel to calico, and of this to linen; yet, we think, we have placed their different merits on such a foundation as will elucidate many modifications of our clothing.

Our upper garments, in this climate, are generally of woollen; and, where this material is not used, we compensate by numerous folds for the thinner texture, and the increased conducting power of heat.

This last circumstance, of the greatest importance in our present consideration, we have explained in the article Caloric. Air is a bad conductor of heat, and polished surfaces receive it slowly. Hair and wool, therefore, whose surfaces are polished, conduct heat imperfectly, and more so in proportion to their fineness, which occasions the more frequent interposition of aerial molecules, and their little affinity for heat. This renders the eiderdown so peculiarly warm. We did not mention the effect of this circumstance in our comparison of the internal coverings of our bodies, not to confuse it with the hygrometrical affinity, and because it is more peculiarly applicable here; but its influence will be sufficiently obvious. As conductors of heat, from the body, silk is more powerful than cotton, and cotton than woollen. Each is colder, therefore, in the same proportion than that which follows. Black also conducts heat from without better than white, and the more refrangible rays better than the less refrangible. In warm weather, therefore, these colours are warmer in the same order. Count Rumford's later refinements on this subject, are not sufficiently established to induce us to enlarge on them.

These considerations will lead us to a choice of clothing, in different circumstances, for the preservation of health. In general, we have erred by clothing ourselves too thin, and changing our dress too early in the summer. It was formerly a rule, even when the seasons were seemingly more forward than at present, to "keep the winter dress till May be done;" but we now change it more early, or adopt that of the demi-saison, which is scarcely more warm than the dress of summer. It is not, however, the real warmth which is of so much consequence, as the sudden changes of dress in the same day; not according to the change of temperature, but to fashion. The drawing-room may, indeed, be warm, but the passages which lead to the door are cold; and the modern fine lady is ill adapted for so sudden a change, eitherfrom dress or habit. It has been remarked, that consumptions have been much more frequent in Scotland since the plaid has been disused; and in England, we fear, from the present fashions, they will be still more abundant than at any former period.

It has been constantly remarked, that the breast and the feet should be carefully guarded from cold. We see sufficient reason, from theory and experience, for the latter caution; and it will not be difficult to explain the former, when we reflect, that a local chill determines the fluids to the internal parts of the same organ. Thus, chills in the breast produce catarrhs and peripneumony; in the extremities, rheumatism; in the face, coryza and ophthalmia.

The application of different kinds of clothing to different diseases, presents some variety which merits attention. In the thin emaciated habits, flannel has been forbidden. It exhausts, it is said, too much; yet these are generally susceptible of cold; and by this safeguard we avoid its most unpleasant effects. Such plans, however, should be conducted with a discriminated caution. If flannel be adopted, cold air should not be excluded, and the patient accustomed to a moderate breeze, till habit allows of greater cold with impunity. Calico should in the summer be substituted for flannel, and the period of its wear protracted annually; while in spring the flannel should be earlier thrown off. The changes, for a time, should be conducted with care; and in the height of summer the cold bath will assist this progressive improvement. In general, however, flannel does little harm if free air be allowed. Its object is to guard against the bad effects of cold air; nor should it be worn if the air is at the same time carefully excluded.

When, however, the object is to produce and continue a free discharge of sweat, flannel is essentially necessary. The "nine times dyed blue flannel" has certainly the virtues of common woollens, and no other. Flannels were formerly worn when the patient was confined to bed in fevers, in a profuse sweat, to promote concoction. At present they are employed only in rheumatisms, and occasionally in salivations. In each their utility is obvious. In fevers at present, fresh linen is usually allowed daily, and the patient feels the highest gratification from the change; and calico in this state is not equally grateful, certainly not more advantageous, except the perspiration is very profuse.

We must add, that the flannels should be frequently changed and washed. Those who would think themselves injured if they did not change their linen

daily, will often not change their flannel for months. Flannel shirts should never be worn above two or three days without being rinsed in cold spring water, and hung in open, free air.

Extraordinary warmth of clothing should be admitted with caution; and in no instance, unless it can be steadily employed. In general, it should be the object to bear changes of temperature with impunity; but this invulnerable constitution can only be gained by degrees. Those accustomed to indulgences should proceed with the utmost caution, and be aware that the attempt is highly dangerous. The cautions already suggested, will form their chief security.

Besides the clothing mentioned, modern refinement has introduced some new manufactures. The shawl, the eiderdown, and the Shetland wool, owe their peculiar advantages to the fineness of the texture, in the way already explained. The fleecy hosiery is a manufacture of cotton, where the inner surface is raised into a soft, flocculent pile. As it does not possess the stimulus of wool, we doubt if it is greatly superior to the fine soft woollens. Common consent, perhaps fashion, gives it the preference, and the dictates of fashion we shall not oppose. The fine fur of animals often covers the skin, and is peculiarly warm; but it must be employed, in health, with caution, as its disuse is dangerous. It may be an useful lesson to add, that ladies should scarcely ever change their "bosom friend." Velvets are warm from their weight, rather than their pile; plushes from both. The cause of the coldness of silks will be sufficiently obvious from their texture; but the oiled silk, or linen, is warm, from preventing all access of air, and closely confining the heat of the body.

COOPERTO'RIA, (from the same,) i. e. *cartilago thyroidea;* called also *abicum*. See Aspera arteria.

COO'STRUM. See Diaphragma.

COPAI'BA. See Balsamum.

COPAI'BÆ INJE'CTIO. R. Bals. copaibæ ʒ ij. mucilaginis g. Arab. ℥ ss. aquæ calcis ℥ ss. m. proper in gleets, in the latter stage of the gonorrhœa, and in the fluor albus.

Copai'bæ cum oli'bano mistu'ra, consists of two drachms of powdered olibanum, mixed with half an ounce of the balsam, with which half an ounce of mucilage of gum arabic, and twice the quantity of honey, are incorporated. Five ounces of cinnamon water are gradually added. In the dose of an ounce, or an ounce and a half, this mixture will be useful in humoral asthmas, in leucorrhœa and gleets.

COPE'IA, COPE'LLA AMERICA'NORUM, and COPELGA. The name of a tree in Hispaniola, in America, whose leaf serves for paper, and of which the Spaniards there make cards. This tree affords a bituminous matter resembling pitch. Raii Hist.

CO'PHOS, κωφος, *deaf*, (from κωφοω, *to be deaf*). A sort of toad mentioned by Nicander. It also signifies deaf, dumb, or both, or a dulness of any of the senses.

COPHO'SIS. See Cophos and Dysecæa.

CO'POS, (from κοπτομαι, *to be weary*). Fatigue, we'riness.

We are so constituted by nature, that all our exertions must be succeeded by a suitable and proportionate relaxation. We are not calculated for a constant activity; and weariness, without its due share of rest, exhausts the constitution, and shortens life. In our muscular exertions, we soon find inability succeed extraordinary action; in our mental, languor and a want of comprehension, after a time, come on: and though from habit we gain a power over mind and body, so that the employment of each may be continued for a longer than the usual period, yet we at last yield to weariness, and a sleep so deep as even to resemble death ensues.

Our activity and fatigue must be equally referred to different and opposite states of the nervous power, which we have styled its mobility and torpor. By what means it is exhausted or recruited we know not, but the fact is sufficient for our purpose. Independent of this change, the muscular structure seems to receive some organic injury; since, after great bodily fatigue, rest, though so necessary, is prevented by an obtuse, aching pain. For the effect on the nervous power we know no remedy but sleep; yet coffee and strong tea will often enable us to continue our labours with little present inconvenience. Vinous spirits will sometimes have a similar, but often an opposite effect. Varying the mental action, we have remarked, will prevent weariness. Is, according to the system of Dr. Gall, one portion of the brain only employed in a given occupation; or is a less degree of labour a relief after a greater, as the horse, after a race, is recruited more by walking slowly than by rest? More acute physiologists must decide; but that the fact is true our own experience has taught us. Indeed, there is no more effectual remedy for extraordinary mental fatigue, than what employs the attention without any great exertion of mind. One reason of this seems to be, that intellectual labour leaves a degree of irritability which will not admit of sleep.

Bodily fatigue does not produce such an irritable state; yet the aching pain, which prevents sleep, requires some remedy. The warm bath is well adapted to relieve this extraordinary tension of the muscular fibres; and opium has a similar effect. Fatigue in a great degree conquers, however, every painful feeling. In the American war, a pilot, in carrying a frigate up Hudson's river, had been, for two or three days and nights, at the helm. They then arrived at a fort, mounting fourteen guns, which it was necessary to silence; the pilot, no longer wanted, sunk on the deck, and slept, during the whole cannonade, with the most perfect tranquillity.

COPO'VICH OCCA'SSOU. A tree mentioned by De Laet, which grows in the West Indies: the leaves resemble those of the pear tree; and the fruit, called *oumery*, is like a large pear, and, when ripe, is eaten as a delicacy. It is not described by the systematic botanists. Raii Hist.

COPRAGO'GUM, (from κοπρος, *dung*, and αγω, *to bring away*). The name of a gently purging electuary, mentioned by Rulandus.

COPRIEME'TOS, (from κοπρος, *dung*, and εμεω, *to vomit*). A person who vomits feculent matters.

COPROCRI'TICA MEDICAME'NTA, (from κοπρος, *excrement*, and κρινω, *to separate*). See Ecoprotica.

COPROSTA'SIA, (from κοπρος, *fæces*, and ἱστημι, *to remain*). A constriction of the belly.

COPTA'RION, (from κοπτη, *a small cake*). A medicine in the shape of a very small cake, directed for disorders of the aspera arteria and lungs, and for many other intentions, by the ancients.

CO'PTE. A small cake, (from κοπτω, *to beat or pound;* because it was formed by beating or pounding the ingredients into a paste). It was the form of a medicine used by the ancients, generally made of vegetable substances, and applied externally to the stomach, and internally on many occasions.

CO'PULA, (quasi *compula*, from *compello*, *to restrain*). See LIGAMENTUM.

COQUE'NTIA MEDICAME'NTA, (from *coquo*, *to digest*). Medicines which promote concoction.

CO'R. In chemistry signifies gold; sometimes an intense fire. In botany, it is the heart of vegetables, or their pith. See MEDITULLIUM and CORCULUM.

Co'R, (from κεαρ, contr. κηρ, Hebrew, *koaeb*, *the middle*,) called also by the ancients *cardia*. The HEART. This viscus is double, consisting of two cavities on each side, serving for two circulations of the blood, one through every part of the body, and the other through the lungs. The right side of the heart is similar to the left, excepting that both its auricle and ventricle have fewer muscular fibres. The auricle receives blood from the venæ cavæ, and the ventricle throws it into the pulmonary artery.

The situation of the heart is in the middle of and across the cavity of the thorax, but rather inclining to the left; on each side of it lie the lungs, playing on the ribs and diaphragm, and following closely all their motions; attached at their roots to the heart by the pulmonary vessels. The heart is close, on its lower side, to the diaphragm, covered by the pericardium, which is a membranous bag, enclosing this organ and all the parts belonging to it, with a small proportion of fluid or halitus interposed. The figure of the heart is conoid, its base is irregular, because all the large vessels are fixed there. The human heart differs from those of quadrupeds, which are more round: the human rather represents half a cone, because the under part which lies upon the diaphragm is flat.

The apex of the heart is to the left and forwards: its situation varies but little with the motion of the diaphragm, as it lies upon the tendinous part.

The body of the heart is composed of two large muscular cavities, called *ventricles;* one to the right and forwards, the other to the left and backwards. Winslow calls them anterior and posterior.

At the basis of the heart are two muscular bags, called auricles, adjoining to the ventricles. They lie contiguous to one another below; but above they are distant, as the aorta and pulmonary artery pass between them. The right is larger than the left, and it is very thin. The left is thicker, unequally square: into which the four pulmonary veins empty themselves. The heart hath a septum divided into two, called *ventricularum*, et *auricularum septum*.

The right auricle receives the two venæ cavæ, one at the upper part, the other at the lower. At their union, these vessels are dilated, forming a sinus, styled *sinus venosus*. The blood, brought there by the contraction of the auricle, passes into the right ventricle, from thence into the pulmonary artery, and through its minutest branches; then through the pulmonary veins, into the left auricle, which propels it into the left ventricle, from whence it is sent into the aorta, to be dispersed all over the body, and at last is returned by the two cavæ to the right auricle.

The two cavæ go into the middle part of the auricle, each a little inclined inwards; the angle between them is partly filled up by the left auricle; there is a transverse ridge upon the septum auricularum, called *tuberculum Loweri*, which is placed there to hinder the current of the blood from each cava rushing directly against each other. The existence of any such tubercle is, however, denied by later authors; and, indeed, it could be of little utility, since the opposing currents of blood would supply its office.

The right auricle hath an appendage, which serves to fill up the part between that and the aorta; for the same reason the left hath a similar appendage upwards, and to the left side, to fill up the space between the pulmonary artery and the left ventricle. The whole of the cavity of the auricles internally is not smooth, but composed of fasciculi, running from one side to the other. This fasciculated texture is less in the left than in the right auricle, and is most observable in the appendages of the auricles; supposed to be with a view to hinder the blood from concreting, as there it is most out of the way of the circulation; but with little reason, as solid bodies assist concretion. It is probably designed to assist the weaker action of the auricle at a distance from the centre of its greatest power.

Under the reputed tuberculum Loweri, we see the foramen ovale, which runs upwards from the right to the left auricle, and goes through the auricularum septum, directly opposed to the vena cava inferior. Soon after the child is born this hole closes, though in some instances it remains a little open, even in old age. In the fœtus there is a valve which is loose, but this valve in adults is connected to the septum.

The *coronary vein* opens into the right auricle, between the orifice of the cava inferior and the passage into the ventricle. The fibres of the auricle are so irregularly disposed as to act as sphincters, and hinder the regurgitation of the blood.

At the insertion of the cava inferior, is a valve called *valvula nobilis:* it is larger in the fœtus than in the adult; and its office is to hinder the blood from flowing back into the vein.

The right ventricle, on its lower part, lies on the diaphragm; and on its upper, makes the larger part of the heart. It is thicker than the auricle, and the whole internal surface of it is fasciculated. Its lower orifice receives the blood, and the upper yields it a passage: the auricular orifice is surrounded by a loose membrane, which hangs into the ventricle, connected with it by loose tendinous chords. When, therefore, the blood flows into the ventricle, this membrane hangs loose; but, on the blood regurgitating, the fluid behind presses it backward, and produces the effect of a valve. These tendinous chords are divided into three sets, and hence called *valvulæ tricuspidales*.

The other orifice, which leads into the pulmonary artery just at its beginning, is furnished with three semilunar valves, whose loose floating edges lie towards the artery, whilst the others are fixed to the ventricle. In order to make these valves close more accurately, each hath a little mamilla in its middle, (to fill up the triangular space which is left,) called the *corpus sesamoideum:* these valves hinder the blood from regurgitating into the heart.

The left auricle lies rather on the back part, behind

the basis of the heart, and towards the left. It is situated below the bifurcation of the trachea and pulmonary artery. It is stronger than the other, and is smooth internally, except at the little appendicle. There are no valves on the orifices of the pulmonary veins. This auricle is stronger than the right, because the left ventricle is stronger than the right, and therefore requires more force to overcome the resistance.

The left ventricle is fasciculated. At the orifice, between the auricle and the ventricle, is a valve, called the *valvula mitralis* vel *episcopalis*, so called from resembling a mitre, which runs from the one to the other; it is fissured into two points, which are fixed to the auricles, and hang down loose into the ventricles, resembling in structure the *valvulæ tricuspidales*. The *chordæ tendineæ*, and *columnæ carneæ*, are the same as in the other, but much stronger. The orifice, by which it expels the blood, is situated in the middle of the ventricle; so the aorta rises from the middle of the basis of the heart. The larger flap of the valvula mitralis hangs down between the auricle and ventricle: and it has been supposed to serve as a valve to both the auricular and arterial orifices; but for this purpose neither its structure nor its situation is adapted.

The coronary arteries are two. See CORONARIÆ ARTERIÆ.

The *foramina thebesii* are venal orifices, said to open into all the cavities of the heart.

The fibres of the heart are muscular; at each of the orifices is a tendinous ring, where the fibres of the ventricles begin, which go downwards to the apex, where they turn in, and run up on the inside, representing in perspective a figure of 8. There are some fibres common to both ventricles, which, as they compress them both, Dr. Hunter thinks is a proof of their acting at the same time.

According to Lancisi, the nerves of the heart are both numerous and large. In each side there are inserted five pair; viz. from the par vagum, the superior intercostal pair, the vertebral pair, the inferior intercostal pair, and the phrenic pair. The heart hath two motions, systole and diastole. Harvey and others say, that the systoles of the two auricles of the heart, the two ventricles, and the aorta and pulmonary artery, are respectively synchronous with each other: but Dr. Nichols thinks that the motion of the auricles is synchronous, and that the ventricles and arteries are likewise dilated and contracted at different periods of time. As the auricles throw blood into their respective ventricles, so do the ventricles perform the same duty; viz. the right throws blood into the pulmonary artery, the left into the aorta.

The real course of the circulation, and the alternate action of the different parts of the heart, we shall describe. The blood passing from the left ventricle into the aorta, is returned by the venæ cavæ. It then passes into the right auricle. This sac is excited to contraction by the dilatation, and propels the blood into the right ventricle. *Their* action is consequently successive. For a similar reason, the action of the left auricle and ventricles is successive; but as the times required for emptying and filling are nearly equal, the action of the auricles and ventricles are respectively synchronous. This succession is proved by actual observation of the action of the heart in the mammalia, and from the situation of the different valves. Animals without lungs, and which do not breathe, have only a single heart; but a considerable artery from the aorta passes to the organs which supply the place of lungs, as the gills of fish, and bring back the blood meliorated by the action of air.

See Winslow's Anatomy. Haller's Physiology. Senac on the Heart.

CORACI'NE, (from κοραξ, *corvus, a crow*; so named from its black colour). An epithet for a lozenge, quoted by Galen from Asclepiades.

CORACI'NI LAPIDES, (from the same). Certain bones found in the head of the *coracinus*, the CROW FISH, found in the Nile, and other rivers of the Mediterranean sea.

CORACOBO'TANE, (from κοραξ, *a crow*, and βοτανη, *a plant*; from the dark colour of its bark). See LAURUS ALEXANDRINA.

CORACO-BRACHIÆ'US (MUSCULUS), (from κοραξ, *a crow*, and *brachium, an arm,*) *coracoides*, and *coracoideus*. It rises from the point of the coracoid process, and is inserted internally into the middle of the os humeri. Riolan gives it this name, and Arantius first took notice of it as belonging to the arm. Winslow calls it *coraco-brachialis*. It hath been called *perforatus Casserii*, because this author first gave a particular description of it, and because it is perforated in the middle, to give passage to a nerve. Spigelius calls it *nonus humeri placentini*.

CORACO-HYOIDÆ'US, called also *omo-hyoidæus*, *omo-plato-hyoidæus*, and *costo-hyoidæus*. It rises from the superior part of the upper costa of the scapula, and is inserted into the basis of the os hyoides, to pull it downwards and backwards.

CORACOI'DES PROCE'SSUS, (from its likeness to a crow's beak—κοραξ, and ειδος,) *sigmoides processus*. The BEAK-LIKE PROCESS. It projects from the anterior extremity of the upper costa of the SCAPULA, q. v. and is a little crooked, with its point inclining forwards: a ligament passes from its superior part, to connect it to the acromion and clavicle. At the birth it is cartilaginous, and called *anchoralis processus; anchyroides, cornicularis, conchyroides, processus*.

CORACOI'DES MU'SCULUS. See CORACO-BRACHIÆUS. It is called *coracoides*, because it proceeds from the process which is formed like a crow's beak.

CORACOI'DEUS. See CORACO-BRACHIÆUS.

CORA'CUM EMPLA'STRUM. The name of a plaster described by P. Ægineta.

CORALLI'NA, (a dim. of *corallium, coral,*) *muscus marinus, corallina anglica, corallina alba*, SEA CORALLINE, and WHITE WORMSEED.

It is a marine production, common on rocks and shells in shallow water. It resembles a small plant without leaves, consisting of several jointed branches, generally of a greyish colour, sometimes greenish, yellowish, or reddish; of a brittle stony substance, friable betwixt the fingers, and crackling between the teeth. It hath commonly been supposed a vegetable; but is really of animal origin, and the habitation of an animal belonging to the class of *polypi*. The corallines formerly were a very extensive groupe, including the tubulariæ sertulariæ, the alcyones, sponges, &c.; but we are indebted to Ellis for more correct ideas, and more accurate distinctions. For the corallina officinalis, see Ellis, Pl. 24, Fig. A. Its height is about two or three inches.

It ought to be entire, of a strong sea smell and salt taste. Worms will live in a strong infusion of it for several days, notwithstanding it has been styled an anthelmintic. By calcination in a strong fire, it becomes true quicklime, and consequently resembles other testaceous marine bodies. See Neumann's Chem. Works, Lewis's Mat. Med. Cullen's Mat. Med.

Coralli'na helmintho corton, a species of conserva, found chiefly in Corsica, and employed as an anthelmintic.

CORA'LLIUM, (from κορη, *a daughter*, and ἁλος, *of the sea.)* Coral. It is also called *lithodendron*, or tree stone; *almarago*, *mergen*, *almargen*, *gorgonias*.

Cora'llium a'lbum ramo'sum, *Madrepora vulgaris*, *corallium*, *officinarum oculatum*, and white coral.

Cora'llium ni'grum. Also called *antipathes*, *lithophyton nigrum*, *pseudocorallium nigrum*, and black coral.

What is usually shown for black coral is petrified wood. See Keratophyton.

The best sort of white coral is brought from the Mediterranean, and, like the other corals, solid.

Cora'llium ru'brum. Red coral, called also *acmo*, *azur*.

The most ancient naturalists considered coral as a vegetating stone; Dioscorides, Pliny, Cæsalpinus, and Tournefort, a plant, which indeed it greatly resembles. It is, however, the work and habitation of a polypus, and its internal parts resemble marble in hardness: the external covering is soft, and the extremity is still softer. It hardens by age, but not, as supposed, by the access of air. The surface is mamillated, and each mamilla is the residence of an animal. By calcination it is found to consist of many concentric laminæ.

The red coral has been chiefly used in medicine. It is, like the others, a hard, brittle, branched substance, resembling a plant without leaves, usually about the thickness of a goose quill, full of knots, sometimes straight, and sometimes variously bent, both externally and internally of a deep bright red colour. It is found adhering to rocks and other bodies, particularly in the Indian and Mediterranean seas, and in the Persian Gulf. The soft fungous matter which covers it contains a great number of cells full of a milky liquor. This cortical part is separated easily whilst fresh and soft.

Red coral contains some iron; its basis seems to be the same as that of coralline and other animal earths. It is alkaline and absorbent.

The common testacea, coloured with dragon's blood, are sold for it; but by shaking this substitute in water, the fraud is discovered; for the colouring matter being separated, the other becomes white, whilst red coral is still red. The fraud is, however, innocent, and, indeed, the substituted earth is often a more active medicine; but the coral and its substitutes are equally neglected. It was once considered as an absorbent, an astringent, a tonic, and a diuretic. It is now only, and indeed very seldom, the basis of a tooth powder.

Oil of aniseseeds, white wax, milk, or juice of citrons, equally extract the red colour from coral.

CORALLODE'NDRON, (from κοραλλιον, *coral*, and δενδρον, *a tree;* resembling in hardness and colour a piece of coral). The leaves for the most part consist of three lobes; the flowers are papilionaceous, and succeeded by knobbed bivalve pods, which contain several kidney shaped seeds. A confect made with the flowers is called *caryl*.

Arbor coral siliqua sylvestris spinosa, three leaved American coral tree, with deep red flowers, commonly called, in America, the bean tree. *Erythrine corallodendron* Lin. Sp. Pl. 992. var. α.

Arbor coral. min. or the lesser three leaved American coral tree, with black seeds and spines.

Ray informs us, that the inhabitants of Malabar make sheaths for their knives and swords with the wood; that they use the wood with the bark which they call *sarassas*, for washing their garments; and of the flower they make the confection called *caryl*. The powdered leaves, when boiled with the mature cacao nut, consume venereal buboes, and ease pains in the bones. The juice of the leaves, taken with the oil *sergelim*, mitigates venereal blindness.

CORALLOI'DES, (from κοραλλιον, *coral*, and ειδος, *likeness*). See Dentaria and Corallodendron.

Coralloi'des fungus, (from κοραλλιον, *coral*, and ειδος, *likeness*,) also called *erotylus*. *Clavaria coralloides* Lin. Sp. Pl. 1652. It is of a fleshy, fungous texture, of a yellow colour, and branched in the manner of coral. It is said to be corroborant and astringent, but little notice is now taken of it.

CO'RCHORON, (from κορη, *the pupil of the eye*, and κορεω, *to purge*). See Anagallis.

CO'RCULUM, (a dim. of *cor*, *the heart*); called also *cor*. The heart or essence of a seed, and the primordium of the future plant attached to and involved in the cotyledon. It consists of the *plumula*, the ascending scaly part, and the *rostellum*, the descending part of the corculum.

CORD. EUR. An abbreviation of Euricii Cordii Botanologicon, sive Colloquium de Herbis.

Cord. An abbreviation of Valerii Cordi Historia Stirpium.

CO'RDA, or CHO'RDA. See Chordee.

Co'rda ty'mpani. The portio dura of the seventh pair of nerves having entered the tympanum, sends a small branch to the stapes, and another more considerable one, which runs across the tympanum from behind forwards, passes between the long leg of the incus and the handle of the malleus, then goes out at the same place where the tendon of the anterior muscle of the malleus enters. It is called *chorda tympani*, because it crosses the tympanum as a cord crosses the bottom of a drum.

Dr. Monro thinks that the *chorda tympani* is formed by the second branch of the fifth pair, as well as by the portio dura of the seventh.

Co'rdæ willi'sii. See Dura mater.

CO'RDIA SEBESTI'NA. See Sebesten.

CORDIA'LA. See Cardiaca.

CORDO'LIUM, (from *cor*, *the heart*, and *dolor*, *pain*). See Cardialgia.

CO'RE. (Greek.) See Pupilla oculi.

CORE'MATA, (from κορεω, *to cleanse*). Brushes; but in P. Ægineta it is used to signify medicines for cleaning the skin.

CORIA'CEUS, (from *corium*, *leather*). In botany it means thick and tough, like leather.

CORIA'NDRUM. Coriander. (Derived, perhaps, from κορις, *cimex*, *a bug*, because the green herb

and seed stink intolerably); also called *cassibor* and *corianon*. The *coriandrum sativum* Lin. Sp. Pl. 367. The plant is an umbelliferous one, with finely divided leaves; the lower ones like parsley; the seeds of a pale yellowish-brown colour, and striated. It is a native of Italy; cultivated in some parts of England; annual, flowers in June, and ripens in July or August.

The leaves have a small degree of an aromatic smell, mixed with somewhat offensive. The seeds when fresh are also disagreeable, but by drying they become grateful: to the taste they are moderately warm and pungent. Dioscorides has asserted, that these seeds, taken in a considerable quantity, produce deleterious effects; but Dr. Withering has known six drachms of the seeds taken at once without any remarkable consequences. Mathiolus considers them as antiseptic; but they are generally used as stomachic and carminative. Mixed with sena in infusion, they more powerfully correct its odour and taste than any other aromatic, and are equally powerful in obviating the colic pain it is very apt to produce. Rectified spirit of wine takes up all their virtue, but water only partially extracts it. Distilled with water, a small quantity of essential oil is obtained, which partakes agreeably of the quality of the seeds. Pure spirit carries off, in evaporation, a great part of their flavour. Raii Hist. and Lewis's and Cullen's Mat. Med.

CORIA'NON. See CORIANDRUM.

CORIA'RIUM, (from *corium*, *leather*; because the dried leaves are used in tanning). See RHUS.

CO'RIS, (from κειρω, *to cleave*, or *cut*; so called because it heals wounds). See SYMPHYTUM PETRÆUM.

Co'RIS LUTE'A, Co'RIS LEGI'TIMA CRE'TICA. See HYPERICUM SAXATILE.

Co'RIS MONSPELIENSIS Lin. Sp. Pl. 252. A biennial plant of the south of Europe, intensely bitter and nauseous, but apparently an active medicine; and employed, it is said, with success in syphilis.

CO'RIUM, (from the Hebrew term *gor*). The skin of a beast; also LEATHER, from whence the buff appearance upon the blood is called *coriaceous*. See DARTOS.

CORK, the bark of the *quercus suber* Lin. Sp. Pl. 1413; formerly employed as an astringent, but now disused. It affords an acid; for which see CHEMISTRY.

CORN. See CEREALIA.

CORN SALAD, an early salad possessing the celebrated antiscorbutic qualities of early vegetables. It is the *valeriana locusta* Lin. Sp. Pl. 47, var. α.

CORNACHI'NI PU'LVIS. See SCAMMONIUM.

CO'RNEA, (from *cornu*, as it resembles horn). A COAT of the EYE, which is also called *sclerotica ceratoides*. It is the first proper coat of the eye, strong, thick, and tendinous; its anterior part is distinguished by the name of *cornea transparens*, or *lucida*, and the posterior part by that of *cornea opaca*. The transparent part is sometimes called *cornea*; and the posterior part *cornea opaca*, and *sclerotica*, or *sclerotis*: the former only is elastic. The opake part is made up of several laminæ closely connected, whose fibres run in different directions, and form a dense, compact substance.

The cornea consists of an external and internal lamina, each of which is composed of thinner laminæ. Its substance is in some degree elastic, to fit the eye to different magnitudes and distances; it is also perforated with many small holes, through which a fluid is supposed to be constantly discharged, but which soon evaporates.

The sclerotica and cornea are furnished with arteries, chiefly from a branch of the internal carotid. The nerves proceed principally from the ophthalmic branch of the fifth pair.

The cornea transmits the rays of light into the eye, and produces the first refraction of the rays necessary to vision. Its natural transparency is liable to be obscured by inflammation, by abscesses, and ulcers.

It seems more proper to consider this coat of the eye as the sclerotica, and the cornea only as its transparent part. See SCLEROTICA.

CORNE'STA. See CORNUMUSA.

CORNI'CULA, (from *cornu*, *horn*). A conical perforated instrument of horn, which was formerly used as a cupping glass. The broad part was applied to the skin, and by sucking from the smaller end, the skin was raised into the instrument.

CORNICULA'RIS PROCE'SSUS. See CORACOIDES PROCESSUS.

CORNICULA'TÆ PLA'NTÆ, (from *cornu*, *horn*). Plants which produce many distinct horned seed pods, called *siliquæ*.

CO'RNU ARIETIS, the appearance of the section of the pes hippocampi, a portion of the brain.

Co'RNU CE'RVI, (from the Chaldee term *karnah*,) in chemistry, is the beak of an alembic; but it generally means the HORN of the STAG or HART, particularly of the male red deer, though the horns of the fallow deer are commonly employed. See DAMA.

Hart's horn shaved gives out to water, by boiling, a soft insipid and flavourless jelly, in quantity about one-fourth of the weight of the horn. This jelly is used as a nourishing diet, and to obtund acrimony; it is usually mixed with the juice of lemons, or with wine or spice, according to the different circumstances of the patient. The Edinburgh college directs the following:

Jelly of hart's horn. Boil half a pound of the shavings of hart's horn, in six pints of water, to a quart: to the strained liquor add one ounce of the juice of lemon, or of Seville orange, four ounces of mountain wine, and half a pound of sugar; then boil the whole to a proper consistence.

The horns of deer are used for obtaining a liquor, salt, and oil, denominated liquor, sal, and oleum cornu cervi; but there is no observable difference betwixt one animal substance and another for this purpose, except in the different proportion of oil which they afford; hence the bones of oxen and other animals, the hoofs of horses, the horns of oxen, ivory, the shells of tortoises, hair, and silk, all afford nearly the same liquor, salt, and oil. See ALCALI.

Hart's horn is said by former chemists to be prepared philosophically, when it is suspended in a still, while distilling any spirituous liquor; the horn being cut into thin slices, and exposed to the vapours, by which it is rendered white and friable. This preparation was accidentally discovered at Dresden, in Saxony, by Casper Pantzerus, an apothecary and native of Prussia. At present it is boiled till the black part separates, and then the inner white part is dried for use. Hoffman orders some alkaline salt to be put in the water when boiling,

to soften the black part. This process frees the horns from their glutinous matter, and thus renders them friable.

By calcination, the earthy part is obtained most pure and perfect; its quantity about half the weight of the horn. The London college directs pieces of hart's horn to be burnt till they become perfectly white, then rubbed to a very fine powder, called *cornu cervi calcinatum*, calcined hart's horn, phosphas calcis of the last edition of the Edinburgh Pharmacopœia, which is to be powdered and levigated for use. As the intention of this operation is to separate the volatile parts, the heat cannot be too great: yet some caution is necessary in this respect, as by suddenly hardening the external parts, the internal are guarded from the action of fire; for the earth of hart's horn is not convertible into quick lime. The horns left after distilling the spirit, salt, and oil, are as proper as fresh ones; but they are a mixture of calcareous earth and phosphoric acid, and the weakest of the absorbents. The earth of all bones is similar. Hart's horn, by late experiments, is found to contain 27 parts of gelatine, 57.5 of phosphat of lime, and one of carbonate of lime, with about 14.5 of water. The bones of animals, sometimes substituted, contain also a small proportion of phosphat of magnesia. Burnt hart's horn, or burnt bones, are therefore slightly contaminated with these salts. The phosphat of lime has been recommended in rickets by M. Bonhomme, and used in France, it is said, with success; but it has seldom been given in England.

Solutions of this earth in vegetable acids are supposed to be restringent, and they probably act only by uniting with acid humours in the primæ viæ. The London college only directs the following decoction of hart's horn.

Take of burnt hart's horn prepared, two ounces; gum arabic, six drachms; distilled water, three pints; boil the water to a quart, and strain it. This is used as a common drink in fevers attended with laxity of the bowels, or after violent diarrhœas.

Decóctum cretáceum. Take of chalk finely powdered, two ounces; of gum arabic, half an ounce; boil it in three pints to two of water; pour off the liquor from the heavier parts that fall to the bottom. This may be substituted for the former, but each would be useless if the gum was not an ingredient.

If a little cochineal is added, it is called *decoctum rubrum*, red decoction. See Lewis's Materia Medica. Neumann's Chemical Works.

Co'rnu unico'rnu. See Unicornu.

Co'rnu fo'ssile. See Unicornu.

Co'rnu cervi'num. See Coronopus.

CORNU'A, (from *cornu*, *horn*). Horny excrescences, which sometimes arise on some part of the body.

Cornu'a ute'ri, called also *plectenæ*. In comparative anatomy, the horns of the womb. The womb in some quadrupeds is triangular, and its angles resemble horns.

CORNUMU'SA. A retort, called also *batia*, *cornesta*, *cornuta*.

CO'RNUS. The cornel tree. *Cornus sanguinea* Lin. Sp. Pl. 171. The fruit is moderately cooling and astringent. The *schagri cottam* is a species of cornel which grows in Malabar, the expressed juice of which, drunk with sugar, is cooling and astringent.

CORNU'TA, (from *cornu*; from its resemblance to a horn). A retort. See Cornumusa.

CORO'CRUM. See Fermentum.

CORO'LLA, (from *corona*, *a crown*). One of the seven parts of fructification, according to Linnæus, who defines it the inner bark of the plant present in the flower: it is the coloured or painted leaves of the plant, consisting of petals, and nectarium. The corolla of Linnæus, English botanists call blossom.

CORO'NA, (from the Hebrew term *koren*). A crown. In botany it is a series of small beards, or rays, in discoid flowers.

Coro'na se'minis is the appendage to the top of many seeds, enabling them to disperse, serving them as wings. This is either the *calyculus*, formed of the perianthium of the flower, as in the scabiosa, knautica, &c.; or the pappus (down), as in the hieracium, sonchus, &c.

Coro'na cilia'ris. See Ciliare ligamentum.

Coro'na imperia'lis. Crown imperial.

It is a bell-shaped flower, and an ornament of our gardens. In the petals is a sweet juice, which the Turks use as an emetic; but the whole plant is esteemed poisonous.

Coro'na re'gia. See Melilotus.

Coro'na so'lis. Sun flower; called also *chimalati*; *helianthus annuus* Lin. Sp. Pl. 1276. This flower, well known as an ornament in gardens, is a native of Peru, and other warm countries of America. It is not known to possess any valuable medicinal qualities; though it is noticed as heating, and an agreeable food. It produces a resinous tear, which is its most active part. A gum also flows from it, if the seed vessels when ripe are cut small, and boiled in water. The seeds are made into bread.

Coro'na so'lis pa'rvo flo're tubero'sa radice. See Battatas Canadensis.

Coro'na te'rræ. See Hedera terrestris.

Coro'na glandis, the margin of glans penis, just above the odoriferous glands.

Coro'na veneris, the eruptions which surround the forehead at the roots of the hair, in cases of syphilis.

CORONA'LE OS, (from *corona*, *a crown*). See Os frontis.

CORONA'LIS, (from the same,) vel ARCUA'LIS SUTU'RA, (from *arcus*, *a bow*). The suture upon the crown of the head.

CORONA'RIA LIGAME'NTA, (from *corona*, *a crown*). The coronary ligament of the radius is a sort of ligamentary hoop, surrounding the circular circumference of the head of that bone, reaching from one side of the small lateral sigmoid, or transverse cavity of the ulna, to the other, in an arch, which is about three-fourths of a circle. It is nearly as solid as a cartilage. It connects the radius very closely to the ulna, yet admits of the pronation and the supination of the arm.

CORONA'RIÆ ARTE'RIÆ et VENÆ, (from the same). The coronary arteries and veins. Those of the heart are also called *cardiacæ*. The first branches which the aorta sends off are the coronary arteries of the heart; and they appear between the aorta and the pulmonary artery, running round the basis of the heart and to the apex, giving branches chiefly to their respective ventricles. They frequently anastomose both at the basis and apex. One of these runs an-

teriorly, the other posteriorly on the heart, and sometimes there are three. They are lost in the substance of the muscle.

The coronary veins of the heart follow very nearly the arteries; they rise chiefly from the right auricle, and come out in the angle between the vena cava and the passage into the ventricle; one principal branch runs to the apex; the great trunk, to the other parts. Dr. Hunter says, that the coronary vein of the heart opens into the right auricle, between the orifice of the cava inferior and the passage into the ventricle, and is furnished with a semilunar valve, to hinder the blood from flowing back.

The great coronary vein, and the orifice by which it communicates with the right sinus of the heart, were known, it has been said by M. Wolf, to Galen; but Eustachius seems to have been the first who noticed the valve with which this orifice is furnished. Since his time, M. Wolf says anatomical writers have constantly spoken of this valve as of a semilunar shape; but he asserts that its figure is oblong and narrow, and that it is a peculiar valve, different from every other in the human body.

The coronary artery of the stomach rises from the cœliaca, goes first to the left side of that organ, a little beyond the superior orifice, round which it throws branches, and also to every part of the stomach near it: and these branches communicate with those which run along the bottom of the stomach to the pylorus: afterwards it runs on the right side of the superior orifice, along the small curvature of the stomach, almost to the pylorus, where it communicates with the arteria pylorica, and turning towards the small lobe of the liver, it gives off some branches to it: then it advances under the ductus venosus to the left lobe of the liver, in which it is lost near the beginning of the duct just named, having first given off some small branches to the neighbouring parts of the diaphragm and omentum.

The coronary vein of the stomach is sometimes a branch from the vena portæ ventralis, or from its principal branches. It sometimes springs from the splenica. The *coronaria ventriculi* is so called, because it surrounds its upper orifice. It runs along the small arch to the pylorus, and gives out branches to the sides of the stomach.

CORONA'RIUM LIGAME'NTUM, (from the same). See Jecur.

CORONA'RIUS STOMA'CHICUS. The ramification of the nerves from the eighth pair near the upper orifice of the stomach.

CORONA'TUS, (from *corona, a crown*). In botany it means crowned, appearing like a coronet.

CORO'NE, (Greek). A crow. The acute process of the lower jaw bone is so called from its likeness to a crow's beak. See also Processus.

CORONI'LLA I'NDICA, (a dim. of *corona;* from the appearance of its flower). See Indicum.

Coroni'lla monta'na. See Emerus minor.

CORO'NOID, (from κορωνη, *a crow*, and εἰδος, *likeness;* resembling a crow's beak). See Processus.

CORONOI'DES APO'PHYSIS U'LNÆ. It is at the upper end of the *ulna* prominent, and a little pointed, resembling a broad short beak. It is received into the anterior cavity above the pulley, at the lower extremity of the os humeri, when the fore arm is bent.

Coronoi'des apo'physis maxi'llæ. See Maxilla inferior.

CORONO'PUS, (from κορωνη, *a carrion crow*, and πους, *foot*, the plant being said to resemble a crow's foot,) *cornu cervinum*, *stella terræ*, *plantago*, buck's horn plantain. *Plantago coronopus* Lin. Sp. Pl. 166.

Its leaves are deeply cut; its root long and slender; many of its leaves lie flat on the earth in a circular manner, whence the name *stella terræ*. The leaves are downy, long, and narrow; the stalk hoary; the seeds small, and of a dark brown colour. It grows on sandy places and heaths, and flowers in June.

Its medical virtues are the same as those of the other plantains. See Plantago.

CO'RPORA ALBICA'NTIA, (from *corpus, a body*). See Cerebrum.

Co'rpora caverno'sa pe'nis, called also *nervea spongiosa*. The two bodies, thus named, rise by two distinct crura from the lower part of the ossa pubis; after which they join, and are continued to the glans. They are separated by a septum, disposed like the teeth of a comb, so that any fluid forced into one distends the other. The two crura are connected to the symphysis of the os pubis by the ligamentum suspensorium, which proceeds from the cartilage, and is diffused upon the sheaths of the corpora cavernosa. Towards the upper extremity of the corpora cavernosa are several white ligaments, which seem to be placed there to hinder the penis from being too much distended. In the axis between each corpus cavernosum an artery and a vein run, which enter near the union of the crura, and ramify throughout the spongy substance.

Co'rpora fimbria'ta. A border on the edge of the fornix in the brain. See Fornix.

Co'rpora lobo'sa. See Renes.

Co'rpora oliva'ria. Two eminences on the medulla oblongata.

Co'rpora pyramida'lia. Two other eminences on the medulla oblongata, near the corpora olivaria, confounded by Willis with the latter.

Co'rpora stria'ta. Two prominences in the lateral ventricles of the brain, in which we meet with a great number of white and ash coloured lines alternately disposed, but these are only the transverse section of the medullary and cortical laminæ mixed together. See Cerebrum.

CORPULE'NTIA, (from *corpus, a body*). See Obesitas and Polysarcia.

CO'RPUS CALLO'SUM, called also *Callus*. If the falx is cut away from the crista galli, turned backwards, and the two lateral parts of the cerebrum gently separated, we see a longitudinal portion of a white convex body, named *corpus callosum*, which is the middle portion of the medullary substance of the brain: under the inferior sinus of the falx, and also a little towards each side, it is parted from the mass of the cerebrum, to which it is simply contiguous from one end of that sinus to the other; so that at this place the edge of the inside of this hemisphere only lies on the corpus callosum, much in the same manner as the anterior and posterior lobes lie on the dura mater. Both extremities of this medullary body terminate by a small edge bent transversely downwards. The surface of the corpus callosum is covered by the pia mater; along the middle

of its surface, from one end to the other, there is a kind of raphe, or seam, which hath on each side a white chord. The corpus callosum covers the two lateral ventricles. See CEREBRUM.

CO'RPUS GLANDULO'SUM. See PROSTATÆ.

CO'RPUS LUTEUM. A yellow substance; sometimes, in the early period, a cavity found in the ovarium after impregnation. When there are twins, one is found in each, but scarcely ever two in the same ovarium. They continue some months, and are supposed to be the part from which the ovum has been separated. While the surrounding parts are filled by injection, a cavity is observed in the centre of this body.

CO'RPUS MUCO'SUM. See RETE MUCOSUM.

CO'RPUS PAMPINIFO'RME, PYRAMIDA'LE. The SPERMATIC CHORD. See SPERMATICA CHORDA.

CO'RPUS RETICULA'RE. See RETE MUCOSUM.

CO'RPUS SESAMOIDE'UM. See COR.

CO'RPUS SPONGIO'SUM URE'THRÆ. The SPONGY BODY OF THE URETHRA. It is of the same substance as the corpora cavernosa, and surrounds the urethra. That part which is next the prostate is thick, and styled the bulb of the urethra; but as it runs on, it becomes smaller, and at the extremity forms the gland.

CO'RPUS VARICO'SUM. See SPERMATICA CHORDA.

CORRA'GO, (from *cor, the heart;* it being supposed to have a good effect in comforting the heart). See BORRAGO.

CO'RRE, (from χειρω, *to shave*). See TEMPORA.

CORRE'CTIO, (from *corrigo, to correct*). CORRECTION. This word, in pharmacy, signifies additions which correct the noxious quality, the violent operation, or the taste, of medicines.

CORRIGIO'LA, (from *corrigia, a point* or *knot*). KNOT GRASS. See GRAMEN POLYGONUM.

CORROBORA'NTIA, (from *corroboro, to strengthen,*) all such medicines as are suited to strengthen the body, and therefore to restore the strength which has been lost. Dr. Cullen thinks, as a general term, it is improper; still as it is employed for medicines which increase the tone of the moving fibres, it may be allowable. Tonics and astringents are, however, the only medicines of this class; for though nutritious substances may be supposed to give strength, yet adding to the quantity of fluids without at the same time increasing the strength of the containing vessels, is a frequent cause of languor and debility. (See on this subject Conspectus Medicinæ Theoreticæ Doctoris Gregory de Remediis Roborantibus). Under this head are placed absorbents, agglutinants, and astringents. These give bulk and firmness to the solids, which are rendered necessary by the continual waste which the actions of life occasion. Absorbents remove redundant moisture, astringents contract the relaxed fibres, and agglutinants add substance, where a previous waste renders a supply necessary.

CORRODE'NTIA, (from *corrodo, to eat away*). Corrosive or corroding medicines, also called *cathæretica*. They are divided into, 1st, The MILD, such as burnt alum, the ashes of green wood, calomel, calx hydrargyri alba, and zincum vitriolatum purificatum; 2d, The STRONG, as hydrargyrus nitratus ruber, colcothar vitrioli, trochisci de minio Vigonis; 3d, The STRONGEST, as butyrum antimonii, lapis infernalis, hydrargyrus muriatus, aqua kali, et acidum vitriolicum. Corrosives generally destroy the life of the part to which they are applied, either by their stimulus exhausting the excitability, or, in some instances, by their affinity for moisture. After this destruction of life they differ by acting chemically on the dead matter, and destroying it. Of the corrosives which destroy life, without acting on the dead matter, are the savine, the euphorbium, the gall nut powder, sugar, and the cevadilla (the Indian caustic barley). Every active stimulant produces in different degrees the same effects. Those which seem to destroy and decompose a part by their affinity for moisture, are the alkalis, lime, and perhaps barytes. These belong, also, to the second class, viz. corrosives, which act on the dead animal matter. Among them we may enumerate the argentum nitratum (lunar caustic,) butter of antimony, blue vitriol, corrosive sublimate, calomel, verdigris, red precipitate, burnt alum, and the mineral acids. These are all oxygenated preparations, and probably destroy life by their excess of stimulus.

CORRO'SIO, (from *corrodo, to eat away*). CORROSION. It is the action of appropriate menstrua on bodies, so as to produce new combinations and a change of their form without converting them to fluids. This depends on the same principles as solution. The subjects are usually metals; and the modes are either, first, by immersing the body to be corroded in a fluid menstruum, which is called corrosion by immersion; or secondly, by exposing it to the action of some vapour, and this is called cementation. There are other kinds of corrosion; as sprinkling the subject with some appropriate fluid, and afterwards rubbing it with some dry substance.

CORRUGA'TOR COITERII, (from *corrugo, to wrinkle*). Volcherus Coiter first took notice of these muscles. The corrugator arises fleshy from the internal angular process of the os frontis, above the joining of the os nasi, and the nasal process of the maxillary bone; from thence it runs outwards, and a little upwards. It is inserted into the inner and inferior fleshy part of the occipito-frontalis muscle, where it joins with the orbicularis palpebrarum, and extends outwards as far as the middle of the superciliary ridge. When one of these muscles acts, it draws the eye brow of that side towards the other; and makes it project over the inner canthus of the eye: when both act, they pull down the skin of the forehead, and make it wrinkle, particularly between the eye brows. This muscle is called by Winslow *musculus supercilii;* by Douglas, *frontalis verus musculus:* and by Riolan, *carnosa musculosa membrana.*

CORSÆ. See TEMPORA.

CORSOI'DES, (from κορση, *a tuft of hair*, and ειδος, *likeness;* from its resemblance to hair). See AMIANTHUS.

CO'RTALON. See ERIGERUM.

CO'RTEX, (from *corium, the skin*, and *tego, to cover;* as covering the inner rind of the tree). The bark or outward rind of vegetables. It is the name of many drugs consisting of the barks of trees or roots, viz.

CO'RTEX ANGELINÆ. The tree is unknown. It is found in the island of Grenada, and employed as an anthelmintic: an ounce of the bark is boiled in three pints of water to one, and two or three table spoonfuls are given every morning.

CO'RTEX ANGUSTURÆ. See ANGUSTURA.

CO'RTEX BELLA-AYE. The bark of a tree found in

the island of Madagascar. From its sensible qualities, it appears to be a powerful astringent; and it is employed in hæmorrhages, in diarrhœa, and dysentery. From a scruple to half a drachm is given morning and evening. The plant has not yet found a place in the systems of the botanists.

Co'RTEX JUBABÆ is brought to us from the East Indies; but the tree is unknown, and its powers, if we may judge from its sensible qualities, are weak. It is slightly bitter, and is recommended rather as a nervous than a tonic medicine.

Co'RTEX LAVOLA. The bark of the tree supposed to afford the ANISUM STELLATUM; q. v.

Co'RTEX CARDINALIS DE LUGO. See CORTEX PERUVIANUS.

Co'RTEX CARYOPHYLLOI'DES. See CASSIA CARYOPHYLLATA.

Co'RTEX CRA'SSIOR. See CASSIA LIGNEA.

Co'RTEX CULILA'WAN, a hot aromatic bark, found in New Guinea, of similar virtues to the *cortex massory*; q. v. See also CASSIA CARYOPHYLLATA.

Co'RTEX ELATE'RII. See THURIS CORTEX.

Co'RTEX MAGELLA'NICUS. See WINTERANUS CORTEX.

Co'RTEX MA'SSORY. It is a warm aromatic bark, found in New Guinea. It is stimulant, carminative, and stomachic. The inhabitants powder, and mix it with water, to anoint their bodies in cold wet weather. It is also used against pains and colic.

Co'RTEX PERUVIA'NUS. The PERUVIAN BARK; also called *cinchona*, *china chinæ*, *kinkina*, *chinchina*, *quinquina*, *holquahuilt*, *cortex patrum*, and *cardinalis de Lugo*; JESUITS' BARK. The powder of this bark hath been sold under various names, as *pulvis comitissæ*, *patrum et Jesuitarum pulv.* &c. CINCHONA is its appellation in the new London Dispensatory.

It is the bark of a tree which grows in Peru; the *cincona officinalis* Lin. Sp. Pl. 244, the *c. macrocarpa* of the Supplementum Plantarum, and of Wildenow, vol. i. p. 958. There are four sorts of this bark, viz. the red, the yellow, the white, and the curling; the two first are the best, the curling is from young trees, but of the kinds we shall afterwards speak more particularly. Its virtues were probably discovered by the Indians about the year 1500. A lake near a town in Peru was surrounded by these trees, which were torn up by an earthquake, and falling into the adjacent water, they rendered it bitter. An Indian, urged by his thirst during a fever, drank of this water, and soon recovered: others were, by the same means, also cured. On enquiry, it was found that the water owed its virtue to the trees, and ultimately to the bark. A Spanish soldier was afterwards cured by it, and from him it was recommended to the wife of the count de Cinchon, then viceroy of Peru; hence the name CINCHONA and COMITISSA. The countess, on her recovery, distributed a large portion of this bark to the Jesuists, in whose hands its reputation was increased. After this, father de Lugo, at a great expense, brought a parcel of it to Rome, and distributed it among the religious and poor: from him it received the name of CORTEX CARDINALIS DE LUGO. From Rome it was spread into France and England, and at length became general. Such is the story gravely recorded, and industriously repeated; but there is little difficulty in proving that all the former part is apocryphal.

This bark is brought in pieces of different sizes, some rolled up in short thick quills, and others flat; the outside is brownish, and generally hath a whitish moss spread upon it; the inside is of a yellowish, reddish, or rusty iron colour. The best sort is bitter, aromatic, resinous, breaks close and smooth, is friable between the teeth, pulverises easily; when powdered, is of a cinnamon colour, but rather paler; and the surest test of its goodness, in the opinion of some authors, is a musty smell, with so much of the aromatic as not to be disagreeable. The inferior kinds, when broken, appear woody; and in chewing, separate into fibres. That which is called female bark is redder on the inside, thicker, and, on the outside, more white and smooth, weaker to the smell and taste than the former, and in medical virtue greatly inferior. In the choice of bark we must select that which is solid, heavy, and dry, not mouldy; or whose taste is simply bitter and astringent, without aroma. That whose taste is nauseous, mucilaginous, whose surface is polished, which is tough, spongy, or powdery, should be rejected.

The bark has been subjected to all the tortures of fire, to extort the secret of those virtues which it was supposed exclusively to possess. We need not add with little success; nor can we follow all the fancies which have, at different times, been raised to the rank of theories to account for its effects. The more rational and less violent processes of modern chemists have shown, that it consists of a bitter extractive matter, tanin, and gallic acid. With these are combined mucilage and resin; but the two last are apparently a portion of extractive, formed in the analysis: at least we know that the extractive contains mucilage, and that, by long exposure to heat, almost, perhaps the whole, of the extractive may be converted into resin. M. Seguin, a chemist of some credit, has strangely supposed that the bark owes its virtues to its gelatine; and some practitioners have gravely attempted to cure intermittents and continued fevers with glue. When a physician prescribes a remedy under the bias of a system, he is generally successful. Dr. Duncan, junior, in his Analysis of Bark, has shown that it does not contain gelatine: yet its mucilage assumes a particular appearance, which has induced him to give it the name of cinconin; and it has been suspected that the bark owes its virtue to this principle.

The sensible qualities of the bark show it to be a warm tonic and astringent; excelled in its warmth by many aromatics, and in its astringency by the oak bark and the tormentil: as a stimulant, its effects are very inconsiderable. On dead animal matter it appears to be an antiseptic; yet in this quality it is exceeded by the myrrh and some other substances. Authors have consequently found considerable difficulties in explaining the sources of the benefit derived from its use. We may combine aromatics, tonics, and antiseptics, in every variety of proportion, without obtaining the advantages of the union which this natural combination offers; yet approaching so near to it, that, paradoxical as it may seem, we could, perhaps, better give up this medicine than many other articles of the materia medica. As, however, its excellence is generally allowed, it has been

styled a specific; and, indeed, from its indiscriminate use, physicians seem to have adopted this opinion.

The peculiar advantages of the bark are certainly derived from its tonic power. How far this is connected with its astringency has not been shown; yet we have laid the foundation for the enquiry under the article ASTRINGENTIA, q. v.; and may now add, that we consider this tonic power as connected with its astringency, joined with a peculiar proportion of aroma, which affords a slight, and seldom, if ever, an injurious stimulus. Whatever are the real effects of bark may be explained from this view; for botanical analogy does not at all assist us in the enquiry, since in its natural order we find simple astringents only of no peculiar virtues.

If the bark be given to a healthy person, it produces no striking change in the pulse, or any of the other natural functions. If continued, it is said to make the pulse fuller and slower, to increase the appetite, and often to produce costiveness. We have, therefore, little assistance from this source; and our best assistance is derived from its effects in diseases.

The variety of disorders in which the bark can be used to advantage, formerly entitled it almost to the character of an universal medicine: in many diseases it is supposed to be a sovereign remedy; but every practitioner, in proportion as his knowledge of its qualities increases, finds he can employ many other remedies with at least equal advantage.

From the history of the bark, it appears to have been introduced as a remedy for intermittent and remittent fevers of warm climates. When brought to Europe it was not less successful; not that former plans had failed, but vernal intermittents had been considered as salutary, and autumnal ones as peculiarly obstinate. The fever was supposed to be the means of concocting the matter; and, when this was effected, it was supposed that nature would discharge it. On this principle the use of the bark was opposed by regular physicians, and it was accused of producing infarctions of the liver, dropsy, &c.; while its supporters alleged that these were the effect of the disease, and, in reality, owing to its not being checked more early. Truth, as usual, probably lay between the two extremes. We are confident that these inconveniences have been derived from the injudicious use of the bark, though they may, and often do, arise from the disease itself, as will appear in its proper place.

As the bark seems to act as a tonic in consequence of its astringency, we may suspect that, from this power, it would be occasionally injurious, and it is certainly found so. The admirers of this remedy contend that it cannot be an active astringent, since it is useful in relieving glandular tumours arising from obstruction, and that it does not stop the spitting in the confluent small pox. Such assertions, which we find in the former editions of this dictionary, are owing to the want of discrimination, so frequent in its authors. When increased evacuations or obstructions are owing to, or connected with debility, the astringent power of the bark corrects the cause, and only by degrees lessens the effect. We have already noticed even a stronger case, where it is useful in peripneumonia notha arising from atonic gout, and shall have occasion to point out its efficacy in the putrid peripneumony. But when it is contended that it has been given to women successfully in the quantity of a drachm every three hours, two days after delivery, the event is certainly misrepresented, or the circumstances concealed. We have had occasion to witness very opposite effects; and though it may not greatly lessen the *usual* flow of the menses in some cases of excessive critical evacuations from the uterus, it has been highly injurious by checking them. The expectoration, except where connected with debility, it certainly lessens; the discharge of bile it checks; and frequently the perspiration. In short, its use demands much more minute discrimination than it seems yet to have enjoyed.

In INTERMITTENTS its power is generally acknowledged; and it is in these a medicine of great importance, as we can often, with certainty, prevent an expected fit. This power is more valuable, as those species which attack the head would be fatal in the recurrence of another paroxysm. Yet, where we can wait the operation of laxatives, it is always safest to premise them, for reasons which we shall afterwards explain. (See INTERMITTENTS.) The young practitioner must not, however, too confidently expect constant success. We have often found the bark ineffectual in curing agues, in whatever way it has been tried; but *usually* to succeed is no common praise. In *remittents* the bark is equally useful; and in the malignant ones indispensable, when the irritability of the stomach will admit of its exhibition.

In every kind of *continued fever*, except the inflammatory, or the inflammatory stages of fever, the bark is said to be extremely useful, though this general axiom is not supported by our own experience. When the bowels are thoroughly emptied, it is not injurious: when debility or putridity comes on, it is useful. Yet in many cases of febrile debility, wine and suitable aliment are at least equally effectual, and the practitioner should be aware that bark, by checking the discharges from the liver and other glands of the intestines, produces an apparent debility, which purgatives alone will remove. In the yellow fever, it is lately said by Dr. De la Fuente, a Spanish physician, that it is a specific, given in large doses: six or eight ounces of bark are to be taken in the first forty-eight hours of the disease.

In the real PHLEGMASIÆ the bark is seldom admissible. Erythema and the erythemalatous inflammations must be excepted, and these ought to be separated from the others. Gangrenous sore throat, for instance, has not the slightest connection with quinsy, but in the part affected. An exception of importance occurs in those plegmasiæ which periodically recur; yet in these the fever appears to be the radical disease, and inflammation only a symptom. It is on this foundation only that bark has been rationally employed in rheumatism or gout. Dr. Haygarth has lately offered some evidence in its favour in relieving the former disease. Yet, on a careful comparison of his facts, we think that at least equally strong evidence might be afforded for the success of more than one other plan. His authority is, however, sufficient to recommend this medicine for further trial; but of it we have had little experience.

In gout, its latest advocate has been Dr. Tavares, the archiater of Portugal. After purging, he advises it in large and frequently repeated doses.

EXANTHEMATA are often relieved by this remedy. *Erysipelas* in warmer regions, and in crowded cities,

often requires it; and though late experience by no means finds it eminently useful in the *plague*, as theory supposed it must be, yet there is little doubt of its utility in this disease. *Small pox*, advancing slowly, and the confluent kind maturating imperfectly, are greatly benefited by bark; but the peripneumonic tendency of *measles*, unless of a putrid kind, forbids its use. In *aphthæ*, except when symptoms of putridity come on, this remedy is not required; and as *scarlatina* is often attended with a putrid sore throat, bark is usually given. Of its utility in this disease, however, while the great heat continues, we have some doubts; but this is not the place for their discussion. The putrid forms of *miliaria*, of which we hear the report only—for we do not recollect this species of the disease to have been described in any English author—will certainly require bark; while the remitting forms of the fever attending *pemphigus* and *urticaria* seem equally to demand its assistance.

In HÆMORRHAGIÆ, bark has been often given; but, in almost every instance, with disadvantage, except in the putrid dissolution of the blood, sometimes attending fevers, though occasionally occurring without any evident cause. Even in hæmorrhages from debility, we think that greater benefit has been derived from nitre, though the bark is sometimes necessary.

The two genera of PROFLUVIÀ occasionally require this remedy, viz. the *epidemic catarrh*, and some of the stages of *dysentery;* but, in the latter, it is very seldom useful. In other discharges without fever, it is an useful remedy in supporting the strength, and in meliorating the suppuration from abscesses.

In the NEUROSES, bark has been deservedly a favourite remedy. In apoplexy and palsy, while the vessels are distended, this remedy is inadmissible; but when the tension is removed, it is of the highest importance. In *tremor*, as we have observed, tonics are valuable remedies, if no organic affection occasions the complaint. In the *adynamiæ* it is chiefly adapted to dyspepsia and chlorosis, though injurious in hypochondriasis and in syncope, a very few cases excepted, where the disease arises from excessive evacuations. In the more violent *spasms* it is a remedy of too slow operation; though, when joined with valerian, it has been found useful in both epilepsy, hysteria, raphania, and the intervals of true spasmodic asthma. In *pertussis* it has been commended, but we suspect it to be of little real utility. *Palpitatio* generally attends debility, but it is in that case scarcely a disease. It most commonly arises from a topical affection of the heart and larger arteries immediately connected with that organ, or from a source generally unsuspected, accumulations in the stomach and bowels, or plethora; and in these cases bark is inadmissible. In dyspnœa, pyrosis, colica, cholera, hydrophobia, and diarrhœa, it is usually injurious. In diabetes, of slight and doubtful efficacy. In all the spasms, recurring at regular intervals, it is a remedy of the highest value.

In the VESANIÆ, some species of amentia from debility excepted, it is admissible; and, indeed, in the *marcores* and *intumescentiæ*, the two first order of CACHEXIÆ, it is scarcely ever advantageous; for, however the diseases under the former order appear to be connected with debility, they are either attended with hectic fever, or such obstructions as are rendered more obstinate by this remedy. In *rachitis* it is sometimes given, but seldom with advantage. Of the *impetigines*, the only genus in which it is employed, or in which any success has attended its use, is *scrofula;* but on this subject we must afterwards enlarge. In some cases of syphilis, where the bubos do not advance, or where the discharge from them is thin and acrid, the bark has been highly commended.

In the class LOCALES, the order of *apocenoses*, "excessive evacuations," contain the only group of diseases in which the bark is useful; but in these we find that plethora or irritation often occasions the discharges, and the only effectual remedies are of a different kind. In these, and in the diseases of some other orders, where debility is the cause, the bark may be employed; and, indeed, it is constantly used, though not always with success.

As an antiseptic the bark has been highly commended; and in gangrenes, as well as in every case where the fluids are putrescent, it has been chiefly depended on. It, indeed, sometimes fails in the former case, where great irritation is the cause, or an attendant symptom; but, in general, it is highly useful, though modern surgeons depend less on it than their predecessors. In these instances it acts, however, as a tonic only. As such, it promotes the suppuration of the mortified part, and when it appears to meliorate in a slight degree the discharge, its chief efficacy is by accelerating the separation.

The bark is generally injurious in fevers of the inflammatory kind and in topical inflammations; yet, in some cases of abscess, where the suppuration proceeds slowly, or the discharge is thin and glairy, it has been of use. In all cases of dyspnœa, whether from inflammation or any other cause, except in the kind formerly mentioned, it is hurtful. In infarctions of the viscera, in critical discharges, unless insufficient from weakness, it is generally injurious. In many cases of different kinds, or rather, perhaps, in many constitutions, it produces a stricture on the surface from the suppression of the perspiration. It sometimes purges; at others, lies like a cold weight at the stomach. In such cases some corrective should be employed. When it produces a stricture, which most frequently happens in fever, camphor, or the James' powder, will often obviate the inconvenience. The cathartic tendency is corrected by an opiate, and the cold heavy load by an aromatic. In every instance previous to the use of the bark, the stomach and bowels should be freely evacuated.

When the bark produces vomiting, the carbonic acid gas, or an opiate, will correct this tendency; and when it occasions costiveness, rhubarb may be added. Numerous other medicines are occasionally combined with bark, either to add to its virtues or to correct its supposed disadvantages. In fevers it has been usual to add emetic tartar or crude sal ammoniac; in stomach complaints, sulphuric acid, kali, lime water, or chalybeate preparations; in excessive discharges, sulphuric acid or alum. In each case some decomposition appears to take place, and we can place no confidence on the appropriate effects of the medicine. It is highly probable that some change occurs on the union of bark with emetic tartar, since the latter loses in a great degree its emetic power. The powder of Dr. James preserves in the combination its powers unimpaired.

In the Species Plantarum, published by Wildenow,

there are nine species of cincona, two of which only occur in Linnæus's own edition. These have been found in Peru, or in the American islands of St. Lucia, St. Domingo, &c. They agree in general, with the bark, in astringent and tonic powers; but possess qualities offensive to the stomach and bowels, which are lessened apparently, and would be, probably, ultimately lost by keeping. See Lambert on the genus cinchona; Vahl, Copenhagen Transactions, vol. i. ii. and iii.; Davidson, Philosophical Transactions, vol. lxxiv.

Various are the preparations of the bark; but when the stomach will bear it, the powder, if very fine, is the most agreeable and the most useful. If the powder cannot be taken, the *infusion* has been preferred; but where the active power of the bark is necessary, the infusion is a very weak inadequate preparation.

Infusion of the bark. To one ounce of bark in fine powder, add twelve ounces of soft water by a little at a time, continuing to triturate it for about ten minutes in a marble mortar; then let them stand together, without subjecting them to any heat, for twelve hours, and strain. If the water is poured on hot, the time necessary for the infusion may be less; and, indeed, with cold water, many pharmaceutists, after trituration, allow only of the infusion for an hour or two. The elegance and strength of the infusion are increased by the addition of a small quantity of French brandy during the triture. In this preparation, the component parts of the bark are not separated. It is a solution with little change. In weak stomachs it is preferable, but its powers are inconsiderable.

In boiling, the bark is partly decomposed. The extractive matter, by the addition of oxygen, becomes a resin, dissolved while the water boils, but separating on cooling.

In decoction, the London college orders, for this reason, the bark to be boiled for a very short time in a covered vessel. An ounce is ordered to be boiled in a pint and quarter of pure water for ten minutes only.

Next to the infusion and decoction, an infusion in Rhenish wine may be preferred; and the tincture drawn with good French brandy follows. In scrofula, the shell lime water is said to be a good menstruum for the bark; and in cases where relaxation simply demands the use of the bark, the lime water made with stone lime should be preferred.

The addition of magnesia to the bark during the trituration, previous to the infusion, renders the colour much deeper, and is supposed to add to the strength of the preparation. A decomposition seems, in this instance, to take place; and it is, we think, still doubtful whether this infusion is really preferable as a medicine.

The unpleasant taste of the bark is covered by liquorice, orange peel, or a small quantity of winter's bark. In the following electuary, mucilage is thought useful in concealing the taste, and it is considered as an excellent medicine in scrofulous cases, equal to burnt sponge. ℞. sodæ pp. ʒ ij. pulveris cort. Peruv. ʒ i. mucilaginis gum. Arab. q. s. m. The dose ʒ ij. two or three times a day.

The college of London directs the following extracts from the bark.

Extract of Peruvian bark. Take of Peruvian bark, coarsely powdered, one pound; distilled water, twelve pints; boil for an hour or two, and pour off the liquor, which, while hot, will be red and pellucid, but as soon as it grows cold it becomes yellow and turbid; boil the bark again in the same quantity of water as before, repeating the operation till the liquor remains transparent when cold: then evaporate all the decoctions, strained and mixed together, to a proper consistence. Ph. Lond. 1788.

This extract is to be prepared under a double form; one of the consistence of a pill, the other hard enough to be reduced to powder.

It is not so active in its powers as is imagined, and it is difficult to prepare it without some degree of empyreuma; nor does the advantage of its form compensate for the expense and trouble. Ten grains of the hard extract are computed to be equal to half a drachm of the bark in powder, but it is scarcely superior to an equal weight of the powder.

Extract of Peruvian bark with resin.—Take of Peruvian bark, coarsely powdered, one pound; rectified spirits of wine, four pints; digest for four days, and then pour off the tincture; boil the residuum in ten pints of distilled water to two; then strain the tincture and decoction separately, evaporating the water from the decoction, and distilling the spirit from the tincture, until each begins to be thickened; lastly, mix the resinous with the aqueous extract, and make the mass fit for forming into pills. Pharm. Lond. 1788. This extract is greatly inferior to the former, and seldom employed.

The extracts are in general carelessly and imperfectly prepared, and among the venial faults we may mention, that, when the evaporated decoctions have attained the consistence of honey, they are brought to that of an extract by adding the powder of bark. The operator thus avoids the most troublesome part of his labour, the cautious regulation of the fire, and the constant stirring when it approaches the form of an extract.

We have lately received, it is said, from South America, a very elegant preparation, supposed to be an inspissation of the decoctions by exposure to the sun in its native climate. It is by far the most efficacious of the extracts; but we suspect that it is often, at least, the common extract prepared with peculiar care. Some years since a preparation was sold under the title of the essential salt of bark. It was an extract full of flaky salts, tasting strongly of bark; but as it is no longer known, we may suppose that its efficacy was not considerable.

Tincture of Peruvian bark. Take of the Peruvian bark, four ounces; of proof spirit of wine, a quart; digest with a gentle heat for eight days, and strain. Pharm. Lond. 1788.

This is an agreeable preparation, but it is too heating if a large dose is given. It would be better to add twice the quantity of bark to this proportion of spirit, if the menstruum would dissolve it, which we believe would not be the case.

Compound tincture of bark. Take of Peruvian bark in powder, two ounces; exterior peel of Seville oranges, one ounce and a half; Virginia snake root bruised, three drachms; saffron, one drachm; cochineal powdered, two scruples; proof spirit of wine, twenty ounces; digest for fourteen days, and strain. This was the tinctura corticis Huxhami, and is certainly a good cordial; but it derives little additional virtue from the

saffron or cochineal. The snake root and orange peel warm, slightly, a preparation sufficiently heating before.

Tinctura ammoniata cinchonæ.—AMMONIATED TINCTURE OF BARK. Take of Peruvian bark in powder, by weight, four ounces; compound spirit of ammonia, two pounds; digest them in a close vessel for ten days, and filter it. Pharm. Lond. 1788. This is a very weak preparation of the bark, and seldom employed. See Lewis's Materia Medica. Neumann's Chem. Works. Percival's Essays. Cullen's Materia Medica.

CO'RTEX PERUVIANUS RUBER. The red Peruvian bark is in much larger and thicker pieces than the common bark. It evidently consists of three different layers. The external is thin, rugged, and frequently covered with a mossy substance, and of a reddish brown colour; the middle is thicker, more compact, and of a darker colour; in this appears chiefly to reside its resinous portion, since it is extremely brittle, and evidently contains a larger quantity of inflammable matter than the similar part of any other kind of bark. The innermost hath a more woody and fibrous appearance, of a brighter red than the former. The entire piece breaks in that brittle manner described by writers on the materia medica, as a proof of the superior excellence of the bark. In reducing it to powder, the middle layer, which seems to contain the greatest proportion of resin, will not give way to the pestle so easily as the other layers: and this should be particularly attended to when it is used in fine powder. In flavour, chiefly discoverable either in powder or solution, it is evidently more aromatic, and has a greater degree of bitterness than the common bark.

It is highly probable that this is the bark of older trees than that which is called quill bark, or from their trunks and larger branches; and more particular care is probably taken in collecting and drying it.

The taste and flavour of the red bark are more difficultly evolved, and are, therefore, at first not so obvious, from the closeness of its texture, and from the resinous coat being so well defended and inclosed between the other layers. It is evidently heavier than any other kind of bark, and is so much warmer that it would seem to answer all the purposes derived from the union of aromatics or serpentaria, recommended in the obstinate quartan intermittents of elderly people.

By the testimony of many practitioners, it appears that intermitting fevers are more speedily and effectually cured, either by infusion, decoction, or powder of the red bark, than by those of the common bark; and this also by smaller doses of the former than of the latter. Dr. Saunders observes, that from the numerous trials he has made with it in intermitting fevers and other diseases, he is disposed to conclude that it need be employed only in half the quantity we generally recommend of the other bark. We must add with regret, that we seldom meet with bark of this superior quality at present. Our red bark is often only the coarser pieces artificially stained.

The infusion, decoction, and tincture, made with red bark, are considerably stronger than those from the same quantity of common bark; and it is said to have afforded more than twice the quantity of extract than is obtained from the same portion of common bark.

Dr. Saunders relates the following experiment, in his observations on the superior efficacy of the red Peruvian bark. A decoction of both red and common Peruvian bark was prepared by taking an ounce of each, and boiling them in a pint and a half of water, to one pint; the former had greatly the superiority in strength and power. A pint of fresh water was added to each decoction; the boiling still continued till that quantity was evaporated. The decoction of the common Peruvian bark seemed gradually to lose its sensible qualities, while that of the red bark still retained its own. The same quantity of water was added as before to each, and the decoction repeated until a gallon of water was exhausted; at the expiration of which time the common Peruvian bark was rendered almost tasteless, the red bark still retaining nearly its former sensible qualities.

In an infusion of the red bark, the spirit of vitriol lost its acidity more perfectly than in an infusion of the bark before in use. A decoction of the red bark keeps perfectly good during more than a month in the summer season, whilst that of the common bark is sensibly changed in a few days. In the decoction of the red bark, the powder, which is separated during cooling, remains intimately diffused through the liquor, so that it continues loaded and turbid whilst at rest: in the decoction of the common bark it separates, and easily subsides to the bottom.

CO'RTEX FLA'VUS. See FLAVUS CORTEX.

CO'RTEX POEGEREBÆ is a bark whose country is unknown. It is styptic and bitterish; said to be useful as an astringent in old diarrhœas, and occasionally in dysentery.

CO'RTEX WINTERA'NUS SPU'RIUS. See CANELLA ALBA.

CORTICA'LIS SUBSTA'NTIA, (from *cortex*, the *bark*). The CORTICAL SUBSTANCE OF THE BRAIN. See CEREBRUM.

CORTICA'TUS, (from *cortex*, *bark*). In botany it means in a skin or rind.

CORTU'SA. See SANICULA MAS.

CO'RU CANA'RICA, *Lusitanis Malabarica herba.* It is a dwarf tree, with yellow flowers, and leaves resembling those of the peach tree. The bark of the tree, if wounded, distils a copious milky juice, which is much used in Malabar against alvine fluxes. Its genus is unknown. Raii Hist.

CORYCOMA'CHIA, and CO'RYCUS, (from κορυκος, *a ball*, and μαχη, *contention*). A small ball made of leather, and stuffed with bran, or sand, or other materials: it was suspended by a string about the height of the navel of the person who used it. When people were too fat, they took it in both hands and pushed it from them, and receding as it returned, they received it into their hands, and so continued the exercise. See SPHÆRISTICA.

CORYDALES, (from κορυς, *a helmet* or *hat*). A natural order of plants resembling a hat or helmet.

CORYLUS. (Greek). See AVELLANA.

CORY'MBAS, or CORY'MBE, (from καρα, *the head*). The IVY TREE. So called because it grows into a large head on the top. See HEDERA ARBOREA.

CORY'MBUS, (from *corymbe*, *the ivy*). A cluster of flowers or fruit standing on pedicles, which are so disposed as to form a sphere. In its proper acceptation it is a cluster of ivy berries. Linnæus distinguishes

by this name a species of inflorescence, in which the flowers grow in clusters, each upon a separate peduncle as on the siliquose plants in general.

CORY'PHE. Κορυφη. The vertex or top of any thing. See VERTEX.

CORY'ZA, (from καρα, *the head*, and ζεω, *to boil*; because it is attended with an inflammatory defluxion from the nose). See GRAVEDO and CATARRHUS.

COSCU'LIA. The grains of kermes. See CHERMES.

COSMETICA. Medicines which take off pimples or other irregularities of the skin. They are usually saturnine or other metallic preparations, and often highly injurious. The celebrated wash of Gowland is a weak solution of corrosive sublimate. Antimonials taken internally are safe and useful.

COSMETO'RGES. A word, invented by Dolæus, to express the sensitive soul.

COSMIA'NA ANTIDO'TUS. The name of an antidote in Marcellus Empiricus.

CO'SMOS. Rythmus, a regular series. In Hippocrates it is the order and series of critical days.

CO'SSI, (from κις, *a worm*). Tubercles in the face, like the head of a worm. See VARUS.

CO'SSUM. A malignant ulcer of the nose, mentioned by Paracelsus.

CO'STA PULMO'NARIA, and CO'STA HE'RBA PANO'NICA. See HIERACIUM ALPINUM.

CO'STÆ, (from *custodiendo*; because they surround and keep in the lungs). The RIBS. The costæ, in anatomy, are generally twelve on each side, sometimes eleven, at others thirteen: their extremities next the vertebræ are rounder and stronger than those which join the sternum; the upper edges are more round than the lower, which are depressed internally for lodging the intercostal vessels and nerves; this channel is not observable at either extremity, which directs us to perform the operation for the empyema rather at the sides of the thorax than near the sternum or spine.

The ribs are articulated at each extremity, of which the posterior is doubly joined to the vertebræ; for the head is received into the cavities of the two bodies of the vertebræ by ginglymi, and the larger tubercle is articulated to the transverse process of the inferior vertebræ by arthrodia; they are thus guarded against luxations.

They are divided into true, called *veræ*, and false, called *spuriæ*, *illegitimæ*, *mendosæ*, *nothæ*. The true are the seven superior, whose cartilages are joined to the sternum; these ribs include the heart and lungs. The false are five inferior, whose cartilages are not joined to the sternum; unto all these the diaphragm is connected, and within them the stomach, liver, &c. are contained.

The cartilages of the false ribs are only connected to one another by the membrane which covers them; the two last are joined to the vertebræ by a round head, and their cartilaginous extremities are lost in the interstices of the muscles, so that they are more moveable than the other ribs.

The upper rib, contrary to the rest, is flat upwards and downwards, that it may not incommode the lungs, and leave room for the subclavian vessels and muscle.

The anterior extremity of each rib is lower than the posterior; therefore, when elevated, the cavity of the thorax will be increased in its diameter backwards and forwards, and the middle part of the superior ridge is lower than the posterior part; thus, when elevated, the diameter of the thorax will be laterally increased.

The ribs are but little used in sleep, respiration being then chiefly carried on by the diaphragm.

CO'STÆ, in botany. The fibres of the leaves, or the long strings which run either across or lengthways through them, are called their ribs.

COSTA'LES NE'RVI, (from *costa*, *a rib*). See DORSALES.

COSTO-HYOIDÆ'US, (from *costa*, *a rib*, *and hyoidæus*, *belonging to the hyoidal bone*). A muscle so named from its origin and insertion. See CORACO-HYOIDÆUS.

CO'STUS, *costus arabicus* Lin. Sp. Pl. 2, (from the Arabic term *kasta*). Also called *costus Indicus*, *amarus dulcis Orientalis*, *tsianakua*. SWEET AND BITTER COSTUS.

It is a root brought from the East Indies; about the size of a finger, of a pale greyish colour outwardly, and yellow within. In Arabia a bitter and a sweet sort were formerly distinguished; and in commerce three kinds are occasionally found, derived either from the amomum, the costus, or the alpinia of Linnæus.

The root of costus is recommended as stomachic, diaphoretic, and diuretic; it impregnates the urine with a violet smell. On evaporating a decoction of this root, almost all its smell is dissipated; but a bitter extract is obtained nearly equalling two thirds of the root. The spirituous extract is but small in quantity. Raii Hist. Lewis's Materia Medica. See ZEDOARIA.

CO'STUS CORTICO'SUS. See CANELLA ALBA.

CO'STUS HORTO'RUM MINOR. See AGERATUM.

CO'STUS NI'GRA. See CINARA.

CO'STYLE. The socket of the hip bone. See ACETABULUM.

COTARO'NIUM. A word coined by Paracelsus, implying a liquor into which all bodies, and even their elements, may be dissolved.

CO'TINUS. (Greek). The *olive* of the Greeks; the *red sumach* of the moderns.

CO'TIS, (from κοτυλη, *the head*). The back part of the head; sometimes the hollow of the neck.

COTONA'STER. See SORBUS.

COTO'NEA. See CYDONIA.

COTO'NIUM. See BOMBAX.

CO'TTI VI'NI. A name of some Italian wines rendered luscious by boiling the must of the poorer sorts.

CO'TULA. (See COTYLE and CYATHUS). A twelve ounce measure; and sometimes the appellation of bugs. See CIMEX.

CO'TULA FLO'RE LU'TEO RADI'ATO. See BUPHTHALMUM.

CO'TULA FŒTIDA, (from *cos*, *a whetstone*). A kind of camomile, with leaves like a whetstone. See CHAMÆMELUM FŒTIDUM.

CO'TYLA, (from κοτυλη, *a cavity*). See COTYLE. It is any deep cavity in a bone, in which any other bone is articulated; but generally used to express the cavity which receives the head of the thigh bone. It also signifies a deep sinus surrounded with large lips, or any cavity like the glene, but deeper.

CO'TYLE, CO'TYLA, or CO'TULA, (from the

same). Among the ancients it was a drinking cup, or any thing which had a cavity, as the hollow of the hand. Among the Greeks it was a measure, and is nearly the same as the hemina of the Romans, which held nine or ten ounces. See CYATHUS.

COTYLEDO'NES, (from the same). COTYLEDONS; *acetabula*; certain glandular bodies adhering to the chorion of some animals: but no such substances are observed in the human chorion.

COTYLE'DON, (from κοτυλη, *cavity*). The lateral bibulous, perishable lobe, or placenta of the seed, destined only to nourish the heart. The greater part of seeds have two lobes; some have more; some only one, and others none: hence a distinction of all plants into *acotyledones*, *monocotyledones*, *dicotyledones*, *polycotyledones*. (See BOTANY.) Some herbs, also, whose leaves are concave, and shaped like the cavity of the hip joint, bear this name.

COTYLE'DON, (from κοτυλη, *a cavity.*) *Cotyledon umbilicus veneris* Lin. Sp. Pl. 615. *Acetabulum*, *cotyledon major*, KIDNEY WORT, NAVEL WORT, and WALL PENNY WORT.

Its whole appearance resembles house leek; the root thick, knotted, with many small fibres springing from it. It grows on old stone walls, and flowers in May. The leaves are slightly cooling, astringent, and diuretic; but are seldom used.

COTYLE'DON MARINUM. See ANDROSACE.

COTYLE'DUM, A'LTERUM. See CRASSULA.

CO'UM. See COLCHICUM.

COUP DE SO'LEIL. See ICTUS SOLARIS.

COU'RADI. See PAIANELI.

COU'RAP. (Indian.) The modern name for a distemper very common in Java and other parts of the East Indies. It is a herpes on the axillæ, groins, breast, and face; the itching is almost perpetual, and the scratching is followed by great pain, with a discharge of matter, which fixes the linen firmly to the skin. Courap is a general name for any sort of itch; but this distemper is thus called by way of eminence. It is so contagious that few escape it. For the cure gentle and repeated purging, and externally the sublimate in a small quantity, are employed. See Bontius de Medicina Indorum.

COU'RBARIL. The American name of the tree which produces the gum anime. Called also *locusta*; *animifera arbor Brasiliana*; *Brasiliensis arbor siliquosa*; *cancamum Græcorum*; *ceratia diphyllos*; *ictaiba*; COURBARIL. *Hymenæa coubaril* Lin. Sp. Pl. 537. It grows in many parts of the West Indies, particularly in the Brasils. See ANIME.

COURO'NDI. It is a tall evergreen, which grows in the East Indies; the juice of its leaves and the kernels of its fruit are astringent, and used with whey to cure diarrhœas and dysenteries. Rheed's Malabar, 4 tab. 50. Raii Hist.

COU'ROS. So Hippocrates called the child in the womb when perfected there. See CONCEPTIO.

COUROY-MOE'LLI. A shrub growing in sandy places in the East Indies: the bark and root boiled in milk are esteemed an antidote against the poison of serpents. It has not yet found a place in botanical systems. Raii Hist.

COU'SCOUS. The African name of a paste made of the flour of millet, with some flesh; and, when eaten, a small quantity of *lalo* is also put. It is much used as food about the river Senegal.

COU'TON. A tree which grows in Candia, resembling the walnut tree; *arbor vinifera couton juglandi similis* of Bauhine. When this tree is wounded, an agreeable liquor flows out, which resembles Orleans wine. Its genus is unknown.

CO'VALAM; called also *cucurbitifera trifolia*, &c. *beli*, seu *serifole Bengalensium*, *capotes*, *cydonia exotica*. *Crataeva marmelos* Lin. Sp. Pl. 637.

It is a tall tree, growing in Malabar, and in the island of Ceylon: its fruit is shaped like an apple; the outer rind is thin and green; under it is a woody one, inclosing a viscid yellowish moist substance, of a sweetish acid taste, in which are long, flat, white seeds; it is turgid, with a gummy pellucid juice. This fruit is astringent whilst unripe; but when ripe, of a delicious taste. The bark of the tree strengthens the stomach, and relieves hypochondriac languors. Raii Hist. A species of sterculia, called *tongchu*, greatly resembles this plant, of which M. Correa has formed a new genus. Linnæan Transactions, vol. v.

COU'VRE CHEF, LE GRAND. COU'VRE CHEF, EN TRIA'NGLE. See RICÆ, DELIGATIO, 5, 7.

COWPE'RI GLANDU'LÆ. COWPER'S GLANDS, from the discoverer. They are small, hemispherical, and compound. One of them is situated on each side of the urethra, without the corpus spongiosum and acceleratores muscles, between the bulb and prostate. Each has an excretory duct, through which a mucus is evacuated upon the internal surface of the urethra for its defence. Whether there be other glands belonging to this part, as some authors assert, is uncertain. In women we observe, before the hymen, an orifice on each side, from Cowper's glands, which lie upon each side of the perinæum, and serve the same purpose as in the male. They are called also *muscosæ glandulæ*, and *glandulæ vasculares*.

CO'XA. See FEMUR.

CO'XÆ DOLO'RES. See ISCHIADICUS MORBUS.

CO'XÆ O'SSA. See OS INNOMINATUM.

COXE'NDIX, (from *coxa*, *the hip*). See ISCHIUM, and OS INNOMINATUM.

COYU'TENA LUZO'NIS. See FAGARA MAJOR.

COZTIECZO'COTL. See MECAXOCOTLIFERA.

CRAB LICE. A species of pediculus, which infests the axillæ and pudenda. They fix to the skin, and are with difficulty removed. They are, however, easily destroyed by slight mercurials, either in an ointment or lotion.

CRAB YAWS. A name in Jamaica for a kind of ulcer on the soles of the feet, with callous lips, so hard that it is difficult to cut them. The unguentum hydrargyri fortius is the best remedy.

CRA'DE. In Hippocrates it is the branch of a fig-tree.

CRA'DLE. A moveable bed to lull children to sleep; and a case in which broken limbs are placed, whose arched top prevents inconvenience from the weight of the bed clothes.

CRÆ'CA MA'JOR. See VICIA.

CRÆ'PALE, and CRA'PULA, (from καρα, *the head*, and παλλω, *to agitate*). A disorder of the head, produced by excess both in eating and drinking. INDIGESTION.

CRA'MBE, (from the Arabic word *caromb*). A CABBAGE. See BRASSICA.

CRAMBEI'ON. (See CICUTA.) In Hippocrates it signifies a decoction of cabbage, (from κραμβη, *a cabbage*).

CRA'MPUS, CRAMP, (from *krimpen, to contract*; Germ.) It is a sudden and violently painful rigidity or spasm of a muscle. This complaint is often very troublesome, but not usually dangerous; though instances have occurred in which, passing from the limbs to the bowels, the patient hath with difficulty recovered: it principally affects the limbs or neck.

In the Medical Museum, vol. iii. is an instance of a cure effected by drinking a glass of tar water every night and morning. For present relief a roll of brimstone is recommended to be held firmly in the hand, which quickly breaks, and thus the patient is eased: it breaks, however, from the heat only; yet a violent exertion of some other muscles contributes to relieve it. This disease is either idiopathic or symptomatic. When of the former class, it affects the legs, thighs, or other parts suddenly, whilst swimming in cold water, or whilst the tibiæ are exposed to the cold night air; or when the muscles are uneasily situated: the digastric muscles are subject to this complaint; whilst the neck is exposed naked to the cold air the pain is intolerable, but in a minute or two abates spontaneously, particularly if warmth with friction is applied to the parts, if the contraction of the muscle is counteracted by external pressure, or the part affected be placed in a situation where extension may be produced.

The sympathetic cramp is that which affects the lower extremities, particularly in the cholera morbus, with strong distention and excruciating pain of the calves of the legs: all the flexor muscles of the legs and thighs occasionally suffer from this cause. After a vomit has been premised, thirty or forty drops of liquid laudanum should be administered. If the breast should be affected with this spasm, a fugitive pleurodyne arises, which is temporary, but violent, with danger of suffocation; if the throat, a spasmodic angina.

CRANEI'A. See CORNUS.

CRA'NGON; also called *squilla crangon*, and the PRAWN. It is a sea shell fish of a delicate flavour, affording a light and easily digestible food.

CRA'NIOLOGY. We have introduced this subject in the article CEREBRUM, and have there laid the foundation of the present inquiry, by considering the brain as the material organ of an immaterial principle; as the instrument rather than the agent. The faculties of the soul are found only in animals which have a brain, are generally proportioned in their extent and variety to the size of the brain, are injured or destroyed by the lesion or destruction of this organ.

We find also the intellectual faculties independent of each other; and, even when they exist apparently in the same perfection in one individual, they are exercised with different degrees of activity at different times. This independence of the faculties is a position of considerable importance in Dr. Gall's system, our chief object at present; because he at once draws a consequence from it, that faculties, thus independent in their nature, are not connected in the organ, and that the evolution of the organs is in the direct ratio of the corresponding faculties. We doubt whether the conclusion is correct; nor, indeed, do we see, if it be admitted, how the author can refuse to allow of the division of what is immaterial, a solecism in physics, or separate independent powers acting in different parts; in fact, of as many souls as there are faculties. Dr. Gall thinks, however, that the evolution of different faculties is the cause or effect of distinct protuberances of the cranium, and that the peculiar mental power of the individual may be ascertained by inspecting the skull.

With these views he has compared the skulls of animals and those of men, whose faculties are analogous or contrasted. His inquiries have, it is said, not only ascertained the facts to be hereafter mentioned, but proved that the faculties called instinctive in animals, as attachment, cunning, circumspection, &c. are found equally in man; that the bulk of the organ determines the genus, while the reciprocal proportion characterizes the individual; that the disposition to every faculty, given originally by nature, may be expanded by exercise or favourable circumstances, sometimes even by diseases; but that it can never be created, where nature has not originally given it. The accumulation of the organs, he remarks, is made in a regular manner from behind forward, and from below upward; so that animals, in their approach to man in the variety of their faculties, have the superior and anterior parts of the brain more expanded. In the most perfect animal, man, there are, in the author's opinion, organs in the anterior and superior parts of the frontal and parietal bones, destined for the faculties, which belong exclusively to him. In this view Gall's system entirely corresponds to the observations of Camper on the facial line, noticed also in the article CEREBRUM; q. v.

But though we have spoken of the bulk of the brain, as distinguishing the possession of intellectual faculties in their greatest variety and extent, yet bulk alone does not more furnish the criterion of intellect, than the size of the body does that of strength. Many large unwieldy men are much weaker than those of a smaller size, whose limbs are firmly knit, and whose muscles display, by their swell, the effects of frequent and spirited exertion. A large round head, in the same way, shows a feeble intellect; while the varied bold projections of the cranium display, it is supposed, varied and active mental powers.

Dr. Gall, who first promulgated this system at Vienna, has been since travelling through Germany, to increase his collection of skulls, and to improve the nice arrangement of faculties from a view of the cranium. We lately heard of him in Saxony; where he is said by professor Boetiger, who accompanied him, to have been very successful in ascertaining the qualities of the mind by this new kind of physiognomy. He has never published his lectures; but we are led to expect a full account of his system from Dr. Bishoff and Dr. Hufeland, translated into English. We shall, however, give at present the outline, and correct or supply what may be erroneous or deficient in another article. The subject will again recur under ORGANOLOGY.

As a plate will render long descriptions unnecessary, we shall refer to an engraving, copied from one in the 55th volume of the Journal de Physique, for the different parts of the cranium, which designate particular qualities of mind; and shall here add a few of the singular, and sometimes, we think, trifling or ridiculous

observations by which Dr. Gall endeavours to establish his system. A system-builder will often stoop very low for assistance in support of his fabric.

In conformity with his opinions, before hinted at, he considers the medulla oblongata as the seat of the *organ of the tenacity of life*. The bulk of this part is proportional to the size of the occipital hole; and he finds it larger in women than in men, proportionally very large in the cat, the beaver, the weasel, &c.

The organ of lasciviousness is, in his opinion, at the basis of the skull, behind the medulla oblongata. It is only conspicuous about the age of puberty, and in castrated animals is never observed. In the ape, the rabbit, and the cock, this part of the skull is very large. It is peculiarly large in pigeons and sparrows, so as almost to form an epiphysis; and, in some human skulls of idiots distinguished for lasciviousness, this part was very protuberant.

The organ of attachment is peculiarly large in spaniels, and less visible in greyhounds.

The organ of courage, contiguous to those of "parental affection and attachment," explains, in our author's opinion, the exertions of courage from animals and human beings, in defence of their young or their particular friends. This organ is very inconsiderable in the hare, the sheep, and the greyhound; but very conspicuous in the hyena, the lion, the wolf, and particularly in the bulldog. Mr. Gall adduces as a proof of the existence of the organ of courage, the coward, when affrighted, "scratching the back part of his head behind his ears, as if he wished to excite its action!!"

The organ of cunning is nearly connected with that of pillage. We mean not to be ludicrous when we add, that our author found it in *poets* (Journal de Physique, vol. lv. p. 206, note). It is very conspicuous in the heads of Calmucs, in foxes, cats, pies, &c.

The organ of the sense of locality constitutes, with respect to places formerly seen, local memory; with respect to future objects, combinations of new localities. This organ is particularly conspicuous in birds of passage, in landscape painters, and in the skull of the great Frederick. It is fainter from age. The frontal sinus enlarges inwardly, and diminishes this portion of the brain.

The organ of the sense for collecting or remembering facts is subject to a similar change from age. Among animals, it is chiefly conspicuous in the elephant. "Among men (we now employ Dr. Gall's own words) I have found this organ not only in those who have a retentive memory for facts and things, but in those who have what are called systematic heads; who arrange their facts, and draw conclusions from them: in those who possess a quick perception, and are distinguished by an anxiety of knowing every thing. It even appears that the operation of combining facts, to draw conclusions from them, is the chief action of this organ: at least the elephant, who conceals the water in his trunk to pour on the person who offended him the day before, arranges many facts, and draws from them a truly logical conclusion; nor is there any other organ in the elephant's head to which we can refer this power. The involuntary motion of a man, who perceives that he has reasoned incorrectly, supports these suppositions: he strikes the middle of his forehead."

The organ of painting and the distinction of colours Gall has found in many great painters, and has particularly noticed it in a head of Raphael.

The organ of the musical sense and articulate sounds is very distinguishable in singing birds, in the jay and parrot; but does not exist in those whose notes are harsh and inharmonious. He found it very conspicuous in the heads of Gluck, Mozart, Haydn, and Pleyel. *The organ of verbal memory* is distinguished by remarkable projections of the eyes.

The organ of liberality lessens as a man grows old: in fact, he then becomes avaricious. It is very near the organ of painting and music; and this, he thinks, is the reason why men of such talents are generally prodigal. We wish he could have examined the head of Gainsborough!

The organ of the metaphysical spirit is found in the heads of the ancient philosophers, particularly Socrates; among the moderns in Kant.

The organ of goodness forms that oblong elevation found constantly in the heads of Christ and the Virgin, painted by Raphael and Corregio; and contributes to convey the ideas of gentleness and goodness, which are so attractive. It is found in the skulls of all who are naturally good, and is wanting in those who are wicked. Animals of prey have no vestige of this organ.

The organ of music and of theatrical talents Gall has found in all the great singers and actors. In those who are born deaf, and are consequently dumb, it is very conspicuous; as they are obliged to depend on gestures for the conveyance of their ideas.

The organ of religious veneration is on the top of the frontal bone; and it is this, observes M. Gall, which has probably induced all races of mankind to look for their divinities in the superior regions, since "there is no philosophical reason why we should not place them below as well as above ourselves."

The organs described by Dr. Gall are thirty-three in number, which the plate, with the explanations, will point out. These are some of the most singular of his remarks; and from them our readers may form a judgment of his abilities, and the probability of his system.

CRA'NIUM, (quasi κρανιον, from καρα, *the head*). Called also *calva*, and *calvaria*, *cerebri galea*. The SKULL. It is that part of the head which is covered with hair: besides the os frontis, it consists of the two parietalia, the two temporal, the occiput, the os ethmoides, and os sphenoides. (See CAPUT.) As to the medicinal virtues of the human skull, they differ not from those of other bones. It was formerly given in epilepsy; but the intention was to excite horror, as the bone was to be a part of a man who had died a violent death.

CRA'NTERES, (from κραινω, *to perform*). See SAPIENTIÆ DENTES.

CRAPULA. (See CRÆPALE.) It is also κραιπαλη, a SURFEIT. A disorder from something taken into the stomach, and occasioning sickness, or at least a loathing of the offending matter. It sometimes signifies a plethora, from indolence, and full but improper feeding; in which case perspiration is checked, and eruptions formed on the skin: this is sometimes called the *cholera accidentalis*. See CHOLERA MORBUS.

A surfeit from animal food is best remedied by a vomit, even though a vomiting and purging attend. For the management in cases of poison, see VENENUM.

When an excess of feeding is the cause, after an evacuation of the stomach and bowels, rigid abstinence is for a time peculiarly necessary; and after the symptoms of sickness disappear, the bowels should be kept free, food very gradually allowed; and the intervals between the meals should be considerable.

CRA'SIS, (from κεραννυμι, *to mix*). The temper or consistency of the blood peculiar to every constitution.

CRASPE'DON, (from κρωμαω, *to hang down*). See Hypostaphyle.

CRA'SSA ARTE'RIA, (from *crassus*, *large*). See Aorta.

Cra'ssa me'ninx. See Dura mater.

Cra'ssa inte'stina. See Intestina.

CRASSAME'NTUM, the coagulated portion of the blood when suffered to cool at rest; containing the gluten, the fibrin, and the red globules. See Blood.

CRA'SSENA. Saline, putrefactive, and corrosive particles, which produce ulcers and tumours of various forms. Paracelsus.

CRA'SSULA, (from *crassus*, *thick*; so named from the thickness of its leaves). Called also *faba crassa*, *faba inversa*, *sedum telephium*, *fabaria*, *anacampseros maxima*, *cotyledum alterum*, *scrofularia media vel tertia*, *acetabulum alterum*. Common orpine, or live long. The sort used in medicine is the *sedum telephium* Lin. Sp. Pl. 616.

It is a plant with unbranched stalks, clothed with thick, fleshy, oval leaves, but producing no leaves immediately from the root: the flowers stand in form of umbels on the top of the stalk, and are followed each by three, or four, or six, pods full of small seeds: the root is irregular and knobby. It is indigenous in England, and perennial.

Common orpine, with the leaves slightly or not at all serrated, grows in hedges and shady grounds, hath reddish or whitish pentapetalous flowers. The leaves are cooling, but their power seems too inconsiderable for a place in practice. They are applied to inflamed hæmorrhoids, and sometimes to paronychiæ.

Cra'ssula minor. See Sedum.

CRATÆGUS, (from κραΐος, *strength*; so called from the strength and hardness of the wood). The wild service tree.

Cratæ'gus Alpi'nus. The white boam tree. See Aria.

Cratæ'gus oxyca'ntha. See Spina alba.

CRATÆ'GONUM, (from κραΐαιος, *strong*, and γινομαι, *nascor*, *to make*; so named from its strengthening virtues). See Melampyrum.

CRATE'VÆ SI'UM. See Nasturtium aquaticum.

CRATI'BULA, CRATI'CULA, (from *craticula*, *a gridiron*). The iron bars or grate which cover the ash-hole in chemical furnaces.

CRATICULA'RIS, (from the same). Bread boiled on the grate of a furnace, or on a gridiron.

CRA'TON. See Cataputia minor.

CRE'A. See Tibia.

CRE'BER. Frequent. From the Hebrew term *kebor*. It is applied to respiration, and to the pulse, when the intervals betwixt each respiration, or each pulsation of the artery, are short.

CREMA'STER, (from κριμαω, *suspendo*, *to suspend*). These muscles are also called *suspensorii testium*. They arise from the inside of Poupart's ligament on each side, run to the perforation where the seminal cord passes out, and expanding over it, make part of the tunica vaginalis communis. The course of this muscle being very oblique, makes the spermatic cord seem much more so than it really is. Their use is to draw up and suspend the testes.

CRE'MER. The name of a distemper endemial in Hungary, which seems to resemble crapula. It is cured by drinking a small quantity of any cordial water.

CRE'MNOI. The lips of ulcers, also the *labia pudendi*, (from κρεμω, *a precipice*, or *shelving place*).

CRE'MOR, (from κριμον, *lactis crumen*, à κρινω, *secerno*). It is the expressed or strained juice of any grain, particularly of barley boiled till it be so soft as to pass through a strainer (see Ptisana); also the cream of milk. See Chylus and Lac.

Cre'mor calc. viv. The cream or flour of quick lime is the calcareous earth, which, having regained the carbonic acid from the air, is insoluble in water.

Cre'mor lithargy'ri aceta't. See Plumbum.

CRENA'TUM, (from *crena*, *a notch*). Crenated. When the edge of a leaf is cut into angular teeth, it is called acutely crenated; when into segments of small circles, instead of angular teeth, it is said to be obtusely crenate; when the larger segments have smaller ones upon them, the leaf is then said to be doubly crenate: the same term is applied to the corolla and nectarium in some cases.

CREPA'TIO, and CREPATU'RA, (from *crepo*, *to make a noise*). In pharmacy is the cracking or bursting of any seed in boiling or roasting, and this is to be understood when seeds are directed to be boiled *ad crepaturam*. See also Hernia scrotalis.

CREPI'NUM. See Tartarum.

CRE'PITA Æ'TAS. See Ætas.

CREPITA'TIO. See Decrepitatio.

CRE'PITUS, (from *crepo*, *to make a noise*). Crackling of the joints, which may happen either from a defect of synovia, or a deposition of cretaceous matter, as in the gout; but is generally owing to the former cause. Mr. Sharp recommends a frequent use of fomentations, rubbing the joint with the ungt. hydrargyri, and to administer purges occasionally.

It means also a discharge of air from the anus when attended with a noise.

Cre'pitus lu'pi. See Lycoperdon vulgare.

CRESPI'NUS, (quasi *crispinus*, from *crispus*, *curled*, *crisped*; so called from the crispness of its leaves and wood.) See Berberis.

CRE'SPULUM, (from *crispus*, *crisp*; from the crispness and curledness of its leaves). See Bupthalmum.

CRE'SSIO, (from *cresco*, *to grow*; because of their abundance every where). See Nasturtium aquaticum.

CRE'TA, (from *Crete*, the place whence it was first brought). Chalk. The only kind now used in medicine is the white chalk, which is found in most parts of the world. It is a pure white mineral calcareous earth of different degrees of hardness; it crumbles between the fingers, and stains them white; readily diffuses in water when finely powdered, and as soon subsides; sticks to the tongue without any astringency. Its form is amorphous, stalactitical, or crystallized; specific gravity from 2.3 to 2.7. Its crystals are rhomboidal paral-

lelopiped, and when transparent their refraction is double.

The best is that which is perfectly white, soft, close, and solid, equal and uniform when broken, free from sand and flints, and insipid to the taste; though chalk, when first dug, has often a slight pungency, as it has not a full proportion of carbonic acid. Many other earths are of a similar nature, but this being the purest is preferred.

It dissolves in all the acids, particularly in the nitrous and muriatic; even totally in vinegar. The vitriolic precipitates it from all other acids, and forms with it a selenite. It is convertible into quick lime: with borax it melts into a transparent glass. The solutions of it in acids are bitterish.

Chalk is employed as a remedy against the heartburn, and other disorders that have acidity in the primæ viæ for their cause. Some use it, when finely powdered, to sprinkle on erysipelatous inflammations. Two drachms for a dose, and repeated at proper intervals, have often effected, it is said, a speedy cure both in a diarrhœa and a dysentery; but this effect, if true, must be owing to its absorbing those acids whose stimuli caused the morbid excretion. When milk turns sour on the stomach, a scruple of chalk may be given with each half pint. This, however, is a very uncommon effect; but chalk is also added when milk forms a hard coagulum, and lies heavy on the stomach. When on any account a free use of chalk is required, if the belly is inclined to costiveness, laxative medicines should occasionally be taken, as the earth may otherwise accumulate.

Chalk should be finely powdered, and separated from its grosser parts by elutriation. Boerhaave prefers it to the cornu cervi calcinatum for making the white decoction with. Bates formerly used to boil half a pound of chalk in three pints of water to a quart, after which he just permitted the grosser parts to fall, and poured off the yet turbid fluid for use; and the London college directs the following chalk mixture, formerly called *julepum è creta:* take of the whitest chalk prepared, one ounce; of double refined sugar, six drachms; of gum arabic, finely powdered, two ounces; of distilled water, a quart: mix. Pharm. Lond. 1788.

See Dale. Lewis's Mat. Med. Dict. of Chem. Neumann's Chem. Works. Cullen's Mat. Med.

Besides these, the following are often used:

Compound ointment of chalk: neutral cerate of Kirkland.—℞. Cretæ pp. aceti distillati, olei olivæ ää ℥iv. emplastri lithargyri ℥8. aq. lithargyri acetati ℥ss. The chalk and vinegar are to be mixed together, and over a slow fire, incorporated with the litharge plaster, and oil; when sufficiently united, the water of acetated litharge is to be added. This is allowed to be an efficacious remedy, when applied to inflamed parts and ulcers, and is much employed in practice. Chalk is often applied to ulcers in its dry state, when the discharge is thin and acrimonious, with success; and it is sprinkled on the poultices in burns, according to Mr. Cleghorn's plan, with singular advantage.

We find in some foreign authors an *acetat* and a *citrat of lime* recommended in scrofula, pruritus, hernia, humoralis, tumours of the mesenteric glands, in a dose of one or two ounces daily. In this kingdom, the muriat of lime formed by saturating common muriatic acid with chalk, is recommended in scrofula and obstructed glands; of which from half a drachm to half an ounce, in a pint of water, is to be taken daily.

Decoctum è creta. (See Cornu Cervi.) *Pulvis è creta compositus; pulvis è creta comp. cum opio.* See Bolus.

The two last supply the place of the pulvis è bolo compositus, a pulvis è bolo compositus cum opio, of the old London Pharmacopœia.

Cre'ta nigra. Black chalk, called also *humus nigra pictoria;* has never been employed in medicine.

Cre'ta ru'bra. See Ochra.

Cre'ta selenusia, called also *terra selenusia.* The best is of a shining white friable appearance, and readily diluted with a fluid. It is drying and astringent.

Cre'ta cimo'lia. Tobacco pipe clay. And *creta fullonica.* Fuller's earth. See Cimolia alba.

CRETA'CEUM A'CIDUM, (from *creta, chalk*). The carbonic acid.

CRE'THMON. (Greek.) See Crithmum.

CRE'VIS. See Astacus fluviatilis.

CRIBRA'TIO, (from *cribrum, a sieve*). Searsing. In pharmacy, it is the passing of powders and pulps through a sieve, or searse.

CRIBRIFO'RME, and CRIBRO'SUM OS, (from *cribrum, sieve*). See Ethmoides os.

CRICELA'SIA. The driving a hoop as high as the breast of the person who used it was formerly commended for rendering the limbs pliable, and strengthening the nerves. It was an ancient gymnastic exercise.

CRI'CO-ARYTÆNOIDÆ'I MUSCULI, (from κρικος, *a ring*, αρυταινα, *a funnel*, and ειδος, *forma*). Muscles of the larynx, whose office is to open the glottis. They arise from the cricoid cartilage, and are inserted into the arytænoid.

Cri'co arytænoi'des latera'les. They lie laterally upon the upper edge of the cricoid cartilage, and are inserted into the lower part of the side of the arytænoid. They serve to dilate the glottis.

Cri'co arytænoi'des po'stici. They lie upon the back part of the cricoid cartilage, and are inserted into that knob which stands on the back part of the basis of the arytænoid cartilage, near the angle of the basis, one on each side. They open the larynx, and are called, by Casserius, *par-cucullare.*

Cri'co pharyngæi. These muscles arise from the lower part of the side of the cricoid cartilage. They seem to be appendices of the *thyro-pharyngæi*, showing no other marks of distinction but their insertions, and a small difference in direction, because as they run backward they descend a little; for this reason, Winslow says he hath sometimes looked on them as one, and calls them *thyrocrico-pharyngæi.* The lowest of these muscular fibres, he says, makes a complete circle backwards, between the two sides of the basis of the cartilago cricoides, which is the beginning of the œsophagus, and has been sometimes supposed to form a distinct muscle, called *æsophagus.* There is another fasciculus of fibres occasionally detached from the thyro-pharyngæus, and inserted laterally in the thyroid gland, for which reason I call it musculus *thyro-adenoidæus.* Innes calls it the *constrictor pharyngis inferior;* and describes it as follows. It arises from the side of the thyroid cartilage, near the attachment of the sterno-hyoidæus and thyro-hyoidæus muscle, and from the

cricoid cartilage, near the crico-thyrodæus. This muscle is the largest of the three, and is inserted into the white line, where it joins with its fellow; the superior fibres running obliquely upwards, covering nearly one half of the middle constrictor, and terminating in a point; the inferior fibres run more transversely, and cover the beginning of the œsophagus. Their use is to compress that part of the pharynx which they cover, and to raise it with the larynx a little upwards. See PHARYNX.

CRI'CO THYROIDÆ'I. Certain muscles of the larynx, which shut up the glottis. They rise from the anterior and lateral part of the cricoid, and are inserted into the lower edge of the thyroid cartilage. These are sometimes called *crico-thyroidæi antici.*

CRICOI'DES, or CYMBOLA'RIS CARTILA'GO, (from κρικος, *a ring*, and ειδος, *a form*). The name of the annular cartilage belonging to the larynx, which it encompasses. See ASPERA ARTERIA.

CRI'COS, (from κρικ⊕, *a ring*, or *circle*). The annular cartilages, which form the aspera arteria. Hippocrates.

CRIDO'NES. See CRINONES.

CRIMNO'DES, (from κριμνον, *bran*). An epithet for urine, which deposits a branny sediment.

CRIMNO'N. (Greek.) Dioscorides describes it as a coarse sort of meal produced from maize and wheat, of which they make pulse; Galen, as the largest particles of torrefied barley, which have escaped due contusion in the mill.

CRINA'TUM, (from κρινον, *a lily*). An epithet of suffumigation, mentioned in P. Ægineta; composed chiefly of the roots of lilies.

CRINEDO'NES, and CRI'NES, (from *crinis, hair*). See CAPILLARES VERMICULI.

CRINI'S. See CAPILLUS.

CRINI'TUS, (from the same). HAIRY, OR HAVING LONG HAIR, OR BEARDS RESEMBLIEG HAIR. In botany it means abounding with capillaments or small fibres like hairs, as in the root of the leek; and the phleum crinitum.

CRINOMY'RON, (from κρινον, *lily*, and μυρον, *an ointment*). OINTMENT OF LILIES, consisting of lilies and some other aromatics. It was also called *Ægyptium album*, and *susinum*.

CRINO'NES, (from *crinis, hair*,) called also *comedones, cridones*. "The mention of dracunculi," observes Ambrose Paré, "calls to my memory another kind of abscess, altogether as rare. This our Frenchmen name *crinones*, I think, à *crinibus*, i. e. from *hairs*. It chiefly troubles children, and pricks their backs like thorns. They toss up and down, being not able to take any rest. This disease arises from small hairs, which are scarce of a pin's length, but thick and strong. It is cured with a fomentation of water more than warm; after which you must presently apply an ointment made of honey and wheaten flour: for so these hairs, lying under the skin, are allured and drawn forth; and being thus drawn, they must be plucked out with small mullets." See Edinb. Med. Comment. vol. ix. p. 64.

In the History of the Royal Medical Society at Paris, for the year 1776, Mons. Bassignet observes, that this disease, said to be peculiar to the town of Seyne and its neighbourhood, attacks almost all the new born children. In the place itself it is called *cées*, a corruption of *ceddés*, a provincial word that signifies *a bristle*. It appears in many cases within twelve hours, in others not till a month after birth; and sometimes, though rarely, at a more advanced age. The symptoms are described to be a violent itching, increased by the heat of the bed, and preventing sleep; a diminution of the voice; continual agitation; incapability of sucking, the child's tongue not being able to accommodate itself to the nipple; a hoarseness, and gradual extinction of the voice. Of all these symptoms, the last is considered as the most certain; so that by the weakness of the child's cries, and the alteration in its voice, the degree of the disorder is judged of. As soon as it is observed, they employ frictions; and the women of the country are so accustomed to this disease, that they seldom call in either a physician or a surgeon. These frictions are made on different parts of the body, according to the three states of the disease, which are sometimes distinct, at others complicated. In the first, to a diminution of voice is joined an inability to suck. This, we are told, requires frictions at the upper part of the sternum, neck, cheeks, and about the jaws and temples. If the child, though its tongue be at liberty, is still unable to seize the nipple, and his arms or fingers at the same time tense, this is the second state of the disease, and requires frictions on the fore arm. The third is known only by the change in the voice, and is cured by rubbing the arms, shoulders, back, and calves of the legs. In this mode of friction the woman wets her hand with saliva, and rubs the skin of one of the child's arms, for instance, along the tensor muscles, till she feels a considerable roughness. She then quits this arm, and begins with the other; rubbing always in small circles, and constantly in the same direction. Nothing particular is observed in the skin previous to these frictions, though some of the most experienced women speak of a tension which yields to rubbing. In many cases where this practice hath been neglected, the child, it is said, has been carried off by convulsions or diarrhœa. In some subjects a species of dark rough hairs, not longer than the tenth of an inch, and in others little substances resembling very fine red hair, not quite so rough as the former, and furnished with a minute bulb, at their extremity, appear on the skin, and terminate the disease. This circumstance gives a name to the complaint. A case is related of a girl ten years old, who, after having been for some time ill, and taking different medicines, at length tried the frictions above described, which brought out a prodigious quantity of dark coloured rough hairs, after which she recovered. Lorry de Morbis Cutaneis. The London Medical Journal, vol. ii. p. 289. See BOVINA AFFECTIO.

CRIO'GENES. An epithet for certain troches mentioned by Paulus Ægineta, and which he commends for cleansing sordid ulcers.

CRIOMY'XUS, (from κριος, *a ram*, and μυξα, *mucus;* because it frequently affects sheep). An epithet for persons abounding with mucus in the nose.

CRIPSO'RCHIS, (from κρυπτω, *to hide*, and ορχις, *a testicle*). See TESTES and PARORCHIDIUM.

CRI'SIMOS, (from κρινω, *judico, to judge*). CRITICAL.

CRI'SIS, (from κρινω, *to judge*). The termination or change of a disease either by recovery or death.

Hippocrates first established the doctrine of crisis and critical days, which were, the 3d, 5th, 7th, 9th, 11th, 14th, 17th, and 21st. Fevers were probably more regular in their periods at this time, because they were seldom interrupted in their progress by medicine. A

crisis only respects acute diseases, and more particularly continual fevers. At this time, critical days are not a subject of frequent attention; the type of the disorder being changed, and the crisis accelerated or retarded, by what is administered.

Asclepiades and Celsus deny that diseases have their critical days; and Langius adds, "if a crisis is to be expected, medicine is superfluous."

The coincidence of critical days with the Pythagorean numbers, has induced many physicians to oppose the doctrine as fanciful, or to reject it as false. Others have as strenuously contended for the reality of changes generally salutary on particular days, rather than on others; and those particular days are the same which we have already mentioned.

There is little doubt of the universality of the tertian period. It has been proved by numerous facts, with great logical precision, by Stahl, in a separate dissertation. We generally find also a fever formed, not on the day following the action of the exciting cause, but on the alternate day. If the fever consists only of one paroxysm, the 3d or 5th will be salutary; if of two, the 7th. We thus find the first septenary period very clearly established. The 14th is generally acknowledged as a critical day; but the days of the interval are not so clearly established. The 11th is not strikingly critical; but if the patient pass the 10th in safety, and the treatment be properly regulated, the disease generally terminates on the 14th. If in the evening of the 14th there is a violent fresh exacerbation, it is highly dangerous; yet a slight exacerbation is, in part, removed on the 17th, and completely on the 20th or 21st.

It will be obvious, that in the first fourteen days the crises observe the tertian period; afterwards the quartan; but the reason is uncertain, except that the constitution, accustomed to the action of the cause, is not so readily affected by it; for the more violent the cause, the shorter and the more violent are the periods, and the disease. In fact, we have been generally able, in this climate, to trace changes generally salutary on the days styled critical; and, if the practice is well conducted, they may be observed in almost every continued fever, though not in all equally striking.

De Haen, who acknowledges the influence of particular days, has taken the trouble of selecting the facts from the most approved works of Hippocrates; and of 163 instances of the termination of fever within the first twenty days, more than two-thirds, viz. 107, happened on the days mentioned as critical. None happened on the 2d or 13th; and upon the 8th, 10th, 12th, 15th, 16th, 18th, and 19th, there are but eighteen instances of termination. As, from the preceding facts, regular periods in fevers are sufficiently obvious, so from these the real periods appear to be those stated in the commencement of the article. De Haen Ratio Medendi, vol. i. p. 19.

The word crisis, however, is not confined to this signification; for sometimes it means the excretion of something noxious from the body, or of the noxious fluids in a fever; for the word κρινειν signifies also *to separate*, or as it were to pass through a sieve.

Those who observe critical days consider crudity as that state of the morbid matter wherein it is unfit for a regular separation from the sounder juices; concoction, as that change in the morbid matter, by the power of nature, or assistance of art, which renders it fit for separation from the healthy part of our fluids; crisis is, therefore, the actual discharge of the morbid matter, whether brought on by the power of nature, or by medical aid; and the critical day is the time that this discharge happens. See Febris.

On this subject see Hippocrates, Galen, P. Ægineta, Fernelius, De Haen, and Cullen; on the other side, Asclepiades, Celsus, Langius, Faber, and a tribe of moderns.

CRISPATU'RA, (from *crispo, to turn*, or *curl*). Crispature, curling, In medicine it is supposed to be a spasmodic contraction or curling of the membranes and fibres; but these are not muscular, and we have no evidence of contraction except in muscular fibres. The idea arose from the sensation, referred to membranes; but really arising from an affection of some neighbouring muscles.

CRISPI'NUS, (from *crispus, turned* or *curled*). See Berberis.

CRI'STA, (quasi *cerista*, from κερας, *a horn*; or *carista*, from καρα, *the head*; as being on the top of the head). Any thing which has the appearance of a crest or comb, as on the head of a cock. Tubercles near the anus and pudenda are so called on account of their form. The cause and cure are the same as of the condyloma. See Processus.

Cri'sta ga'lli. In anatomy, it is an eminence rising from the upper part of the os ethmoides, to which the beginning of the falciform process is attached. It is called *crista galli*, from its supposed resemblance to the comb of a cock. See Ethmoides os.

Cri'sta pavo'nis. See Poinciana flore pulcherrimo.

Cri'sta pavo'nis coroni'llæ fo'lio. See Brasilium lignum.

CRI'STÆ CLITO'RIDIS. See Nymphæ.

CRISTA'TUS, (from *crista, a cock's comb, crested*,) is a term in botany, and means having a tuft upon the top.

CRI'THAMUM. See Crithmum.

CRI'THE. (Greek.) Barley; and, from its similitude, a sort of tubercle on the eyelid is thus named; called also a *stye*; and by Ætius, *grando*. It is a hard scirrhous immoveable stian in the interior part of the eyelid, containing a pellucid body. When small it is seated on the edge of the eyelid, but when large it spreads further. When the stians do not suppurate, they become wens; and are apt to disappear and return. If there be inflammation, the white bread poultice may be applied to promote suppuration: if it is hard, a mixture of equal parts of hog's lard and quicksilver will destroy it. If the lower eyelid is affected, the tumour is more frequent on its inside: it may then be dissected; and a caustic should be applied on the skin just upon it, to make an external opening for it. See St. Yves on Disorders of the Eyes; also Hordeolum and Chalaza.

CRI'THMUM, (from κρινω, *to secrete*; so named from its supposed virtues in promoting urine and the menses). Called also *fæniculum marinum majus* and *minus*, *herba Sancti Petri*, *jaspier*, *baticula*, *crithamum*, *crithmum marinum*; sampire and samphire.

It grows wild on rocks, and in maritime places: the leaves resemble those of fennel, but the segments are

thicker and shorter; to the taste they are warm and bitter, to the smell somewhat like smallage. They are aperient and diuretic; but chiefly used as a pickle.

CRI'TICA SI'GNA, (from κρινω, *to judge*). Those signs which are taken from the crisis of a disease, respecting recovery or death.

CRI'TICI, (from the same). CRITICAL FEVERS. Those which terminate with a lateritious sediment in the urine.

CRI'TICI DIES, (from the same,) called *internuncii*. CRITICAL DAYS. See CRISIS.

CROCI'DE CONFE'CTIO. The name of a confect commended by Nicolaus Myrepsus for the colic.

CROCI'NUM, (from κροκος, *crocus, saffron*). OIL OF SAFFRON. It is mentioned by Dioscorides as consisting of olive oil, myrrh, and a small quantity of saffron.

CROCO'DES. An epithet for certain troches in P. Ægineta, from the saffron they contain.

CROCODI'LION, (from κροκοδειλος, *the crocodile*; from its deceit, in consequence of its change of colour). See CARLINA, ERYNGIUM, ECHINOPUS MAJOR.

CROCODI'LUS TERRES'TRIS. See SCINCUS.

CROCOMA'GMA, and ECMAGMA (from κροκος, *crocus*, and μαγμα, *thick oil*). Dioscorides informs us, that it is prepared of the ungt. crocinum, and spices pressed and made into troches.

CRO'CUS, (from *krokin*, Chaldean) SAFFRON: because of its golden colour, the chemists call it *aroma philosophorum*, by contraction *aroph*; others have called it *sanguis Herculis*, *aurum vegetabile*, *anima pulmonum*, and *Jovis flos*. For its supposed efficacy in some diseases, it is entitled *rex vegetabiliam*, and *panacea vegetabilis*; from its power of exciting laughter, it hath the appellation of *hortus lætitiæ*; and from its cheering effects, *medicina tristitiæ*. Besides these, various other names are to be met with in different authors. Its name of *saffron* is from the Arabian word *zaffaran*, or *zahafaran*. *Crocus sativus* α Lin. Sp. Pl. 50. Nat. order *liliaceæ*.

Saffron is a bulbous rooted plant; its leaves are shaped like those of grass; the flower is of a purplish blue colour, cut deep into six segments; in the middle of the flower, among the stamina, arises a pistil, which is divided at the top into three fleshy filaments; the upper part of these filaments is of a deep orange red colour, and the saffron of the shops. The plant is perennial; the flowers blow in September and October.

The filaments of the saffron flowers are carefully separated, and moderately dried in a kiln; and when no farther manufactured, are sold under the name, saffron in the hay. But the greatest part of this article is, after being dried to a certain degree, pressed into thin cakes.

It is cultivated in France, Spain, Austria, Hungary, &c.; but the best is produced in England, and the plant is now indisputably ascertained to be a native of this country. It may be distinguished from all others by the greater breadth of its blades. The best saffron is in long broad filaments, of a deep red colour, without any yellow parts, moderately dry, yet flexible and soft to the touch, difficultly pulverized, of a strong and agreeable smell, especially at a distance; affecting the eyes so as to draw tears from them; of a pungent and somewhat bitterish taste: it readily impregnates the hand with its smell; stains the moist hand with a deep yellow colour, and colours a very large proportion of alcohol.

It is sometimes adulterated with the fibres of smoked beef, the flowers of the carthamus, the calendula officinalis, &c; but the imposition may be detected by the want of the white ends observable in saffron; the inconsiderable or bad smell, when thrown on live coals. The Spanish saffron is covered with oil, to preserve it. Of the foreign, the French and Austrian saffron is the best.

It yields in distillation with water a small proportion of essential oil, of a golden colour, heavier than water, with a smell of the saffron in a high degree. By other experiments it afforded the extractive copiously, and in a pure state. Its aromatic part is extremely volatile, so that it should be kept carefully covered. It yields its colour and virtue to spirit of different strengths; to wine, water, either cold or hot, and vinegar. The last soon loses its colour. The watery infusion and the vinous tincture soon grow sour, and lose all their colour and virtue. About three parts in four of the saffron are dissolved by each, and the remainder is a pale mass, without colour, taste, or smell.

As a medicine, it has been esteemed an agreeable aromatic, an anodyne, antispasmodic, cordial, and attenuant. Boerhaave ranks it among narcotic poisons; and, in case of an imprudent dose, orders a vomit and acidulated draughts. It has been called a very powerful emmenagogue, and said to require caution in its use, as some patients are more affected by it than others; in disorders of the lungs it hath been so esteemed as to obtain the name of *anima pulmonum*. In coughs it is highly commended; and Camerarius says, that a scruple of saffron, with half a grain of musk, is of considerable efficacy in asthmas. Very frequent experiments in practice do not, however, support the opinions commonly entertained of it. Dr. Cullen has given it in large doses, when it scarcely produced sensible effects in any degree, or increased the frequency of the pulse; and as anodyne or antispasmodic, he scarcely observed its operation. In one or two instances he suspected an emmenagogue power, but in others, though repeatedly employed in large doses, it was useless; and though he has given it in every shape, and in larger doses than authors ever proposed, he never discovered in it any virtue. Indeed, though the sensible qualities of this medicine are pretty considerable, it appears to possess no other power than that of a weak aromatic. In this medicine very little confidence is at present placed; though it enters into several officinal compositions, more on account of its colour perhaps than its utility.

In distillation, water is strongly impregnated with its flavour; and if the quantity of saffron is large, a small portion of a fragrant and very pungent essential oil may be collected, which, according to Vogel, amounts to about a drachm and a half from sixteen ounces. The remaining decoction, inspissated to an extract, retains all the virtues of the saffron, except, it is said, the cordial one. The spirituous extract retains much of the cordial quality, if it has any.

The dearness of saffron subjects it to many artifices; but the best method of avoiding them is to purchase only the sort called *hay-saffron*.

The London college directs the following method of preparing the SYRUP OF SAFFRON:

Take of saffron, one ounce; boiling distilled water, two pints; macerate the saffron with the water for two hours in a vessel close stopped; and to the strained liquor add, of double refined sugar, sufficient to make a syrup. Pharm. Lond. 1788.

See Lewis's Mat. Med. Raii Historia Plantarum. Neumann's Chemical Works. Cullen's Mat. Med.

CRO'CUS ANTIMO'NII. See ANTIMONIUM.

CRO'CUS I'NDICUS. See CURCUMA.

CRO'CUS MA'RTIS APERIENS, and ASTRINGENS. See FERRUM.

CRO'CUS METALLO'RUM. See ANTIMONIUM.

CRO'CUS SARACE'NICUS. BASTARD SAFFRON. See CARTHAMUS.

CRO'MMYON, or CRO'MYON; *παρα το τας κορας μυειν*, because it makes the eyes wink. An ONION. See CEPA.

CROMMYOXYRE'GMIA, (from *κρομμυον, an onion*, *οξυς*, acid, and *ρυγγυμι, to break out*). Acid and fetid eructations, resembling the taste of onions.

CRO'TAPHI, (from *κροτεω, to beat*, from the pulsation always perceptible there). See TEMPORA.

CROTAPHI'TES, (from *κροταφος, the temple*, or *κροτεω, to beat*, as the pulse). See TEMPORALIS MUSCULI.

CROTA'PHIUM, (from *κροταφος, the temples*). A pain in the head near the temples.

CRO'TAPHOS, (from *κροταφω, to beat*). See CEPHALALGIA.

CRO'TON. According to Fœsius, it signifies, in Hippocrates, the bronchiæ of the lungs expectorated; a name also of the seeds from whence the ol. ricini is taken. See CATAPUTIA.

CRO'TON BENZO'E. See BENZOINUM.

CRO'TON CASCARI'LLA. See THURIS CORTEX.

CROTO'NE, (from *κροτων, the tick*). A fungous excrescence on trees, produced by an insect like the tick; but applied to excrescences and fungous tumours on the periosteum.

CROU'SMATA. This word is met with in Myrepsus, and is translated by defluxions, rheums: but Fuchsius thinks it should be read *ρευματα*.

CRUCIA'LIA, LIGAME'NTA, (from *crux, a cross*). They rise from the inside of each condyle, and are attached to the femur. They give strength to the joint, and limit its motion.

CRUCIA'LIS INCI'SIO, (from the same). An incision in the form of a cross.

CRUCIA'LIS GA'LLII SPE'CIES. See CRUCIATA VULGARIS.

CRUCIA'TA, (from *crux, a cross*). CROSS WORT, from its leaves being disposed in the form of a cross. The only species is the c. vulgaris, called *valantia aparine* Lin. Sp. Pl. 1491, also *cruciata hirsuta, crucialis gallii species, gallium latifolium flore luteo*, MUG WEED and CROSS WORT.

The roots are slender and creeping, the branches hairy, about a foot high; at the joints of the stalk are placed four round pointed leaves that are hairy, and have foot stalks; the flowers are small and yellow, each followed by two small round black seeds. It grows in hedges and the sides of fields, and flowers in July. The leaves and tops are commended for promoting expectoration. Raii Hist.

CRUCI'BULUM, (from *crucio, to torment*). Also called *tigillum, catinus fusorius, albot, alkozoal*, or *crucible*. It is an earthen vessel, made for enduring the greatest degree of heat, generally wider above than below, and of a round or triangular figure. Calcined bones are equal, if not superior, to any other materials for making them; some are made of equal parts of the best potter's clay dried, of a plumose alum, and of bastard talc, finely powdered, formed into a paste with whey, and then baked as other pottery. Chalk cut into the form of a crucible, then steeped in linseed oil for twenty-four hours, answers many purposes very well: some use the powder of common tiles, and an equal quantity of chalk: these are mixed with linseed oil, and then baked. They may be either made of earth, black lead, forged iron, or platina; Chaptal says, they ought to support the strongest heat without melting, and be capable of resisting the attacks of all such agents as are exposed to heat in vessels of this kind. Those crucibles which possess the greatest degree of perfection are made in Hesse, or Holland. Those made of platina unite the most excellent properties. They are nearly infusible, and at the same time indestructible by fire. M. Achard, and M. Morveau, have made them by first fusing platina with arsenic, which at first remains brittle; but in proportion as the arsenic is driven off by the continuance of heat, it becomes more ductile. These chemists, by melting it a second time in moulds, formed crucibles. Platina has been lately found more manageable, and various chemical vessels of this metal are now commonly met with. Various other materials, and modes of combining them, may be seen in Pott's Dissertation on Crucibles, and in the Dictionary of Chemistry. Chaptal's and Lavoisier's Elements of Chemistry.

CRUCIFO'RMIS, (from *crux, a cross*). Shaped like a cross; a botanical term, expressing the shape of flowers in a particular state.

CRU'DITAS, (from *crudus, raw*). CRUDITY. It is applied to unripe fruits, raw flesh, undigested substances, humours in the body in a state unprepared for expulsion, and to the excrements. See CRISIS.

CRU'DUS, (from *κρυος, cold*, i. e. *raw*). Crude, undigested, unconcocted.

"Crudum, pavonem in balnea portas." JUVENAL.

CRUE'NTA SUTU'RA, (from *cruor, blood*). BLOODY SUTURE; when the lips of a wound are brought together by means of a ligature made with a curved needle.

CRU'NION, (from *κρουνος, a torrent*; from the violence of its operation). The name of a diuretic compound medicine described by Ætius.

CRU'OR. BLOOD EXTRAVASATED AND CONGEALED, (from *κρυος, cold*). Sometimes it means the blood in general, and occasionally the venal only.

CRUPI'NA. See CALCITRAPA.

CRU'RA CLITO'RIDIS, (from *crura, legs*). See CLITORIS.

CRU'RA MEDU'LLÆ OBLONGA'TÆ. The two largest legs, or roots, of the medulla oblongata, which proceed from the cerebrum. See CEREBRUM.

CRURÆ'US, CRURE'US, or CRURA'LIS, (from *crus, a leg*). The crureus, the vastus externus, and vastus internus, may be considered as one muscle. (See VASTUS INTERNUS). The crureus muscle covers almost all the fore side of the os femoris, between the two vasti. The tendons of the crureus rectus anterior, and of the two vasti, unite into one, and are inserted into the side of the patella, in the edge of the ligament

of that bone, and in the adjacent lateral part of the head of the tibia. They extend the leg.

CRURA'LES ARTE'RIÆ, (from *crus, a leg).* The CRURAL ARTERIES.

The external iliac arteries pass out of the belly under the inguinal glands, and there take the name of *crural:* they run over the heads of each os femoris, turn under the crural vein, presently after passing out of the abdomen; here they are not covered with any muscles, but presently plunge betwixt the sartorius, vastus internus, and triceps muscles, and are covered by them all the way to the lower part of the thigh. A little above the internal condyle of the os femoris, they perforate the tendon of the triceps, and run to the posterior part of the thigh, down the ham, and there take the name of *popliteæ.* In the course of these arteries, they give out the pudicæ externæ, and other branches, to the different muscles of the thigh.

CRURA'LIS NE'RVUS, (from *crus, a leg).* The nerve which passes from the loin into the thigh is thus called. The second lumbar nerve joins the third, and that again communicating with the fourth, they produce this crural nerve (see LUMBARES,) which passing under Poupart's ligament, runs on the fore part of the thigh, under the iliacus internus muscle; it disperses itself into many branches, one of the principal of which accompanies the vena saphena all the way to the ancle.

CRURA'LIS VENA, (from the same). Called also *ischias.* The external iliac vein, going out from under the ligamentum Fallopii, on the inside of the iliac artery, is there called *crural.* About an inch below its passing out of the abdomen, it sends off a large branch, called the *saphena;* after which it sinks between the muscles, and is distributed to all the inner parts of the lower extremity, accompanying the crural artery to the toes. In its descent down the thigh, it runs behind the crural artery: when it hath arrived into the lower part of the thigh, its situation is between the crural artery and the inner condyle of the os femoris; and just above the ham it takes the name of *poplitea.*

CRUS, (*a currendo,* from *running,* or rather from the Hebrew term *crugh, to bend,* as the knee). The LEG. It includes the whole of the lower extremities, from the os innominatum to the toes; viz. the thigh, leg, and foot. It sometimes signifies only the thigh, and is occasionally confined to that part between the knee and ancle.

CRU'STA, (from the Hebrew term *chresh).* The shell of a lobster, crab, cray fish, prawn, or shrimp; also the name of a scab, scurf, or eschar, upon a diseased part: sometimes a crust or cream which coagulates on the superficies of any liquor, as on blood and urine, or upon fermentable liquors during one stage of their fermentation.

CRU'STA LA'CTEA. See ACHOR.

CRUSTA'CEA, (from *crusta, a shell,* and μαλακοστρακα,) are animals which have the external parts firm and hard, but contain a fleshy soft substance within. The firm part consists of a semicalcareous crust, forming one very large and several small pieces, or a series of rings nearly equal. They have their heads furnished with horns and other appendages; numerous feet obliquely bent and articulated; two arms called *claws,* notched like a forceps, and breathe by means of distinct gills. Ancient naturalists united them with fish, or in a separate class after fish, or after the molluscæ. Pliny comprehends all crustaceous animals under the name of *crabs.* Linnæus classes them among insects without wings, under the generical name of *crabs.* Since the time of the Swedish naturalist they have been arranged with insects, though their structure is very different, since they breathe by gills, and have a muscular heart. Cuvier and La Marck have agreed, therefore, in separating them from insects. The former places them as a distinct class between worms and insects; the latter between the molluscæ and arachnides, a class formed by him to connect the crustaceæ with insects. They differ, therefore, from fish and molluscæ in having articulated limbs; and from insects by having a muscular heart, and breathing by gills.

Dr. Cullen takes notice in general of the lobster, crab, prawn, and shrimp only; of which he says the two former hardly differ in any quality from one another: and from the small proportion of volatile alkali that is obtained from their entire substance, or extract, he concludes they contain less animal matter than the flesh of quadrupeds, birds, or even the amphibia. They appear to be more easy of digestion than animal food, or aliment of any other kind. See ALIMENT.

CRU'STULA, (from *crusta, a shell).* See ECCHYMOSIS.

CRUSTU'MINA PYRA, (from *Crustuminum,* a town, where they grow). PEARS much admired by the Romans, and mentioned by Columella, v. 10. Rhodius thinks it the bergamot pear; but from its history this is not probable: it seems to resemble the Catharine pear.

CRUSTUMINA'TUM, (from the same). A sort of rob made of the juice of apples and pears, boiled with honey and rain water. Ætius gives directions for the preparation.

CRUX-CE'RVI, (from *crux, a cross,* and *cervus, a stag).* See CERVUS.

CRYMO'DES, (from κρυος, *cold).* An epithet for a fever wherein the external parts are cold.

CRYO'XA. Erotian thinks it a kind of pot herb.

CRY'PTÆ, (from κρυπτω, *to hide).* Hollow cavities, containing some fluid. See FOLLICULUS.

CRYPTOGA'MIA (from κρυπτος and γαμος, *concealed nuptials).* The twenty-fourth of Linnæus's classes of plants; denominated from the obscurity of their manner of impregnation. They comprehend vegetables whose fructification is concealed, or at least too minute to be observed by the naked eye. The mosses, mushrooms, flags, and ferns, are of this class. In the fern, the seeds are found on the back of the leaves of the plant.

CRYPTOPYICA. ISCHURIA. A suppression of urine, from a retraction of the penis within the body. See ISCHURIA.

CRYPSORCHIS, (from κρυπτω, *to hide,* and ορχις, *testis).* A retraction, or retrocession, of one of the testicles.

CRYSTA'LLI, (from κρυος, *cold,* and στελλω, *to contract;* for crystals were considered as water contracted by cold). See CRYSTALLINÆ.

CRYSTA'LLI TA'RTARI. See TARTARUM.

CRYSTALLI'NA. The CRYSTALLINE HUMOUR OF THE EYE, (from κρυος, *cold,* and στελλω, *to contract).* Called also *crystallinus humor;* and *discoides,* from its resembling a disk or quoit of the Romans.

Immediately behind the aqueous humour is situated

the crystalline; transparent, of the colour of crystal. It is situated between the aqueous and vitreous humours, its anterior part being opposite to, and very near the pupil; its posterior part is lodged in a cavity, formed for its reception in the middle and fore part of the vitreous humour: the figure of the crystalline is that of a lens, convex on both sides, but rather more so posteriorly. The crystalline is the least, but of the most firm consistence, of the three humours of the eye. It is more firm in the middle than in the sides; and, in time, is apt to change both in its consistence and colour, growing still more firm, and yellowish. It is invested with a dense, firm membrane, which is rather loosely connected to it; is perfectly transparent, but, when injected, appears furnished with numerous blood vessels. In the fœtus there appears a branch of the artery that passes through the axis of the optic nerve, which comes through the vitreous humour, and ramifies through the capsule of the crystalline in a radiated manner; this is much larger in the fœtus, and stronger than in adults: these branches go to the tips of the processus ciliaris, and are there imperceptible. The crystalline humour is membranous, and consists of many coats inclosed in one another; the whole of which are contained in a capsule, formed by a continuation of the covering of the vitreous humour. This capsule is called ARANEA; q. v. The crystalline produces a second refraction of the rays of light; the first refraction, which is produced by the cornea and the aqueous humour, not being sufficient to bring them to a focus at the retina. More minutely examined, its specific gravity was found by Mr. Chenevix to be 1100. When fresh it was neither acid nor alkaline, but putrified rapidly. It is almost wholly soluble in water, and is partly coagulated by heat. Tanin gives a copious precipitate; but when free from the other humours, no traces of the muriatic acid were found. The proportion of water is therefore smaller; those of albumen and gelatine larger than in the other humours. Philosophical Trans. 1803, p. 197.

CRYSTALLI'NÆ, (from the same). CRYSTALLINES. Also *crystalli*. The Italian physicans call them *taroli*. They are pustules filled with water, transparent, and on that account receive their name. They are sometimes about the size of a lupin, and appear over the whole body. But when they attend a gonorrhœa, they are considered as one of the most troublesome symptoms. They are lodged on the prepuce without pain; and, though caused by coition, are not infectious. The cause is supposed to be a contusion of the lymphatic vessels in the part affected. Dr. Cockburn, who hath described this case, recommends for the cure a mixture of three parts of lime water and two of rectified spirit of wine, to be used warm as a lotion, three times a day.

CRYSTALLI'NÆ MA'NUS. In Hippocrates, are hands so cold as to seem frozen.

CRYSTALLI'NUM, (from the same; so called from its transparency). See ARSENICUM ALBUM.

CRYSTALLI'NUS HUMOR, (from the same). See CRYSTALLINA.

CRYSTA'LLION. See PSYLLIUM.

CRYSTALLISA'TIO, (from κρυσταλλος, *crystal*). CRYSTALLIZATION. The parts of all bodies which take the solid state are disposed to arrange themselves in such a manner, as to produce some regular geometrical figure in the solid. This property is called *crystallization*, and the regularly figured bodies we call *crystals*. In this process the integrant parts of a solid body, separated from each other by the intervention of a fluid, exert the mutual attraction of aggregation, so as to coalesce and produce a solid mass.—When the particles of a body are only separated by caloric, and the substance is retained in the liquid state by its means, all that is necessary for its crystallization is, to remove a part of the caloric; in other words, to cool it. If this refrigeration be slow, and the body be at the same time left at rest, its particles assume a regular arrangement; and crystallization, properly so called, takes place: but if the refrigeration is rapid, or if the liquor be agitated at the moment of its passage to the concrete state, the crystallization is irregular and confused. The same phenomena occur in watery solutions, or rather in those made partly in water, and partly by caloric. So long as there remains a sufficiency of water and caloric to separate the particles of the body beyond the sphere of their mutual attraction, the salt remains in a fluid state; but when the necessary quantity of either is deficient, and the attraction of the particles for each other becomes superior to the power which separates them, the salt recovers its concrete form, and the crystals produced are more regular in proportion as the evaporation has been slower, and more tranquilly performed.

To dispose a substance to crystallization, it is necessary, in the first place, to reduce it to the most complete state of division. This may be effected either by solution, or by an operation merely mechanical. Solution may be effected either by the means of water or fire. The solution of salts is generally performed by means of the first; that of metals of the second. In order that the form of a crystal may be regular, three circumstances are required; *time*, *a sufficient space*, and *repose*. Sometimes the assistance of *light* is apparently requisite, though in general injurious to the regular formation of crystal. Time brings the integral parts by insensible gradation nearer each other, and without any sudden shock; so that they unite according to their constant laws, and form a regular crystal. Space, or sufficient room, is likewise a condition necessary for obtaining regular crystallization. If nature be restrained in her operations, the product of her labour will exhibit symptoms of constraint. A state of repose in the fluid is likewise necessary to obtain very regular forms: uninterrupted agitation opposes all symmetrical arrangement; and in this case the crystallization obtained will be confused and indeterminate.

This term, however, is most commonly applied to bodies of the saline kind; but not till lately applied to the freezing of water, or to the consolidation of metals after they have been melted. In every change, however, from a fluid to a solid state, we can perceive traces of this operation, if we, perhaps, except the fat oils. Though this is accounted one of the processes of chemistry, it is truly a process of nature, and may be discovered in all her operations. All the deliquescent salts are excluded from this operation, and the volatile ones never assume this form, unless their vapours are confined. Some of the neutral kind, particularly those of which certain metallic bodies are the basis, are as capable of crystallization, if a sufficient quantity of water be added, or any substance with which the water has a greater

affinity. Different salts also require different quantities of water to dissolve them; so that if a mixture of two salts be dissolved in one fluid, they will begin to separate at different times of the evaporation: upon this foundation salts are freed not only from their impurities, but also from one another; that which is least soluble shooting first.

The manner of crystallizing salts is, to make a saturated solution of them in boiling water; for hot water dissolves a larger quantity of many salts than it can suspend when cold. The solution must be then put into a proper vessel, and stand still in a cool place till the crystals are formed, which sometimes require several days. When crystals are formed, the remaining solution must be poured off, and what the crystals retain drained from them, by means of bibulous paper, then dried. There is a certain portion of the menstruum, which, though it contains salts, never permits them to crystallize. This arises from a viscidity or oiliness in the fluid, which prevents the mutual attraction of the saline particles; and in the salt works it is called *oil of salt*. Chemists style it the *mother water*; sometimes the *mothers*.

The cause of crystallization seems to depend on the attraction and repulsion with which the different portions of the molecule are endowed. Attraction alone will not explain the phenomena; and, indeed, with the assistance of its antagonising power, they are very obscure. The crystals are apparently formed with some momentum, and they are seen in their shooting to strike the glass forcibly. Vauquelin saw a thin glass broken by this means. Whatever be the variety of crystals, the primordial forms are few. Their forms have been explained with great precision by Haüy; and they appear so constant and regular, that they become the best criterion often for distinguishing the species of natural bodies. See CRYSTALLI.

If salts are dissolved in too much water, the superfluous fluid must be evaporated slowly until the salts show a disposition to concrete, even from the hot water, by forming a pellicle on the surface. If large, and the most perfect crystals are required, the solution must be removed from the fire before the pellicle appears; otherwise the sudden crystallization will diminish their perfection. In this case the evaporation must be continued until some drops of the liquor, falling on a cold glazed plate, discover crystalline filaments: the vessel must then be removed from the fire into a less warm, but not cold place, covered with a cloth, and left till crystals are formed. If the salt be pure, no more is necessary; but if not, filtration will be required, previous to the solution being left for the separation of its contents.

In crystallizing large quantities, sticks are placed, and sometimes threads, across in the vessels, on which the salts form, and are taken out in a more perfect figure than when they adhere in thicker concretions to the sides and bottoms of the vessels. Sudden cooling, or shaking of the vessel, will prevent the salts from being properly and regularly formed; and care should be taken that the substance of the vessels are such as not to endanger corrosion.

The figures of salts cannot be destroyed; for if they are comminuted ever so small, yet, upon re-crystallization, they form themselves again into their proper shape.

Salts entangle, in the interstices of their crystals, a portion of water, called the *water of crystallization*; which occasions the efflorescence of salts in the air, and their effervescence on the application of heat: and on this their crystalline form seems much to depend. Nitre contains about one twentieth of its weight of water; alum one sixth; sea salt one fourth; borax, green vitriol, and the bitter purging salts, from one third to one half.

Rectified spirit of wine dissolves some salts, assists the crystallization of others, and is necessary for separating any oily matters from them. See MENSTRUUM and SOLUTION.

See Chaptal; Fourcroy; Lavoisier's Elements of Chemistry; the Encyclopedia Britannica; Boerhaave's Chemistry; Dictionary of Chemistry; Neumann's Chemical Works; Haüy Traité de Mineralogie; and Rome l'Isle's Crystallographie.

CRYSTA'LLUM MINERA'LE. See SAL PRUNELLÆ, under NITRUM.

CRYSTALLOI'DES TUNICA, (from κρυσταλλος, *crystal*, and ειδος, *forma*). See ARANEA.

CRY'THE. A hard, scirrhous, immoveable stian in the interior part of the eye lid, containing a pellucid body. See CHALAZA, CRITHE HORDEOLUM.

CTE'IS. See PUBIS OSSA.

CTE'NES. A COMB or RAKE. Its plural means the *dentes incisores*.

CTESIPHO'NTIS MALA'GMA. A plaster described by Celsus.

CU'BARIS. See ASELLI.

CUBE'BÆ, (from the Arabic term *cubabah*). CUBEBS; called also *piper caudatum*; by Actuarius, *compeba*; and by Myrepsus, *compiper*. *Piper cubeba* Lin. Sup. 90. Wildenow, vol. i. p. 159. The cubeb tree is also the *baccifera arbor Brasiliensis fructu piper recipiente*. The berries are dried, of an ash brown colour, generally wrinkled, greatly resembling pepper, but furnished each with a slender stalk. They are brought from Java, and different parts of the East Indies; are a warm spice, agreeable to the smell, and somewhat pungent to the taste. Their qualities resemble those of pepper, but are much milder. Distilled with water, they yield a small quantity of essential oil, which possesses most of their virtue. An extract made with rectified spirit of wine abounds with all their virtues, for the odorous principle does not exhale with spirit.

Those which are large, plump, and heavy, are preferable; for if they are wrinkled, they have been gathered before they were ripe. See Raii Hist.; Neumann's Works; and Lewis's Materia Medica.

CUBE'BIS. See FAGARA MAJOR.

CUBIFO'RME OS, (from *cubus*, *a cube*, and ειδος, *forma*, *likeness*). See CUBOIDES OS.

CUBITA'LISNE'R VUS, (from *cubitus*, *elbow*). See CERVICALES. Cheselden describes the cubical nerves as being two in each arm: the upper passing over the upper exuberance of the os humeri, runs on to the thumb and the three next fingers by its branches, which spread when it approaches the thumb; the inferior, which passes under the inner exuberance of the os humeri, and runs on to the ring and little fingers. For this reason we find these fingers often affected, while the others remain free from disease.

CUBITA'LIS, vel ULNA'RIS ARTERIA. The cubital or ulnar artery, parting from the radical about a finger's breadth below the bend of the arm, sinks in

between the ulna and the upper parts of the pronator teres, perforates the palmaris longus, and radiæus internus: near the carpus it lies just under the integuments, is continued on the inside of the os pisiforme, runs before the annular ligaments across the palm, and forms an arch which anastomoses with that of the radial; whence these arteries go to the finger and thumb, one running on each of the fingers. In its course it sends off various branches.

CUBITA'LIS MU'SCULUS. See ANCONÆUS MUSCULUS.

CUBITA'LIS EXTE'RNA and INTE'RNA, VENA. See BASILICA VENA.

CU'BITI PROFUNDA VENA. Sometimes from one and sometimes from another of the branches called mediana, a branch goes out on the inside of the fore arm, which is thus named.

CU'BITUS. The ELBOW; (from *cubo, to lie down;* because the ancients used to lie down on that part at their meals). *Olene.* (See ULNA). It is also a cubit measure; and in botany it is the ninth degree in the Linnæan scale for measuring plants. The length, from the elbow to the extremity of the middle finger, is esteemed equal to seventeen Parisian inches, or a foot and a half English. The stalks of plants are named *cubitalis*, or *bicubitalis*, according to their height.

CUBOI'DES OS, (from κυβος, *a cube*, and ειδος, *forma,*) called also *os cubiforme, quadratum, grandinosum, tessera, multiforme*, is situated immediately before the os calcis; on its fore side it sustains the os metatarsi of the little toe, and that toe next to it. The ossification of this bone is scarcely begun at the birth.

CU'COS. The kernel of the fruit of a species of palm tree; the fruit is the size of a cherry.

CUCULA'TUM MA'JUS. BRANDY, or SPIRIT OF WINE.

CUCU'LLA, CUCULLA'RIS MU'SCULUS, (from *cucullus, a hood,*) called also *trapezius*, arises by a strong round tendon, from the lower part of the protuberance in the middle of the os occipitis behind; and by a thin membranous tendon, which covers part of the splenius and complexus muscles, from the rough curved line that extends from the protuberance towards the mastoid process of the temporal bone; runs down the nape of the neck, where it seems to arise from its fellow, and covers the spinous processes of the superior vertebræ of the neck, but arises from the spinous processes of the two inferior, and all the vertebræ of the back, adhering tendinous to its fellow the whole length of its origin. It is inserted, fleshy, into the posterior half of the clavicle, tendinous and fleshy into the acromion, and into almost all the spine in the scapula. Its use is to move the scapula, according to the three directions of its fibres: for the upper descending fibres draw it obliquely upwards; the middle transverse straight fibres draw it directly backwards; and the inferior ascending fibres draw it obliquely downwards and backwards. Where it is inseparably united to its fellow in the nape of the neck, it is named *ligamentum colli*, or *nuchæ*. (Innes). It is observed by Douglas, that Galen divides this muscle into two, viz. the superior and the inferior. The first he calls the *trapezia;* and to the second later anatomists have given the name of *cuculla*, from whence they are both commonly named *cucullares*. Its upper part, from the os occipitis to the spinal process of the last vertebræ colli, is inseparably united to its fellow of the other side.

CUCULLA'TA, (from the same). See SANICULA.

CUCULLA'TI FLORES, (from the same). CUCULATE FLOWERS. See FLOS LABIATUS.

CUCULLA'TUS, (from the same). In botany it means rolled up like, or covered as with, a hood.

CUCU'LLUS. A FLOOD. See CUCUPHA, and EPITHEMA.

CUCUMERA'RIA, CUCUMERI'NA I'NDICA, (from *cucumis, the cucumber*). See MOMORDICA.

CUCU'MIS, (quasi *curvimeres*, from their curvature, according to Varro). The CUCUMBER. The cucumber hath a flower consisting of one leaf, which is bell-shaped, expanded toward the top, and cut into many segments, of which some are male, others female. The best fruit is long, and of a deep green. This plant is annual, and raised from seed, the best of which is long and thick, with a thin rind. See CUCUMIS HORTENSIS.

CUCU'MIS AGRESTIS; called also *cucumis asininus, elaterium officinarum boubalios, guarerba orba*. The WILD OR SQUIRTING CUCUMBER. The fruit from whence the elaterium of the shops is obtained, is the *momordica elaterium* Lin. Sp. Pl. 1434. This fruit is watery, hairy, and almost of an oval shape, about two inches in length: when ripe, it bursts on being touched, and throws out with violence its whitish juice and black seeds. It is sown in our gardens annually, but is found wild in many other countries. The Greeks call it *elaterion*, from ελαυνω, *to dart;* and from whence it is called the *squirting cucumber*. The same term is applied to any purging medicine that acts with violence. All the parts of the wild cucumber are strongly purgative; the fruit is the most so, and the root more active than the leaves. The juice of the fruit hath an unpleasant smell, and a durable nauseous bitter taste: on standing a few hours, it separates into a thick part, which falls to the bottom, and a thin watery fluid, which floats above. The dried juice, or fæcula of the fruit, known in the shops by the name of *elaterium*, is the only part now medicinally employed, and has been distinguished into white and black elaterium: the first is prepared of the juice which issues spontaneously, the latter from that which is obtained by expression. It is a strong, irritating, but slow, cathartic; and often operates with violence as an emetic, disappointing the practitioners in its other effects. It remarkably raises the pulse, appearing to excite for a time a feverish state; and is, therefore, only used in cold phlegmatic constitutions, and in dropsy, a disease in which it was much employed by Sydenham and Lister. (See Sydenham's Works, and Listeri Exercitationes Medicinales de Hydrope). It is undoubtedly the most violent purgative in the materia medica, and ought, therefore, to be administered with great caution, and only where the milder cathartics have proved ineffectual. The dose is from half a grain to three grains: the most prudent and effectual mode of exhibition in dropsies is by repeating it in small doses, at short intervals; or employing it to quicken other purgatives. Four grains of extract of gentian, and a quarter of a grain of elaterium, formed into a pill, and repeated every two hours till it operates sufficiently by stool, and given every third or fourth day, is said to have been efficacious in reducing dropsical swellings, and affording an opportunity for the exhibition of tonics.

The London college directs the following method of preparing elaterium:

Slit ripe wild cucumbers, and strain the juice, very gently pressed, through a very fine hair sieve, into a glazed vessel; set it by for some hours, till its thicker part shall have subsided; then pour off the thin part of the juice, and separate the rest by straining; let the thicker part which remains be covered over with a linen cloth, and dried by a gentle heat. Pharm. Lond. 1788.

Care should be taken not to press the cucumber so as to force out any of the pulp; for thus the preparation will be proportionably weakened. An extract made with wine from the roots is equally useful with this fæcula, called elaterium.

Elaterium is mentioned as a purging medicine by Hippocrates: sometimes it occasions great uneasiness in the bowels, if too large a dose is given; in which case acids and mucilages are the proper antidotes. See Raii Hist.: Lewis's Materia Medica; and Cathartics.

Cu'cumis Ægyptius. Chate, or Egyptian cucumber. It is more white, soft, and round than our garden cucumber, but of similar qualities.

Cu'cumis Canadensis. See Sicyos.

Cu'cumis colocy'nthis. See Colocynthis.

Cu'cumis horte'nsis, *cucumis vulgaris*, *cucumis sativus*, or garden cucumber.

The seeds of this species are the only part used in medicine. They have usually been prescribed in a mixture of equal portions of the seeds of the citrullus, or water melon; cucurbita, or gourd; and pepo, or pompion; under the general name of the greater cold seeds. The seeds of all these plants are similar in their medical properties. The fruit of the cucumber is not very nutritious, though it makes a considerable part of the aliment of many persons in warm climates and seasons; and its aqueous and cooling quality renders it very proper for summer aliment, and an agreeable food in hot, bilious dispositions. From the sponginess of its texture, it is often retained long in the stomach, occasioning acidity and flatulence; hence it should be accompanied with a large proportion of aromatics. Formerly the seeds were beat into an emulsion with other ingredients, but now are rarely employed, the almond emulsion superseding their use.

CU'CUPHA, a hood; called also *cucullus*, *birethus*, and *pileus*. An odoriferous cap for the head. It is made like what is called the skull cap, for children, of either silk or linen; double, containing between its folds cephalic aromatic drugs, in powder; sometimes they are mixed with cotton, to keep them equally dispersed; sprinkled with some suitable essential oil, with spirit, or vinegar. When applied to half of the skull, or a particular part, it is called a *semicucupha*. The ingredients should be renewed when their virtue is exhausted. Indeed all the virtues these caps possess will soon be lost, for the aromatics can be of little use. The double cap may possess some virtue; and, as in the oriental tale of medicines, concealed in the racket, the adventitious circumstances may be truly salutary The proportions of the species usually recommended are, of roots, an ounce; of leaves, two or three handfuls; of flowers, two or three pugils; of gums, one or two drachms; of powders, one ounce: the whole rarely exceeds four ounces. See Epithema.

CUCU'RBITA, (*a curvitate;* from its shape). *Cucurbita lagenaria* Lin. Sp. Pl. 1434. The gourd. It is a large fruit growing on a plant: its seed is one of the four cold seeds mentioned in the article Cucumis. It is also a glass vessel with a round belly and a long neck, about six inches diameter, and firmly closed; *bocia*, *botus barbatus*, and *ovum sublimatorium*.

Cucu'rbita. A cupping glass. (See Cucurbitula). Also a cucurbit; *alkara obelchera*. A chemical vessel, so called from its resemblance to a gourd; for it gradually arises from a wide bottom, and terminates in a small neck. Some call it *vas urinale*, because it is shaped like a glass in which urine is inspected. It is used in distillation, with a head, and then it constitutes an alembic: it is also used in digestions, with a blind alembic fitted to it.

Cucurbits are made of glass, earthen ware, or of metal, according to the respective uses in which they are engaged: the earthen ones are called *canthari figulini;* the copper ones are lined with tin, *vesicæ distillatoriæ*.

The broader the bottom, and the narrower and longer the neck, with the more difficulty its contents are distilled; so that the less obedient any subject is to the fire, the narrower the bottom, and the shorter the neck should be, and *vice versa*.

It is a blind cucurbit, when another small cucurbit is placed on with its neck in the neck of the larger. The lesser are called separatory cucurbits. If its belly is spherical, and its neck long and cylindrical, it is called *matracium*, a matrass, or a bolt head.

The length of its neck is such, that scarcely any of the liquor ascends to its mouth, the cold external air repelling it again to the bottom of the vessel. Thus the digestions of menstrua, with the substances to be resolved in them, are conveniently carried on without any loss. They are used for macerating and digesting various ingredients: they are also used as receivers, and take different names from their different shapes. Besides these advantages, the long necked cucurbits are singularly useful in separating pure alkaline or volatile spirits and salts from water, oil, and volatile earth. Cucurbits are more used for digesting and subliming, than for distilling. See Dictionary of Chemistry.

Cucu'rbita citru'llus. See Citrullus.

CUCURBITA'CEÆ, (from *cucurbita, a gourd).* An order in Linnæus's fragments of a natural method.

CUCURBITI'FERA MALABARI'ENSIS, (from *cucurbita, a gourd*, and *fero, to bear*). Nux vomica.

Cucurbiti'fera tri'folia I'ndica fruc'tus pu'lpa cydo'nii æ'mula. See Covalam.

CUCURBI'TULA, (a dim. of *cucurbita;* so called from its shape). A cupping glass; an instrument of great antiquity, being mentioned by Hippocrates, and formerly made of horn or metal. Different names have been given to them, according as they were used with or without scarifications, as *leves*, *arentes*, *siccatæ*, &c. The ancients employed them with narrow mouths for drawing more forcibly, and with wider mouths for drawing more gently, as they were exhausted by the breath. The principle on which all cupping glasses act, is the exhaustion of the air; from which the parts under the glass rise in it, and their vessels, when the

pressure is removed, are distended. The delicacy of the operation consists in exhausting the glass so far that the vessels under it may be filled, but not that the edges of the glass may press so firmly around as to impede the circulation; a medium, it may be supposed, easily preserved: yet the operation, except in the hands of professed artists, often fails. The failure is not of consequence when cupping only is employed; but if evacuations are also required, this error renders them trifling or ineffectual. When scarifications are not wanted, it is termed *dry cupping*.

The old mode of applying a cupping glass, now obsolete, was to expel the air by heat: the wick of a spirit lamp, or a little inflamed tow, was put within the cupping glass, which was, after a little time, applied to the part, to which it adhered with a strong attraction, as the air was rarefied. At present the air is exhausted by an air pump. The use of dry cupping is to invite the fluids to the place where the glass is applied, in order to remove them from the internal parts. The operation should be repeated until the part becomes red, and is in pain. It very nearly resembles, in its operation, blisters; and the scarifications supersede the use of leeches. We have found them equally effectual.

When scarification is used with cupping, the part should first be dry cupped until it appear red; then the incision should be made with the scarificator. If scarifications are to be made in several parts, it is more convenient to begin below and proceed upwards. After the scarifications are made, the air must be excluded from the glass, when, from the pressure around, the vessels usually bleed freely. When the operation is ended, to stop the bleeding a little spirit of wine may be applied; but sometimes warm water, with a slight pressure, is sufficient.

This operation seldom seems necessary, except when blood cannot be obtained by opening a vein in the usual manner. Celsus, lib. ii. cap. 11, observes, that "cupping is needful when the body is to be relieved in some acute disorder, and yet the strength does not admit of a loss of blood from the veins." It is true, that the slow dischaage of blood by cupping does not lessen the force of the arterial system so much as the same quantity of blood suddenly taken away from a vein; but in such cases, as Celsus supposes, some evacuation is often necessary, and no other is admissible except bleeding by leeches.

Cupping has been preferred in apoplexies, epilepsies, and some kinds of convulsions, because the spasms are supposed to be increased by the speedier discharge of blood which is the consequence of phlebotomy; but they are in reality more useful, because the plethora is local rather than topical.

See Cœlius Aurelianus, Celsus, Morgagni, Hoffman, Haller, Bell's Surgery, vol. i. p. 154, &c. White's Surgery, p. 180.

CU'DU PARI'TI. (Indian.) A shrub which grows in Malabar: it flowers through all the year. The leaves are anodyne when externally applied; and the fruit checks a dysentery. Raii Hist.

CUE'MA, vel YE'MA, (from κυω, *to carry in the womb*). See Conceptio and Embryon.

CULBI'CIO. A strangury, or rather heat of urine. See Dysuria.

CULE'US, or CULLE'US. A Roman measure containing twenty amphoræ; the largest liquid measure among the Romans: sometimes it signifies a leather sack.

CU'LI FLOS. See Cardamines.

CULINA'RIUS SAL, (from *culina, a kitchen*). The culinary or alimentary salt. It is generally called common or sea salt, because of common use in culinary preparations. Sea salt consists of the pure muriat of soda, and the salt usually called Epsom salt, or salt catharticum amarum. When sea water is evaporated, the first crystals are the culinary salt. When these are separated from the remaining brine, and the evaporation continued, crystals of the bitter purging salt of the shops follow. The constituents of the culinary salt are, the muriatic acid, and a mineral alkaline salt. See Marinum sal, and Chemistry.

CULI'LTLAWAN. See Cort. culilawan.

CULLENIAN SYSTEM. The Cullenian system forms an era in the history of medicine, which, from various causes, may perhaps escape the notice of future inquirers; for the physicians on the continent had scarcely escaped from the trammels of Boerhaave, before the eccentricities of Brown caught their attention; and to him they look for that revolution in the science, which taught that the functions of a living being were to be explained only by the laws of animation. Causes, already hinted at, have obscured the lustre of Dr. Cullen's fame; and it is left to a son to explain why the character of a father must be rescued from oblivion by strangers.

The early years of Dr. Cullen were spent in active life. He had few opportunities for study, but many for observation. Nature had given him an intuitive sagacity, which caught at every fact, and stored it advantageously for future use. Of his chemistry we have had little information; but, during his holding the professorship of chemistry, he gave a private course of pathology. This must be explained. The institutions of medicine comprehend physiology, pathology, hygieinè (the doctrine of health), and therapeutics, the general doctrines of remedies. In the university of Edinburgh, at that period, the professor of the institutions confined his attention chiefly, and almost exclusively, to the first branch. The other subjects, therefore, confessedly of importance, were left open to any enterprising teacher. Such, apparently, at that time was our author; for we have many reasons to convince us, that even at this time he aspired to be the founder of a sect. In the pathology he had the best opportunities for laying his foundation; and the additional advantage of illustrating his principles by experience in the clinical lectures, which he gave at this time in the infirmary. We have seen some extracts from these lectures, and find in them the germ of his future system; the embryo, already formed, which required only to be evolved and augmented.

His fame gradually expanded till the year 1763, when an accidental circumstance rendered it more brilliant and extensive. In 1763, Dr. Alston, the professor of materia medica, died in the midst of his course; and Dr. Cullen either offered or was requested to continue it. A common genius would have copied in the moment of exigency, or repeated, with the slight variation which his own opinions suggested, the lectures of his predecessor. Dr. Cullen started at once into a new path, bold, comprehensive, and original. We remember our first opinions of it; and now that thirty-five succeeding years have cooled our ardour, uninterrupted study

and practice added to our information, we can decidedly pronounce that his plan has not been excelled; has not *publicly* been equalled. We take it not from the improved edition of the author himself, but from the outline in the lectures originally delivered.

While our astonishment is excited by this apparently sudden display of talent, of united genius and industry, we must reflect that he had taken his degree; and, at the age of thirty-four, was elected professor of chemistry in Glasgow. This professorship he retained five years, when he was appointed professor of medicine in the same university. Five years after that period he became professor of chemistry at Edinburgh, viz. in 1756; and in 1763 did he continue the course of Dr. Alston. Seventeen years may have been, and probably were, employed in maturing a system which, with all its imperfections, is a splendid monument of genius; and though private practice, convivial hilarity, and the duties of his chemical chair, must have employed many of his hours; yet industry, a habit of early rising; above all, an able, comprehensive mind, which, at once catching the principle, included innumerable consequences, enabled him to retain a vast fund of medical erudition, and to complete those extensive views which seem already to have assumed a consistent form.

In 1765 he approached nearer to his object, by his appointment to the chair of the institutions of medicine, vacant by the death of Dr. Whytt; and, in 1769, the agreement between him and Dr. Gregory, to give alternately courses of the theory and practice of medicine, was carried into effect. These professors, at the same time, agreed to divide the clinical course.

It is not our subject to write the life of Dr. Cullen; but the events detailed are connected with our views of his system, and we have been enabled to add some facts, and correct some dates in the only narrative of his life which has any pretensions to accuracy, viz. that in the Supplement to the Encyclopedia Britannica, from our own knowledge.

The foundation of Dr. Cullen's system is, as we have hinted, considering the human body as a congeries of animated organs, regulated by the laws, not of inanimate matter, but of life, and superintended by an immaterial principle, acting *wisely*, but *necessarily*, for the general health; correcting deviations, and supplying defects, not from a knowledge and choice of the means, but by a pre-established relation between the changes produced, and the motions required for the restoration of health.

This principle, in its various ramifications, influenced every part of his theory of medicine. The circulation was no longer to be explained by mechanical laws; the angles at which the branches of the larger arteries divaricated, were shown to have little influence; lentor, viscidity, and acrimony, either acid or alkaline, were proved, if they existed, to have no influence in producing diseases. The whole was resolved into motions, regulated by the living principle, and chiefly influenced by the action or torpor of the extreme arteries.

This total revolution in the science was received by the younger with the stare of admiration, by the elder with doubt, suspicion, and dislike. From the system of Boerhaavè there had been hitherto no appeal; and to doubt his theory was to undermine the whole fabric of medicine. Dr. Cullen was certainly considered for a time as a fanciful innovator; but, whatever may have been the deviations from his system even in Brown and Darwin, still it must be considered that each adopted the same great principle, and explained the functions of a living system by the laws of animation.

It is singular, however, that it did not occur to those who animadverted on or opposed the Cullenian system, that it was by no means wholly new or fanciful. The connection of the state of the extreme vessels with the general system had been pointed out, in many places, by the industrious and attentive Hoffman; and the general regulations of the living principle, by Stahl. We have been often tempted to accuse Dr. Cullen of disingenuity in concealing the labours of Stahl. He slightly mentions one essay on "The Tertian, as the general Type of Fever," and his "Theoria Medica Vera:" chiefly with a view of combating his principle, that the mind provides for those exigencies by a knowledge of the change to be produced, and that its superintending power adapts the means to the end; but the commentaries on different parts of the latter, where the system is more fully developed and explained with the most logical precision, we mean in the inaugural dissertations published at Halle, during his presidentship, our professor never mentions. The dissertation, "De Motu Tonico," and "Æstus Maris Microcosmici," contain the principles of the Cullenian doctrine, though in no very inviting form or language.

We might now dismiss the subject, referring, for more particular information, to the different articles as they occur; but the admirers of Dr. Cullen will probably expect a somewhat more particular account of his doctrines. We shall, therefore, pursue them a little more minutely.

He considers the primordial stamina of the human body as fibrous. Such is the structure of the brain, the nerves, the muscles, and the various membranes; but these fibres are not, as Boerhaave supposed, connected by a cementing matter, but a peculiar solid, consisting of parts united by chemical attraction. The growth of the body he supposes to be owing to the extension of the arteries and the nutritious fluid prepared by the brain, and deposited in the interstices of the fibres by the nerves. This extension of the arteries is effected by the force of the heat; and on the proportion of this force to the resistance, many of the changes in the animal economy, both in its advancing and decaying state, are, he thinks, owing.

The muscular fibres he styles "the moving extremities of the nerves," and supposes them to be a continuation of the extremities of nerves. He denies that the muscles have a vis insita, independent of the nervous power, as Haller supposed; and thinks that the contraction of muscular fibres is only an increase of the common power of cohesion, by an accumulation of the nervous influence.

This influence he supposes not to be secreted by the brain from the blood; but to be generally inherent in the nerve, and, indeed, to be a part of it. Sleep and watching are not, therefore, owing to the exhaustion of the nervous influence or its accumulation, but to its state of torpor or excitement.

The simple solids he supposes, as already mentioned, to be a chemical mixture, consisting of fibres, with a more simple animal substance interposed. They differ in strength, cohesion, &c.; but in this respect they

follow the state of the constitution, or rather of the nervous system. From this all their deviations are derived; and to this all our views for the restoration of their healthy state must be directed. The fluids are formed also by the constitution. The superintending power regulates their deviations from their proper state of mixture, by increasing the different secretions adapted to carry off particular portions when in excess, or checking these discharges when the quantity of the whole mass or any of its component parts is deficient.

As a machine, the whole is regulated by the state of the brain, of the stomach, and of the extreme vessels. These mutually influence each other; and when one is disordered, the others suffer. When the spasmus periphericus of Hoffman exists, the stomach sympathises, and vomiting comes on, which is often not removed till sweat breaks. When the head is loaded, vomiting equally occurs; and an affection of the stomach will produce shivering, headach, palpitation of the heart, and almost every other complaint. The ligaments, particularly of the extremities, have, in our author's opinion, a striking connection with the state of the stomach; but this rests on some facts which are doubtful, or which may be otherwise explained.

From these principles all the leading traits of his system emanate. To pursue them in particular detail, or distinct complaints, is not proper in this place: they will frequently occur in almost every sheet of this work. In our opinion, it is a most astonishing effort of genius and ingenuity: when the period of its publication is considered, it is still more wonderful. The whole is combined with so much judgment, that it fills the mind as one whole: nothing is wanting; nothing redundant. The chain is complete; and it is a chain of facts supported by observation. To suppose it faultless would be ridiculous; yet those who oppose it, have borrowed from their master's powers the facts and arguments adduced against it. Dr. Cullen succeeded well; but his greatest success was what he professed to aim at, the improvement of his pupils' judgment; the raising a host of critics on himself.

It will have been obvious, from the preceding pages, that we have in general followed Dr. Cullen; or rather, that we have given a temperate view of our professor's opinions, adding to, modifying, and sometimes differing from, them. One very important addition we have professed to take from Dr. Brown, viz. accumulated and exhausted irritability; and one very material alteration we have made, in considering convulsions not as increased but irregular action. "As we are now *at shrift*," we may add, that we follow no man's *ipse dixit*. No opinion shall be hazarded in this work that has not been fully considered, brought to the test of experience, and examined in all its bearings and connections. If wanting, when "weighed in the balance," it shall be stated as uncertain, doubtful, or hazardous. At least, we will not knowingly mislead.

If we follow Dr. Cullen's system in its practical deductions, we shall not speak of it with equal commendation. As a practitioner, he was often feeble and indecisive; nor do his doctrines always lead to the most active and successful measures. The error is, however, chiefly in the application: we shall show that it is not in the principle. A striking instance of this error we shall have occasion to notice in the treatment of fevers. With a view to relax the spasm, the use of the antimonials was commenced early, and continued with somewhat too great pertinacity: but, if the spasm arose from debility, if the reaction was unable to conquer it, still less would a debilitating power succeed; and, in reality, while the employment of antimonials was eminently useful in the early stages, when the reaction was strong, and the general principle contributed to give a fatal blow to the doctrine of concoction, its promiscuous use has been highly injurious. We have now employed Cullenian language, not our own.

We have not mentioned our author's nosology, because it was not, in reality, a part of his system. It must rest on other grounds, and be the subject of a future article. It is only mentioned at present to point out a most important part of Dr. Cullen's instructions to his pupils, viz. the necessity of an accurate diagnosis. This he thought was best ascertained by nosological arrangement; and he added, what we believe to be strictly true, that no nosological difficulty can occur, which does not imply the defect of accurate observation, or lead to a more attentive examination of the symptoms of a disease.

CU'LMEN, CU'LMUS, (from κάλαμος, *a reed*). The STALK OR BLADE OF CORN OR GRASS. Culminiferous plants have a smooth jointed stalk, are usually hollow, and at each joint wrapped round with single, narrow, sharp pointed leaves: their seeds are in chaffy husks, as wheat and barley.

In grasses and corn, the culm or stalk corresponds to the caudex or trunk of trees; so that it generally denotes that part between the root and the ear or panicle. The stubble of corn remaining after the ears are cut off, is strictly the culmen.

CULMI'NIFERÆ, (from *culmen*, *the toft*). The twenty-fifth order in Linnæus's Fragments of a Natural Method.

CU'LTER, (from *colo*, *to cultivate*). A knife or spear. The third lobe of the liver, named from its resemblance. See AURIGA.

CU'LUS, (κουλος). See ANUS.

CUMA'NA. (Indian.) Called also *gacirma*. An Indian tree like that of the mulberry tree, whose wood is so hard that it strikes fire like a flint.

CU'MBULU. (Indian.) Called also *nux Malabarica unctuosa flore cucullato*. A tall tree growing in Malabar, the root of which is used in a decoction with rice for common drink in fevers. Neither this nor the cumana is to be found in the systems of the botanists.

CUMINOI'DES, (from κυμινον, *cummin*, and εἶδος, *likeness*). WILD CUMIN. Called also *cuminum sylvestre*, *pastinaca tenuifolia Cretica*, and *daucus odoratus Creticus*. *Lagœcia cuminoides* Lin. Sp. Pl. 294.

This plant grows in Crete: the seeds only are in use; they are carminative. Raii Hist.

CU'MINUM. CUMIN. (From κυειν, *to bring forth*; because it is said to be efficacious in curing sterility.) It is also called *cyminum* and *fœniculum orientale*. It is the *cuminum cyminum* Lin. Sp. Pl. 365.

This plant resembles fennel, but is much smaller; produces longish, slender, plano-convex seeds, of a brownish colour, with yellowish striæ; is annual; a native of Egypt and Ethiopia. It is cultivated in Sicily and Malta, from whence it is brought to us, chiefly for

its fruit, which has an aromatic, sharp, and slightly bitter flavour; a strong and not unpleasant smell.

The Dutch mix the seeds with their cheeses, the Germans with their bread; and pigeons are fond of them. Water takes up their odoriferous particles by infusion, though but little of their taste. Distilled with water they afford a pungent oil, which resembles in flavour the seeds. Rectified spirit extracts their whole virtue: the spirituous extract is very warm, moderately pungent, and not a little nauseous.

These seeds are carminative and stomachic, and possess these powers in an equal or superior degree when compared with the other plants of the umbelliferous class; but they are rather unpleasing. Externally they are discutient and antiseptic; affording, when applied to the stomach, a warm and salutary stimulus.

The *cataplasma cumini*, formerly *theriaca Londinensis*, of the London college, consists of cumin seeds, one pound; bay berries, the leaves of water germander dried, Virginia snake root, of each three ounces; of cloves, one ounce: with honey equal to thrice the weight of the powders. (Ph. Lond. 1788.) This was formerly applied to mortified parts as an antiseptic, but is now seldom used, though by no means an ineffectual remedy.

Emplastrum cumini, consists of Burgundy pitch, three pounds; yellow wax, cumin seeds, caraway seeds, and bay berries, of each three ounces. The pitch and wax are melted together, the seeds and berries are gradually added and stirred well together. (Ph. Lond. 1788.) This is considered as a suitable application to encysted and other tumours, which suppurate imperfectly. See Miller's Dictionary. Lewis's Materia Medica. Raii Hist.

Cu'minum Æthio'picum. See Ammi verum.

Cu'minum pra'tense. See Carum.

Cu'minum siliquosum, is the codded wild cumin. It grows in Spain, flowers in May, and produces the same effects, medicinally, as the poppy. *Hypecoum pendulum* Lin. Sp. Pl. 181.

Cu'minum sylvestre. See Cuminoides.

CUNEA'LIS SUTU'RA, (from *cuneus*, *a wedge*). The suture by which the os sphenoides, or cuneiforme, is joined to the os frontis.

CUNEIFORME OS, (from *cuneus*, *a wedge*,) *clavicula*, *cavilla*, *Chalcoideum os*, *Basilare os*. A name of the *os sphenoides*, from its being wedged between the other bones. Also the third bone of the first row in the wrist; called so from its appearing like a wedge sticking between the two rows. See Carpus.

Cuneiforme os exte'rnum, or *chalcoideum externum* of the tarsus. At its posterior edge it joins the os naviculare and os cuboides; it supports the metatarsal bone of the toe next the little one, and that next the great one and of the middle toe. The os cuneiforme medium vel minimum, is still more wedge-like than the former; it sustains the metatarsal bone of the toe next to the great one. The os cuneiforme internum vel maximum sustains the os metatarsi of the great one. All these are cartilaginous at the birth of children. These bones are also called *chalcoidea ossicula*.

CUNI'LA SATI'VA, (from κονιλη). See Satureia sativa.

CU'PELLA, (from *kuppel*, Germ.). Called also *copella*, *catellus cinereus*, *cineritium*, *patella docimastica*, *testa probatrix*, *exploratrix*, or *docimastica*. A cupel or test.

These are vessels used for separating baser metals from gold or silver; they are made of earth, and are hollowed like flat cups, from which they have been named: they resist every degree of fire that is needful to keep any metal in fusion, and retain these metals when fused; but the calces of some metals, particularly of lead, penetrate the common cupels. The ashes of bones or of plants that have been calcined are therefore employed, though Cramer prefers those made with plaster: and later chemists prepare them of gold or platina. The bone ashes must be perfectly calcined, then levigated; after which they must be formed into a paste, moulded into their proper form, and burnt in a potter's furnace. See various directions concerning them in the Dictionary of Chemistry.

CUPELLATION. A chemical operation by means of a cupel. It is employed to separate the purer from the baser metals, by scorifying the latter.

CUPERO'SA, (from *cuprum*). Copperas.

CU'PHOS. Light. When applied to aliments, it imports their being easily digested; when to distempers, that they are mild.

CUPRESSUS, (απο του κυειν παρισους τους ακρεμονας, because it produces equal branches). Called also *cyparissus*. Cypress tree. *Cupressus sempervirens* Lin. Sp. Pl. 1422. It is a tall evergreen tree, native of the warmer climates, bearing male and female flowers on the same branches: the leaves are slender, and so are the branches, which spread, forming a cone, the apex of which is the top of the tree; the fruit is a kind of nut called *galbulæ* and *glabulæ*, as large as a walnut, and astringent. The flowers have an agreeable odour, and have been used in conjunction with some other ingredients for making an oil, by infusion with olive oil, named *oleum cuprinum*.

CUPRESSI'NUM. Cypress wine. See Cedrinum.

CU'PRI AMMONIA'TI A'QUA, (from *cuprum*, *copper*,) *olim*, *aqua saphirina*, called *collyrium cæruleum*. Take of lime water, one pint; sal ammoniac, one drachm; let them stand together in a copper vessel until the ammonia is saturated. Phar. Lond. 1788.

Cu'pri preparatio'nes. preparations of copper. See Æris flos.

Cu'pri rubi'go. See Ærugo æris.

CU'PRUM, (quasi *æs Cyprium*; so called from the island of Cyprus, from whence it was brought). See Æs. In this article we chiefly enlarged on the chemical properties of copper, reserving our account of its medical virtues and its different preparations to this article, where it would be more naturally sought.

In a medical view, copper supports, in a singular degree, the canon of Linnæus, that medicines differ from poison, not in quality, but in power. Its quality is not essentially different from those of iron and zinc; yet copper, in a moderate quantity, disorders the stomach and bowels, producing inflammation and its most fatal consequences. In moderate doses, like all other metals, it is a sedative, a tonic, or antispasmodic. When taken in larger quantities, it produces nausea, with a constant taste of the copper remaining in the back part of the fauces: violent vomiting; the most dreadful oppression on the breast; the most acute pains of, and a

burning heat in, the stomach; colic; vertigo; bloody stools; watchfulness, increasing to delirium; faintings; convulsions; paralysis; and apoplexy; frequently with eruptions on the skin; sometimes resembling lepra.

Such are nearly the symptoms arising from copper imprudently or accidently taken; and the authorities which now lie before us of the dangers arising from it, would fill more than our page. Yet such is the nauseous taste of this metal, that, in general, it guards the victim from its influence; for the flavour of copper would certainly alarm the most incautious person of its danger, if it approached under the disguise of aliment. In medicine it cannot be always discovered; and the great danger of employing vessels which have any proportion of copper in their composition, has been properly pointed out by Mr. Blizard and others.

When copper has been inadvertently swallowed, emetics are seldom necessary. The vomiting they excite is sufficiently active; but should sickness, with violent pain in the stomach, ensue without vomiting, as sometimes happens, a few grains of the vitriol of zinc will be effectual. If an emetic is not required, mucilaginous substances, as oil, butter, and milk, will be useful; and, with these, an alkali will contribute to mitigate the virulence of the poison. Each of these meet in soap. The most appropriate antidote, however, is the sulphurated alkali (hepar sulphuris), which may be given with milk or with mucilages.

The most common artificial forms of copper, as verdigris, æs ustum, &c. we have noticed in their proper places. We shall therefore mention a few more rarely described. The *filings of copper* are recommended by Struve in the bite of a mad dog; and this preparation has been formerly recommended as a laxative, a diuretic, and a sialagogue. It is recommended also by Cothenius in malignant and venereal ulcers.

The *flos æris* is copper in a capillary form, which it acquires by sudden cooling; and it has been recommended as an attenuant by Dioscorides. The *sulphur of copper* is a dark green powder, prepared by precipitating copper from an acid by means of a plate of iron. This precipitate is triturated with four parts of quicksilver in a glass mortar, and then suspended for a month in a gentle heat; after which the copper is separated, by triturating the mixture with rain water. It has been recommended in epilepsies, but has deceived some of its warmest patrons.

Various are the liniments, cerates, and plasters, to which the preparations of copper impart their colour, and give a name. These, however, belong to extemporaneous prescriptions, which we shall afterwards notice; yet as not generally known, we may mention the following.

The *balsamum viride* consists of verdigris, boiled with turpentine and linseed oil. It has been considered as powerfully deturgent in old foul ulcers.

The *cera viridis*, employed by Platner in softening, or rather eroding, corns, consists of verdigris, combined with yellow wax, resin, and turpentine. This greatly resembles a plaster highly recommended in the Journal de Medecine, composed of verdigris, combined with yellow wax, and gum ammoniac.

The *magisterium cupri* of Sala differs little from the green crystals of copper; and the *aqua viridis* of Hartman is composed of equal portions of verdigris and burnt alum, a double portion of honey, with thirty-two parts of white wine. It is supposed to be highly useful in cleansing foul ulcers of the gums, and other parts, whether they proceed from a venereal or a scorbutic source.

The *tinctura cupri alkalina* differs little from the ammoniated copper, to be afterwards described. It is a solution of calx of copper, by means of ammonia, with the alkali in excess. Boerhaave recommends it to be prepared by the filings of copper; Hecker, with the erugo; but both recommend it for cancers and venereal ulcers. It is also supposed useful in tooth ach, conveyed by means of cotton to a hollow tooth; by Lieb, in epilepsy; by Boerhaave, in dropsy. Many *blue lunar tinctures* of the ancients are probably derived from the alloy of copper in silver; and the *tinctura martis cærulea* of the Wirtemburg Pharmacopœia seems to derive its virtue and its colour from an accidental mixture of copper.

The *tinctura æris vinosa*, so effectual, if we believe Sala, in destroying leucomata on the eyes, is prepared from filings of copper in wine. The more common extemporaneous formulæ we shall add.

Cupri Calx. ℞. Cupr. vitriolat. q. v. solvatur in aquæ distillatæ, q. s. et adjiciatur kali præparati portio propria, donec cuprum ad vasis imum descendat, deinde bene lavetur, et siccetur.

Cupri ammoniati liquor. ℞. Calcis cupri ʒ i. aq. ammoniæ ʒ ij. These are to be digested without heat till the copper is dissolved.

Cupri acetati injectio. ℞. Æruginis gr. x. olei amygdal. ʒ iv. m. triturationе donec solvatur in oleo ærugo.

Cupri ammoniati injectio. ℞. Liquor. cupri ammoniati, g. xx. aq. rosæ ℥ iv. m.

Cupri vitriolati injectio. ℞. Cupri vitriolati g. iv. aquæ distillatæ ℥ iv. m.

These injections are are of the astringent class, and calculated for the latter stage of gonorrhœa. The ammoniated one is considered by Mr. Foot, and recommended, as a remedy preferable to all others of this nature. Practitioners should be cautious in the use of astringents: they should be first introduced in very small quantity, and gradually increased; indeed, till the inflammation is considerably abated, they are scarcely at all admissible, and much mischief has been done by their too early administration. The following has been highly useful in that symptom called phimosis, which has been supported by ulcerations within the prepuce.

Cupri vitriolati composita injecto. ℞. Cupri vitriolati g. vi. aquæ distillatæ ʒ iv. aquæ lithargyri acetati g. xx. m. Cupro vitriolato prius soluto, adjiciatur lithargyrum acetatum, et interpræputium, et glandem penis injiciatur, et pro ratione effectus caute repetatur.

Cupri vitriolati pilulæ. ℞ Cupri vitriolati g. xx. Olibani, extract. cinchonæ, āā ʒ ij. syr. sacch. q. s. ut fiant pilulæ quadraginta. Dosis, ab una ad quatuor indies. These are calculated to remove gleets, and are sometimes advantageous in the latter stages of gonorrhœa.

Cupri vitriolati camphorata aqua. ℞. Cupri vitriolati, bol. gallici āā ʒ ss. camphoræ ʒi. aquæ ferventis lb iv. Adjiciatur aqua ingredientibus aliis, et quando frigida fiat, per chartam coletur. This is the camphorated water of Bates in a diluted state; it is chiefly

employed as a collyrium, but may be usefully applied to foul ulcers.

Cuprum ammoniacum. AMMONIACAL COPPER. (Phar. Edin.) Take of purest blue vitriol, two parts; volatile alkali of sal ammoniac, three parts: rub them briskly in a glass mortar till the effervescence is finished, and they run calmly into a violet coloured mass, which is to be rolled up in a piece of bibulous paper, and exsiccated, first upon a chalk stone, and afterwards with a gentle heat, then put up for use in a close phial: this is a very active medicine, used for the same purposes, and in the same manner, as VITRIOLUM CÆRULEUM, which see.

It may appear singular that the mixture of two *dry* powers should be ordered to be dried; but the moisture on mixing them arises from the water of crystallization. The theory of this preparation is not well understood, and in general there is a considerable waste of the volatile alkali, for all that is added to redissolve the copper, seems to be afterwards evaporated. This objection applies with more force to the usual method of preparing it in the humid way. The most effectual, but the most expensive, mode of preparing it, is to precipitate the copper from a solution of its vitriol by means of ammonia, adding more of the latter till the copper is redissolved. This solution must be concentrated by evaporation, and then an equal quantity of alcohol added, which occasions a separation of silky blue crystals. In the cuprum ammoniacum there is evidently some portion of sulphuric acid, and the other ingredients are an oxide of copper and ammonia. It has been chiefly employed in epilepsies, and its virtue seems to be increased by the addition of the oxide of zinc. We know not this can produce any chemical change on either, yet, when combined, each may be given in a larger dose.

CUR. POST. An abbreviation of curæ posteriores, the frequent title of a second part, or supplement.

CU'RA AVENA'CEA. A decoction of oats and succory roots, with a little nitre and sugar. It was formerly used as a common drink in fevers.

CUR'CAS. (See RICINOIDES, under CATAPUTIA MINOR.) Also an edible root, probably of a species of *arum*.

CU'RCUMA, (from the Arabic term *carkim*). TURMERIC. *Crocus Indicus, terra marita, cyperi genus ex Indiâ, cannacorus radice croceo, manjella, kua, kaha;* by the Indians, *borri-borri;* by the Portuguese, *saffran de terra;* the Arabians call every root of a saffron colour by this name, *curcuma*. There are two species, the long and the round rooted; but the first is the best, and chiefly used. It is the *curcuma longa* Lin. Sp. Pl. 103. INDIAN LONG ROOTED TURMERIC.

The root is the only part in use; brought from the East Indies; small, tuberous, and knotty; externally greyish coloured, but internally of a deep lively yellow tending to red. It hath a slight aromatic and bitterish taste, and somewhat disagreeable smell. It gives out its virtues both to water and to spirit; by distillation with water, a small quantity of essential oil is obtained; and from the remaining decoction a bitter extract is procured by evaporation. The spirituous extract retains nearly the whole virtue of the root.

It has been thought a powerful remedy in obstructions of the viscera, particularly the abdominal; in icteric and uterine disorders. The dose may be from a scruple to a drachm, but it is now very rarely used. The powder is often mixed with yellow peas, ground fine; the roots should be chosen of the largest size, fresh, compact, heavy, not easy to break, of a lightish yellow without, and a deep reddish yellow within.

It is chiefly consumed by the dyers. See Lewis's Mat. Med. Neumann's Chemical works.

CURD. See CASEUS and LAC.

CURIME'NTOS. The Portuguese appellation of some pains in the limbs, which are relieved by a warm bath, made with an astringent bark produced in the Brasils.

CU'RMI, (from κιρνω, *to mix.*) A drink made of barley, which is used instead of wine; such a liquor is employed in Iberia and Britain, which is prepared of wheat. (Dioscorides.) It is not difficult to recognise in this description our beer or ale; perhaps our white (wheat) ale.

CU'RSUMA, or CURTUMA. See CHELIDONIUM MINUS.

CURSU'TA. See GENTIANA PURPUREA.

CU'RTA, (from *curto, to mangle*). See COLOBOMATA.

CURU'RU. See BUFO.

CURU'RU A'PE. (Indian.) A scandent tree which grows in Brasil, and bears pods with seeds like beans: these seeds destroy fish, and produce intoxication in the inhabitants; the Omaguas of Brasil. It is the *paulinia curruru* of Lin. Sp. Pl. 524; or rather the *c. pinnata*, 525.

CURU'TU PA'LA. (Indian.) A shrub which grows in Malabar. The bark of the root boiled in water cures a diarrhœa; boiled and taken with it, a dysentery. *Tabernæmontana alternifolia* Lin. Sp. Pl. 308.

CUSCU'TA. *Cuscuta major, cassuta, epithimum.* DODDER, and DODDER OF THYME. The *cuscuta Europæa* Lin. Sp. Pl. 180, α and β. It is of the number of plants called parasitical; it hath no leaves; grows on thyme, and consists of a number of slender juicy filaments, producing small heads of white or reddish flowers, followed by roundish capsules full of minute seeds. A large kind, known by the name of HELL WEED, is common on heaths, upon furzes and nettles. This hell weed destroys the vegetables which afford it nourishment, whence its name: it is also called *diaboli intestina*, the DEVIL'S GUTS.

Dodders are found on almost all plants; supposed to partake of the virtues of those on which they grow. They are hardly known in practice; but recommended as a remedy for rheumatism and gout; as aperitives, antiscorbutics, and gentle laxatives.

CUSPIDA'TUS, (from *cuspis, a point* or *spear*). POINTED. In botany the term regards the apex only, when the leaves have the apex sharp like a spear, or terminating in a bristly point. Some of the teeth are called *cuspidati*. See DENTES.

CU'SPIS, (from *caspæ*, Chaldean, a shell or bone, with which spears were formerly pointed). Properly the point of a spear: but it is applied to the glans penis; and is also the name of a bandage.

CU'STOS O'CULI. An instrument to preserve the eye in an operation.

CUTA'MBULI, (from *cutis, the skin*, and *ambulo, to walk*). A name of some worms either under the skin or upon it, which, by their creeping, cause uneasiness and pain.

CUTANEI MORBI. If cutaneous diseases have been imperfectly, and with too little discrimination, described or considered by the practical physician, they have claimed a large share of the attention of nosologists, in whose systems each blemish on the skin has been magnified into a genus of disease. We cannot help smiling when to the last of the Linnæan genera in his nosology, which is only a *freckle*, the following pathetic exclamation is added:

> Hei mihi! tot mortes homini quot membra, malisque
> Tot sumus infecti, mors ut medicina putetur.

In one view, the attention of nosologists to these diseases was properly employed, and, above all, the luminous terseness of the Linnæan language, viz. for the purpose of distinction; yet, were criticism our object, we could show that both Linnæus and Sauvages have failed in attaining this end; nor was accurate discrimination to be probably obtained without coloured plates, resembling those of Dr. Willan. Former authors gave little assistance: Mercurialis was too concise and imperfect; Plenck often obscure and inconsistent; Lorry, in his quarto volume, superficial and indistinct: and the ancients imperfect, confused, and inaccurate in their descriptions. In fact, previous to the appearance of Dr. Willan's work, our best assistant was Sauvages, in his larger work on nosology.

As we, in general, approve of Dr. Willan's arrangement, we shall first explain it, with his own remarks, so far as he has proceeded, adding those in the orders which have not appeared, that their arrangement suggests; after which we shall subjoin what appears to us an improved order, and an outline of the pathology of those complaints: the latter attempt, we believe, is new, and therefore, we trust, its imperfections will be excused.

Dr. Willan's orders are natural ones, viz. pimples, scales, rashes, vesicles, pustules, tubercles, and spots. The arrangement of these orders is of little importance; yet it has been suggested that it would have been more correct to have placed those first in which the protuberance was inconsiderable, and to have proceeded according to their increasing magnitude, as spots, rashes, pimples, scales, vesicles, pustules, and tubercles. Perhaps it would be still better, keeping this idea at the same time in view, to divide them into febrile and not febrile; including in the first class, pimples, pustules, vesicles, and rashes, and the others in the second. As the genera are introduced by Dr. Willan, this arrangement is not perfectly correct; but we shall employ it as more suitable to our pathological enquiries.

The pimples are styled PAPULÆ: they are small elevations of the skin, with an inflamed basis rising to a point, with either no, or a very imperceptible, fluid. When any fluid is present, it is serosity, sometimes peculiarly acrid, and never becomes purulent, but occasionally desquamating in branny scales. The genera included by Dr. Willan in this order are, the *strophulus* (the red gum, a vulgar corruption of the red gown, from the generally diffused colour); the *lichen* (the eruption in the spring, or from heat); and the *prurigo*, or the pimples which arise with general itching. The term pimples, or the equivalent appellation in different languages, has been employed with little accuracy. In our author's definition they are properly and strictly limited; perhaps too strictly. The *prurigo* he has not, we think, properly defined. It is an itching of the skin, with small papulæ, seldom discoloured, with very slight fever, and without contagion. All these genera are connected with a febrile state of the constitution.

In the PUSTULES which follow, the little inaccuracy of which our arrangement is liable appears more conspicuous. Few are febrile diseases; but the itch, in its appearance, connects this order with the pimples, and the introduction of variola reduces it to the febrile complaints: nor, indeed, is the tinea wholly free from the suspicion of being originally a febrile indisposition.

The genera are, *scabies* (itch); *impetigo* (a running scab); *ecthyma* (an ulcerated tetter); *porrigo* (scald head); and *variola* (small pox). The itch, certainly, at times degenerates into the impetigo; and sometimes, in a secondary chronic state, forms distinct pustules.

The VESICULÆ contain the following genera, viz. the *varicella;* the *pemphigus;* the *pompholyx; miliaria; erysipelas; herpes* (shingles); *eczema* (heat eruption); and *aphtha* (thrush). There may be some doubt of the propriety of admitting aphtha as an affection of the epithelion, though it be a continuation of the skin. In that case, syphilis, cynanche maligna, and mercurial sores, should have a place as cutaneous diseases. In this order the genera are arranged according to the magnitude of the vesicle, except in the case of the varicella, to connect this with the former order. Each, except perhaps the eczema, is preceded by fever, as we shall show under the different heads. In the last fasciculus, we perceive that Dr. Willan has made some alteration in his arrangement, by including the erysipelas, the pemphigus, and the pompholyx, in a separate order, which he styles BULLÆ; but it is unnecessary to notice it particularly, as it does not materially alter our present views.

The RASHES, EXANTHEMATA, contain the *urticaria* (nettle rash); *rubeola* (measles); *scarlatina* (scarlet fever); *roseola* (rose rash); *purpura* (scorbutic rash); *erythema* (red rash); and the *iris* (the rainbow rash). This, with the exception of the urticaria, whose vesicles sometimes rise above the skin, and might, perhaps, be with propriety arranged in our author's new order, bullæ, form a truly natural association.

The cutaneous diseases not attended with fever, are the MACULÆ (spots); SQUAMÆ (scales); and TUBERCULA (tubercles). The first contains those little insignificant deviations which do not constitute diseases; the second are disgusting and obstinate complaints; and the tubercles are often the most frightful masses.

The genera of the order MACULA are, *ephelis* (freckles); *nævus* (marks supposed to be the effects of the mother's longing); and *spilus* (a mole).

The genera of the SQUAMÆ are, the *lepra* (the true leprosy of the Greeks); *psoriasis* (the scaly tetter); *pityriasis* (the dandriff); and *icthyosis* (the fish skin). These are, perhaps, only forms of the true lepra.

The TUBERCULA are, *verruca* (a wart); *molluscum* (the small soft wen); *vitiligo* (soft smooth tubercles); *acne* (stone pock, the red tuberculated face); *lupus* (noli me tangere); *phyma* (boils or carbuncles); *frambœsia* (yaws); *elephantiasis* (Arabian leprosy).

We shall add what we consider an improved arrangement of these diseases; but should we err in thinking it such, it will detain the reader for a short time only.

A. *Febrile cutaneous diseases.*

1. PAPULÆ. *Gen.* PRURIGO LICHEN STROPHULUS.
2. EXANTHEMATA. RUBEOLA, SCARLATINA, ROSEOLA, PURPURA, ERYTHEMA, IRIS.
3. VESICULÆ. VARICELLA, MILIARIA, ERYSIPELAS, HERPES, ECZEMA, APHTHA.
4. PUSTULÆ. SCABIES, IMPETIGO, ECTHYMA, PORRIGO, VARIOLA, FRAMBÆSIA.
5. BULLÆ. URTICARIA, PEMPHIGUS, POMPHOLYX.

B. *Not febrile.*

1. MACULÆ. *Gen.* EPHELIS, NÆVUS, SPILUS.
2. SQUAMÆ. LEPRA, PSORIASIS, PITYRIASIS, ICTHYOSIS.
3. TUBERCULA. VERRUCA, MOLUSCUM, VITILIGO, ACNE, LUPUS, PHYMA, ELEPHANTIASIS.

Cutaneous diseases of the febrile kind often depend on the discharge of some morbid, often a specific, cause; the slight cutaneous affections occasionally appear to be only irritation communicated from the stomach. In some instances the white of an egg, in others, fish poison almost immediately after being swallowed, certainly long before it can have entered the mass of blood will produce papulæ. A proof of its not being owing to any deprivation of the animal fluids is, the eruptions being removed on evacuating the stomach. When owing to poison in the blood, and fever is excited in consequence, the copiousness and violence of the eruption are greatly mitigated by the regulation of the febrile state. If the fluids are forcibly propelled, and carried to the exhalants, so as to pass off in the form of sweat, either from the fluid form or the rapidity of the secretion, a portion is stopped by the cuticle, and inflammation is the consequence. We can easily conceive, as in the case of miliaria, where no poison probably exists, that copious sweating in the irritable state of the arterial system, which occurs in puerperal cases, may occasion eruptions; and we consequently find that, by a duly regulated temperature, this inconvenience can be avoided. In small pox, where a specific poison really exists, the eruption can be always mitigated or even occasionally prevented, by similar measures, viz. remedies peculiarly adapted to lessen the fever. In these cases, the exhalants, which open under the cuticle, convey the fluids in no greater quantity than the pores of this inorganic membrane allow to pass; so that, though the acrimony is occasionally perceptible by a little prurigo, or by the smell, no pustules inflame or suppurate.

It was not without design that we mentioned the form of the fluid discharged; for in almost every instance, gentle perspiration appears better adapted to preserve health and remove diseases than sweating. The form of gas may be chemically more suitable to the morbid cause, than that of a fluid; and it is certainly better adapted to transude through the cuticle, both from its attenuation, and the gentleness with which it is conveyed.

Though we have pointed out, in general, the surface as the channel by which the cause is evacuated, yet there is a peculiarity in the order exanthemata, and in one genus of the vesiculæ, if indeed it be admitted, we mean the aphtha, viz. that the matter is carried to other membranes: in the two first genera, for instance, to the Schneiderian membrane and the throat; and, in the last, to the membranes of the brain; for erythema differs only from erysipelas in form. The small pox virus is sometimes poured on the tunica conjunctiva, sometimes on the throat, and the villous coat of the intestinal canal; but this is not its usual or natural outlet.

The pustulæ we have allowed not to be always febrile; yet they are often so, though the ecthyma and variola are obviously diseases of this kind: and the former includes the phlegmous. The scabies, though not febrile, has this peculiarity, that it is excited to action by warmth and a more generous diet; but the operation of these existing causes we cannot now examine, until the cause itself is more clearly understood. The existence of an animalcule, producing the diseases, has been lately denied. When, however, the itch has been repelled rather than cured, its form, on its return, is very generally pustular.

The kind of fever in these cutaneous diseases greatly differs. It is inflammatory or putrid, continued or remittent. In the bullæ it is generally remittent. For this variety no adequate reason can be assigned: but the continued form of fever is generally observable in those eruptions where the poison is of a specific kind; the remittent form seems rather suited to the sporadic or accidental eruptions.

Several diseases concur in their general nature with the cutaneous. The nearest is dysentery, which greatly resembles them in their pathology and cure. Epidemic diarrhœas from cold are not very different. Ulcerated throat, pertussis, and croop, are affections of the epithelion continued from the skin. But of these we must not now treat.

The cutaneous diseases not febrile are of two kinds, viz. affections of the cuticle, or of the parts beneath. The maculæ and squamæ are of the former kind; but the genera included under the first of these are not, as we have said, diseases. Mere pressure on the cuticle will produce squamæ, but the causes in general are different. They seem to arise from an acrimony often constitutional, which, however, has not always sufficient power to excite inflammation; or, more probably, they are the diseases of torpid habits little susceptible of inflammatory excitement. This acrimony, either natural or acquired, is gradually deposited under the cuticle till it rises in irregular masses, or, from the pressure beneath, assumes a scaly form. The porrigo might, perhaps, with propriety be referred to this order, except that, as a disease of the roots of the hair, its source is below the cutis.

The tubercles, we have said, are seated below the skin. The verrucæ are connected with the extremities of the nerves; but their origin is doubtful, and their cure uncertain. The other tuberculæ are enlargements of the sebaceous glands as the wens; depositions become morbid by stagnation, as the phymata; or effects of depraved fluids or broken constitutions, as the lupus and elephantiasis; to which the Italian disease, the pelagra, may be added. The tubercles of the elephantiasis are often most horrible in their appearance; and Sauvages has exhausted the *monstra horrenda informia ingentia* in the description. They occur, however, only in the decline of life, and are preceded by marks of a decayed constitution, or depraved fluids. The same appearances also precede the true lepra; but these considerations we must resume under their proper heads; q. v.

It will appear singular that we have referred frambæsia to the pustulæ. The disease is little known; and the best account of it, that of Dr. Adams, in the 6th volume of the Memoirs of the Medical Society, justifies the change.

CUTA'NEUS MU'SCULUS, (from *cutis, the skin;* belonging to the skin). See PLATYSMA MYOIDES.

CUTA'NEUM O'SSIS CO'CCYGIS LIGAMENTUM. It goes out anteriorly from the extremity of the os coccygis; is slender, and divides into two portions at the orifice of the anus, which run into the membrana adiposa, are inserted in the skin on each side of the anus by a kind of expansion, and continue to divaricate: they are lost on the sides of the perinæum.

CUTA'NEUS. See SPHINCTER ANI. There is also a nerve so called. See CERVICALES.

CUTA'NEUS INTE'RNUS NERVUS. It rises from the union of the seventh cervical, and first dorsal pairs, runs over the other brachial nerves, and passes down on the inside of the arm, between the muscles and integuments; it divides into two branches, which accompany one another as far as the inner condyle on one side of the vena basilica, being covered by the ramus medianus of that vein; then runs down towards the wrist, where it spreads, and on the beginning of the palm of the hand. The other branch passes backward along the integuments, and down to the little finger.

CU'TCH. See TERRA JAPONICA.

CUTI'CULA, (a dim. of *cutis, the skin*). The SCARF SKIN. The Greeks call it *epidermis*, because it is placed upon the true skin as a covering. It is more compact than the true skin, full of pores for the evacuation of what transpires through it from the body, though the best glasses do not enable us to discern them: it hath neither blood vessels nor nerves, therefore it is void of sense. Dr. Hunter thinks it an organised body, though its organization cannot be demonstrated; and there is not the slightest reason from its functions or diseases to consider it as such. The pores described by Leuwenhoeck have not been found by later observers. When abraded it is rapidly reproduced, and is greatly thickened by pressure, either external or from tumours below its internal surface.

The integuments, or the universal covering of the body, are the cuticle, the rete mucosum, the cutis, and the membrana cellularis: besides these, the old anatomists reckon the membrana communis musculorum, which does not exist; and the panniculus carnosus, which is only found in brutes. The rete mucosum is added by the moderns, and is found between the skin and the cuticle.

The cuticle is continued only over all the external parts of the body: in the cavities, as in the mouth, œsophagus, aspera arteria, intestines, &c. it becomes almost imperceptible, and not to be distinguished from the cutis vera. The external covering of these internal parts is called the *epithelium;* and the surface is rendered irregular by innumerable papillæ. No nerves nor vessels can be demonstrated to exist in the true cuticle.

In examining the pores, the cuticle seems to insinuate itself into them, to complete the excretory tubes of the cutaneous glands. The fossulæ of the hairs have likewise the same productions of the cuticle, and it seems to give a sort of coat to the hairs themselves.

The best method of separating the cuticle for examination is to macerate it in water, or to suffer some putrefaction to take place.

The cuticle is a medium betwixt the skin and the subjects of feeling, and moderates the impressions, which, without it, would be too painful. It is also said to moderate the perspiration, which, without it, would be too copious. This, however, is hypothetical. It seems to be a sheath which, in some degree, compresses the whole body, and gives a tone to the extreme vessels. To its relaxation the effects of warm bathing, a moist or a humid atmosphere, have been attributed. Yet, as a simple solid, it can be but inconsiderably contracted by cold or expanded with heat; and though we cannot deny it some power as a counterpoise to the distention of the subcutaneous vessels, that power is probably trifling.

The cuticle is very incorruptible, even when the subjacent parts are destroyed by sphacelus; and suffers the effect of caustics to act on the subjacent parts without itself being destroyed.

The colour of the cutis differs in different persons, and also in different parts of the same person; but it is owing to the difference in the rete mucosum that complexions are so opposite to one another. See Edinburgh Med. Essays, vol. iv. page 79.

In the second volume of the Medical Museum is a remarkable instance of a young man losing the use of his hands, by the cuticle being thickened and hardened in an extraordinary degree. He was a dyer, and by frequently cleaning brass wire in the mixture, which consists of the oil of vitriol, tartar, and alum, this complaint was gradually produced. His hands were quite stiff from the hardness of the cuticle; and on endeavouring to straighten the fingers by force, blood started from every joint. As the acid seemed to contribute much to the disease, an emollient liniment, with equal parts of olive oil and aqua kali, was ordered. After a few days one half of the aqua kali was omitted, and the yolks of two eggs added. By this means the hardened cuticle began to peel off; a new flexible one appeared underneath; he began to have some use of his fingers; and, after little more than two months, he obtained a perfect cure.

CUTICULA'RIS MEMBRA'NA, (from *cuticula*). See DURA MATER.

CUTICULO'SUS. See SPHINCTER ANI.

CU'TILLÆ. Certain cold fountains in Italy, mentioned by Celsus and Pliny, which were used in baths.

CU'TIO, (a *cutis duritie*, from the hardness of its skin). See ASELLI.

CU'TIS, (from κυ[illegible]ω, *to cover with a hide*, or from *cutan, a covering*; Chaldean). The SKIN. It is called by Herodotus, *anthrope*. It is a strong, thick, universal covering of the external parts of the body, immediately above the adipose membrane. It is composed of a close texture of fibres of various kinds, and of veins and arteries, variously disposed: where there are large orifices, it is gradually lost. Its inner surface is moulded upon the outer surface of the membrana adiposa, whose membranous part produced, seems to form the skin.

The skin, on its outside, is unequal: this is occasioned by the miliary glands, and the bulbs of the hair. It is naturally contracted; but when it is swelled, it is smooth. Upon its surface we observe the papillæ pyramidales, which are longer in some parts than in others, as in the fingers, where they are called *villi*. They appear in rows, each having two ranks contiguous, and are

the organs of touch. Opposite to the joints the skin is thin, and formed into plicæ, to admit of a free motion. Its whole surface, outwardly, is covered with the rete mucosum, and the cuticle.

The skin is thickest between the shoulders, and on the back part of the neck. Dr. Hunter says, that when the skin is once destroyed it is never regenerated, but the edges stretch considerably to form a covering: after that, a cicatrix, which is hardened flesh, completes the healing. The loss of substance is discovered by injections.

The outer surface is furnished with small eminences, called *papillæ pyramidales*, and the inner with the miliary glands. Fewer papillæ appear on the skin of the belly than elsewhere: the anterior portion of it is not only thinner and more compact than the posterior, but it may naturally be very much increased in breadth, to an extraordinary degree, without losing in thickness what it gains in breadth; and it is generally more difficult to pierce the skin of the belly with pointed instruments than of the back.

Though the best glasses cannot assist us to see pores in the cuticle, the naked eye can discern them in the skin, which is the seat of many diseases. Dr. Willan's late publication on these, has superseded the works of all his predecessors on cutaneous diseases of the skin.

CU'TIS ANSERINA. When from cold, fear, or terror, the skin is contracted, the bulbs of the hair are conspicuous, and the surface resembles that of a newly plucked goose.

CU'TT. See TERRA JAPONICA.

CY'AMOS ÆGYPTIA'CUS. See FABA ÆGYPTIACA.

CY'AMUS, (from κυω, *to bring forth*; from its fecundity). See FABA. It also signifies a wood louse in the form of a bean. See ASELLI.

CY'ANUS ORIENTA'LIS MAJOR MOSCHATUS, SWEET SULTAN, or SULTAN FLOWER. It is slightly cordial. *Centaurea moschata* Lin. Sp. Pl. 1286, α.

CY'AR, (from κεω, *to pour out*). Properly, the eye of a needle; but it is used to signify the orifice of the internal ear. See AURIS.

CYA'SMA. Brown spots in the lips, forehead, and hands of pregnant women.

CYATHIFO'RMIS, (from *cyathus*, *a cup*, and *forma*, *likeness*). In botany it means shaped like a cup, that is partly cylindrical, but expanding towards the top.

CYATHI'SCUS, (from the same). The hollow part of a probe, formed in the shape of a small spout, as in an ear-picker.

CY'ATHUS, κυαθος, a CUP, (from χυειν, *to pour out*). It was a common measure among the Greeks and Romans, both of the liquid and dry kind; equal to an ounce, or the twelfth part of a pint. The sextans was two ounces; the quadrans, three; the triens, four; and were named from the portion of a pint they contained. The quincunx was five ounces; the semis, six; the septunx, seven; the bes, eight; the dodrans, nine; the dextans, ten; the deunx, eleven; the as, sextarius, or cotula, twelve. The cyathus was made with a handle like our punch ladle. The Romans were used to drink as many cyathi as there were muses; also as many as there were letters in their patron's or their mistress's name. Pliny and Galen say, that a cyathus of the Greeks weighed ten drachms; though the latter elsewhere observes, that a cyathus contains twelve drachms of oil, thirteen drachms and one scruple of wine, water, or vinegar, and eighteen drachms of honey. Among the Veterinarii, the cyathus contained two ounces. The modern cyathus is ℥ i. ß.

CY'BITOS. See CUBITUS.

CYBOI'DES. See CUBOIDES.

CY'CAS CIRCINA'LIS seu I'NDICA. See PALMA JAPONICA.

CYCE'ON, (from κυκαω, *to mix*; also *cinnum*, or *cinnus*). It is a mixture, of the consistence of pap, made with wine, honey, flour, and cheese; perhaps the macaroni of antiquity. This name was given to some ptisans; and to a kind of salad in which cheese was mixed. See also ŒNUS ANTHINOS.

CY'CIMA, (from the same; so called from the mixture of the ore with lead to form litharge). See LITHARGYRUM.

CYCLA'MEN, EUROPÆ'UM, (from κυκλαζω, *to surround*; from the spiral coiling of its leaves and stalk). See ARTHANITA.

CYCLI'SCUS, (from κυκλος, *a circle*). See TROCHISCI. Also an instrument formerly used in the operation of the trepan.

CYCLO'PION. The WHITE OF THE EYE, (from κυκλοω, *to surround*, and ωψ, *the eye*). See ADNATA.

CY'CLOS. A CIRCLE. See BUCCÆ and ORBITA.

CY'CLUS METASYNCRI'TICUS. It is a long protracted course of remedies, persisted in for restoring health.

CYCNA'RION, (from κυκνος, *a swan*). A collyrium mentioned by Galen and P. Ægineta, from its colour resembling that of a swan.

CY'DAR. See STANNUM.

CYDER, a fermented liquor from the juice of apples. It runs so quickly into fermentation that much care is necessary to check the process, which would otherwise soon render it acid. When in a good state, it is a very wholesome drink, though accused of producing rheumatism. Cyder drinkers are generally thin, but firm and muscular; certainly subject to rheumatism, and occasionally to gout; but, on the whole, healthy and long lived. The sweet cyders of Herefordshire are less wholesome than the strong, more pungent, cyder of Devonshire.

Cyder, when made early, of unripe fruit, is sharp and acrid; apparently able, without any suspicion of lead, to occasion the colica pictonum. The poison of this metal, however, often impregnates, from accident or design, this otherwise wholesome beverage; and the most fatal colics and palsies are the consequence.

CYDERKIN, a small cyder made by infusing the mock in water, and afterwards pressing. It is weak, and must be drunk immediately. From pears it is called *perkin*, and is prepared in the same way.

CYDONA'TUM, (from *cydoneum*, *a quince*). A preparation of quinces with an addition of aromatics, described by P. Ægineta.

CYDO'NIA, (from *Cydon*, a town in Crete, where they grew). The QUINCE TREE; also called *cotonea*, and *malus cydonia*. It is the *pyrus cydonia* Lin. Sp. Pl. 687. The WILD QUINCE TREE.

The quince tree is low, a native of the rocky banks of the Danube, and common in our gardens. Its fruit resembles, in shape, round pears; hath an agreeable and

strong smell, an austere and acid taste; and its expressed juice, taken in small quantities, is cooling and restringent, useful in nauseas, vomitings, nidorous eructations, as well as some kinds of diarrhœas: by boiling, it loses its astringency. The seeds abound with mucilage, which they yield to boiling water. One drachm makes six ounces of mucilage, resembling in consistency the white of egg, recommended in aphthous affections, and excoriations of the mouth and fauces; though that of the simple gums appears at least equally efficacious. It is the most agreeable of all the mucilages, but is apt to mould in a short time.

The London college directs the following mucilage of quince seed:

Take of quince seed, a drachm; distilled water, eight ounces: boil with a gentle fire, till the water thickens; then strain through a linen cloth.

Formerly a syrup was made of the juice of the fruit, and a conserve, called *marmalade*, *jelly*, *miva cydoniorum*, or *diacydonium*; but it is now an article of confectionary only. See Lewis's Mat. Med. Raii Hist.

CYDO'NIA EXO'TICA. See COVALAM.

CYE'MA. See CUEMA.

CY'GNUS REGI'NÆ. A collyrium described by Ætius.

CYLI'CHNE, (from κυλιξ, *a cup*). A small vessel or box for holding medicines; a GALLI-POT, or PILL-BOX.

CYLI'NDRUS, (from κλινω, *to roll round*). The CYLINDER. A tube, equal in diameter from top to bottom. The fruits of plants are termed cylindrical, when they resemble a column. Martyn says, it is applied to stems, and some leaves, which are round, or rather without angles; but many times longer than they are thick. This, however, is more properly expressed by Columnar, because they are not of the same diameter from top to bottom. The term is applied to the calyx, to the style, and to the spike; as well as to masses of plaster. See MAGDALEONES.

CY'LLOS, (from κολλαω, *to make lame*). In Hippocrates, it a kind of luxation bending outwards, and hollowed within. Such a defect in the tibia is called *cyllosis*, and the person to whom it belongs is called, by the Latins, *varus* or *blæssus*, and is opposed to valgus.

CYLLO'SIS. See CYLLOS.

CY'MA, κυμα, *fœtus*, (from κυω, *to bring forth*). CYME. It properly signifies a sprout or tender shoot, particularly of the cabbage. Linnæus explains it to be an aggregate flower, composed of several florets, sitting on a receptacle, producing all the primary peduncles from the same point, but having the partial peduncles scattered or irregular; all fastigiate, or forming a flat surface at top. The cyme is either naked or with bracteæ. Flowers disposed in a cyme are called *cymose flowers:* hence cymosæ, the sixty-third of Linnæus's natural orders in Philosophia Botanica.

CY'MBÆ OS, (from *cymba*, *a boat*; so called from its supposed likeness to a skiff). See SCAPHOIDES OS.

CYMBALA'RIA, (from *cymbalum*, *a cymbal*; from the resemblance of its leaves to an ancient cymbal; also called *linaria*). IVY-LEAVED TOAD FLAX, or IVY WORT. It grows on old walls in Italy and Switzerland; and hath the same virtues as the navel wort. See ANDROSACES.

CYMBALA'RIS CARTILA'GO. See CARTILAGO CRICOIDES.

CYMBIFO'RME, (from *cymba*, a boat). See SCAPHOIDES.

CY'MIA. See CARORA.

CY'MINUM, (Arab. *kumin*). See CUMINUM.

CYMO'SÆ. See CYMA.

CYNA'NCHE. See ANGINA.

CYNA'NCHICA MEDICAME'NTA. Medicines appropriated to the cynanchę.

CYNA'NTHEMIS, (from κυων, *a dog*, and ανθεμος, *a flower*; because dogs are said to eat it). See CHAMÆMELUM FŒTIDUM.

CYNANTHRO'PIA, (from κυων, and ανθρωπος, *a man*). A kind of melancholy delirium, in which the persons affected believe they are changed into dogs. Sometimes the term for *hydrophobia*.

CY'NARA SCOLYMUS. See CINARA.

CY'NCHNIS. (Greek.) A small vessel to hold medicines.

CY'NICUS, (from κυων, *canis*). CANINE. Certain convulsions are called *cynic spasms*. See SARDONICUS RISUS.

CY'NIPHES, (from the Hebrew word *cnis*). FLIES or GNATS. Van Helmont.

CY'NNIA. See CARORA.

CYNOBO'TANE, (from κυων, *a dog*, and βοτανη, *a herb*). See CHAMÆMELUM FŒTIDUM.

CYNOCO'CTANUM. See ACONITUM.

CYNOCO'PRUS, (from κυων, *a dog*, and κοπρος, *dung*). See ALBUM GRÆCUM.

CYNOCRA'MBE, (from κυων, *canis*, κραμβη, *cabbage*; because dogs are said to eat it as a cathartic.) See MERCURIALIS, SYLVEST. and HIPPOMANES.

CYNOCY'TISIS, (from κυων, *canis*, and κυτισος, *the cytisus*; because it cures the distemper of dogs). See CYNOSBATOS.

CYNODE'CTOS, from κυων, *a dog*, and δακνω, *to bite*). Bitten by a mad dog.

CYNO'DES, (from κυων, *a dog*). CANINE.

CYNODE'SMION, (from κυων, *membrum virile*, and δεω, *ligo*). A ligature by which the prepuce is bound upon the glans; or the lower part of the prepuce.

CYNODO'NTES, (from κυων, *a dog*, and οδους, *a tooth*). See CANINI DENTES.

CYNOGLO'SSUM, (from κυων, *a dog*, and γλωττη, *a tongue*; from its resemblance). HOUND'S TONGUE.

CYNOGLO'SSUM MAJUS VULGARE CANINA LINGUA. GREATER HOUND'S TONGUE. *Cynoglossum officinale* Lin. Sp. Pl. 192.

It is a biennial plant; producing, the first year, large, soft, tongue-shaped, long, pointed leaves: the second year, a thick branched stalk, with pointed leaves joined to it, without pedicles: on the tops of the branches are dark purple flowers, which are followed by four flat seeds: The root is oblong, and of a dark brown or blackish colour on the outside, but white within. It grows in shady places, and flowers in June.

The roots that grow in moist grounds have a rank, but not very strong, smell, like those of the narcotic plants, which in drying is mostly dissipated; those on dry ground have very little smell. In medicine is useless, but it has been employed adversus pediculos.

CYNO'LOPHA, (from κυων, *a dog*, and λοφος, *a protuberance*). The ASPERITIES OF THE UPPER

DORSAL VERTEBRÆ: in dogs they are particularly eminent.

CYNOLYSSA, (from κυων, *a dog*, and λυσσα, *madness*). See LYSSA and HYDROPHOBIA.

CYNOMORON, (from κυων, *a dog*, and μωρον, *a berry*). See HIPPOMANES.

CYNOMY'A, (from κυων, *a dog*, and μυια, *a fly*). See PSYLLIUM.

CYNO'PTICON. See DACNERON.

CYNORE'XIA, (from κυων, and ορεξις, *an appetite*). See BOULIMUS.

CYNORRHO'DON, (from κυων, and ῥοδον, *a rose*). The DOG ROSE.

CYNO'SBATOS, (from κυων, and βατος, *a thorn*). The BERRY OF THE DOG ROSE. *Canirubus, cynocytis, rosa sylvestris vulgaris*, and *inodora*. It is the *rosa canina* Lin. Sp. Pl. 631. The WILD BRIAR, or HIP TREE. It is one of the largest plants of the rose kind, a native of Britain, grows wild in hedges, and flowers in June. The fruit contains a sour sweetish pulp, which is made into a conserve, by adding to a pound of the pulp of the berries (hips) of double refined sugar twenty ounces.

The hips are to be split, and the hairy seeds carefully separated. When the fruit is mellowed by standing a few days, it must be pressed through a hair sieve, and to the pulp the sugar must be added. Ph. Lond. 1788. If this caution is not observed in pulping the fruit, the rough prickly matter enclosing the seeds may be retained in the conserve, which will occasion uneasiness at the stomach, an itching about the anus, and sometimes vomiting. Though formerly it was ordered in large doses, to correct acrid bile, sharp urine, heat in the stomach, and esteemed useful in many disorders, as dropsies, calculous complaints, dysenteries, hæmorrhages, &c. it is now considered only as agreeable to the taste, and principally used as a vehicle to more efficacious remedies. There is also a reddish green, spongy, hairy excrescence, made by small ichneumon flies, on the stalks of this tree, called *bedeguar*, celebrated for its astringent power; but it has not yet been sufficiently tried to speak with great certainty of its power.

CYNOSO'RCHIS, (from κυων, *canis*, and ορχις, *a testicle*; from the testicular shape of its root). See ORCHIS.

CY'ON. (See CANIS.) Also the inferior part of the penis and prepuce. See PENIS.

CYOPHO'RIA, (from κυημα, *the fœtus*, and φερω, *to carry*). See GESTATIO.

CYPARI'SSUS. See CUPRESSUS.

CY'PERI GE'NUS EX I'NDIA. See CURCUMA.

CYPEROI'DIS GRA'MEN and CY'PERI. See GRAMEN CYPEROIDES.

CY'PERUS, (from κυπαρος, *a little round vessel*, which its root is said to resemble). A plant with vitreous leaves, and triangular stalks, bearing tufts of flowers on their top, followed by a triangular seed.

CY'PERUS LO'NGUS, ODORATUS, Lin. Sp. Pl. 67. The ORDINARY SWEET CYPERUS, or ENGLISH GALANGAL. It hath a long slender root, crooked and knotted; on the outside of a blackish brown colour, and white within; grows in marshy places, and the English is equal to the foreign ones.

The root hath an agreeable aromatic smell, and a bitterish taste; both water and spirit take up its virtues: by distillation a very small quantity of essential oil is obtained. It is chiefly noticed for its astringency.

CY'PERUS ROTU'NDUS, Lin. Sp. Pl. 67. *Creticus*, vel *syriacus*. ROUND ROOTED CYPERUS. The roots of this plant are about the size of walnuts, connected by fibres, rough, and rusty coloured on the outside, of a yellow white within. It is a native of the East Indies, and grows wild in some other countries. This sort is most noted for its aroma; but each species may be used indifferently. Raii Hist.

CY'PERUS AMERICA'NUS. See SANCTÆ HELENÆ RADIX.

CY'PERUS LO'NGUS ODO'RUS, &c. See CONTRAYERVA.

CY'PERUS NILO'TICUS vel SYRIACUS. See PAPYRUS.

CY'PHI. A composition of sixteen ingredients, such as honey, raisins, cardamom seeds, &c.; much used in the Egyptian sacrifices, and the troches are called *trochisci cyphеos*.

CYPHO'MA, CYPHO'SIS, (from κυφοω, *to bend*). A kind of gibbosity; a curvature of the spine of the back, when the vertebræ incline preternaturally outwards.

CYPI'RA. See CURCUMA.

CYPRI'NUS. See CARPIO.

CY'PRUS DIO'SCORIDIS et PLI'NII, (from the *isle of Cyprus*). See LIGUSTRUM INDICUM.

CY'PSELE, (from κυψελη, *a bee hive*). See CERUMEN AURIS.

CYRÆ'NIA. The fæces of saffron infused in oil. Rulandus.

CYRBA'SIA. Properly the *tiara*, or CAP, worn by the Persian monarchs. Hippocrates uses this word in his Treatise of the Diseases of Women, when describing a covering for the breasts.

CYRE'BIA, (a corruption of κηρυβια *folliculi fabarum*). The HUSKS OF BARLEY, or of other CORN, which fall off while they are roasted, or soaked in water.

CYRENAI'CUS SAL. Produced in *Cyrene*. See AMMONIACUS SAL.

CYRENAI'CUS SU'CCUS; applied to the juice of the laserpitium of the ancients, from the country where it most flourished, by Scribonius Largus, Paulus Ægineta, and Sanctorius. See ASAFŒTIDA.

CYRO'NES. See PHTHIRIASIS.

CYRSE'ON. See ANUS.

CYRTOI'DES, CYRTO'MA. GIBBOSITAS. Any preternatural tumour or gibbosity, (from κυρτος, *humpbacked*). In Vogel's Nosology, it signifies a particular flatulent tumour of the belly.

CYRTONO'SUS, (from κυρτος, *curved*, and νοσος, *a disease*). See RACHITIS.

CY'SSAROS, (from κυστος, *the breech*). The ANUS, or RECTUM.

CY'SSOTIS, (from the same). See PROCTALGIA.

CYSTEOLI'THOS, (from κυστις, *the bladder*, and λιθος, *the stone*). See CALCULUS.

CY'STICÆ ARTE'RIÆ, (from κυστις, *the bladder*). The CYSTIC ARTERIES. The hepatic artery advances behind the ductus hepaticus towards the vesicola fellis, to which it gives two principal branches. These are called *arteriæ cysticæ*. See HEPATICA ARTERIA.

CY'STICÆ VE'NÆ, (from the same). A branch from the vena portæ ventralis. They run along the

vesicula fellis, from its neck to the bottom; and as they are often only two in number, they are called *cysticæ gamellæ*.

CYSTIRRHA'GIA, (from κυστις, and ῥεω, *to flow*). Discharge of the blood from the urinary bladder; generally symptomatic.

CYSTICA'PNOS AFRICA'NA SCA'NDENS, (from κυστις, and καπνος, *smoke*; from its pods resembling a brown bladder). See Fumaria alba.

CY'STICUS DU'CTUS, DU'CTUS VESICULA'RIS. The neck of the gall bladder is formed by the contraction of its small extremity; and this neck bending afterwards, produces a narrow canal called the *ductus*, and *meatus*, *cysticus*. It conveys the gall from the gall bladder to the duodenum.

CY'STICA ISCHU'RIA. See Ischuria.

CYSTI'DES. Encysted tumours, and those whose substance is included in a membrane.

CY'STIS. A bag. It is applied to any receptacle of morbid humours (see Capsula,) and to the Vesica urinaria; q. v. Many complaints of the bladder are derived from this term, compounded with some other words, as *cystitis*, *cystocele*, *cystorrhœa*, &c. &c.

CY'STINX. A small bladder.

CYSTI'TIS, CYSTIPHLO'GIA, (from κυστις, and φλογιω, *inflammation*). See Inflammatio vesicæ.

CYSTOLI'THICA ISCHU'RIA, (from κυστις, and λιθος, *a stone*). A suppression of urine from a stone in the bladder. See Ischuria.

CYSTOPHLE'GICA, (from κυστις, and φλεττω, *to strike*). A suppression of urine from a blow on the bladder. See Ischuria.

CYSTOCE'LE, (from κυστις, and κηλη, *a tumour*). A hernia formed by the protrusion of the urinary bladder.

Cystoce'le vagina'lis. See Colpocele.

CYSTOPTO'SIS, (from κυστις, and πιπτω, *to fall*). The inner membranes of the bladder protruding through the urethra.

CYSTOPHLEGMA'TICA, (from κυστις, and φλεγμα, *phlegm*). A suppression of urine from abundance of mucus in the bladder. See Ischuria.

CYSTOSPA'STICA, (from the same, and σπασμα, *a spasm*). A suppression of urine from a spasm in the sphincter of the bladder. See Ischuria.

CYSTOTHROMBOI'DES, (from the same, and θρομβος, *a coagulation of the blood*). A suppression of urine from grumous blood in the bladder. See Ischuria.

CYSTOSPY'ICA, (from ——, and πυον, *pus*). A suppression of urine from purulent matter in the bladder. See Ischuria.

CYSTOPRO'CTICA, (from —— and πρωκτος, *anus*, or *rectum*). A suppression of urine from pain in the bladder, caused by indurated fæces, wind, inflammation, or abscess, in the rectum. See Ischuria.

CYSTOTO'MIA, (from ——, and τεμνω, *to cut*). A cutting of the bladder in the operation for the stone. See Lithotomia.

CY'THION. A collyrium mentioned by Celsus.

CYTINIFO'RME, CYTI'NUS, (from κυω, *to produce;* from its fecundity,) generally signify the flower of the true pomegranate; but sometimes the cups of flowers which expand after the same manner.

CY'TINUS HYPOCI'STIS. See Hypocistis.

CYTISO GENI'STA. See Genista, Scoparia, and Capparis, (from *cytisus*, *the bean trefoil*, and *genista*, *broom;* from having flowers like the cytisus).

CY'TISUS ALPI'NUS; also called *anagyris non fœtida*. Bean trefoil tree. *Cytisus laburnum* Lin. Sp. Pl. 1041. The leaves are said to cool and discuss; a decoction of them is diuretic.

Cy'tisus spino'sus; *acacia altera trifolia*, *cytisospartium aculeatum*. Trefoil acacia. *Spartium spinosum* Lin. Sp. Pl. 997. Its juice is astringent.

Cy'tisus sco'parius vu'lgaris. See Genista.

CYZICE'NUS. An epithet of a plaster commended by Galen for ulcers and wounds of the nervous parts.

D.

DÆD

D. See VITRIOLUM.

DABU'RI. See ACHIOTL.

DA'CETON, (from *δακνω, to bite*). An epithet for such animals as injure by biting.

DA'CHEL, (Arab. *dekel*). See DACTYLUS.

DA'CNERON, (from *δακνω, to bite*). BITING. An epithet for a collyrium in Trallian; also called *oxydorcia*, and *cynopticon*.

DACRY'DIUM, (from *δακρυ, a tear*). See DIAGRIDIUM.

DACRYO'DES, (from *δακρυ, a tear*). In Hippocrates it is a sanious ulcer.

DACRYO'MA, (from *δακρυω, to weep*). A coalition of one or more of the puncta lacrymalia.

DACRYOPŒ'OS, (from *δακρυ, a tear*, and *ποιεω, facio*). An epithet for substances which cause a flow of tears, as onions, &c.

DACTYLE'TUS, (from *δακτυλος, a date*). See HERMODACTYLUS.

DACTYLE'THRA, (from *δακτυλος, a finger.*) A machine shaped like a finger, and introduced into the stomach to excite a vomiting.

DACTY'LION, (from the same). WEB FINGERED.

DACTY'LIOS, (from the same). See TROCHISCI.

DA'CTYLON RADICE REPENTE. See GRAMEN DACTYLON.

DACTYLOTHE'CE, (from *δακτυλος, a finger*, and *τιθημι, pono*). So Paré calls an instrument which he used in some cases of injury done to the fingers.

DA'CTYLUS, (from *δεικω, to point out*). The FINGER; and the fruit of the *palma dactylifera*, a DATE; called *dactylus* and *digitus*, from its likeness to a finger.

DA'CTYLUS PA'LMULA. *Palma major, palma dactylifera; phœnix dactylifera* Lin. Sp. Pl. 1658; the GREAT PALM TREE, or DATE TREE. It is cultivated in the southern parts of Europe; its fruit is oblong, larger than an acorn, and includes a stone. The best dates are those which are soft, large, and not much wrinkled, of a reddish yellow colour on the outside, and a whitish membrane between the flesh and the stone. They are moderately astringent, particularly when unripe, yet are eaten as food in Africa. Galen calls the best dates, in Syria, *caryoti*.

DÆ'DALUS. QUICKSILVER. See ARG. VIVUM.

DÆDA'LEUS, (from *δαιδαλλω, to work curiously*). In botany it means exquisitely and curiously wrought.

DAP

DÆ'DION *tædula*, (a diminutive of *dais tæda, a* torch,) a kind of pessary.

DÆMO'NIS. ORDURE. DUNG.

DÆMONOMA'NIA, (from *δαιμων, dæmon*, and *μανια, madness*). *Dæmonia.* The melancholy which is supposed to arise from the possession of demons.

DAIS. See TÆDA.

DAITI'DES, (from *δαις*, and *ειδος, likeness*). In Galen it means great torches; but it is usually applied to heads of garlic. See ALLIUM.

DALI'GTHRON. A name of the *thalictrum*. See SOPHIA.

DA'MA, (from *deima, fear;* from its timidity). FALLOW DEER; *cervus dama* Lin. The venison of a deer killed, when cool, differs much from that of one heated with exercise. The fibres of the first are harder, the flesh more tough, and less easily soluble in the stomach; but, in general, it is an alkalescent, sapid animal, considered as a delicacy, and of easy digestion. (See ALIMENT). Medicinal virtues have been attributed to different parts. The recent blood, drunk immediately from the veins, hath been said to remove vertigo; the gall to be detersive, and take away films from the eyes; the liver hath been recommended in diarrhœa, the horns are of the same nature as those of the stag, and the fat or suet agrees perfectly with that of the same animal.

DAMASCE'NA PRU'NA NOSTRA'TA, (from *Damascus*, the place from whence they were brought). See PRUNA DAMASCENA.

DAMASCE'NÆ PA'SSULÆ, vel U'VÆ, (from the same). See VITIS.

DAMASO'NICUM and DAMASO'NIUM. See DORIA.

DAMNATA TERRA, (from *damno, to condemn*). See CAPUT MORTUUM.

DANAIS. (Greek). See CONYZA.

DAPHNE, (from *Daphne*, supposed in fable to have been converted into a plant of this kind). The BAY TREE. See LAURUS ALEXANDRINA.

DAPHNE GNI'DIUM. See THYMELEA MONSPELIACA.

DAPHNE LAURE'OLA. See LAUREOLA MAS.

DAPHNE MEZE'REUM. See LAUREOLA FŒMINA.

DAPHNELÆON, (from *δαφνη*, and *ελαιον, oil*). The OIL OF BAY BERRIES. See LAURUS VULGARIS.

DAPHNI'TIS, (from its resembling the laurel). A name for the best pieces of cassia.

DAPHNOI'DES, (from *δαφνη*, and *ειδος*, *likeness*). See LAUREOLA MAS.

DA'RATOS. UNFERMENTED BREAD. See PANIS.

DA'RCHEM, and DA'RSIN. See CINNAMOMUM.

DA'RSIS, (from *δερω*, *to excoriate*). When the skin is divided and separated by the scalpel from the parts which are situated underneath, and often when one part is separated from another, the phrase *κατα δερσιν*, was used.

DA'RTA. See HERPES and PRURITUS.

DA'RTOS, (from *δερας*, *leather*). *Dartos*, a Greek name, derived from its raw or excoriated appearance, and not from its use in contracting the scrotum. (See Warner on the Testicles, p. 2.) One of the coats which forms the scrotum is called the *dartos muscle* and *corium*. Dr. Hunter asserts that no such muscle can be found; and Albinus takes no notice of it in his table. See SCROTUM.

DAS. See TÆDA.

DASY'MMA, (from *δασυς*, *rough*). See TRACHOMA.

DA'SYS, (from the same). Dense, thick, close, or rough; an epithet for a tongue that is parched in a fever. Applied to respiration, it signifies a contracted breathing, as if the lungs had not room to expand; and those who suffer from it are called *cerchodes*.

DATISCA CANNABINA, Lin. Sp. Pl. 1469, has been recommended as a substitute for the bark, in the same doses.

DATU'RA, and DATYRA. (Indian.) See STRAMONIUM.

DAUCI'TES VI'NUM, (from *δαυκος*, *the wild carrot*). Wine in which are the seeds of daucus.

DAUCUS, (*απο του δαυειν*, from its relieving the colic, and dispersing flatulencies). The CARROT, called also *carota*, supposed to be derived from *cara*.

DAUCUS ALSA'TICUS. See OREOSELINUM PRATENSE.

DAUCUS A'NNUUS MI'NOR. See CAUCALIS.

DAUCUS VU'LGARIS; called also *daucus sylvestris*, *pastinaca tenuifolia*, *staphilinus Græcorum vel sylvestris*. WILD CARROT, OR BIRD'S NEST. It is the *daucus carota* Lin. Sp. Pl. 348.

DAUCUS CRE'TICUS; *myrrhis annua*, *daucus foliis fœniculi tenuissimis*, CARROT OF CRETE. It is the *athamanta Cretensis* Lin. Sp. Pl. 352; but often brought from Germany. The best is large, fresh, sound, and of an acrid taste.

The wild carrot is common in many uncultivated parts of England, and flowers in June: in its cultivated state, this is the well known garden carrot. Carrots appear to contain, from experiment, a large proportion of saccharine matter, and consequently afford much nourishment, if well boiled; if eaten raw, they are very difficult in digestion, and pass through the bowels without suffering any considerable change. Raw carrots have been given to children as an anthelmintic, probably, on this account: in calculous complaints, the expressed juice, or decoction of the roots, has been recommended; and as gargles for infants in aphthous affections, or excoriations of the mouth: to cancerous and putrid sores, and to phagedænic ulcers, cataplasms of scraped carrot have been found useful, as they mitigate the pain, and abate the stench of such as are foul and offensive. The seeds are similar in their taste and smell to those of the Cretan carrot, but weaker: they are, however, substituted for them; and, if infused in ale or wine, give out their diuretic, antiscorbutic, carminative, and lithontriptic virtues; at least, all which they possess. They are, indeed, slightly carminative and diuretic, but little more. Half a pound of the seeds may be infused in five or six gallons of ale, and a pint of the clear liquor drunk three times a day. The seeds of the wild carrot, which should be gathered in August, are said in many instances to have been useful in the stone and gravel, particularly in the latter, when accompanied with great pain and coffee coloured or bloody urine. Half an ounce of the seeds may be added to half a pint of boiling water, and the infusion drunk with sugar and milk, instead of tea, for breakfast, and again in the afternoon. Gouty people, who are afflicted with the gravel, are sometimes relieved by it in a few days; others do not perceive any sensible effect from it for some months, but have been afterwards rewarded for their perseverance: though Dr. Cullen says, that the seed has been employed for a considerable time, in large quantities, in calculous cases, without any apparent remarkable diuretic power.

DAUCUS SATIVUS. *Daucus carota* Lin. var. *γ*. The COMMON GARDEN CARROT. This root is in frequent use, and though it will not yield any grained sugar, it affords a great deal of a sweet juice, strongly nutritious. When boiled, it affords a tender, and not very flatulent, food. The roots, when scraped small, and made up into a poultice, take off the disagreeable smell which attends ulcerated cancers. The raw carrot may be scraped or grated, then made into a cataplasm with cold water, and applied to any fetid ulcers; or carrots may be boiled a sufficient time till they become soft enough to mash into a pulp. The raw carrots are, however, preferable. Turnips prepared the same way are said to answer a similar purpose. They are both to be applied immediately to the ulcer, without the intervention of any other substance. See Lond. Med. Obs. and Inq. vol. iv. p. 183, 358, &c. Lewis's Mat. Med.

DAUCUS MACEDO'NIUS. See APIUM MACEDONICUM.

DAUCUS MONTA'NUS. See OREOSELINUM, APII FOLIO.

DAUCUS ODORA'TUS CRETICUS. See CUMINOIDES.

DAUCUS PEREGRI'NUS. See SELINUM MONTAN.

DAUCUS PETRO'SELINI vel CORIANDRI FOLIO. See BUNIUM.

DAUCUS SELENOI'DES. See OREOSELINUM.

DAULO'NTAS FRU'TEX. An American shrub, which Lemery says possesses the properties of camomile, and its berries relieve asthmas.

DAU'PHINY SAL. See GLAUBERI SAL.

DAU'RA. See HELLEBORUM NIGRUM.

DAVERI'DON. OIL OF SPIKE. See LAVENDULA LATIFOLIA.

DEAFNESS. See DYSŒCEA and SURDITAS.

DEARTICULA'TIO, (from *de* and *articulus*, *a joint*). See DIARTHROSIS.

DEASCIA'TIO, (from *de*, and *ascio*, *to chip*, *as with a hatchet*). See APOSCEPARNISMUS.

DEATH. When we contemplate the wonderful structure of the human frame, the varied form in which it is supplied with what is necessary to its perfect state,

the resources accumulated to obviate accidental wants, and the exertions of nature to supply every defect, we appear to be calculated for immortality. Disease, however, sometimes rapidly terminates the scene; but age, without its aid, undermines the vital and mental powers, and the wonderful machine of man sinks again into feeble infancy, and the mental imbecility of the same period, so as to be the shadow of his former self, the ruin of the once boasted structure.

To trace this change, it will be necessary to examine the progressive stages of life, as they affect the different parts of the system. In the circulation, we have found the arterial system strong in proportion to the venal, and gradually decaying in activity and power. In the nervous system, irritability lessens, and torpor succeeds; in the muscular fibres, the same torpor occasions their less ready obedience to stimuli and to volition. From all these causes the circulation languishes, the extremities become cold, the feeling is blunted, the veins filled, and the excretions sluggish. Ossifications take place in the arteries; and mortification, from this cause, closes the scene: the bronchial glands cannot propel their contents, and, occasionally, suffocation follows; the distended veins burst in the head, and the principle of life is at once overwhelmed. In other circumstances, the activity of the circulation languishes, the blood is confined to the larger vessels, and the heart can no longer contend with the increasing load; or the vital power is gradually sunk in sleep, and at last in death, assuming the form of a deeper slumber.

The *causes of death*, at an earlier period, are either the destruction of an organ essential to life; a total obstruction to the supply of nutriment; or a poison gradually introduced, either undermining the vital powers, or exhausting the strength, by the regularly returning paroxysms of hectic. In continued fevers we cannot distinctly see the action of either cause separately; but the most frequent is exhausted strength, or an oppressed brain.

The *signs of approaching death* are, a rapid and very small, scarcely distinguishable, pulse, cold extremities, clammy sweats, "a lack lustre eye," features sunk, the expression lost, and a hollowness particularly at the temples: the three last characters constitute the facies Hippocratica. These are all signs of a total loss of activity and power in the circulating and nervous systems.

In these different states, the mind seems to sink with the body; its powers decay *pari passu:* and when the medium through which the activity of the soul is manifested can act no longer, we cannot expect to find any further traces even of its existence. Yet at the period of its separation, we are told of brilliant mental exertions, of powers of intellect, not equalled in the best portion of existence. It has not been our fortune to see such intellectual animation. At the moment of death, anxiety for those we have loved will sometimes occasion apparently disproportioned exertions; and, as they were unexpected, they have been exaggerated. But in no instance could we ever detect the activity of mind independent of the body. To this temporary prison the soul is confined, till, by the destruction of the machine, its animating principle is emancipated, soaring probably in higher, and, we trust, more blissful, regions.

DEBILITA'TES, (from *debilis*, *weak*). Diseases from deficiency, as blindness, want of appetite, &c.

DE'BUS. A medicine given against anger. Paracelsus.

DEC. The abbreviation of decad.

DECA'MYRON, (from δεκα, *ten*, and μυρον, *an ointment*). In Oribasius it is a composition made of ten aromatics, forming an ointment.

DECAGYNIA, (from δεκα, *ten*, and γυνη, *a woman*). Ten styled; the name of one of the orders of the *decandria*, comprehending those flowers which have ten styles, considered as the female organs of generation.

DECANDRIA, (from δεκα, *decem*, and ανηρ, *vir*). The name of the tenth class of Linnæus's artificial system, comprehending all hermaphrodite flowers, with ten stamens or filaments in each flower, and one style. It is also the name of an order in the classes *monadelphia*, *diadelphia*, *gynandria*, and *diœcia*.

DECANTA'TIO, decantation, (from *decanter*, French). Pouring the clear liquor from a sediment. See Depuratio.

DECIDE'NTIA, (from *decido*, *to fall down*). It is an epithet affixed to some acute diseases, which are protracted beyond fourteen days, to the twentieth, sometimes to the fortieth day; hence diseases are called *acute per decidentian*, or *ex decidentiâ*. It also means a sudden falling down. See Cataptosis.

DECIDUA, (from the Latin, *de*, *from*, and *cado*, *to fall*). Falling, fading once in the year; whatever falls away, as leaves of trees. In botany, deciduous plants are such as cast their leaves in winter. From this Dr. Hunter calls the spongy chorion by the names *decidua* and *caduca*. (See Abortus.) Dr. Hamilton observes that the membranes (speaking of those which contain the fœtus during pregnancy) consist, externally, of two layers of the spongy chorion, called *decidua* and *decidua reflexa:* internally, of the true chorion, and the amnion. They form a pretty strong bag, commencing at the edge of the cake, going round the whole circumference, and lining the internal surface of the womb. The membrana decidua, or that lamella of the spongy false chorion which is in immediate contact with the uterus, is originally very thick and spongy, and exceedingly vascular, particularly where it approaches the placenta. At first it is loosely spread over the ovum; and the intervening space filled with a quantity of gelatinous substance; but gradually becomes more and more attenuated, and approaches nearer to the interior lamella of the decidua, called *decidua reflexa:* about the fifth month the two layers come in contact, and adhere so as to become apparently one membrane. The decidua reflexa, in its structure and appearance, is similar to the former, being rough, fleecy, and vascular, on its external surface; internally, smoother, and perforated with a number of small foramina, which are the orifices of vessels that open on this internal surface. In advanced gestation it adheres intimately to the former membrane, and is with difficulty separated when the double decidua comes off entire; but the outer lamella more commonly adheres to the uterus after the placenta and other membranes are expelled, and is afterwards cast off with the cleansings. The decidua reflexa also becomes thicker and more vascular as it approaches the placenta; and is then blended with its substance, constituting the cellular or maternal part of the cake. The other, or more internal part, belongs to the fœtus, and is styled the fetal part of the placenta. The double

decidua is opaque, in comparison of the other membranes; the blood vessels are derived from the uterus, and can be readily traced into it. Dr. Hunter supposes that the double decidua lines the uterus nearly in the same manner as the peritonæum does the cavity of the abdomen, and that the ovum is inclosed within its duplicature, as within a double night cap. On this supposition, the ovum must be placed on the outside of this membrane; which is not very easily comprehended, unless we adopt Signor Scarpa's opinion, and suppose it to be originally composed of an inspissated coagulable lymph.

Dr. Ruysch called this exterior coat the *tunica filamentosa;* more modern authors, the *false* or *spongy chorion*, consisting, as we have said, of two distinct layers. The portion which covers the ovum is a complete membrane, like the true chorion and amnios; but that which immediately lines the uterus is imperfect or deficient, being perforated with three foramina, viz. two small ones, corresponding with the insertion of the tubes at the fundus uteri; and a larger ragged perforation opposite to the orifice of the womb. See Dr. Hamilton's Outlines; Dr. Hunter on the Gravid Uterus.

DECIMA'NA, (from *decem*, *ten*, and *mane*, *morning*). An erratic kind of fever, which returns every tenth day; but such fevers are not observed, at least in this country.

DECLINA'TIO, (from *declino*, *to abate*). The decline of a disease. See Luxatio.

DECLI'VIS, (from *de*, and *clivis*, *a hill*). See Obliquus descendens.

DECO'CTA, (from *decoquo*, *to boil away*,) water that hath not been boiled, and is cooled by the help of snow. Decocta also signify decoctions, boiling different ingredients in water, and administering the liquor, strained, either when cold or hot, according to the nature of the substance boiled.

DECO'CTUM A'LBUM. See Cornu cervi.

Deco'ctum ru'brum. See Cornu cervi.

DECO'CTIO, (from *decoquo*, *to boil away*). See Coctio.

DECOLO'RES, (from *de*, and *color*, *colour*). Diseases which disagreeably change the colour of the skin.

DECORTICA'TIO, (from *de*, and *cortex*, *bark*). The separation of the outward coat from branches or seeds.

DECREPITA'TIO, vel CREPITA'TIO, (from *decrepio*, *to crackle*). The crackling noise which common salt makes when thrown on the fire, from the sudden separation of its water of crystallization.

DECUMBENS, (from *decumbo*, *to lie down*).) Decumbent. In botany it is drooping, hanging down.

DECURRENS, (from *decurro*, *to run along*). Decurrent. In botany it is applied to a leaf, when its basis extends downwards, below the proper termination of the leaf.

DECURSI'VUS, (from the same). Decursive; when the bases of the lesser leaves are continued along the sides of the petiola.

DECURTA'TUS PU'LSUS, (from *decurto*, *to curtail*). A weak or a deficient pulse. If it fails, and revives by turns, it is called *decurtatus reciprocus*.

DECUSSA'TION. The crossing of nerves or muscular fibres.

DECUSSATUS, (from *decusso*, *to divide*). Decussated. In botany it means growing in pairs and opposite, each pair being alternately on opposite sides of the stem.

DECUSSO'RIUM, (from the same). An instrument to depress the dura mater after trepanning, quia decutit membranam, or from its extremity being grooved, decussatim.

DECOLLA'TIO, (from *decollo*, *to behead*). It is when a part of the cranium is cut off with the teguments in a wound of the head.

DEFECATIO. In chemistry, to free from fæces.

DEFECTI'VI, (from *deficio*, *to faint*). Synonymous with *adynamiæ*.

DEFE'CTIO ANIMI, (from the same). See Lipothymia.

DEFENSIVA, (from *defendo*, *to defend*). See Cardiaca.

DEFENSIVUM, (from the same). An epithet for some surgical topics which repel; or, in some authors, such as defend. Of this kind are external dressings. See Kirkland.

DEFERE'NTIA VA'SA, (from *defero*, *to convey*). Immediately beneath the tunica albuginea are lodged the testicles, the tubuli of which run on to form the epididymis. They then become larger, unite, and form the vasa deferentia, which ascend in the spermatic cord behind the blood vessels; and having got through the abdominal rings, are reflected downwards, and passing on the back of the bladder, between that and the ureter, go on the inside of the vesicula seminalis, to its anterior end, where they unite with the vesicula; and, from the union of these with the vesiculæ seminales, two ducts are formed and continued, which gradually approaching each other, become contiguous at the notch, in the basis of the prostate gland, and terminate in a small duct on each side of the caput gallinaginis, in the urethra. At a distance from the vesiculæ seminales, the vas deferens is hardly capable of admitting an hog's bristle; but, as it approaches the vesicula, it grows larger both externally and internally, and becomes cellular and tortuous. The use of these vessels is to contain the sperm secreted from the blood, and to carry it into the spermatic vessels.

DEFI'XUS, (from *defigo*, *to fasten;* because it was supposed that every man thus defective was bewitched, or fastened by some charm). Impotent with respect to venereal desires.

DEFLAGRA'TIO, (from *deflagro*, *to burn*). See Calcinatio.

DEFLORA'TUS, (from *de*, and *flos*, *a flower*). Deflorated. In botany it means having shed or discharged its flowers; in anatomy, the loss of virginity.

DEFLU'XIO, (from *defluo*, *to flow down*). A defluxion. The flowing down of humours upon any inferior part, as in a catarrh. They are supposed to flow from the head.

DEFORMA'TIONES, and DEFO'RMES. Synonymous with *cachexiæ;* or any diseases occasioning external deformity of the body.

DEFRU'TUM, (from *deferveo*, *to grow cool*). See Mustum.

DEGLUTI'TIO, (from *deglutio*, *to swallow*). The act of swallowing. In swallowing, the morsel is collected on the upper surface of the tongue, is squeezed against the bony palate, and then carries the palatum

molle backward and upward; the pharynx meets it, the tongue keeps close to the palatum molle, and by this action the epiglottis closes the rimula of the larynx. The bolus is consequently forced down the œsophagus. When it is carried into the stomach, it is propelled by the sucessive action of the circular fibres of the pharynx, which contract from above downwards; and for this reason, when the continuity of these circles is destroyed by an ulcer, the action of the œsophagus is impeded or destroyed. General debility in a similar way will impede swallowing, and it is not uncommon in nurses, when the child's wants are disproportioned to the supply. Hysteric affections will equally occasion the disease, not only from debility, but from the distention of the stomach with wind, which the action of the muscular fibres cannot conquer. The latter cause we suspect to be much more frequent than physicians have supposed. Independent of these causes, incapability of swallowing, called *acataposis*, or a difficulty, named *dysphagia*, or *agglutitio*, may be occasioned by a thickening of the mucus in the œsophagus; indurations of the canal; a fungus in it; by spasms; foreign bodies sticking in their passage to the stomach; tumours pressing against the side of the œsophagus, either of the canal or neighbouring parts.

Mr. Warner relates a singular case of difficult swallowing, in which the œsophagus, besides being otherwise diseased, was ulcerated in its internal surface; which we shall relate to facilitate the distinction, and assist future practitioners in their prognostics. A young woman, aged twenty-five, had been afflicted with a difficulty in swallowing for some months; the sense of constriction was just below the back part of the cricoid cartilage. The part affected was easily discovered, by conveying down the throat a bit of sponge, fastened upon whale bone, which, though very small, could not be made to pass beyond it. She at length became incapable of taking any nourishment, and soon after died. After death, her neck was opened, and, upon taking out the œsophagus, it appeared considerably thickened, about an inch in length, just below the cricoid cartilage. Upon opening the œsophagus lengthways, its coats appeared so contracted in the diseased part, as to be only just capable of admitting a passage to a common probe. The internal coat of the œsophagus was in part ulcerated, and covered with matter. All the adjacent parts were sound.

When a bronchocele is the cause, there is no palliating the difficulty of swallowing caused by it, further than that of which the bronchocele admits, which we have found to be inconsiderable.

Hoffman observes, that mucus not unfrequently concretes, during the night, in the fauces and gullet, and is afterwards with difficulty brought up. This proceeds not from the aspera asteria, or the pharynx, or the pituitary tunic of the nose, but from the glands of the œsophagus itself, from a torpor in their vessels, from too violent and too frequent previous stimulus on the stomach. He recommends diluents and mineral waters as the principal remedies, and relates a case in which a cure was effected by abstinence from a more generous diet, and the use of a soft and slender one; drinking the Egra waters, omitting suppers, and taking a dose of a nitrous powder in a draught of cold water at bedtime.

Indurations happening in any part of the œsophagus are causes of a difficulty of swallowing, an instance of which is already noticed. These tumours rarely admit of relief. In the History of the Royal Medical Society in Paris, for the year 1776, we are told that a young lady, aged sixteen years, after being troubled for about three months with a spasmodic cough, began to have a difficulty of swallowing, which increased so fast, that after a very short time she was incapable of taking any nourishment by the mouth: so that, for the space of three months, life was supported solely by clysters. Mercurial and other frictions were employed without effect. At length M. Macquart, reflecting on the case, and conjecturing that an encysted tumour existed in the œsophagus, and that it might probably be now in a state of suppuration, he resolved to administer some substance, which, by its weight, might occasion a rupture of the sac. For this purpose he prescribed an ounce of crude mercury, mixed with the yolk of eggs, to be swallowed every three hours. This remedy was taken, and the patient, soon after she had swallowed the second dose, brought up a considerable quantity of pus. From this moment she was able to swallow broth, and by proper care recovered. When scrofulous indurations happen about the œsophagus, the ung. hydrargyri, rubbed on the neck over the induration, or small doses of calomel, have often been of singular efficacy, especially if used early after the attack of the disorder. If the case is of more considerable duration, the mercurials should be given so as to excite and support a moderate ptyalism for some time.

In the London Medical Observations and Inquiries, vol. iii. p. 85, is the history, &c. of a case, in which deglutition was obstructed, from a preternatural dilatation of a bag formed in the pharynx. This instance was produced by a cherry stone lodging in the throat, which was returned three days afterwards by a fit of coughing; the part where it had lodged gradually expanded, and retained a part of the food taken at each meal. At last all the aliment returned, without causing either pain or sickness. It is proposed in a similar case to pass a tube into the œsophagus, and through it, to inject a due quantity of broth; by which life may be continued many years, and the enlargement of the sac will be thus prevented.

Deglutition prevented by spasms. See Œsophagus.

When debility occasions difficult deglutition, bark, port wine, and a generous diet, assisted by drawing electrical sparks from the neck, will often succeed. A blister on the back part of the neck has sometimes been effectual; and even the irritation of introducing the probang we have thought useful, in exciting the action of the languid fibres.

Foreign bodies sticking in the passage to the stomach are no unfrequent cause of this disorder. Many are the contrivances for removing them; but it would often be better to leave the case to nature, than to irritate so tender a part, which must be the effect of such attempts. If the substance can be reached with the fingers, or with the forceps, the extraction is easy. When pins, fish bones, or similar bodies, stick across the gullet, some recommend a wire with its end turned up like a hook to be passed below these bodies, and then turned

so as to bring them up. Pins, and other sharp bodies, when they have stuck in the throat, have been returned by swallowing a piece of tough meat tied to a strong thread, and then pulled up again. If the detained body may more safely be pushed down, the probang, a flexible piece of whalebone, with a piece of sponge secured to its end, is a safe instrument. It hath frequently happened, that though indigestible bodies have been swallowed, no inconvenience hath arisen from them. If the bodies cannot be easily moved up or down, endeavours should not be continued long, lest inflammation come on. If the patient can swallow some softening liquid, barley water, or milk and water, may be taken; and if he cannot swallow, an assistant may inject some similar fluid into the gullet, which will not only abate inflammation, but will sometimes loosen the impacted body. When endeavours fail, the patient must be treated as if labouring under an inflammatory disease; and the same treatment will be required if an inflammation take place in the part, after the obstructing body is removed. A proper degree of agitation hath sometimes succeeded in removing the obstructing body, better than instruments. Thus a blow on the back hath often forced up a substance that stuck in the gullet or windpipe. Pins, which have stuck in the gullet, have been discharged by riding on a horse or in a carriage. If the gullet is strongly contracted, so that the patient cannot swallow, he may be supported by means of clysters until relief is obtained. If there is danger of suffocation, the operation of bronchotomy will be necessary; but sometimes the obstructing cause is seated below the part where the trachea can be opened. If an indigestible substance is forced into the stomach, the patient should live on a mild smooth diet, consisting chiefly of farinaceous matters, as puddings, soups, &c. carefully avoiding whatever will irritate or heat.

In the London Medical Observations and Inquiries, vol. iii. p. 7, is an account of a small fibre of a feather being swallowed, and extracted by means of a probang, with a thread or two passing from one end to the other, and fastened to the sponges which were connected with each end of this instrument.

In the Medical Museum, vol. ii. are several instances related of different bodies sticking in the œsophagus, and the methods by which patients were relieved. In the same volume it is observed, that many bodies are not much to be dreaded when they arrive at the stomach, though they have passed the œsophagus with difficulty. Pieces of money of various sizes have passed by the anus in a few days: pieces of lead, as bullets, have at last been discharged, though sometimes they have been detained for years.

In the London Medical Transactions, vol. iii. p. 30, is an account of a crown-piece which a man swallowed. An emetic was given, but without discharging the piece, which, after twenty months, was brought up by a spontaneous vomiting.

See Warner's Cases in Surgery. Medical Museum, vol. ii. Haller's Physiology. London Medical Transactions, vol. i. p. 165. ii. p. 90. iii. p. 30. Percival's Essays, vol. ii. p. 141. Gooch's Cases, vol. ii. p. 108. Lewis's Translation of Hoffman, vol. ii. p. 147, &c. London Medical Observations and Inquiries, vol. iii. p. 7, &c. 85, &c. Med. Communications, vol. i. p. 157, 242. White's Surgery, 296.

DE'GMOS, (from δακνω, *to bite*). A biting pain in the orifice of the stomach, such as is perceived in the heartburn.

DEHE'NE. See SANGUIS.

DEHISCENS, (from *dehisco*, *to gape*). OPENING, or GAPING WIDE. It is applied to the pod of vegetables.

DEJE'CTIO, (from *dejicio*, *to cast out*). A discharge of the excrements by stool. The prognostics from this evacuation may be seen in Prosper Alpinus's Presages.

DEJECTO'RIA, (from the same). See PURGANTIA.

DEINO'SIS, (from δεινοω, *to exaggerate*). EXAGGERATION. Hippocrates uses this word with respect to the supercilia when enlarged.

DELACRYMATI'VA, (from *de* and *lachryma*, *a tear*). DELACRYMATIVES. Medicines which dry the eyes by first discharging tears, such as onions.

DELA'PSIO, (from *delabor*, *to slip down*). See PROLAPSUS.

DELA'TIO, (from *delatus*, *shown*). See INDICATIO.

DELETE'RIOUS, (from δηλεω, *to injure*). Pernicious, or extremely noxious: an epithet of poisons.

DELIGA'TIO, (from *de* and *ligo*, *to tie*). A BANDAGE.

The design of bandages is chiefly to secure the dressings, or to confine the motion of parts which might be painful or injurious. In ulcers, they support the dressings, defend the newly formed skin from any force which might separate it, and bring the edges both of these and of wounds nearer; so that there will be less for nature to supply. That they support and preserve the ends of fractured limbs in a proper position, is too obvious to be particularly pointed out. In some instances they are necessary to keep parts asunder; and are very frequently useful in preventing a too luxuriant growth of new parts, accumulations of purulent matter in sinuses, of watery fluids in the extremities, as well as in confining prolapsed organs.

Bandages are made of linen, cotton, or flannel. They should be, if possible, without a seam, and linen is wove for this purpose; but the selvage is always harsh, and as the edges are necessarily covered by the next round, they are sometimes inconvenient. We prefer, therefore, old linen; and more readily submit to the inconveniences of the edges unravelling, than to the irregularity which any stitching would produce. The length often renders seams necessary. The pieces must, therefore, be united by back stitching, and beat smooth.

Linen is generally preferred for bandages; and it should be such as has been long worn, as its harshness is thus diminished or destroyed. We have lately employed cotton (calico), and have perceived many advantages from its softness and elasticity. Where some motion of the part is necessary, flannel is preferable, from its greater elasticity; and it is used in ulcers of the legs, wounds of the thorax, and in the operation of the paracentesis: all its advantages are, however, to be found in calico.

The application of bandages can scarcely be taught by words; actual observation, and, indeed, experience, are required. The young surgeon should therefore be exercised in applying them to a proper figure, for it is a

part of his profession which every nurse can judge of. Should he perform it without effect or dexterity, he will have little credit for talents in any other branch. It is, however, often of importance, that the pressure should bear equally on every part; that in other cases it should gradually increase or lessen; and occasionally the force of the bandage is limited, while the parts above and below are useful only as they support the principal. With all these views, the surgeon should accustom himself to apply them; and he will find considerable assistance in the works of the French surgeons, who roll over an affected part many yards of bandage with the utmost dexterity and neatness. See Heister's Surgery, vol. ii. tables 37 and 38.

Bandages are either simple or compound; but they are sometimes divided into general and particular: and the latter are often denominated from the part to which they are applied.

A simple bandage is a long piece of linen or cotton of an indefinite length, and from three to six inches in breadth. When applied, it is usually rolled up; and the rolled part is styled its *head*. When rolled from each end, it is styled a *double-headed bandage*. The part applied to the limb should be the opposite to that *on* which it is rolled, so that it may *unroll* from above, and not embarrass the operator. In the circular turns, it should be unrolled towards the surgeon, and great care should be taken that the edges are kept smooth. This will seldom be effected, unless at least one third, often one half, of the bandage is covered by the succeeding turn. The first turns should be wholly circular, for security.

The bandage is frequently returned to secure the edges, and prevent its slipping. This is effected by folding it, at a right angle, when it can be easily rolled the opposite way without any gaping edge. The chief of the simple bandages are, the *circular*, the *spiral*, the *uniting*, the *retaining*, the *expellent*, and the *creeping* bandages.

The *circular* bandage is the simplest form; the rolls cover each other, and it is seldom long, as two or three rolls are sufficient. The *spiral* bandage is that already described; and modern practice has extended its utility, by applying it in many obstinate diseases, where it is the only remedy. In the upper extremity, the fingers are first swathed with smaller fillets, and these secured on the back of the hand by the larger bandage; it is then carried up the arm to the elbow, where the bandage is crossed in the form of a figure of 8, as after bleeding, and from thence up the humerus, where it must be returned. The toes need not be swathed; but the heel must be confined by a piece of linen drawn tight, and secured with the roller, and the cavities on each side of the tendo-achillis filled with lint. The bandage is then carried to the calf of the leg, to the knee and thigh reversed, where the increasing bulk prevents it from lying smooth. In these cases the bandage must not be too tight, especially if it is to be wetted; for it is contracted by moisture. If the proper degree of tightness cannot be ascertained, it may be applied wet.

The *uniting bandage*, or *spica descendens*, used in rectilinear wounds, made with a double-headed roller, with a longitudinal slit in the middle, of three or four inches long. After dressing the wound, compresses should be applied on each side of it, so as to press from the bottom to the lips of the wound, before the roller is applied; which roller having one head passed through the slit, an opportunity will be given of drawing the lips of the wound together. The whole must be managed so that the bandage may act equally. Where wounds are stitched, this bandage supports the stitches, and prevents their tearing. When the wound is deep, a long compress is to be applied on each side, to secure a pressure at the bottom. When the wound is very long, two or three bandages should be employed, and great care must be taken that the pressure is perfectly equable.

Henkel and Richter recommend for this purpose a compound bandage, consisting of four straps of linen of the usual breadth, and a length suitable to the wound. These are united by six narrow straps crossing each other like the fingers of the hand when folded. When applied, the middle of the bandage, or the narrow straps, cover the wound, and two of the heads on each side of it cover each other. The two lowest are then placed circularly round the limb. The two heads are drawn tight with both hands, and fastened. As the narrow straps lie over the wound, we have thus a constant view of it.

The *retentive* bandage is usually the single-headed roller. It should be applied first on one side, opposite to the wound, and brought round, so as to bring the lips of the wound closer. The contrary manner separates the lips.

The *expellent* bandage is designed, by an equable pressure, to keep the fluids within so near to the orifice of the wound that sinuses may be prevented. In general, a compress of unequal thickness is necessary; and the thinner part of the compress is placed next, and immediately contiguous, to the orifice: the thicker below. Before it is fixed, the pus must be completely pressed out, and the rolling begun with two or three circular turns on the lower part of the compress. The bandage must then be carried spirally, but somewhat slacker, upwards, and again return to its commencement. It becomes an uniting bandage when a piece of flesh is lacerated, and we wish to heal it by the first intention.

The *creeping* is a simple bandage, where the succeeding turn only covers the edge of the preceding. It is employed where the object is merely to secure the dressings, and not to make any considerable or equable pressure.

The *compound* bandages are the *eighteen-tailed*, or rather the *many-headed*, bandage, and the *T* bandage. The first consists of three pieces of linen, about a foot in length and in width. These are sewed together in the middle, and each end divided into three equal parts; the division continued to about two inches and a half from the centre. These are arranged so as to press equally on the limb, which it will do, if the head which overlaps is received in a slit of the corresponding piece. This bandage has been varied by Dessault and others, in a manner which we find almost incapable of being conveyed by words.

The *T* bandage is chiefly used in injuries of the abdomen and back; but particularly of the genital organs, and the neighbouring parts. It is of the shape of the letter. The transverse part passes round the waist, and the other part between the legs. If the latter is

divided, it may press on either groin, when brought up to unite with the bandage which surrounds the waist.

We shall add a short description of some other bandages, neither simple nor compound, before we proceed to the particular ones.

The *triangular* bandage is generally a handkerchief doubled into that form. In common cases it is used on the head, also as a support to the testicles when swelled, called by the French *couvre-chef en triangle*.

The *nodose* bandage, called *scapha*. It is a double-headed roller, made of a fillet four yards long, and about an inch and a half broad; it must be reversed two or three times, so as to form a knot upon the part which is to be compressed. It is employed when an hæmorrhage from a wound is to be stopped, or for securing the compress after bleeding any part of the head.

The *quadrangular* bandage is about three feet square, or a little longer than broad. The French call it *le grand couvre-chef*.

The *reflex* bandage. See CAPELINA.

The particular bandages we shall consider under the article FASCIA.

For the practice of the ancients in this part of surgery, see Vidus Vidius. For more modern directions, Heister's Surgery; M. M. Sue, and Thilloye; Pott's Works; Bell's Surgery, vol. vi. p. 469; Lombard and Bernstein.

The *scapularia*, *scapulary*, and *napkin*, is a piece of cloth four or six fingers broad, with a slit in the middle to pass the head through, and long enough to reach from the bottom of the sternum over the shoulders, and down the back, as low as the sternum is before. For the *spica inguinalis*, *inguinalis duplex*, snd *simplex*, see SPICA. The STELLA, MONO'CULUS, DISCRIMEN, HABE'NA, HEMICERAU'NIOS, AURI'GA, CHIASTOS, CHIA'STE, may be found under their respective heads. For *circutus*, and *plinthius laqueus*, see CIRCUS QUADRUPLEX.

DELIQUA'TIO, (from *deliqueo*, *to melt*). See SOLUTIO.

DELIQUESCENTIA and DELIQUIUM, in chemistry, imply a spontaneous solution which some salts experience by exposure to the air only. This effect is owing to their very powerful affinity for moisture, which draws to them the portion of vapour dissolved in the atmosphere.

DELI'QUIUM ANIMI, (from *delinquo*, *to swoon*). See LIPOTHYMIA.

DELI'RIUM, (from *deliro*, *to rave*, or *talk idly*). It is termed also *alienatio mentis*, *paranoiæ paraphrenesis*, *dementia*, sometimes *emotio*. When the ideas excited in the mind do not correspond to the external objects, but are produced by a diseased state of the common sensory, the patient is said to be delirious. In madness, reason is destroyed; in foolishness (morosis), is defective; and in the delirium, vitiated. Delirium is commonly a symptom of fever, occasionally the effect of narcotic poisons. In general, the objects do not produce the accustomed impression, or are followed by the usual associations. It usually arises from an unequal state of activity in different parts of the brain, and differs from madness only in duration, or the presence of a disease of which it is a symptom.

Galen observes, that delirium is caused by the heat and acrimony of the fluid, but principally by yellow bile. (See his book De Sympt. Caus. lib. ii.) Many other writers think that the bile is the cause. No great danger is to be apprehended from delirium, whilst the pulse, the appetite, and respiration, are favourable.

DELI'RIUM MANIA'CUM. See MANIA.

DELI'RIUM MELANCHO'LICUM. See MELANCHOLIA.

DELI'RIUM FEBRILE. See FEBRIS.

DELOCA'TIO, (*de*, *from*, and *locus*, *a place*). See LUXATIO.

DELO'TICOS, (from δηλον, *manifestum*). INDICATIVE: used in this sense by Hippocrates, in his Aphorisms; in general, diagnostic signs. See DIAGNOSIS.

DELPHI'NIUM STA'PHIS A'GRIA, (from the flower resembling the dolphin's head). See STAPHIS AGRIA.

DE'LPHYS, (from δελφυς, *the womb*). See UTERUS.

DE'LTA. The name of the letter Δ in the Greek; also the external pudendum muliebre, so called from the triangular shape of the hair.

DELTOI'DES MUSCULI. The DELTOID MUSCLES, (from *delta*, and ειδος, *likeness*; *musculi triangulares*, and *humerales*). They rise from the anterior edges of the extremities of the clavicles, which join the acromions; from the acromions, and from the spines of the scapulæ; and are inserted into the middle of each humerus respectively. They move the arm forward, upward, and backward.

DEME'NTIA, (from *de* and *mens*, *without mind*). See VESANIA, and DELIRIUM.

DEME'RSUS, (from *demergo*, *to sink down*). In botany it is applied to aquatic plants, and means sunk below the surface of the water.

DEME'TRIAS. See CEREALIA.

DEMO'CRATIS THERIA'CA. A theriaca described by Ætius; called from its inventor.

DEMOTI'VUS LA'PSUS, (from *demoveo*, *to send back*). SUDDEN DEATH.

DEMULCE'NTIA MEDICAME'NTA, (from *demulceo*, *to soften*). DEMULCENT MEDICINES sheath the acrimony of the humours, and render them mild. Dr. Cullen says, they are such as are suited to correct acrids, or to obviate the irritations arising from them. Emollients are occasionally demulcents; for they often sheath acrid humours, and soften rigid fibres. See EMOLLIENTIA.

Demulcents are of two kinds, viz. general, or specific, obtunding only a particular acrimony.

The general sort are, 1st, All oils obtained by the expression of fruits, or formed by boiling vegetable substances containing them; the oil distilled from wax, and all animal fats. 2dly, All insipid inodorous plants that yield no oil, but are merely mucilaginous. 3dly, The viscid insipid gums. 4thly, All the animal gelatines and albumens. Watery fluids, usually styled *demulcents*, are rather to be considered as DILUENTS; q. v. The specific demulcents are those which unite by chemical affinity with the acrid: these are chiefly alkalis and acids, when the acrimony is of the opposite kind. Bitters are supposed to be demulcents when the acrimony is bilious: vegetable acids are more certainly such in the same case. The other acrimonies described by authors are numerous, but generally imaginary, except probably the saline, for which diluents are the remedies.

DENA'RIUS, (from *denus*, *ten*; because the Roman denarium marked with the letter X meant ten asses, a coin so called).

DENDR. An abbreviation of dendrographia, or dendrologia, a description of, or discourse on, trees, from δενδρον, *arbor, a tree*, and γραφη, *scriptura, seu* λογος, *sermo.*

DENDROI'DES, (from δενδρον, *a tree*, and ειδος, *likeness*). Plants that resemble trees: they are also called *arborescent.*

DENDROLI'BANUS, (from δενδρον, *tree*, and ολιβανον, *frankincense.*). See Rosmarinus.

DENDROMA'LACHE, (from δενδρον, and μαλαχη, *the mallow*). See Malva rosea.

DENODA'TIO, (from *denodo, to loosen*). See Dissolutio.

DENS, (quasi *edens*, from *edo, to eat*, or from οδους οδοντος). A tooth. The teeth are usually sixteen in each jaw; they are divided into the body above the gum, and the root, or fang, which is within the socket of the jaw; the neck is the line of division between the root and the body. They are composed of a bony substance and an enamel.

Little attention was paid to the teeth before the period of Eustachius, whose work appeared in 1563. He was followed by a French surgeon, Urban Hemard, about twenty years afterwards; but though the teeth and their diseases were more frequently mentioned in anatomical and chirurgical works, we find no express treatise on the subject till the year 1740, the date of Fouchard's work. This author was followed in 1771 by Mr. J. Hunter; by Dr. Blake in 1798; and Mr. Fox in 1803.

The enamel covers only the body of the tooth, that part which is not covered by the gums, so far as to its neck: it is not vascular, nor capable of being injected: for if animals are fed with madder, the body of the tooth will be coloured, but the enamel will remain unaltered; or, if the enamel be steeped in a weak acid, it will become a powder; but if bone is thus steeped, a soft elastic part remains.

Chemically examined, the enamel consists, like bone, of phosphat of lime, and gelatine, viz. of 29.67 parts of phosphoric acid; 43.3 of lime; and 27.10 of gelatine and water. It is generally agreed that the enamel is never reproduced. It certainly is not when broken to the subjacent bone; but its surface seems to be occasionally supplied, though its hardness prevents injury from attrition.

Each root is hollow, for the admission of vessels and nerves to pass into the substance of the teeth; but these cavities grow less in advanced age.

Ossification begins in the body of a tooth, and is continued to the root; and there are as many points of ossification as there are tubercles in the tooth. Mr. John Hunter suspects that the teeth, when full grown, are not simply bone. He observes, that bones are tinged with the colouring matter of madder when they are complete and perfectly grown, if the animal is fed for a time with this root; and teeth, whilst growing, receive this tinge, but not when they are perfected. In all other bones this red colour is, in time, carried off by absorption, and they return to their original colour; but a growing tooth, if coloured, never loses it. This does not show the want of an absorbent system, for teeth, when their nerves are destroyed, seem to be slowly absorbed; and they certainly continue, while alive, to be vascular. The whole anomaly seems to arise from the minuteness of their vessels. The rickets do not affect the teeth; for we never find them grow soft like the bones, but they remain perfectly hard: lastly, in old age, the other bones become brittle and waste; but the teeth, except when carious, continue in their former state.

The teeth are divided into three classes, viz. the *incisores, canini*, and *molares*. The incisores, called also *dentes lactei*, and *dentes risorii*, are the four anterior teeth in each jaw; they appear the first. The canini, or dentes oculares, are one on each side of the incisores, in each jaw. The molares are five on each side of both jaws. Sometimes before twenty years of age, often about five or six and twenty, the last of the grinders appear, and are called *dentes sapientiæ* and *dentes genuini*. Mr. John Hunter divides and names them as follows; viz. from the symphysis of the jaw on each side, are two Incisores, q. v.; one *cuspidatus*, (see Canini dentes;) two *bicuspides*; and three *molares*, the last of which is the *sapientiæ dens*. See Morales.

The incisores, canini, and the two first of the grinders, are formed at the birth, and are those teeth which are shed. They usually appear about the seventh month, and are shed about the seventh year. The secondary teeth are formed in sockets of their own, which are situated below the other socket. The three dentes molares on each side do not come through the gums until the first set of teeth is shed; then they come through with the second set, and are never shed. Some people never have the last molares. At about three years of age a child hath the whole of its first set of teeth, which are twenty.

There are generally as many protuberances on the body of the teeth as there are roots: but the latter sometimes grow together; at other times they are divaricated, especially in the upper jaw, where, not having a sufficient depth, because of the maxillary sinus, they spread and are extracted with greater difficulty than those on the lower jaw.

The fifth pair of nerves supply the teeth with branches, which, with the blood vessels, are surrounded by a membrane, and, running under the teeth, enter into the cavities through a hole in the roots. From an attention to the fifth pair of nerves, and the parts to which they are distributed, many of the phenomena attendant on disorders of the teeth may be explained. It is in general supposed that the teeth, when a child is born, are lodged in sockets in the jaw-bones, and are covered with, and inveloped by, a thin, very irritable, and sensible membrane, the periosteum of the teeth; so that when the teeth begin to grow, they must necessarily distend, and force their way through this membrane, which, from its sensibility, gives great pain, and occasions fevers, startings, and all the symptoms of teething. As soon as this membrane is completely divided in that part by the tooth, the child is relieved for the present from the fever and other complaints; which are subject to return upon the successive rising of the other teeth.

This general account must be admitted with many restrictions, derived from more minute inquiries. The teeth are formed in the fœtus, and even the rudiments of the second set are very early conspicuous. They ossify in distinct points; and, at the period of birth, these ossified points are nearly contiguous. They are covered with a membrane which is divisible into two

layers; most dense and thick near the edge of the jaw, and softer as well as more gelatinous below. The external layer is spongy and vascular; the internal more tender and delicate, without vessels: though Mr. Hunter, perhaps from accident, has inverted this order. The membrane is fastened to the neck of the tooth, which, pressing against it, deprives it of life, and thus occasions its absorption, as well as of the gum above. Laceration seldom takes place, though in some instances it seems to do so, as the ragged edges have been observed. In general, the diseases attributed to dentition do not arise from the distention of this membrane, but to the state of the stomach, and are often relieved by a slight opiate, with the volatile alkali. It has been a too common practice to divide the gum; but this is an unnecessary severity, and often useless. It is only when the tooth distends it considerably, with violent inflammation, that such an operation is admissible.

Disorders in the teeth, in more advanced age, depend chiefly on a caries, and an inflammation in the membrane which covers their root. When a tooth is carious, it often occasions a fetid breath; and the air passing into, or any warm or cold substance touching it, excites pain. Relief is often obtained by filling the carious part with opium for occasional relief; but with gold or silver laminæ for more permanent ease. When the membrane which spreads itself about the roots of the teeth is considerably inflamed, bleeding or purging, according to the state of the constitution, will be needful; warm barley water may also be held in the mouth, and the methods useful in other inflammatory disorders may be employed. Blisters may be applied behind the ears, or on the back; and horse radish or pellitory root may be held between the gums and cheeks, to excite a discharge of saliva. Besides these general causes, scorbutic and venereal complaints will affect the teeth; in which cases, the method of cure will consist in general remedies adapted to them. See DENTIFRICIUM.

On the teeth, and their disorders, see Mr. John Hunter's Natural History of the Human Teeth; Eustachius de Dentibus; Hoffman de Dentibus, eorum Morb. et Cura; Hurlock on Breeding of Teeth; Moss on the Management of Children; Bell's Surgery, vol. iv. p. 191; White's Surgery, p. 280; Blake and Fox on the Teeth.

DENS CABALLI'NUS. See HYOSCIAMUS.

DENS CA'NIS. DOG'S TOOTH. *Erythronium*, *dens canis* Lin. Sp. Pl. 437. The flower is shaped like that of a lily; the root is long, fleshy, and formed somewhat like the tooth of a dog; the leaves resemble those of the cyclamen. The dried roots are commended as anthelmintic; but are not used with us. Dog tooth spar in mineralogy is one of the original forms of crystals.

DENS LE'ONIS, also called *taraxacum*, *urinaria*, *hieracium Alpinum*, *hedypnois*. DANDELION. It is the *leontodon taraxacum* Lin. Sp. Pl. 1122. It is a low plant, with long, narrow, deeply indented leaves, lying on the ground, among which arises a single, naked, hollow pedicle, bearing a large, yellow, flosculous flower, followed by small seeds, covered with a tuft of long down: the root is oblong, slender, yellowish, or brownish, on the outside, and white within. It is perennial, common in uncultivated places, and flowers from April to the end of summer.

The roots, stalks, and leaves, abound with a milky, bitterish juice, but of no particular flavour. They were supposed to be mildly detergent and aperient; but owe their credit chiefly to their milky juice, which was supposed to be saponaceous. Boerhaave highly commends them as a resolvent; but the more immediate and sensible operation of this plant is to loosen the belly, and promote urine; which it does with little stimulus, though in a slight degree; and has been considered as highly efficacious in removing biliary obstructions. Dr. Pemberton, in a late work, speaks of it with commendation in these complaints. Murray observes, that this plant resolves viscid humours, opens obstructed vessels, and is a remedy for various eruptive complaints; and Bergius considers it as an effective, hepatic deobstruent, recommending it in hypochondriasis and jaundice. He recommends it boiled in whey, or formed into broths and apozems. It has also been supposed useful in dropsies, pulmonic tubercles, and some cutaneous disorders; given in decoctions of the plant and root; or the expressed juice is sometimes administered, from one ounce to four, three or four times a day. The plant should always be used fresh; for even extracts of it, as well as the roots and leaves, lose their power by keeping. It may also be taken as part of diet, and eaten fresh. The young leaves blanched resemble in taste the endive, and make a good addition to salads in the spring. The roots are roasted, and used at Göttingen, by the poorer people, for coffee, from which a decoction of them properly prepared can hardly be distinguished.

See Raii Hist. Lewis's Mat. Mad. It is also a name of the auricula muris, and some other plants.

DE'NSITAS, (from *densus*, *thick*). DENSITY. Dense bodies contain a considerable quantity of matter within a proportionally small bulk. But in medical writings, denseness sometimes means frequency, and is applied to the pulse, and to respiration.

DENTA'GRA, (from *dens*, *a tooth*, and *αγρα*, *a seizure*). It is used both to signify the gout in the teeth (see ARTHRITIS), and an instrument for drawing them, called also *dentarpaga*, *dentiducum*, *odontagogos*.

DENTA'LE VIRIDE STRIATUM. See ENTALIUM.

DENTA'LIS LA'PIS, (from *dens*,) the tartareous matter formed on the teeth, resembling in hardness a stone.

DENTA'LIUM, (from the same). Also called *dentale*, *autalis*, *tubulus dentalis*, and TOOTH SHELL. It is the shell of a small sea fish, oblong, slender, and of a whitish, greenish, or reddish colour; about two inches long, striated, and marked with two or three bands. As a medicine, it differs little from the oyster shell.

DENTA'RIA, (from the same). *Dentaria pentaphyllos* Lin. Sp. Pl. 912. *Coralloides*, *septifolia*, SEPTFOIL TOOTHWORT, and CORALWORT. This plant hath a long pod, full of round seeds; when this is ripe, its valves are twisted into a spiral form, and discharge the seeds with violence: the root is squamous, fleshy, and denticulated. It flowers in April: the root is drying and astringent.

DENTA'RIA. See PLUMBAGO.

DENTARPA'GA, (from *dens*, *a tooth*, and *αρπαζω*, *to fasten upon*). See DENTAGRA.

DENTA'TA, (from *dens*, *a tooth*). The second vertebra of the neck. It is remarkable for its process,

called *processus dentatus*, which plays in the hollow of the anterior arch of the vertebra above it, called *Atlas*. From the sides of the processus dentatus, the ligaments go off to attach it to the Atlas; and from its point a strong one is sent out to the os occipitis. In botany a dentated leaf, called *denticulatum*, is distinguished by spreading points or teeth, remote from each other, about the edge.

DENTA'TUS PROCE'SSUS. See Atlas.

DENTELLA'RIA, (from *dentella, a little tooth*). See Plumbago.

DENTES COLUMELLARES, (from *dens*, and *columella*.) A little column. *Dentes canini* of Varro and Pliny.

Dentes lacte'i. See Incisores.

Dentes occula'res. Eye teeth. See Dens. They are thus named, because their nerves are supposed to be connected with those of the eye, and that any injury they receive may equally injure that organ.

Dentes riso'rii. See Incisores.

DENTICULA'TA, (from *denticula, a little tooth*). Indented, or cut round in small notches. See Mochatellina foliis fumariæ bulbosæ.

DENTICULA'TUM, (from the same). See Dentata.

DENTIDUCUM, (from *dens*, and *duco, to draw*). See Dentagra.

DENTIFRI'CIUM, (from *dentes fricare, to rub the teeth*). Dentifrice; called also *odontotrimma*. Medicines for cleaning the teeth. Many preparations are employed for this purpose, chiefly consisting of scuttlefish bone, bole, bark, myrrh, salt, and soot. Each operator has his receipt, which he highly commends and conceals. Any very fine powder is apparently of equal service, but mastich and myrrh are the general bases: most commonly the former. The powder is flavoured with orris root, with ambergris, &c. and coloured with dragon's blood, bole armoniac, or red sanders, professedly to strengthen the gums, but really to conceal the bleeding from the gums. It was formerly the custom to add common salt or crude sal ammoniac to dentifrices; for what purpose we know not; but both are now disused: and one of the most boasted tooth powders that we have seen, is only magnesia coloured with rose pink. The carbonated dentifrice is merely powdered charcoal, and it has been employed chiefly from its power of destroying the colours of different fluids, discovered by Lowitz. (See Charcoal.) Soot is used from the whiteness observed on chimney sweepers' teeth; but it possesses no very peculiar merit. A sufficiently pleasant and efficacious tooth powder is made with two parts of finely powdered mastich, two parts of myrrh, and one part of cassia. It cleans the teeth, preserves them from decaying, and renders the gums peculiarly firm and hard. In fact, however, almost every powder seems equally efficacious, and, if it be impalpable without acidity, equally innocent.

The calculous concretion which forms on the teeth is of singular hardness, and with great difficulty removed; nor has modern chemistry yet discovered a a menstruum which will dissolve it without injuring the enamel. Acids soften this firm covering, and render it transparent. Dentists universally reprobate their use, and we cannot, therefore, encourage it. We suspect, however, that their occasional application will not be injurious: we are, at least, certain, that the injury acids may do is recoverable. The brushes should be hard and strong; the hairs set at some distance, that they may clean the interstices of the teeth, where the tartar lodges; and the brush should be used more in the longitudinal direction, with respect to the teeth, than across them. If the powders are perfectly fine, no injury can arise from the brush. The preservative tinctures are of little use. Their basis, like the powders, is mastich, and their appellations fanciful.

DENTILLA'RIA, (from *denticula, a little tooth*; so called because its root is denticulated). See Plumbago.

DENTISCA'LPIUM, (from *dens, a tooth*, and *scalpo, to scrape*). Also called *odontoglyphon*. An instrument for scraping off the crust which is formed on foul teeth. In Oribasius, it is an instrument for separating the gums from the teeth.

DENTITIO, (from *dentio, to breed teeth*). Also called *odontiasis*, *odontophya*. Dentition, or breeding of teeth. Sauvages, in his system of Nosology, makes this a species of odontalgia. Cullen makes dentitio synonymous with odaxismos; but does not admit it as a disease. Hippocrates uses the word principally with respect to the gums, when the teeth are forcing a passage through them; and modern writers follow his example.

Children often suffer much uneasiness from the cutting of their teeth: though teething is not a disease, yet from accident and temperament it sometimes produces the most fatal disorders. The fever and inflammation excited in a full habit may terminate in peripneumony or suffocation; and when the child is fat and plethoric, the most cooling diet and the most active laxatives must be employed.

A troublesome cough is often attendant on teething; in which case a small blister applied to the nape of the neck is of considerable service. A fresh one may be applied when the first begins no longer to produce any discharge.

Dr. Withers observes, in his Treatise on the Asthma, p. 301, 302, that, "If a child has a disease in his breast, the cutting of a tooth, as it often excites pain, fever, and general irritability, will be found commonly to increase it. But this affords no proof why a cough and shortness of breath, with a pulmonary obstruction in the lungs, should be thought a necessary attendant on teething. According to the best of my observations, it is an indisputable fact, that healthful children cut their teeth without a cough; and when in others a cough attends teething, it is, in general, an accidental circumstance, proceeding from a local complaint in the breast, and is not merely symptomatic of the cutting of a tooth. The violence of the cough, the rising of the phlegm from the lungs, inflammations, pulmonary obstructions, and ulcerations, which have followed, and been proved by dissection, have fully convinced me of the truth of the above assertion. I should not have dwelt at all on this fact, if I had not observed that the notion which I am endeavouring to refute is pernicious to society, and productive of fatal consequences. For when we say that a cough, with shortness of breath, is a common symptom of teething, we unite the two complaints together under one idea; and as we consider teething as natural and necessary, the other, being united with it, and regarded only as an effect, falls in under the same

general idea, and consequently is too often supposed to require no particular treatment; by which means it is neglected, and in many instances proves fatal."

When children are vigorous, they cut their teeth earlier; weakly children, particularly those that are disposed to the rickets, are later before their teeth appear.

A discharge of saliva, or a diarrhœa, are favourable symptoms during the time of cutting the teeth. Children attended with these symptoms are rarely affected with convulsions, or any other violent disorder.

Hoffman observes, that the teeth appear sometimes in the seventh month, at others in the ninth, or even the twelfth. In some, this process gives but little uneasiness; in others, it is accompanied with very troublesome symptoms. In difficult dentition the child is preternaturally hot, cries immoderately, starts in his sleep, often applies his hand to his mouth, sucks with eagerness, and even bites the nipple. The gums swell, and look whitish or reddish; the saliva is copiously discharged, and often hangs viscid from the mouth; the belly either costive or too loose. Sometimes acute fevers, convulsive and epileptic paroxysms, distortions of the jaws, and other violent symptoms are joined, different in different subjects, according to the difficulty of the eruption of the teeth, or the sensibility of the child. Amongst the prognostics, he says, that those who are plethoric, sleepy, costive, those affected in dentition with a cough, who are of great sensibility, or an hereditary passionate disposition, have the most to fear. Hippocrates observes, that those who are attacked by the acute fever escape convulsions, and that the teething is easiest in winter. The principal indications of cure are, to abate the pain and inflammation, and to soften and relax the gums. If the body be not naturally lax, it should be kept so. A spontaneous looseness is salutary, and should not be checked; for convulsions and other threatening symptoms will then probably follow.

Breeding the teeth commonly begins about the third or fourth month: it may be known by a copious discharge of saliva taking place; its being pleased with having its gums rubbed with a finger, or other harder substance; its becoming more fretful and uneasy, starting in its sleep, or suddenly awaking. If now there are also great heat, thirst, fever, a dulness and drowsiness, particular attention should be paid to keep the bowels lax, if they are not already so; if a looseness at this time attends, though it is somewhat severe, it should not be checked. The griping, which occasionally accompanies this looseness, is generally abated by the use of a little magnesia, or prepared chalk. When the drowsiness, starting, and feverishness come on, bleeding with leeches will be singularly useful. Two leeches may be applied to the neck every or every other day, until these symptoms abate. During the thirst, if children crave sweetened drinks, liquorice may be boiled in the water which is given, as it does not increase this troublesome symptom. After the bleeding, blisters behind the ears, or on the back, are not to be omitted. The antimonial emetics should be repeated occasionally until the fever is removed; and, in many cases, the sp. cornu cervi, recommended by Sydenham, is useful. Should convulsions come on, the above treatment will be also well adapted to relieve. A discreet use of anodynes is an important addition in this instance; and, in general, after free evacuations they may be given by the mouth, or in an enema. The second stage, or period of teething, is that of cutting the teeth. This usually begins about the seventh or ninth month: in this the symptoms or management are, in general, the same as those of the first period. A child, however, who a little before was pleased with having his gums rubbed, will now seldom suffer any thing to touch them; for when a tooth is penetrating the gum, it is exceedingly sensible of pain from the slightest touch. It may be known that a tooth is near cutting, when the gum in one particular part appears fuller and more distended than usual; the gum in that part looks red, and is inflamed at the bottom or base, but is paler or whiter at its point or edge; and when the tooth is very near, the edge of the gum seems as if it was covered with a flat white blister, appearing also thicker and broader than the edges of the gums in other places: at this, but at no other period, if any alarming symptoms come on, cutting the gum over the edge of the approaching tooth, will be a speedy and often an effectual means of relief. If cut earlier, though the symptoms abate, the tooth will not appear for some days, or perhaps weeks. Sometimes the gum heals, and the former uneasy symptoms return; and it has been necessary to repeat the operation frequently; a severity which, though the wounded gum should not unite with a hard cicatrix, is to be discouraged. It is, however, by no means certain, that the subsequent operations are not more painful, and that the appearance of the tooth is not retarded; that repeated cutting the gum renders it harder; for the contrary is said to take place; on which see J. Hunter's Practical Treatise on the Diseases of the Teeth, p. 121. Bell's Surgery, vol. iv. p. 191. White's Surgery, p. 280, &c.

DE'NTO, (from *dens*, *a tooth*). One whose teeth are prominent to a great degree.

DENTODU'CUM. Dentiducum. See Dentagra.

DENUDA'TIO, (from *denudo*, *to make bare*). Denudation. It is spoken of parts that are laid bare by the flesh being torn from them.

DENUDA'TUS, (from the same). An order of plants in the vegetable kingdom, whose flowers are naked.

DEOBSTRUE'NTIA, (*de*, priv. and *obstruo*, *to obstruct*). Deobstruents. Deoppilativa.

DEOBSTRUENTS. This is a class of medicines formed without any precise or definite object. Obstruction was a cause of convenient application, from its vague indefinite meaning; and, while lentor and viscidity were the sources of diseases, deobstruents were common remedies. We declined speaking of them in the class of aperients; as for these medicines there was an apparent foundation, we mean not to say that there is not some foundation for the present group, yet it is less clear and satisfactory.

Obstruction, during the reign of the humoral pathology, was, as we have hinted, frequently introduced as a cause; but though fevers and inflammations were then ultimately resolved into obstruction, deobstruents were confined exclusively to chronic complaints: of these, infarctions of the viscera were chiefly attacked by gentle laxatives, from this effect styled aperients, of which we have already spoken.

The obstructions to be removed by this class of me-

dicines, are those of natural discharges, or infarctions of organs, whose utility is less obvious, and from which no excretory ducts proceed. The natural discharges, to restore which we employ deobstruents, are those of the menses, of the hæmorrhoidal vessels, of the nose, the lungs, and the skin. The first we must treat of under the title of Emmenagogues; the second we have spoken of in the article Cathartics; the others will occur under the articles of Errhines, Expectorants, and Diaphoretics. Our present object is, then, those tumours out of the circulation, or in parts where the circulation is languid, and from which no excretory ducts proceed.

We have already stated, that where obstruction occurs, two modes of treatment offer themselves to our notice; the one consists in forcing on the circulation, by increasing the vis a tergo; the other in moderating too great action, in order to prevent the fluids from being further impacted, the obstruction increased, and suppuration supervening. The first can seldom be effected by violent stimulating remedies; yet we have had occasion to show, that mercury, by slowly and steadily increasing the action of the arterial system, and of course the momentum of the blood, sometimes succeeds. It certainly, at times, removes complaints of the liver; sometimes, though rarely, scirrhous tumours of the breast, and other parts where its topical application by friction can be combined with its internal stimulus. The internal use of arsenic, in cancers, must be referred to the same head; and other stimuli sometimes succeed in different complaints. The tartar emetic ointment has been useful in bronchocele, and occasionally in the white swelling of the knee. In the latter also, the arum, and the gum ammoniacum, with squills, have been successful. These, then, are deobstruents from their stimulus. When the application of sea weeds and sea salt, with their internal use, relieves cases of scrofula; and mesenteric tabes, or the burnt sponge, under the tongue, lessens the bronchocele; they appear to be useful in the same way.

The sedative or refrigerant deobstruents are medicines of the same classes, though they have not been usually arranged under this head. When we give nitre, and employ the antiphlogistic regimen in cases of tubercles in the lungs, we use them as deobstruents. A similar treatment is often, for the same purpose, adopted in incipient cancers. The general remedies of this class, however, besides opium, are, the cicuta, the lactuca virosa, the belladonna, the aconite, and the various genera of the same order. These have been used as deobstruents in other parts of Europe, it is said, with success. We have to regret that we cannot add our testimony to their efficacy.

It has not been uncommon to unite the two orders of deobstruents; and not long since fashionable to join the extract of cicuta with mercury in tubercular consumptions; arum, with the same preparation, as an application to white swellings; mercury, antimony, and opium, in internal obstructions; and mercury, with camphor, externally applied.

We have enlarged on this class more fully than, perhaps, its importance might have demanded; for, from being highly valued, it has been neglected in the later systems. It was proper, therefore, to show, that the establishment of this association was not wholly theoretical, and to point out its real foundation.

DEPART. See Discessus. It is also called *quartatio*, which see.

DEPA'SCENS U'LCUS, (from *depasco*, *to eat down*). See Phagedæna.

DEPENDENS, (from *dependo*, *to hang from*). Dependent. In botany it means hanging down, pointing towards the ground.

DEPERDI'TIO, (from *deperdo*, *to lose*). See Abortus.

DEPETI'GO, (from *de*, and *petigo*, *a running scab*). See Pruritus.

DEPHLEGMA'TIO, (from *de*, and *phlegma*, *phlegm*). Vinous spirits are said to be dephlegmated, or rectified, when freed from the usual proportion of water.

DEPILATO'RIUM, (from *de*, and *pilus*, *hair*). Depilatory. Medicines which take off the hair, such as quick lime and orpiment. There are three kinds of depilatory medicines: 1. The *psilóthra*, or *depilatória*, by way of eminence; 2. Those which thin the hair; and, 3. Those which are corrosive, and extirpate the hair. The first and third are nearly the same, at least the hair cannot be effectually taken off unless its roots are destroyed.

DEPI'LIS, (from the same). See Alopecia.

DE'POT LAITE'UX. See Lymphæ ductus.

DEPLUMA'TIO, (from *de*, and *pluma*, *a feather*, or *hair*). An affection of the eye lids, with a callous tumour, which causes their hair to fall off. Ætius says, it is a disorder in the eye, consisting of a *madarosis* and *sclerophthalmia*.

DEPREHE'NSIO, (from *deprehendo*, *to catch unawares*). See Catolepsis.

DEPRE'SSIO, (from *deprimo*, *to press down*). A depression. In surgery this word generally signifies a sinking of some part of the skull, which happens from an external violence, by which the bone is fractured, or pressed inwards. This injury is sometimes named *impressio*, *introcessio*.

In this case, the same symptoms may attend as are observed in an extravasation within the skull, and are caused by the same means, viz. mechanical pressure: they differ widely from those of a concussion of the brain. See Concussio, Extravasatio, Cerberi, Compressio.

Dr. Hunter seems to think, that it is almost impossible to raise a depression of this kind, because the fracture is usually more extensive in the inside than externally, and the spiculæ can never be brought exactly to fit each other. But as, according to Hildanus and Vander Weil, some skulls have been depressed without fracture, success may be expected, at least, in some cases; and where the bones are soft and yielding, they may be raised by means of a string fastened to an adhesive plaster, which may be applied to the depression, after shaving the part. But, after all, if their elevation were easily practicable, it would not be advisable, in general, to be contented with mere elevation; for all the ills attending and succeeding simple fractures, are more likely to happen from depressed pieces of bone; therefore the depressed pieces should be generally removed.

DEPRE'SSOR, also *deprimens*, (from *deprivo*, *to pull*, or *draw down*). In anatomy, a name applied to several muscles, because they depress the parts to which they are fastened.

Depre'ssor angu'li o'ris. A name given by

Albinus to the *depressor labiorum communis*. It rises from the outer part of the lower edge of the lower jaw, at the side of the chin, and is continued outwardly, to the greater zygomaticus, to the nasalis of the upper lip, and thence into the outer part of the orbicularis, where it surrounds the upper lip at the corner of the mouth. It extends and joins the elevator of the corner of the mouth.

DEPRE'SSOR EPIGLOTTIDIS. It rises from the ligament on the thyroid cartilage on its fore part, and is inserted in the epiglottis, near its basis, on each side.

DEPRE'SSOR LABIO'RUM COMMU'NIS. See DEPRESSOR ANGULI ORIS.

DEPRE'SSOR LA'BII SUPERI'ORIS; *triangularis*, *constrictor alæ nasi*. It rises from the sockets of the incisores, runs to the superior part of the upper lip, and sends some fibres to the nose.

DEPRE'SSOR O'CULI: *humilis rectus inferior*, *deprimens musculus inferior*. It rises tendinous from the back part of the socket, cohering in some measure with the covering of the optic nerves, and is inserted into the fore part of the sclerotica, after running under the eye.

DEPRE'SSOR SUPERCI'LII. See CORRUGATOR COITERII.

DEPRESS'ORES A'LÆ NA'SI. The plural of *depressor*. The DEPRESSORS OF THE WINGS OF THE NOSE. They arise from the upper jaw bone outwardly, where the gums cover the sockets of the dentes incisores and canini, and are inserted into the root of the wing of the nose, advancing a little way up the side of the wing: they pull the alæ downwards.

DEPRESSO'RES COSTARUM. They are so similar to the levatores longiores, as to need no further description: their office is the reverse of the other.

DEPRESSO'RES LABII INFERIORIS. Also called *quadrati*. They arise fleshy on each side of the chin, proceed obliquely, and, crossing each other, terminate together in the whole edge of the lip, where it grows red.

DEPRESSO'RES MAXILLÆ INFERIORIS. See PLATYSMA MYOIDES.

DEPRESSO'RIUM, (from *deprimo*, *to depress*). An instrument used for depressing the dura mater after the operation of the trepan.

DE'PRIMENS, (from *deprimo*, *to depress*). See DEPRESSOR, and DEPRESSOR OCULI.

DEPURA'TIO, (from *depuro*, *to purify*). DEPURATION, *clarificatio*, *despumatio*, vel *rectificatio*. It is the freeing of any fluid from all heterogeneous feculence, and rendering it more transparent. This operation is of three kinds: 1st. DECANTATION, which can only take place where there is a difference in the specific gravity of what constitutes the mixture; so that the lighter part can be poured off. When oils are to be separated from water, or indeed from other fluids, a tritorium, or separatory glass, is used. 2dly. DESPUMATION. The principle of this mode of depuration is the existence of air in the fluid, which, when rarified by heat, rises to the top, carrying with it the feculæ, which may be separated by a spoon. 3dly. CLARIFICATION, performed by adding the whites of eggs, or such fluids as will coagulate by means of heat, and entangle all the heterogeneous matter, which may be easily separated. 4thly. FILTRATION OR PERCOLATION, performed by passing, without pressure, the fluid to be purified through strainers of linen, flannel, or paper, which, retaining the feculence, permit only the clearer fluid to pass. In filtration, a soft porous paper is folded in the shape of a funnel, then placed into one; and, after suffering some water to filtrate through it, to dissolve the alum, usually employed in the manufacture of the paper, the liquor is to be gradually poured on, to pass through it.

When flannel is used it is commonly formed into a cone, called *Hippocrates' sleeve*, and its base is hung on three props, with the apex of the cone downwards; it is then filled with the liquor, which gradually drops from the apex: it is generally used when the fluid to be depurated is hot.

Distillation and sublimation are practised in the depuration of spirits and salts, and the operation is then called *rectification*.

DEPURATO'RIA FE'BRIS, (from *de*, and *purus*, *pure*). DEPURATORY FEVER. A name given by Sydenham to a fever, which prevailed in the years 1661 and 1664. He called it *depuratory*, because he observed that nature regulated all the symptoms in such a manner as to fit the febrile matter for expulsion in a certain time, either by a copious sweat, or a free perspiration. See Sydenham's Works.

DE'RAS, and DERMA, (from δέρω, δέρις, *a sheep skin*). The title of a book in chemistry, treating of the art of transmuting base metals into gold. It is written on sheep skins; hence also DERMA.

DE'RBIA. See IMPETIGENES.

DERIVA'TIO, (from *derivo*, *to draw from*; and from *de*, and *rivus*, *a river*). DERIVATION. In medicine, when a humour cannot conveniently be evacuated at the part affected, and is attracted from thence, to be discharged at another place, it is called *derivation:* thus a blister is applied to the neck to draw away the humour from the head.

The doctrine of derivation and revulsion, as understood and explained by the ancients, is, in their sense of these terms, wholly exploded. By revulsion they meant the driving back of the fluids from one part to determine it to another. The only rational meaning that the word revulsion, as here applied, can have, is the preventing too great an afflux of humours to any part, either by contracting the area of the vessels, or diminishing the quantity which flows from them; the first of these intentions is answered by the application of repellents to the part; the last by bleeding and other evacuations. The great object of the older authors was, however, to derive from a part, by establishing a drain in a very distant one. Thus they applied sinapisms to the feet to relieve the head. The fallacy of this reasoning we have noticed under the article of CIRCULATION. Revulsion was a reciprocal term to derivation: for revulsion was, in their sense, made by deriving to a distant part. The language and the ideas remain, though the error has been often demonstrated. It means also the derivation of a word, deducing it from its original source.

DERMATOI'DES, (from δέρμα, *a skin*, or *leather*, and εἶδος, *likeness*). See DURA MATER.

DERMATOLOGIA, (from δέρμα, *the skin*, and λογος, *a discourse*). A treatise on the skin.

DERMATO-PATHOLOGIA. The pathology or diseases of the skin.

DE'RTRON, (from δέρις, *the skin*, or *covering*). See ABDOMEN, OMENTUM, and INTESTINA.

DESCE'NSIO, and DESCE'NSUS, (from *descendo, to move downwards,)* mean the gentle and moderate motion of the body, or of the fluids, downwards. The chemists call it *distillatio per descensum* when the fire is applied to the top, and all around the vessel, whose orifice is at the bottom, and the vapours consequently driven there. Liquifying salts by exposing them to the air, as in making the aqua kali, is also a sort of distillatio per descensum.

DESCENSO'RIUM, (from the same). See Botus.

DESE'SSIO, (from *de*, and *sedeo, to sit down*). Celsus uses this word for sitting on a close stool. Desurrectio is used in the same sense, q. v.

DESICCA'TIO, (from *desicco, to dry up*). Drying. The chemists also refer it (though improperly) to calcination.

DESICCATI'VUM, (from *desicco, to dry up*). Desiccative. See Epulotica.

DESI'DIA OBLI'VIO, (from *deses, sloth*, and *obliviscor, to forget*). That inactivity and forgetfulness which attend the approach of lethargy. See Lethargus, under Caros.

DESIPIE'NTIA, (from *desipio, to rave*, or *to doat*). See Phrenitis.

DE'SME, (from *δέω, to tie*, or *bind,)* a word which occurs in Moschion. A faggot. See Manipulus.

DESMI'DION, a diminutive of *desme;* a handful.

DE'SMOS, (from *δέω, to bind up*). In Hippocrates de Fractura, this word signifies an affection of a joint after a luxation, when, as if tied, it is rendered incapable of bending or stretching out, which proceeds from inflammation.

DESPUMA'TIO, (from *despumo, to scum*). See Depuratio.

DESQUAMA'TIO, (from *de*, privative, and *squama, the scale of a fish*). To take off scales. Sometimes it signifies the same as abrasio; and by a metaphor is applied to the separation of a foul bone, the laminæ of which rise like scales; more properly termed Exfoliatio; which see. When the scarf skin peels off after some eruptive complaint, the process is named *desquamatio.*

DESQUAMATO'RIUM, (from *desquamo, to scale off*). An epithet of a trepan, called also *exfoliativum*, for abrading part of the cranium.

DESUDA'TIO, (from *desudo, to sweat*). See Ephidrosis. It is also profuse sweat, succeeded by an eruption of pustules, called *sudamina, hydroa*, and *boa:* these are of the miliary kind.

DESURRE'CTIO, (from *desurgo, to arise from*). The same as desessio; but, though the derivation of the two terms appears to be widely different, they have been used in the same sense, to go to stool. Castelli.

DETE'NTIO, (from *detineo, to detain*). See Catalepsis.

DETE'RGENS, (from *detergeo, to wipe off*). Deterging. (See Abstergentia.) These were medicines formerly supposed to have a specific power in cleansing wounds; but it is now found that proper pus is the most healing application, and that foul sloughs are only separated by exciting the action of the vessels below them.

DETERIORA'TIO, (from *deterior, worse*). Deterioration. The impairing or rendering a thing worse.

DETERMINA'TIO, (from *determino, to fix bounds to*). In botany it means the prescribed habit of an herb, as to the number of its leaves, their direction, or insertion, and from which it never deviates. In medicine, an increased action of the vessels of any part, and an accumulation of fluids in it.

DETERSO'RIUM, (from *detergeo, to cleanse*). The apartments at baths where the sweat was scraped off.

DETERSO'RIUS, (from the same). See Abstersivus.

DETONA'TIO. Detonation, (from *detono, to make a great noise*). In chemistry it is that noise and explosion which some substances make upon the application of fire, or rather sparks. Detonation is a less degree of thundering noise, and less explosive than *fulminatio.* (See Calcinatio, by *detonation*). As nitre is the cause of most explosions, the word *detonation* hath been appropriated chiefly to the inflammation of this salt with inflammable bodies; and it is frequently given to those inflammations of nitrous acid which are not accompanied with explosion. Compositions have lately been discovered which detonate by percussion, or even the slightest friction. But this rather belongs to Fulmination; q. v. See Dictionary of Chemistry.

DETRA'CTIO, (from *detraho, to draw forth*). See Cathæresis.

DETRA'HENS QUADRA'TUS, (from the same). See Platysma myoides.

DETRA'CTOR AU'RIS, (from the same). See Abductor auris.

DETRI'TIO, (from *detero, to rub off*). In a general sense it is taken from *trituratio.* See Rhacosis.

DETRU'SOR URI'NÆ, (from *detrudere, to thrust* or *squeeze out of.*) Douglas divides the muscular covering of the bladder into two distinct muscles: the muscle composed of longitudinal fibres he calls the *detrusor urinæ*, which he describes as arising from the prostate gland going round the fundus, and being lost in the gland again; the oblique fibres form a muscle, which he calls *constrictor vesicæ urinariæ*, and describes as running obliquely under the other. But Dr. Hunter thinks this distinction merely artificial.

DE'UNX. See Cyathus.

DEU'RENS FE'BRIS, (from *deuro, to burn*). See Ardens febris.

DEU'STIO, (from the same). See Encausis.

DEUTE'RIA, and DEUTE'RINAS, (from *δεύτερος, secundus*). A poor kind of wine, which the Latins call *lora.* Also an *adhesion of the placenta.*

DEUTE'RION, (from the same). See Secundina.

DEVALGA'TUS, (from *de*, and *valgus, bow legged*). See Blæsus.

DEX'AMENE, (from *δέχομαι, to receive*). Any receptacle, but particularly the *labrum* or *folium*, that is, a deep basin in which bathers might swim. It was also called *colymbethra* and *embasis.*

DE'XTANS, (from the same). See Cyathus.

DIA, *διά.* The beginning of several terms in medicine: and when the name of any thing begins with these three letters, they signify composition, and the word with which they are compounded is the chief ingredient in the composition. A variety of instances may be seen in the succeeding articles.

DIABA'CANU, (from *διά*, and *βακανον, a principal ingredient in it.*) An hepatic remedy mentioned by Trallian.

DIABE'BOS, (from βεβαιοω, *to strengthen*). The ANKLE BONES. Hippocrates uses this word. See ASTRAGALUS.

DIABESA'SA, (from δια, and βησασα, *wild rue*). The name of a preparation, in which rue forms a part.

DIABE'TES, (from διαβαινω, *to pass off, or through*). *Diarrhœa urinosa; diffusas; diuresis; hydrops ad matulam; profluvium urinæ.* An excessive discharge of crude urine, exceeding the quantity drunk. Boerhaave, in his Institutes, says, it is a frequent copious discharge of lacteous urine, in conjunction with an extraordinary tenuity of the fluids.

Dr. Cullen places this genus of disease in the class *neuroses*, and order *spasmi:* which he defines a chronic flow of urine, made in immoderate quantities, and of a preternatural quality. He notices two species, 1st. *Diabetes mellitus*, when the urine hath the colour, odour, and taste of honey. 2d. *Diabetes insipidus*, when limpid only. Dr. Home defines it to be an extraordinary increase of the urine as to its quantity, and that of a sweetish taste, attended with perpetual thirst, and a dry skin, which for the most part is also scaly.

Youth is scarcely ever attacked with this disorder: its most frequent subjects are those in the decline of life, often those who have drunk liberally of wine in their earlier years, and who are also employed in the more violent kinds of business.

The flow of insipid urine is owing sometimes to a nervous irritation, and from this cause it appears to be occasionally a symptom of hysteria. It has been owing to relaxation of the kidneys from drinking mineral waters in excess, occasionally to unnatural indulgences, and, as has been said, to too great tenuity of the fluids: generally speaking, when permanent, it is a symptom of debility; when temporary, it is nervous. The insipidity of the urine is not always owing to a deficiency of its solid contents, but to their diluted state, from the large proportion of the menstruum. Yet in some fevers, apparently of the nervous kind, with affections of the head, we have perceived the salts almost wholly retained.

The other species is that which has lately attracted the greatest attention, the diabetes mellitus. In this disease the urine is not only copious in quantity, but wholly different in its quality, since it contains no animal matter, and yields, on evaporation, a considerable quantity of sugar. To constitute this disease, it is not necessary that the urine should be in an unusual quantity; since we find an instance where, in an anomalous consumption, the urine contained three ounces of sugar in a pint, without being uncommonly copious.

In general, in the diabetes mellitus, the skin is dry, parched, and often scaly. The appetite not greatly impaired; but the patient is weak and emaciated, with a low quick pulse. It has been said, that, on the stoppage of the discharge, anasarca has come on; but, in twenty cases we have seen, no such termination has occurred. It is, however, by no means a common complaint. The thirst is excessive.

In speaking of aliment, we have mentioned sugar as highly alimentary: the chyle and milk have been considered as abounding in sugar; so that, with some authors, the conclusion was easy, that the discharge was milky, with others that it was chylous. Modern chemistry, in ascertaining carbone to be the principle of vegetable substances, and azote of animal, has led with more reason to the conclusion, that the saccharine discharge was an imperfectly animalised fluid; and this idea is supported by the disease occurring in exhausted constitutions, while its chief remedies are tonics and stomachics. When we reflect on various symptoms of disease, we shall find that saccharine discharges are not uncommon. The depots laiteux of puerperal women are of this kind: in hectics we find the sputum occasionally sweet; we have found the saliva of a honied sweetness. Hippocrates has remarked, that the sweet smell and taste of the cerumen are a fatal symptom; and the colliquative sweats of hectic patients are occasionally found to impart the smell of acetous acid, after being confined in napkins. From these facts, our conclusion, that the *cæliaca passio* may be a deposition of the same kind, will not appear very unreasonable.

Dr. Gottlieb Richter, professor of medicine at Gottingen, thinks, according to his experience, that a diabetes is occasioned by a stimulus which acts upon the kidneys. When the particular irritation cannot be discovered nor removed, to counteract its action upon the kidneys by antispasmodics and sedatives, is the proper remedy. In proof of which he refers to Whytt and M'Cormic, who saw it originate from gouty matter, and Sydenham from healing an old ulcer. Steller, who cured a patient with bark and opium; Dobson, by warm baths; M'Cormic, by Dover's powder; Brisbane, by almond emulsion; support, in his opinion, the same doctrine. Dr. Richter says also, that tincture of cantharides and bark have been variously used with advantage against diabetes; and supposes, that the first acted by carrying off irritation, as in the chin cough; the second by allaying irritation, as in agues. But notwithstanding these, he depends chiefly upon his own experience, and gives some cures in support of his opinion: one case, which succeeded a bilious fever, wherein the pulse was small, tense, irritated, and quick, attended with an uneasy sensation and fulness in the region of the stomach; all the complaints growing worse towards evening, was cured by a vomit, by which a very great quantity of bilious matter was evacuated. A second, wherein some scorbutic symptoms appeared, was conquered by wort. A third and fourth, for which no precise cause could be discovered, yielded to tartar emetic and valerian in the first case; in the second, to ipecacuanha, which occasioned vomiting; and as often as the patient vomited, the disease disappeared for twenty-four hours: but besides these medicines above mentioned, he strongly recommends camphor in emulsion. See Medical and Surgical Observations, Edinburgh, 1794.

This author seems, however, evidently to confound the two species of diabetes; and after having mentioned his arguments and facts, we may safely conclude that they do not apply to the diabetes mellitus.

We know nothing of the process of animalisation, but that it is connected with the production or union of azote. The mode in which it is effected we cannot in this place ascertain; and all that the refinement of modern practice has suggested, with the assistance of the improved state of chemistry, is the exhibition of azotic substances with an animal diet.

The following remarks, which we transcribe from the

last edition, are apparently directed to the increased flow of limpid urine.

"The diet should be the same as in an hectic fever, viz. animal substances, such as broth made of beef, shell fish, milk often, and in small quantities; jellies, barley water, in which the root of comfrey is boiled, and lime water, may be the common drink.

"Moderate exercise on horseback, and dry friction of the whole body, assist in promoting perspiration; and which, when excited, peculiarly tends to divert the discharge through the kidneys.

"When unquenched lime is mixed with the serum of blood, it generates those salts that are necessary to the true urinary discharge; and if lime water is drunk as freely as the thirst requires it, its efficacy exceeds that of Bristol water in the cure of a diabetes, notwithstanding the latter is esteemed as a specific: but, in order to this advantage from lime water, it must be drunk while the heat continues, which it possesses from the lime being quenched in the water.

"At proper intervals, during the use of lime water, as above directed, the acidum vitrioli dilutum; cort. Peruv. limatura ferri; and whatever can improve the crasis of the blood, may also be administered.

"A flannel shirt may be worn, to solicit a discharge through the skin. The tincture of cantharides is said by Dr. Morton to be a specific in this complaint. Others prefer the serum aluminosum, made as strong as the stomach will bear it, and direct half a pint to be taken night and morning. With others, the vitr. cærul. gr. ss. given twice a day, dissolved in any agreeable liquor, is most depended on. When the means first proposed are unsuccessful, recourse may be had to these, or such other means as experience may suggest. Rhubarb is found to be of singular advantage; and from the success which follows on the use of antispasmodics, joined with other means, a spasm in the ducts, through which some other excretions are conveyed, rather than an irritation in the kidneys, may be a principal cause of this malady."

From these confident assertions the disease may be supposed tractable, and easily yielding. Each species is, however, peculiarly obstinate, and we fear both resist the best concerted plans. The hepatised ammonia (see Chemistry) has failed in our hands; and the best, most successful, remedies have appeared to be bark, with Dover's powder, and a diet highly alkalescent and animalised. Yet, in general, every attempt has alleviated the disease only; for how can we expect to cure what is, perhaps, a symptom only of a broken constitution?

See Aretæus, Lommius, Boerhaave, Lister, London Medical Observations and Inquiries, vol. iii. p. 274, &c. vol. v. p. 298. Cullen's First Lines, vol. iv. Sydenham.

DIA'BOLUS META'LLORUM. See Stannum.

DIA'BOLI INTESTINA. See Cuscuta.

DIABO'TANUM, (from διὰ, and βοτανη, *an herb*). The name of a plaster prepared of herbs.

DIABRO'SIS, (from διαβρωσκω, *to eat through*). See Anastomosis, and Anabrosis.

DIACA'DMIAS, (from διὰ, and καδμια, *cadmia*). The name of a plaster, whose basis is cadmia.

DIACALAMI'NTHES, (from διὰ, and καλαμινθης, *calamint*). The name of an antidote whose basis is calamint.

DIACA'RCINON, (from διὰ, and καρκινος, *a crab*, or *cray fish*). The name of an antidote prepared of these kinds of fish.

DIACA'RYON, (from διὰ, and καρυον, *a walnut*). See Juglans.

DIACA'SSIA, (from διὰ, and κασσια, *cassia*). See Cassia fistularis.

DIACASTO'RIUM, (from διὰ, and καστορειον, *castor*). A name of an antidote whose basis is castor.

DIACATHO'LICON, (from διὰ, and καθολικος, *universal*). See Catholicon.

DIACELTATE'SSON. A name given by Van Helmont to a purging preparation of antimony. It seems to mean, in Paracelsus, a vomit excited by quicksilver. Sometimes this word signifies quicksilver dissolved in alcahest.

DIA'CENOS, (from διὰ, and κενος, *empty*, *void*). An epithet of porous bodies, as sponge, or pumice stone.

DIACENTAU'RION, (from διὰ, and κενταυριον, *centaureum*). See Chamædrys.

DIACENTE'TON, (from διὰ, and κεντεω, *pungo*, *to prick*). The name of a stimulating collyrium in Celsus.

DIACHALA'SIS, (from διαχαλαω, *to relax*). A relaxation of the sutures of the cranium.

DIACHALCI'TIS, (from διὰ, and χαλκιτις, *chalcitis*). The name of a plaster whose basis is the calcitis.

DIACHEIRI'SMOS, (from διὰ, and χειρ, *a hand*,) is any manual operation.

DIACHELIDO'NIUM, (from διὰ, and χελιδων, *celadine*,) a swallow. A preparation of swallows.

DIACHE'TON. See Aspalathus.

DIACHORE'MA, and DIACHORE'SIS. The different excretions from the body; but more properly and frequently those from the intestines. See Distributio.

DIACHRI'STA, (from διὰ, and χριω, *to anoint*). Medicines applied to the fauces, palate, uvula, and tongue, to absterge phlegm, and discharge the mucus. P. Ægineta.

DIACHRY'SU, (from διὰ, and χρυσος, *gold*). The name of a plaster mentioned by Galen, used when limbs were fractured.

DIA'CHYLON, (from διὰ, *ex*, and χυλος, *a juice*). An emollient digestive plaster made of vegetable juices. The name is given to very different compositions for plasters, and is now the emplastrum lithargyri of the London Dispensatory. See Emplastrum Commune.

DIACHY'SIS, (from διὰ, and χυω, *to fuse*, or *melt*). See Fusio.

DIACHY'TICA, (from the same). See Discutientia, and Dissolventia.

DIACHY'TOS, (from the same). An epithet of wine prepared from grapes that have been dried seven days, and were pressed on the eighth.

DIACINE'MA, (from διακινεω, *dimoveo*, *to put aside*). See Luxatio.

DIACLY'SMA, (from διακλυζω, and κλυζω, *to wash out*, or *rinse*). See Gargarisma.

DIACOCCYME'LON, (from διακινεω, and κοκκυμηλον, *a plum*). See Diaprunum.

DIACO'CHLACON, (from διακινεω, and κοκλακες,

flints). An epithet of milk in which red hot flints have been extinguished, supposed to be sudorific.

DIACO'DIUM, (from διὰ, *ex*, and κώδια, *a poppy head*). See PAPAVER ALBUM.

DIACOLOCY'NTHIDOS PILULÆ. Alex. Tralian's composition which bears this name is called *pil. de nitro* in the Augustan Dispensatory: they consist of aloes, colocynth, nitre, &c.

DIACOLOCY'NTHIS, (from διὰ, and κολοκυνθὶς, *colocynthis*,) from *colocynth*, which is the chief ingredient in the preparation.

DIACO'MERON. The name of an antidote in Myrepsus.

DIA'COPE, (from διακοπτω, *to cut through*). A deep cut, a wound, or the cutting off any part.

DIACOPRÆ'GIA, (from διὰ, κοπρος, *dung*, and αἰξ, *a goat*). A preparation with goat's dung against disorders of the parotids and spleen.

DIACRI'SIS, (from διακρινω, *to judge*, or *distinguish*). The distinction of diseases and symptoms.

DIACRO'CIUM, (from διακρινω, and κροκος, *saffron*,) also a collyrium containing saffron. The elect. de ovo; Platerus de curatione. Febrium Pestilentialium, tom. ii. c. 2.

DIACRO'CU, (from κροκος, *saffron*). The name of a dry collyrium in P. Ægineta, in which saffron is an ingredient.

DIACU'RCUMA. Fuschius thinks Mesue used *curcuma* for saffron. A name of several antidotes in Myrepsus which contain saffron.

DIACYDO'NIUM, (from διὰ, and κυδωνιος, *a quince*). MARMALADE OF QUINCES. See CYDONIA.

DIADA'PHNIDON, (from διὰ, and Δαφνις, *the bay tree; bay berry*). The name of a drawing plaster prepared from bay berries, employed to promote suppuration. Celsus, lib. 5, cap. 19.

DIADE'LPHIA, (from δὶς, *twice*, and ἀδελφος, *a brother*). The name of the seventeenth class, in Linnæus's artificial system, comprehending those plants which bear hermaphrodite flowers, with two sets of united stamina. This is a natural class with papilionaceous, or pea flowers, and leguminous fruits. The orders are founded on the number of stamina; and ten being the predominating number in this class, the order *decandria* is much the largest. The regular disposition of the stamina in this order is, nine united in one brotherhood, the lower broad part of the filament sheathing the germ, and the tenth single; but in almost twenty genera, the ten staminas are connected into one body at the bottom.

DIADE'XIS, and DIADO'CHE, (from διὰ, and δέχομαι, *to transfer*). See METASTASIS.

DIADO'SIS, (from διαδίδωμι, *to distribute* or *dissipate*). In medicinal authors it signifies to remit, though sometimes it means the distribution of the aliment over all the body.

DIÆ'RESIS, (from διαιρεω, *to divide* or *separate*). It is taken generally, from Galen, to be a solution of continuity, of which he forms four species, wounding, contusion, erosion, rupture; it is now used in this sense from whatever cause the solution arises.

DIÆRE'TICA, (from διαιρεω, *to divide*). Corrosive medicines.

DIÆ'TA, (from διαιτάω, *to nourish*). *Dieta*, also *Diaterica*. DIET. When strict and regular, the Greeks named it *cathestecos*. Though diet is often confined to what we eat and drink, yet Galen and most other medical writers include in it the whole of what are called the non-naturals.

We shall consider under this head what relates to our food and drink only.

We have already spoken at some length on this subject under the article of ALIMENT; and it will only be necessary, at this time, to distinguish the food adapted to the different ages, different climates, and to different periods of the day.

The food of infants is milk, mixed occasionally with the farinacea; and, in general, a healthy child requires no farther approach to an animal diet till after the ninth or tenth month. Yet, in some constitutions, the milk, from the mother's constitution, disagrees; sometimes the farinacea become acescent and flatulent. A more animalised diet is then necessary; and the juices of the younger animals, as of veal and chicken, must be mixed with the farinaceous pap. Sometimes the latter must be wholly laid aside, and the gravy of meat or beef tea substituted. With the teeth, new sensations arise, and the child is delighted to exert its little powers on what will easily yield; a bit of meat, some soft bread, &c.; nor, if he is healthy, is this to be forbidden. He advances another step, and makes a regular meal of solid food.

A growing child is always craving for food: his stomach digests rapidly no inconsiderable quantity, when his age and size are considered; and, if he is active and strong, there is no reason why he should not be indulged. We are told, however, that he should be fed regularly, at distant intervals, and in moderation. There seems no rule so little consonant to the dictates of nature. If the child grows full; if he breathes with difficulty; if he is torpid or drowsy; he is certainly over fed. But if from his meals he rises to play; if his sleep be light and uninterrupted, and his activity incessant; it is difficult to say what are the limits which a judicious observer would lay down for the regulation of his diet. The symptoms of fulness, which we have mentioned, are not seen when the food is plain; the drink, water; when pastry and confectionary are denied, or very sparingly allowed: nor have we ever observed a bloated infant, whose diet was properly regulated in its *quality*, whatever may have been the quantity. Nature never errs in her demands, when not pampered by high sauces, various dishes, or sweetmeats. It is certainly a proper rule, that the drink of children should be of the mildest kind, and almost exclusively water. Wine or diluted spirits, in any form except as a medicine, should be forbidden; but as, according to modern customs, it is sometimes impossible to comply with this rule, they should, at least, never be rendered habitual. Sauces and condiments should be equally strangers to their palates, till, at least, after the age of fourteen.

From eighteen to fifty-six, if moderation be observed, and the health good, no rules of diet are necessary: *sanis omnia sana*. Yet we would suggest the propriety of making the meal, in general, on one dish only, *either* of fish *or* animal food. The little excesses in this respect, if not often repeated, will not be injurious; and we have already stated, that the powers of nature in preserving health and correcting any deviations are *lost*, if not occasionally exercised: we should add, that they are *exhausted* if the exertion is too frequent.

In this interval, the errors respecting drink are often more fatal than those which regard the food. Water with the meals is always most salutary: cyder follows; and beer, or porter, according to different constitutions, come in succession. Cyder is said to be injurious to those subject to rheumatism; beer is certainly so to the corpulent and asthmatic; porter is a salutary liquor, though containing a proportion of poisonous vegetables. If any thing be afterwards taken, wine will be preferable to spirits in any form. The quantity will vary in different habits; and, as the prior customs may have induced an artificial necessity, a pint of wine should be the utmost limit: in general, it should be less, and it may occasionally, though this should seldom happen, be more. Dr. Cadogan recommended, at times, intemperance. This is not, indeed, wholly inconsistent with the principle already stated; and if we sometimes break regularity, without, however, verging to intemperance, the danger will not be considerable. Midnight orgies are always fatal, for the fever at night is exasperated by wine, as well as by late hours.

When the second childhood commences, the habits of the earlier period of our lives return. Animal food is less easily borne. The lighter diet is preferred, and wine begins to lose its relish. Of the whole change, the diminution of the proportion of wine is most injurious; and the old man should drink it as a cordial, if not as a luxury. We ought, however, to add, that the growing distate for wine is so common in advanced life, that we almost distrust our opinions in this respect. Yet we think experience supports them. The love of confectionary, of tarts, and whatever is sweet, returns also in old age; and this propensity we have never found injurious, though sometimes indulged with little moderation.

We have spoken of spirits as less wholesome than wine. It may be said, that by dilution they are not superior in strength, and may be even made of an inferior quality. In wine, however, there is an extractive matter, and a mucilage which sheaths the pungency of the spirit; but, independent of this difference, by distillation an oily matter is separated, which, from the action of heat, seems to acquire, if not an actual empyreuma, a deleterious quality. In a moderate proportion they are not, however, eminently hurtful; and we must repeat another axiom, that poisons differ from medicines not in their qualities, but their doses. It is often asked, which kind of spirit is the most wholesome. In the moderate quantities, we would allow they are perhaps equally so. Rum has been preferred as most oily. It is certainly not more wholesome on this account. Brandy is more suitable, in general, to weak, gin to disordered, stomachs; but the latter is always injurious, when any irritability or weakness in the urinary or neighbouring organs exists.

The diet, adapted to different climates, will not detain us long. Under a tropical sun, the perspiration is considerable, and the fluids alkalescent. The supply should therefore be of the mildest kind, and the proportion of watery fluids large. Yet the languor produced by heat requires assistance for the digestive organs; and the tropical regions, which abound in succulent fruits, abound also in spices. On this subject we have spoken at sufficient length under the article of Condiments.

If the stranger to these regions, from this statement, indulges in fruits, he will find himself in error. Old habits are not easily conquered; and the constitution will not change, at once, with the climate. The bile soon becomes more acrid; and this, with fruit in excess, occasions cholera or bilious fevers. Some proportion of the usual stimuli are also essential; and the spices, with a moderate proportion of wine, are at first necessary. When the constitution is more accustomed to the climate, he may indulge more freely; but excess in hot climates should be always particularly avoided.

We have explained, at some length, the effects of continued cold, and pointed out the torpor which it produces in every part of the system. Indulgence in animal food, in wine, and even in spirits, may in the arctic regions be more readily admitted. Indeed, seasoned dishes and wine are almost indispensable, especially if a person has been accustomed to them in more moderate climes.

Of the sixteen hours not destined to sleep, two hours may be dedicated to meals; and we think that nature would divide them in the following manner. After one or two hours from our rising we should breakfast; about noon, or soon afterwards, dine, allowing for this meal an hour, as we should take after it a little rest, but without sleep. The concluding slight meal may then be about an hour before bedtime. The first and last meal will require only an hour; and the more solid substantial one, with the respite from labour, we have said another hour.

This may appear to be a plan of peculiar severity; but the health, the cheerfulness which follow, will compensate for all the inconvenience. It is necessary, however, to explain its foundation. One substantial meal of solid animal food, each day, is sufficient to support the constitution under very considerable fatigue; and the time of taking this meal is undoubtedly about the middle of the day, or one in the afternoon. If the changes, even in the most healthy constitutions, are observed, three slight febrile accessions may be discovered. We style them febrile, though in general announced by an increased quickness of pulse only; but their nature is shown by their being sometimes attended with rigour and increased heat, in consequence of debility alone. The first of these occurs about eight in the forenoon, and it remits about ten; the second occurs at twelve, and remits about one or two; the third at six or seven, and is not completely at an end till two in the morning. The evening paroxysm is the most distinct; that at noon very inconsiderable. The period of the morning paroxysm distinguishes all fevers of the tertian type; that of the evening the quartans, which is also the type of continued fevers, for we have seen that they scarcely ever terminate till the quartan period has taken place. See Crises.

These are the principles which regulate the time of taking food. The system of the healthiest person after sleeping, is not at once alive and active; and the appetite, unless from indulgence, or in childhood, is seldom craving at this early period. If the person rises at six, his breakfast hour should be eight; and if he is to experience great fatigue, some animal substance, as an egg, or some cold meat, may make a part of his meal, which will not require half an hour. If in health, the morning paroxysm is not noticed; and he may with this support continue till one, when the solid substantial meal should be taken; and the remainder of the hour, for the plain meal of a hungry man requires but little time,

should be destined to repose, while the fever, which digestion always produces, continues. The slight evening meal may be taken at eight, and the hour of repose should not be protracted beyond ten. The evening meal should be slight, because it is taken during the evening paroxysm; and the hour of retiring be early, that much of the time, while it continues, may be passed in a state least likely to increase it. It has been reported, we believe with truth, that a judge was accustomed to ask witnesses, who are often in a very advanced period of life, respecting their diet, &c. He found, it is said, that their mode of living was various, but that they uniformly agreed in early hours. Whether we have correctly stated the cause or not, it is, however, a fact, that nothing is more injurious than late hours, and that, in every instance, a *habit* of this kind shortens life.

It may be remarked, that in this arrangement of our time and meals we have been anxious to avoid the fever from indigestion interfering with the regular febrile exacerbations; and it may be asked, why may not the evening fever be obviated by retiring to repose before it recurs, or the morning paroxysm by remaining in bed till after it returns? The answer is easy: we are constituted for activity by day, and for repose by night; nor does sleep naturally come on so early as six in the evening. To this may be added, that exercise does not increase these slight febrile attacks, but the increased perspiration, which is its most frequent consequence, either prevents or lessens them. The other idea is apparently more plausible. After, however, the termination of the evening paroxysm, at one or two in the morning perspiration comes on, which gradually increases, though in no hurtful degree, till after six or seven. If therefore, continuing in bed *would* prevent the morning paroxysm, the injury to the constitution would be greater by the debilitating perspiration, which necessarily recurs.

We have engaged at greater length in this disquisition than we designed, as we wished to rescue a popular subject from the dictates of caprice, and the trammels of fashion; to point out what is right, if modern customs will not enable us to pursue it. We shall, therefore, next examine how far fashionable life is reconcileable to this system, and where the usual customs may be allowed as least injurious.

A modern day begins by far too late, and the stomach is at once cloyed by animal food before the system has recovered its activity and tone. The eggs, the dried fish, the tongue, or the ham, which in moderation might be digested by a constitution which has already laboured two hours, is a load on one, without exercise, exhausted by the morning perspiration, and yet languid from imperfect sleep. The lunch at one or two is the only part of the system which can be recommended. It is a plain solid dinner at a proper hour, sufficient to support, not overload. The subsequent dinner at six is superfluous. It is unnecessary as a principal meal, and too stimulating for a supper. Luckily, fashion spares the stomach any new load. The evening paroxysm thus excited is kept up by wine, and different stimulants, by crowded and hot rooms; nor does the constitution know a respite till the moment of retirement.

If we look at the waste which this excess of nourishment is intended to supply, we shall find it very inconsiderable. If anxiety, restlessness, hope delayed, or ambition disappointed, exhausts the frame, we fear in high life they are so frequent as to draw compassion even from the labourer, who eats his hard earned meal with cheerfulness, and rises, refreshed with sleep, to his daily toil. In general, however, the daily ride, and the daily saunter, are the chief exercises; and the votaries of fashion thus anxiously hoard all the diseases arising from repletion and indigestion for their future torment. These would be more striking, but that the summer carries them to the sea coast, where fashion allows of more air, more violent exercise, earlier hours, and less crowded apartments.

DIÆTE'TICA, (from *diæta*). See PHARMACEUTICE.

DIAGLAU'CIUM. The name of a collyrium recommended by Scribonius Largus. It is thus named from Glaucium, which, according to Dioscorides, is the juice of the *papaver spinosum*.

DIAGNO'SIS, (from διαγινωσκω, *to discern*, or *distinguish*,) also *dignotio*. It generally means distinction, and is generally confined to diseases; therefore, diagnostics mean the signs of diseases by which they may be known and distinguished. They are of two kinds, viz. the *adjunct*, and *pathognomonic:* the first are common to several diseases, and serve only to point out the difference between diseases of the same species; the latter are those which always attend the disease, and distinguish it from all others.

The knowledge of diagnostics has always been considered as of the greatest importance in the practice of medicine; and to know a disease is justly believed to be the first step in its proper treatment. The want of accuracy in distinction is a source of much uncertainty; and it is not uncommon for those who practise from the popular treatises, to apply the remedies recommended for one complaint to those of another; so very imperfect are such works in discrimination. Distinction is the greatest object of nosological systems; and this advantage we shall afterwards have occasion to point out. See NOSOLOGY.

DIAGRY'DIUM, also DACRYDIUM; which see. A preparation of scammony; but indeed the general name of the resin itself: quasi δακρυδιον, *lachrymula*, because the juice issuing from the wounded root was called *lachryma scammonii*. Its great activity was corrected by the ancient physicians by exposing it to the fumes of burning sulphur; in reality combining it with the vitriolic acid, and it is then called *diagrydium sulphuratum*. It is sometimes incorporated with the *spiritus vitrioli rosati*, sufficient to make a liquid paste, which is afterwards dried in the sun or by a gentle fire; called *diagrydium rosatum;* occasionally it has been baked in a quince: but all these modes are of not the slightest consequence as correctors; nor, indeed, does the medicine require correction. See SCAMMONIUM.

DIAHERMODA'CTYLUS, (from δια, and ερμοδακτυλος). A purging medicine, of which hermodactyls form the basis.

DIAHEXA'PALA, or DIAHEXA'PTE. See LAURUS ALEXANDRINUS.

DIA'ION, (from δια, and ιον, *a violet*). The name of a pastil in Myrepsus. Violets are its chief ingredient.

DIA'IREOS, (from δια, and ιρις, *a lily*). An antidote in Myrepsus, containing the lily root.

DIALA'CCA, (from διὰ, and λακκα, *lacca*). An antidote in the same author, containing lacca.

DIA'LAGOU, (from διὰ, and λαγος, *lepus, a hare*). A medicine, whose chief ingredient is the dung of a hare.

DIALE'PSIS, (from διαλειπω, *to leave a space between*). To intermit. See Apolepsis.

DIALI'BANON, (from ———, and λιβανον, *frankincense*). A name of several medicines in which frankincense is an ingredient.

DIA'LOES, (from ———, and αλοη, *the aloe*). A composition in which is aloes.

DIALTHÆ'A, (from ———, and αλθαια, *the mallow*). The name of an ointment in Myrepsus, the prototype of the althæa ointment.

DIA'LYSIS, (from διαλυω, *to dissolve*, or *render languid*,) also *dissolutio*. A dissolution of the strength, or a weakness of the limbs; applied by Hippocrates to the cause of the debility, particularly of the winds, hence νοτοι διαλυτικοι, austri dissolventes. It is expressive also of a discontinuity or division of a part.

DIALY'TICA, (from the same). A solution of continuity as in fractures, or wounds.

DIAMARE'NATUM, (from διὰ, and αμαρενα, *acid cherries*). It is a confection of acid cherries, called *amarenæ*, reduced to a pulp, passed through a sieve, then mixed with sugar, and aromatics. See Schroder. Pharmacopœia Medico Chimica, lib. 4, p. 41.

DIAMARGARI'TON, (from διὰ, and μαργαριτης, *pearl*). An antidote in which pearls are the chief ingredient.

DIAMA'SCIEN. See Æris flos.

DIAMASSE'MA, (from διαμασσομαι, *to chew*). A masticatory.

DIAMBRÆ PILULÆ, from διὰ, and αμβρα, *amber*). See Aromaticæ pilulæ.

Dia'mbræ spe'cies, Species aromaticæ, now Pulvis aromaticus. The prescription is originally Mesue's, and had its name from the ambergrise in the composition. See Aromaticæ species.

DIAME'LON, (from διὰ, and μελον, *a quince*). The name of a composition containing quinces.

DIA'MNES, and DIAPNE. An involuntary and insensible discharge of urine; a word used by Joannes Anglicus.

DIAMO'RON, (from διὰ, and μορον, *a mulberry*). A preparation of mulberries and honey.

DIAMO'SCHU, (from διὰ, and μοσχος, *moschus*). The name of an antidote containing musk.

DIAMOTO'SIS, (from διὰ, and μοτος, *lint*). See Carbasus.

DIA'NA. The chemical, or rather alchemical, name of silver. See Argentum.

DIANANCA'SMOS, (from διὰ, and αναγκη, *force*, or *necessity*). The forcible restitution of a luxated part into its proper place. Hippocrates gives this appellation to an instrument intended to restore a distorted spine.

DIA'NDRIA, (from δὶς, and ανηρ, *a man*). The second class of Linnæus's artificial system, comprehending all hermaphrodite flowers which have two stamina.

DIA'NTHON, (from διὰ, and ανθος, *a flower*). The name of an antidote in Galen, which is thus made.

℞. Flor. rorismarini ℥ i. rosarum rubrarum et radicis glycyrryzæ āā ℥ vi. caryophyllar aromat. spicæ nardi nucis moschatæ radicis galangal. corticis cinnamomi radicis zedoariæ ligni aloes seminum cardam minoris sem. anethi, et anasi, macis. āā ℈ iv. m.

DIA'NTHUS CARYOPHI'LLUS. See Caryophillus ruber.

DIAOPO'RON, (from διὰ, and οπωρα, *an autumnal fruit*). A composition of quinces, medlars, and services.

DIAPA'SMA, (from διαπαζω, *to sprinkle*). See Catapasma.

DIAPEDE'SIS, (from διὰ, *through*, and πηδαω, *to pass*). The transudation of blood through the coats of an artery, or occasionally between its fibres. See Anastomosis.

DIAPE'NCIA. See Alchimilla.

DIAPE'NSIA. See Sanicula mas.

DIAPE'NTE, (from διὰ, and πεντε, *quinque*). A composition which consists of five ingredients; gentian root; aristolochia longa; shavings of ivory; bay berries: bac. laur. et myrrh. āā p. æq. m. f. pulv.

Mesue is said to be its author; but Vegetius described it before him. It is now only used by farriers.

DIAPEPE'REON. An antidote mentioned in Galen.

DIAPHÆ'NICON, (from διὰ, and φοινιξ, *a date*). The name of an electuary for discharging phlegm; as well as a medicine made of dates.

DIAPHILEDO'NU. The name of an antidote in Myrepsus.

DIAPHLY'XIS, (from διαφλυω, *to moisten*). In Galen's Exegesis it means effusions or ebullitions; also an affusion, or moistening any part.

DIA'PHORA, (from διαφερω, *to differ*). Difference. In medicine it comprehends the characteristic marks and signs which distinguish one disease from another. It also signifies a corruption of food in the stomach; and is then synonymous with Dyspepsia; which see.

DIAPHORE'SIS, (from διαφορεω, of διὰ, *through*, and φερω, *to carry*). See Perspiratio.

DIAPHORE'TICA, (from the same). Diaphoretics. Medicines which promote perspiration. Diaphoretics differ from sudorifics: the former only increase the insensible perspiration; the latter excite a sensible discharge through the skin, which is called *sweat*. See Sudorifica.

Diaphoretics are those medicines which produce a discharge from the surface; and when this discharge is fluid, they are styled *sudorifics*. The true diaphoresis is a condensed halitus, distinguishable by a moist clammy feel; while the diapnoe, of which we have had occasion to speak, and to which we shall often return, seems still less sensibly moist, and to be more truly gaseous. This is ascertained by the peculiar softness of the skin in health.

These three states have been supposed to differ only in degree. The insensible halitus, when in a quantity to be condensed, and in this state sensible to the feelings, is the diaphoresis: and this, when more decidedly fluid, sweat. The same causes, in different degrees, appear to produce each discharge; and they have of course been supposed to proceed from the same vessels, the exhalant arteries. If the distinction were a refinement merely, it would not deserve a moment's notice. We think, however, that it involves many questions of

practice. We cannot relieve some complaints without actual sweating, and others are injured by it. Rheumatisms require the former discharge, and fevers demand its regulation, at least, if not the reduction of its violence. Again: diaphoresis, if gradually increased to sweating, can scarcely in any instance be kept up after it. When the sweating is stopped, the skin is dry, and shivering often follows. If, in diaphoresis, we feel the hand, it is soft and unctuous to the touch: in the most violent sweat, the skin, though covered with moisture, often feels harsh and unyielding in its substance beneath. Sweating almost constantly requires increased heat, or the confinement of the heat of the body. Diaphoresis, on the contrary, is often produced by antimonials and different sedatives. We shall admit that these distinctions may, with a very slight exertion of ingenuity, be reconciled with different degrees of the action of the same vessels; yet, while practical facts lead us to distinguish them in their effects, we were willing to point out some discordance in their phenomena. It is no objection that anatomy does not furnish us with a clue in this investigation, by demonstrating the glandular apparatus. We have no such structure to explain the production of sweat; and the best physiologists consider it as an exhalation from the serous arteries, while others suppose it to be derived from follicles under the skin, though no such have been demonstrated. Sweat, in a chemical view, differs little from the serum of the blood. It contains, with a large proportion of water, some gluten and muriated ammonia; while the insensible perspiration consists of carbonic acid gas, with a proportion of azotic gas. In some experiments, it has appeared to be chiefly the latter. The acid which occasionally appears on the sweat, is the phosphoric. We have much reason to believe, then, these discharges to proceed from different vessels; and should conclude, that the halitus is a secreted fluid in a gaseous form, while the sweat is only elicited by the force of the circulation from the exhalant arteries. We are confident, however, that these opinions, should they be found or appear fanciful, will not mislead. The distinction which we shall pursue is wholly practical; and, as it was originally suggested by practical facts, we hope it will contribute to elucidate and explain them.

Perspiration has been styled insensible, from its not being cognizable by any sense. Its existence is ascertained by the peculiar softness of the skin, and the general feeling of freedom and hilarity which accompanies this state of health. It is the diapnoe of some authors; but in Chenot, this term rather means a slight degree of diaphoresis. The discharge of insensible perspiration is an halitus not admitting of being condensed in a fluid form, of the nature already explained.

The diaphoresis is an increased discharge of a vapour rather than a gas. It is obvious to our sight, when a sun beam passes over the surface of the body, while naked against a wall, as a slight shade may be perceived. It is usually the effects of warmth, of a stimulus, or of exercise; and is felt by a warm healthy glow, and a sensation of freedom from oppression or inconvenience.

Sweating, on the contrary, is probably a serous discharge from the skin, generally attended with considerable warmth, often with oppressive heat, seldom affording a pleasant sensation, unless associated with mirth and hilarity, as in dancing, or a freedom from pain, as in the sudorific treatment of rheumatism.

These different discharges are excited by different means. The diapnoe is the criterion of health, and we can restore it only by restoring health. Diaphoresis and sweat are excited by different ways, which may be divided into the stimulant and relaxant. The stimulant diaphoretics are chiefly heat, sometimes alone; occasionally assisted by aromatics, and similar heating medicines. We employ sometimes heat alone to produce sweat, as in the sudatoria of the ancients; heat, in other circumstances, is communicated more successfully by vapour and by water, though their relaxant power contributes to the effect: it is communicated also by solid bodies, as bricks or tiles, heated cloths, bottles and jugs containing warm water. The heat of the body itself is sometimes confined for the same purpose, and a partial diaphoresis kept up, by covering any portion of the body with oil skin;—a general sweat by additional clothes, particularly flannel, whose properties we have already explained. See Coopertio.

Heat produces this discharge, when conveyed to the stomach by means of warm water; and it is rendered more effectual when this water is impregnated with different stimuli. The aromatic herbs of our own country, and the spices of the warmer regions, are equally employed for this purpose. Wine, cyder, sometimes beer, ardent spirits, and volatile alkali, are occasionally added to increase the effect; but these always operate with great stimulus and inconvenient heat.

It was formerly the custom to accumulate all these stimuli for particular purposes, thinking that the greater the heat, the more copious would be the discharge. Physicians, in this plan, were frequently disappointed by their own eagerness. They could produce burning heat, and a clammy fluid on the skin, which appears to be the serosity, with a large proportion of the gluten of the blood; but they soon found that this was not of the nature of sweat, nor so efficacious as the more fluid discharge. We were brought nearer the truth by Dr. Alexander, who found, by his experiments, that the temperature of the body must be often reduced before the proper discharge takes place. The temperature, at which sweating most freely occurs, he fixes at 108° of Fahrenheit. We have found, by some experiments, that this heat is too high, and suspect the accuracy of his thermometer. We are confident that the highest point is 102°; and that generally the heat, when the sweat is most free and salutary, does not exceed 100°.

To this reduction of temperature, rather than to its increase, we must attribute the effects of many diaphoretics. A draught of cold water will often, in this way, excite a free diaphoresis; and cold affusions, during the height of the febrile paroxysm, will have the same effect. We have striking instances of this kind in the practice of Dr. Currie and Dr. Gregory in scarlatina. Acid drinks have a similar power; and to this cause we attribute the diaphoretic effects of vinegar whey, the whey of milk, and similar drinks.

There is, however, a class of stimulant diaphoretics which act more gradually, and almost insensibly, by mixing with the blood, and stimulating, in the course of their circulation, the extreme vessels. From what has been observed under the article of Argentum

VIVUM, it will be obvious that mercurials are remedies of this kind, and we are inclined to refer all the metallic tonics to the same head. Arsenic will probably be found a similar remedy. There are many vegetable substances which may be referred to this class, particularly the serpentaria contrayerva, the mezereon, and the guaiacum. The seneka, which may appear to belong to it, owes, more probably, its diaphoretic effects to the action of vomiting which it excites.

To these more moderate stimuli of the extreme vessels, some of the gentler exercises may be added. Sailing, riding in a carriage, and swinging, require bodily exertion in the same order; but are apparently similar in their effects of determining to the surface. Riding on horseback, walking, dancing, running, digging, tennis, and ringing, require still more violent exertion, and at last excite copious sweat.

External stimulating diaphoretics are, friction, rubefacients, warm plasters of Burgundy pitch, euphorbium, and cummin seeds; and blisters, which excite copious partial perspiration, previous to their vesication.

The relaxing diaphoretics are much more powerful in their operation; and at the head of this list is opium. There are few ancient sudorifics which have not this medicine as an ingredient in a greater or less proportion; and of whatever nature the diaphoretic is, the addition of opium makes it more active and successful. Antimonials are equally useful, and ipecacuanha scarcely yields to them in this power. It has been doubted, whether these two last medicines act independently of the nausea they produce. We have little hesitation in thinking that they do so, for their effect is not in proportion to the degree of nausea, and is sometimes considerable, when no such previous power is obvious. Squills seem to connect the nauseating medicines with those which act on different principles. No diaphoretic effects are strikingly produced by them in moderate doses; but it may be presumed that such exist, by the balance observable between the skin and kidneys; for whatever may excite the discharge from one organ, if its operation is prevented, stimulates the other. Vomiting constantly relaxes the vessels on the surface, and every medicine which produces it is a diaphoretic. The whole tribe of narcotic vegetables, with their deleterious effects, produce cold sweats. Yet these we should not employ as salutary medicines; though we suspect that the aconite, and some others, employed in chronic rheumatism, or that hybrid disease which seems to connect gout and rheumatism, act in no other way.

Such are the remedies employed as diaphoretics, and such, in general, the principles on which they act. We must now attend to their effects on the animal economy.

The connection between the state of the extreme vessels, the system in general, and the stomach, has been already noticed. This has been attributed to a nervous sympathy, and probably is owing to such a connection, since the effect is more sudden than can be explained in any other manner. To keep up the action of these vessels must consequently be always of the greatest importance, since health is inconsistent with a contrary state; and, in the whole circle of acute and chronic complaints, no single circumstance requires greater attention.

When we reflect, however, on the extent of the surface of the body, we shall find, that to fill the extreme vessels will require no inconsiderable proportion of the fluids. To prevent, therefore, as well as to relieve, internal congestions, this class of remedies is of the greatest utility. If, however, carried to excess, no evacuation so greatly debilitates; and though all secretory organs, after their action has been violently excited, sink into a torpid state, the vessels of the skin seem peculiarly disposed to this alternation of inactivity after exertion. If then it is intended to relieve congestion, we must be peculiarly cautious to excite no greater action than we can constantly keep up. In all such cases, therefore, the slightest diaphoresis is only admissible. In fact, we should fill the vessels, instead of promoting any considerable evacuation.

As different theories have dictated, we have been sometimes alarmed with apprehensions of producing morbid viscidity and lentor of the fluids by sweating; at others, taught to promote this evacuation to counteract preternatural tenuity. Each danger is equally imaginary. When sweat is excited, other watery discharges are proportionally diminished, and thirst leads the patient to require a supply. On the other hand, tenuity of the blood, when it exists merely in consequence of an increased proportion of water, is relieved by the kidneys, without any effort on our side. When it arises from an increase of the ammoniacal salts in the blood, the debility which attends prevents the use of remedies which, in any degree, weaken the system. In those cases where acrimony may be suspected, (they are indeed very rare,) violent, insatiable thirst calls for a supply of watery fluids for their solution and evacuation. They are then eliminated through the urinary organs. We must next consider the diseases to which diaphoretics are applicable.

The insensible diapnoe, we have said, is the criterion of health, and can be produced only by supporting the general healthy state. It is most observable in cold weather; and the nearer we approach to it in every disorder, the greater is our success. It is generally obtained by free cold air, when this is admissible; and to attain it is our aim in every complaint.

The moderate diaphoresis is our chief object in the greater number of acute diseases. To begin, as usual, with the PYREXIÆ, we may remark, that diaphoretics are, in this class, of very extensive utility. *Intermittents* are usually left to their course during the paroxysm, and the efforts of the physician are reserved for the interval. Yet there are circumstances in which the return of the paroxysm would be fatal; and others, where the delirium, in the hot fit, is most alarming. In each case, diaphoretics are employed: in the first, to support the circulation in the extreme vessels, that the fit may be obviated; in the second, to hasten the natural crisis by perspiration. The kind of diaphoretics chosen for the first purpose, is the warm stimulants; the reason of which we shall afterwards explain. To assist in promoting perspiration, in the hot fit, the relaxants, and particularly opium, are preferred. This was the practice introduced by Dr. Lind.

In *continued fevers*, it was, for ages, the custom to give the most stimulating diaphoretics to promote the concoction of morbid matter. Not a breath of air was suffered to approach the patient; but serpentary, contrayerva, and volatile alkali, were exhibited in profusion.

We have been assured, that three beds have, in succession, rotted by the sweat, under the same person, in a single fever. We still attempt to promote perspiration; but by cooling, rather than heating, remedies, adapting them to the circumstances and to the temperature of the patient. Modern practice has freely adopted the relaxant diaphoretics, particularly the antimonials, to conquer the supposed spasm on the surface. We trust that we shall show that this plan has at least been carried to an improper extent, even if it appear well founded in its principle.

In the *phlegmasiæ* the skin is hot and dry, and the utility of diaphoretics is obvious. As the temperature of the skin is above the sweating point, cold is chiefly indicated; yet, in many of the diseases, this plan cannot, for reasons already assigned, be carried to a considerable extent (see COLD). We must, therefore, adopt the relaxant diaphoretics; and of these we are often obliged, for other reasons, to avoid opium. Antimonials are then our chief dependence, with the other remedies peculiarly adapted to the seat of the complaint. There is, however, one disease, which is an exception to these general remarks; rheumatism. After the more active period of the complaint, it admits of the more stimulating diaphoretics; and when the fever has abated, of the most stimulating. In fact, after a time the vessels become torpid and paralytic, to be roused only by the most powerful exciting causes; but this state can only be explained under the proper head, after many previous distinctions. See INFLAMMATIO and RHEUMATISMUS.

In the *hæmorrhagiæ* we find little room for diaphoretics, except of the most cooling kind. The source of their utility in relieving internal congestions has been already explained; but it will be obvious that these remedies are chiefly of service in active hæmorrhages, where the heat is preternaturally increased. In this case, cold drinks and cold applications are, as usual, the most powerful diaphoretics. In the passive hæmorrhages they relax too powerfully to be of the slightest utility. In reality, they are highly injurious.

Exanthemata. The diseases of this order peculiarly require the use of diaphoretics; but, in the greater number of genera, the heat is already beyond the point which admits of a discharge from the skin, so that the more cooling medicines of this class are preferred, except in one genus, the *measles*. In *scarlatina*, the cold affusions, long continued, have been found of singular utility in promoting perspiration. In the plague, the gentle diaphoresis called by Chenot the *diapnoe*, is found of the greatest utility; and it appears probable, from the late experience in this complaint, that this is best obtained by cold. To this general doctrine there are only two exceptions, either when the disease is of a putrid nature, or the eruption has disappeared. In these cases warmth of every kind is essentially necessary, and the warmer diaphoretics are only employed.

In the *profluvia*, this class of remedies is of the highest importance. In the only two diseases included under it in the best system of nosology, diaphoretics chiefly relieve. In *catarrh*, their use is well known; and in *dysentery*, when purgatives have evacuated the accustomed scybala from the intestines, the ipecacuanha and antimonials, so universally recommended, undoubtedly act only by determining to the surface.

In the first order of the NEUROSES, the *comata*, diaphoretics are not peculiarly indicated. Yet we must keep in our view the advantages which, in every case of internal congestion, arise from keeping the extreme vessels in an active state, since they contain so considerable a portion of the fluids. Of the *adynamiæ*, *dyspepsia*, *hypochondriasis*, and *chlorosis*, require the same attention. In each there is always a defect of perspiration; and, in each, to restore it, contributes greatly to the patient's relief.

Of the *spasmi*, *tetanus* chiefly demands our attention to the state of the skin, as it often proceeds from cold, and is relieved by active sweating. When mercurials, with opiates are of such singular service, the benefit probably originates from the same source. In *asthma*, the utility of diaphoretics is sufficiently obvious, from what we have already said; and in *colic* and *diarrhæa* external warmth is singularly useful. In *cholera* they are of peculiar service; and Sydenham has remarked, that every remedy to calm the vomiting has failed, till a sweat broke out. We mention this more particularly, as the advantages of these remedies were not duly enforced under the proper head.

Of the *vesaniæ*, *melancholia* alone seems to be particularly relieved by diaphoretics; yet, in those cases of *mania* where there is great internal congestion, could the patient be properly confined, they might be useful. In the CACHEXIÆ we see little foundation for their peculiar employment. In each genus, however, the circulation in the extremities is particularly languid, and the external stimulating diaphoretics are of use. Of the IMPETIGENES, the diseases merely cutaneous are benefited by them; but these require the more gently stimulating kind, which act steadily rather than violently: we mean the mercurials, the sarsa, the mezereon, and the others enumerated.

The chief disadvantages of diaphoretics arise from their debilitating effects. The discharge, therefore, in every instance, should be conducted with caution and moderation; nor should the practitioner aim at relieving his patient rapidly, when the cure would be safer and more permanent, were the course more gentle and steady; and when the perspiration has been kept up with violence, relapses are by no means uncommon.

DIAPHRA'GMA. The *diaphragm*, (from διαφραττω, *to make a partition*, or *inclosure*, of δια, and φραττω, *to close*,) because it divides the cavity of the thorax from that of the abdomen. MIDRIFF; also called *diazoma*, *dissepitum*, *hypozoma*, *septum transversum*, *cinctus*, *succingens membrana*, *discrimen thoracis et ventris*. Pliny calls it the *præcordia*, because it stands, he says, like a wall, to defend the heart. Hippocrates, with many of the ancients, call it φρενες; they also gave the name of diaphragma to the division between the mouth and the œsophagus, terming it, by way of distinction, the *diaphragma* per œsophagum. Galen and Rufus Ephesius call the cartilaginous partition between the nostrils, the *diaphragm* of the nose; but the only part now called *diaphragm* is that first mentioned.

The diaphragm is composed of two muscles; the small one rises by two tendons, called *crura*, from the second lumbar vertebra, and receives a slip from the first vertebra of the loins, and from the ligament which joins the last rib to the vertebra; the two crura then run upwards and grow fleshy. The large muscle rises

from the inside of the margin of the thorax, all round, from the false ribs to the xiphoid cartilage; its fibres shoot forwards, and form that triangular appearance called the *centrum tendinosum*, or *centrum nerveum*. Winslow calls it the *middle aponeurosis*, or *aponeurotic plane of the diaphragm:* M. de Bordeu calls it *centre phrenique;* and it is also called *coostrum*. There is a notch between the cruræ of the lesser muscle where the aorta passes. In the larger muscle are two passages, one in the tendinous part, for the vena cava, which is situated there; because as the tendon is not capable of being contracted, the circulation will not be interrupted: the other is for the œsophagus, and is situated in the fleshy part. The reason seems to be, that the diaphragm, in its action, pressing upon the stomach, might cause an evacuation of its contents, unless at the same time it constricted the cavity of the œsophagus. If this be true, the diaphragm has probably little effect in promoting the action of vomiting. From considering the attachment of the diaphragm, it will be seen that its action will be to render itself flat, and thereby to enlarge the cavity of the thorax; but if we regard it as acting round the viscera as round a pulley, we may conceive how it both depresses the viscera and raises the ribs; at the same time still more enlarging the cavity of the thorax. Its veins are large, and go directly to the vena cava. The arteries are sometimes immediately from the aorta, and sometimes from the cœliac; a few branches are received also from the lumbales and adiposæ. The nerves are from the plexus cervicalis on each side, and from the second pair of the vertebræ.

In inspiration, the diaphragm descends towards the belly; this is its proper motion resulting from muscular contraction. In expiration, it is relaxed and drawn upwards, forming a concavo-convex figure, the concave side being towards the belly. It assists in the expulsion of the excrements and fœtus. It is in perpetual motion, and seems to have other and more important uses in our constitution than as yet are clearly understood. It is also a name of the *septum scroti*. See Scrotum.

DIAPHRAGMA'TICÆ ARTE'RIÆ, belonging to or connected with, the diaphragm. The DIAPHRAGMATIC ARTERIES; also called *phrenic*. Their origin has been already explained. The diaphragmatic arteries generally appear on the under side of the diaphragm, very rarely on the upper; they give small branches to the glandulæ renales, and to the fat which lies on the kidneys; these latter are called *adiposæ*. Besides these capital diaphragmatic arteries, there are other less ones from the intercostales, mammariæ internæ, mediastinæ, pericardiæ, and cœliacæ.

DIAPHRAGMA'TICÆ VE'NÆ, (from the same). The DIAPHRAGMATIC VEINS; also called *phrenicæ venæ*. They spring from the vena cava inferior, just as it descends through the diaphragm: they appear generally on the lower side of the diaphragm. The left branch is ramified upon the pericardium.

DIAPHRAGMA'TICÆ SUPERIORES VENÆ. The UPPER DIAPHRAGMATIC VEINS, are also called *pericardio-diaphragmaticæ venæ*. The right comes anteriorly from the root of the bifurcation, near the mediastina, and is spread about the pericardium: the left from the left subclavian.

DIAPHRAGMI'TIS, (from διαφραγμα, *diaphragm*). INFLAMMATION OF THE DIAPHRAGM. See PARAPHRENITIS.

DIA'PHTHORA, (from δια, and φθειρω, *corrumpo, to corrupt*). In Hippocrates it signifies the corruption of the fœtus. See ABORTUS.

DIAPHYLA'CTICOS, (from διαφυλαττω, *to keep*). See PROPHYLACE.

DIA'PHYSIS, (from διαφυω, *internascor, to grow between*). An interstice, a partition, or whatever intervenes between different parts. Galen explains it to be a nervous and cartilaginous protuberance in the middle of the junction of the os tibiæ with the os femoris, which enters that large sinus, and separates the lower heads and processes of the os femoris, inserted into the sinus of the tibia. This substance only appears in recent subjects. In other places, the diaphysis is spoken of as a cavity, or chink, for the reception of some other part.

DIAPISSELÆ'ON, (from δια, and πισσαλαιον, *the oil of pitch*). A composition in which liquid pitch is a chief ingredient.

DIAPLA'SIS, (from διαπλαττω, *to put together*, or *fashion*). CONFORMATION. It signifies the replacing a luxated or fractured bone, as near as possible, in its proper situation.

DIAPLA'SMA, (from διαπλαττω, *to smear over*). An unction or fomentation applied all over the body.

DIA'PNE, (from διαπνεω, *to pass gently through*, as the breath does). See DIAMNES.

DIAPNOE, (from διαπνεω, *to perspire*, from δια, *through*, and πνεω, *to breathe*). See PERSPIRATIO, and DIAPHORETICA.

DIAPORE'MA, (from διαπορεω, *to be in doubt*). Anxiety, heat, and restlessness, in distempers. See ALYSMOS.

DIAPRA'SIUM, (from πρασιον, *horehound*). A composition in which horehound is one of the ingredients.

DIAPRU'NUM, (from δια, and προυνον, *a prune*,) also called *diacoccymelon*. The name of two compositions which contain prunes: both are purging electuaries; but the elect. è sennâ is used in their stead.

DIAPSO'RICUM, (from —, and ψωρα, *the itch*). The name of a medicine for the itch or scurvy.

DIAPTE'RNES, (from —, and πτερνα, *the heel*). A medicine made of the heels of animals and cheese.

DIAPTERO'SIS, (from —, and πτερον, *a feather*). The cleaning of the ears with a feather.

DIAPYE'MA, (from —, and πυον, *pus*). See ABSCESSUS.

DIAPYE'MATA, and DIAPYE'TICA, (from διαπυημα, *a suppuration*). See SUPPURANTIA.

DIA'RIA FE'BRIS, (from *dies, a day*). See EPHEMERA.

DIAROMA'TICUM, (from δια, αρωματων). A medicine composed of aromatics.

DIA'RRHAGE, (from διαρρηγνυμι, *to break asunder*). A fracture, particularly of the temporal bones.

DIARRHODOME'LI, from δια, ροδον, *a rose*, and μελι, *an apple*). The name of a composition of scammony, juice of roses, &c. See DIAGRYDIUM.

DIARRHO'DON, (from —, and ροδον, *a rose*). A name of many compositions in which roses are ingredients.

DIARRHŒ'A, (from δια, *through*, and ρεω, *to flow*). ALVI FLUXUS, *hypexodos; perturbatio alvi;* a too

frequent discharge of the contents of the intestines. Dr. Cullen places this genus of disease in the class *neuroses*, and order *spasmi*, which he defines a frequent purging; the disease not contagious, and unattended with any primary febrile affection. Of this he forms six species: 1st, *Diarrhœa crapulosa; stercoroso*, seu *vulgaris*; when the excrements are more fluid and more copious than is natural. 2d, *Diarrhœa biliosa*; when yellow fæces are copiously discharged. 3d, *Diarrhœa mucosa*, *leucorrhois*; *diarrhœa lactantium*; *serosa*; *pituitaria*, vel *mucosa*; in which, either from acrid substances taken into the stomach, or from cold applied particularly to the feet, there is a copious discharge of mucus. 4th, *Diarrhœa cœliaca*, called also *cœliaca chylosa*, and *lactea*; when a milky liquid, like chyle, passes downwards. 5th, *Diarrhœa lienteria*; when the aliment soon passes through, with little alteration. 6th, *Diarrhœa hepatirhœa*; when the discharge is bloody coloured serum, and not attended with pain. If painful, it is sometimes called a colic.

Those who have been rendered weak or irritable by a hot season or sultry climate, or by being exposed to a putrid vapour, are peculiarly liable to this disease.

The immediate cause is irritation in the intestines; but the causes of this preternatural irritation are numerous: the most frequent are an undue use of purgatives; acidity, or putrescency of the aliments; acrid bile; pus absorbed from abscesses, and carried to the intestines; a laxity of the glands of the intestines; obstructed perspiration; putrid vapours; a translation of the morbid matter of other diseases to the intestines; passions of the mind, &c.

Whatever other symptoms occasionally attend a diarrhœa, besides a too copious and too frequent discharge of the intestines, are accidental. The loss of appetite, and of strength, are consequences of the excessive evacuations, or of some other attending disorder; sickness and pain are, in many cases, only attending symptoms. While the patient's strength is but little affected by a diarrhœa, it may be generally looked on a salutary rather than morbid evacuation; but sometimes, if neglected or ill treated, the cure is difficult.

Diarrhœa, in its most unlimited sense, is a discharge from the bowels; and, in this view, its explanation is peculiarly difficult. The principal distinction which arises is, whether the cause be connected with the bowels, or with other organs; in fact, whether diarrhœa be idiopathic or symptomatic. But this distinction we shall have little occasion to employ, since the greater number of instances are owing to substances actually present in the intestines.

The most obvious species is that kind which arises from the ingesta, whether these in their quantity or quality offend. In either case, the first symptoms arise in the stomach; and, if the patient cannot ascertain the fact from recollecting what he has eaten, he may be reminded of it, by the taste arising in his mouth, the aversion which he feels on recollecting any part of his former diet; from the nidorose eructations, resembling the taste of rotten egg, or even a putrid taste on the back part of the tongue. In such circumstances, no medicine will, in general, succeed, without evacuating the stomach; but to this consideration we must return.

When the ingesta pass the stomach, they sometimes excite commotions from their action in the intestinal canal. They then usually pass off; but there are instances where they are retained, particularly in the colon, by a spasmodic constriction; and the increased action which they excite is sometimes continued from increased irritability alone. In the first instance, considerable pain usually attends; in the second, the stools are watery, without pain.

Another kind of diarrhœa, confined to the bowels, is from an increased discharge of the fluids poured in from their excretory ducts. The principal fluid is bile; and diarrhœa arises from this fluid in many different circumstances. An increased flow of bile is sometimes owing to continued heat only, and it is then attended with vomiting, as in cholera; sometimes from a previous obstruction of the biliary ducts, when the preceding jaundice will point out its cause; occasionally from the exciting passions of the mind; from the bites of vipers; from worms; from poisons; from congestions in the liver; from cold; or the cold fit of fevers.

Of the other glands whose ducts open in the alimentary canal, we have a less perfect knowledge. The pancreas only is an object of our sense, and its functions are little known. It is probable, however, that its fluid resembles the saliva; and, when we find mercurials employed in friction, instead of affecting the salivary glands, stimulate the intestines, we naturally ascribe it to an increased discharge of the pancreatic fluid.

The whole of the canal is covered, however, with mucous glands; and we know that, when the perspiration is obstructed, the whole mucous membrane compensates for the defect, by an increased discharge. It is said, and, we believe, with some truth, that the milk is occasionally absorbed and deposited on the intestines; we can add, after what has been said on the subject of Cœliaca passio and Diabetes, q. v. that the unapplied aliment sometimes takes the same course.

In cases of teething, we might consider the increased action of the salivary glands as similar to the increased discharge from the pancreas. We omitted mentioning it, however, under this head, because it is supposed that the irritation communicated through the whole membrane contributes to the effect. We dare not either deny or confirm this opinion; but it receives some support from opium being the most effectual remedy.

In cases of diarrhœa following suppressed perspiration, we considered the discharge as merely vicarious. It is, however, sometimes inflammatory; and it was necessary to separate the consideration in a practical view, from the following circumstance. A diarrhœa sometimes follows measles, which, Sydenham tells us, cannot be suppressed by the usual remedies, but by antiphlogistic plans, and particularly bleeding.

Diarrhœa, we have said, arises from acrid poisons; and these, even when they have been discharged, leave the intestines in so irritable a state, that even the common ingesta excite violent and irregular action. Sometimes even extreme general irritability will occasion a similar effect; and any agitation, even from the depressing passions, will occasion copious discharges from the bowels.

This disease occasionally attends fevers, and is said to be sometimes critical, which means, in the language of the ancient physicians, that the concocted morbid matter is thrown out by the glands of the intestines, probably the liver. Though we admit neither of the theory nor of the comment, the fact is certain, and will be found to admit of a different explanation. We now mention it merely to say, that, if in fever the pulse becomes

fuller, softer, and slower, the skin more moist, without faintness, though the discharges by stool are copious, they should not be hastily checked.

The bowels suffer from another cause. When internal suppuration takes place, the discharge is sometimes lessened, and the purulent matter apparently evacuated from the intestines. It is seemingly absorbed, and again deposited. In cancers we have more than once known this metastasis, as it is called, to take place; and in phthisis it is not uncommon, especially when there is no morning perspiration, or this discharge disappears, or is checked. It frequently attends peripneumony, and is then a dangerous symptom, as it prevents the natural solution of the disease by expectoration; sometimes it attends gout, when it brings back an almost extinguished paroxysm.

Diarrhœa sometimes continues long without evacuating the offending substance. We must not, therefore, conclude, from its continuance, that the intestines are properly emptied. In fevers it supervenes, or is produced by the most active purgatives, without properly discharging the contents of the canal, which only appear on the solution of the disease. When diarrhœa has long continued, it is attended with tenesmus, an irregular action of the rectum, suggesting the idea of a discharge impending, without effect. Sometimes the abraded mucus exposes the small vessels, and a little blood is evacuated. It is then said to be dysenteric; but no two diseases are more essentially distant than diarrhœa and dysentery, as we shall soon demonstrate. The mucous diarrhœa approaches most nearly to dysentery; but this is either owing to acrid cathartics or sometimes to cold.

Diarrhœa is seldom fatal but in exhausted constitutions, where it is generally a symptom of some highly dangerous disease; or where the tone of the intestines is so completely destroyed, that the aliment cannot be retained a sufficient time to be digested. In general, when it has continued for a long period, it is seldom completely removed; and, in such cases, when it has ceased for a time, the slightest occasional causes have induced a relapse.

The cure of diarrhœa is sometimes easy; but it frequently baffles our utmost skill. When the symptoms, already described in the stomach, lead to a suspicion that irritation is kept up by acrid substances in that viscus, an emetic should be premised. This, indeed, is generally necessary in every case where the diarrhœa continues obstinate. It relieves the stomach from acrimony, checks the increased peristaltic motion downward, gives it an opposite direction, or determines it to the skin: in each way it is useful. After the emetic, it is necessary to procure some respite, and opiates may be employed with safety. By lessening or stopping the peristaltic motion, we relax any spasmodic stricture which may prevent the discharge of offending matter; and the gentle laxatives afterwards required, will have a more salutary effect. By thus alternating the opiates and laxatives, we at last succeed in relieving the bowels from the irritation of offending matter, and moderately warm astringents will complete the cure.

The bilious vomiting will be sufficiently understood by what has been observed under the article Cholera. We can only add in this place, that while the discharges continue dark and fetid, no astringents should be employed, and we can only allow occasional rest by a slight opiate after it, and the laxatives must be soon repeated.

When a bilious diarrhœa has followed a suppressed evacuation of bile, or when it arises from passions, from worms, the bites of poisonous animals, &c. it requires regulation, rather than immediate suppression, and we may still alternate the opiates with the laxatives; but emetics are unnecessary. The diarrhœa, from congestions in the liver, attends those who have lived long in, and been affected with the bilious diseases of, warm climates. It is a symptom of infarcted liver, and the cure will depend on the removal of the principal complaint. When from the congestion, in consequence of the cold fit of fevers, we must endeavour to relieve the fever by the remedies to be afterwards pointed out.

The diarrhœa, which arises from mercurials externally applied, we have attributed to their action on the pancreas; and the medicine must, in that case, be remitted, opiates employed, and perspiration excited by warm diluting liquors. When the kindred fluid, the saliva, excites the action of the intestines, in the teething of children, we can only lessen it, and diminish the irritation by opium. It must, however, be recollected, that a diarrhœa in teething is most salutary, and that it should be regulated, not checked.

The most frequent cause of diarrhœa is an affection of the mucous membrane, either when its action is increased to supply, with the other glands, the deficiency of perspiration, or when, from this or a specific virus, as in the measles, these glands are inflamed. In such cases the ipecacuanha, either in active doses, as an emetic, or in milder ones, with opium, as a diaphoretic, is of considerable service. The warm bath also, general or topical, is essentially useful. In the last case, Sydenham recommends bleeding; but by regulating the discharge only by diaphoretics, and interposing mild laxatives, we have always succeeded in combating it. In general, diarrhœa, from cold, should be treated like a catarrh, which it really is; and we may be less anxious to keep up any action of the bowels than in the other cases. A similar disease arises from the metastasis of milk, of any unassimilated nourishment, or of purulent matter. These also may be checked; but the offending fluids will find their way by other excretories, and little advantage can be gained, unless the original cause be removed. In the instance of the milk only can we form any reasonable expectations. This is the diarrhœa that attends puerperal women, and we should be cautious in checking it, though we must equally prevent its excess. In these cases the ipecacuanha, as an emetic, followed by the columbo root, and the careful, but occasional, exhibition of opium, will best succeed. Every means must, however, be attempted to bring back the milk to its natural channel.

When the diarrhœa is chronical, moderate astringents and tonics, warm feet, exercise on horseback, and avoiding the depressing passions, afford the most reasonable expectations of relief. Opiates, with demulcents, as in the old pulvis è bolo cum opio, the modern pulvis è cretâ compositus cum opio, are often essentially necessary.

The safest astringents in diarrhœa are the opiates, especially if joined with ipecacuanha. The tormentil, the ca

techu, the gum kino, the oak bark, and the logwood, may be occasionally employed. We have placed them nearly in the order of their strength; for the tormentil is seemingly the strongest. The logwood appears to owe its utility, in part, to its mucilage, and is more effectual where the mucous coat of the intestines is abraded. In such cases, which often follow the use of acrid cathartics or poisons, this, with thick gruels, chiefly of rice, a decoction of althæa, with gum arabic, and every other mild demulcent, is of singular utility.

Opiates may be sometimes given in clysters, and they are said to affect the head in a less degree than when swallowed. They relieve more certainly, in this way, the troublesome tenesmus; which is often greatly mitigated also by the pulv. è bolo cum opio, interposing the mildest laxatives, as soap or castor oil.

Soap, when joined with wax, which thus becomes soluble in our fluids, is often highly useful when the mucus of the bowels is abraded, or tenesmus is troublesome. A little opium, and occasionally the Dover's powder, joined with these remedies, renders it more effectual.

It may be remarked, that we have not mentioned rhubarb, on which former authors seem to have a considerable dependence in this complaint, from its supposed subsequent astringency. We have not found it, however, superior to other purgatives: yet occasionally, in small doses, it seems to strengthen the bowels; and those who depend on its astringent qualities may supply this remedy, where we have mentioned purgatives in general.

See Aretæus; Lommius; Wallis's Sydenham; Fordyce's Elements, part ii.; Dr. Pye's Observations on the Use of Ipecacuanha, in the London Med. Obs. and Inq. vol. i.; Cullen's First Lines, vol. iv.

DIARRHŒ'A CARNO'SA. See DYSENTERIA.

DIARRHŒ'A CHOLE'RICA. See CHOLERA MORBUS.

DIARRHŒ'A URINO'SA, or EX OURE. See DIABETES.

DIARROX'Æ, (from διαῤῥηγνυω, *disrumpo*). The interstices betwixt the circumvolutions of bandages.

DIARTHRO'SIS, (from δια, *per*, and αρθρον, *a joint*). A MOVEABLE ARTICULATION; *abarticulatio*, and *dearticulatio*. Different authors vary in their division; but Dr. Hunter supposes it to consist of three species: 1st, The *enarthrosis*, or ball and socket; when a large head is received into a deep cavity, as the head of the femur into the acetabulum of the os innominatum: its synonym is *genou*. 2dly, *Arthrodia*; when a round head is received into a superficial cavity: these two kinds admit of a motion on all sides. 3dly, The *ginglymus*, called also *cardo*, *cardinamentum*; because it resembles the motion of a hinge. There are properly but two species of this articulation; the first confined to flexion and extension, the *angular ginglymus*, where each bone receives partly, and partly is received by the other, as in the articulation of the humerus with the ulna, or where the joint is adapted only to small turns towards each side, the *lateral ginglymus*. This last is either single, as in the articulation of the first vertebra of the neck, with the apophysis dentiformis of the second; or double, that is, in two different parts of the bone, as in the articulation of the ulna with the radius.

DIASAPO'NIUM, (from δια, and σαπων, *soap*). An ointment in which soap is a principal ingredient.

DIASATY'RION, (from δια, and σατυριον, *satyrion*). An electuary containing satyrion.

DIASCI'LLION, (from δια, and σκιλλα, *the squill*,) vinegar and oxymel of squills.

DIASCI'NCI, (from δια, and σκιγγος, *skink*). A name for Mithridate, which orginally contained this kind of lizard. See CONFECTIO DAMOCRATIS.

DIASCO'RDIUM, (from δια, and σκορδιον, *scordium*,) from containing scordium, formerly called *elect. è scordio*. Hieronymus Fracastorius first described it; and it was named *Fracastorii confectio*; though now rejected from the London Pharmacopœia.

DIA'SENA, (from δια, and *sena*). It is an antidote in Myrepsus, containing senna; but very different from the pulvis è sena now in use.

DIASE'RICOS, (from δια, and σηρικον, *silk*). A composition in which silk is an ingredient.

DIASMY'RNON, or DIASMY'RNES. A name of several collyria, which contain myrrh (σμυρνη), called also *euelpidium* and *athenippion*.

DIASO'STICA, (from δια, and σωζω, *to preserve*). See PROPHYLACE.

DIASPE'RMATION, (from δια, and σπερμον, *a seed*). A name of two malagmas, compounded of seeds.

DIA'SPHAGE, (from διαςφαζω, *to separate*). An INTERSTICE. The interval between two branches of a vein. Hippocrates.

DIASPHY'XIS, (from δια, and σφυζω, *to strike*). The pulsation of an artery.

DIA'STASIS, (from διαστημι, *to separate*,) signifies the distance betwixt the fractured ends of bones receding from each other; also the natural interstice betwixt the radius and the ulna. Sometimes it signifies that distention of the muscles which happens in spasms. When this word is applied to the stomach, it means an effort to vomit; and when to the pulse, it is synonymous with diastole. It sometimes means a luxation.

DIASTE'ATON, from δια, and στεαρ, *fat*). The name of an ointment containing the fat of a stag, a sow, a goose, and a hen.

DIA'STOLE, (from διαστελλω, *to stretch*). In anatomy, it imports the dilatation of the heart, auricles, and arteries; in contradistinction to systole, by which is understood their contraction. In the diastole the artery is enlarged both in length and breadth. In the systole the coats of the arteries restore themselves by their elasticity, assisted by the action of the muscular fibres. The diastole is performed almost instantaneously, the systole more gradually, insomuch that the latter employs two-thirds more time than the former. When the heart begins to vibrate, the diastole is the first motion. The heart has only two motions, dilatation and contraction; but it has been supposed to have a third, or subsultory motion, by which the blood is projected forward from the ventricles of the heart into the large vessels. This idea is, however, unfounded.

DIASTOMO'TRIS, (from διαστομοω, *to dilate*). It is usually joined with μηλη, *a probe*. See SPECULUM.

DIASTRE'MMA, and DIA'STROPHE, (from διαστρεφω, *to distort*, or *turn aside*). A distortion of the limbs.

DIASU'LPHURIS EMPLA'STRUM, (from δια, and *sulphur*, *brimstone*). This is a prescription of

Rulandus; but it contains only a very small proportion of sulphur, with wax, &c.

DIATA'MARON. See Antimoros.

DIATA'SIS, (from διαλύω, *to stretch out*). The extension of a fractured limb, in order to its reduction.

DIATECOLI'THOS, (from δια, and τηκολιθος, *the Jew's stone*). An antidote in which is the lapis Judaicus, called τηκολιθος.

DIATERE'TICA. See Diæta.

DIATE'SSARON, (from δια, *ex*, and τεσσαρες, *four*,) a compound made of four ingredients, viz. gentian, bay berries, myrrh, and the root of birthworth, in equal quantities. See Diapente.

DIATE'TTIGON, (from δια, and τεττιξ, *a grasshopper*). The name of an antidote containing grasshoppers.

DIA'THESIS, (from διατιθημι, *to dispose*). An affection, or a disposition, expressive of a particular state of the constitution. Hence the term, often used in medicine, *inflammatory diathesis*, that is, when the vascular system is in an inflammatory state, or so disposed as readily to be inflamed by any accidental cause. See Hexis.

DIATRAGACA'NTHI SPE'CIES, (from δια, and τραγακανθος). See Gum. tragacantha.

DIATRINSA'NTALON. A confect in which is the santalum.

DIA'TRION PIPERE'ON SPE'CIES, (from δια, and τρεις, *tres*). A powder prescribed by Galen, which chiefly consists of three peppers.

DIATRI'TOS, (from the same.). An abstinence during three days was first recommended by the methodic physicians. The term was called *diatritos*, not the abstinence; and, from this circumstance, the methodics had the name of *diatritarii*. On the third day they gave such medicines as they thought of importance. Cœlius Aurelianus gives this name not only to the term, but to the third day in particular.

DIAU'LOS, (from δις, *twice*, and αυλη, *a station*). A kind of exercise in which the person runs a straight course forwards and back again.

DIAZO'MA, (from δια, and ζωννυμι, *to surround*). See Diaphragma.

DIAZO'STER. A name of the twelfth vertebra of the back; called from ζωστηρ, *the belt*, which rests on it.

DICENTE'TON. See Diacenteton; the name of a collyrium described by P. Ægineta.

DICHA'LCON. A weight equal to one third of an obolus.

DICHA'STERES, (from διχαζω, *to divide*). See Incisores.

DICHOPHY'IA, (from διχα, *double*, and φυω, *nascor*). It is a distemper of the hairs, when they split at the points.

DICHO'TOMUS, (from διχα, *double*, and τεμνω, *seco*). In botany it means forked.

DICHOTOPHY'LLON, (from διχα, *double*, and φυλλον, *a leaf*). See Ceratophyllum.

DICO'CTA, (from δις, *bis*, and *coquo*, *to boil*). Water first heated, then cooled with snow.

DICOTYLEDO'NES, (from δις, *twice*, and κοτυλεδων, *cotyledon*). See Cotyledon.

DICRÆ'US, (from δις, *twice*, and κρινω, *to distinguish*). See Bifidus.

DICRO'TUS, or BIS-FERIENS, (from δις, *twice*, and κρουω, *to strike*). A pulsation of an artery which strikes the finger a second time before the usual interval, similar to what appears from a hammer striking the anvil, and afterwards rebounding. Solano first observed it, and supposed it a certain sign of an approaching critical hæmorrhage from the nose. It is also called a *rebounding pulse*.

DICTAMNI'TES, (from δικταμνος, *dittany*). A wine medicated with dittany.

DICTA'MNUS ALBUS, (from *Dictamnus, a city in Greece*, on whose mountains it grew,) *fraxinella*, white or bastard dittany. It is a plant with leaves resembling those of the ash tree, but much smaller, and more juicy. On the tops of the stalks are long spikes of purplish and white flowers, which are followed by pods of black seeds. It is perennial, and grows wild on the mountains in France, Italy, and Germany. *Dictamnus albus* Lin. Sp. Pl. 548.

The roots are whitish; the cortical part, freed from the pith and small fibres, is dried, rolled up, and in this form brought to England. The young roots, about the size of a squill, are the best. When fresh, they have an agreeable smell, dissipated in drying; are considerably bitter; a quality they yield to water and spirit, and which remains in the extract. Formerly this medicine was considered as efficacious in uterine and visceral obstructions, as well as an anthelmintic. But it had been neglected, till brought again into notice by Stoerck, and recommended in tertians; against worms, particularly the lumbrici; and menstrual suppressions. A scruple of the powder was given twice a day, which may be gradually increased to ʒi. From twenty to fifty drops of the following tincture were successfully prescribed in epilepsies, given two or three times a day: R. Dictamni albi recentis ℥ij. sp. vini rect. ʒxiv. digere. In choloric patients, the root, mixed with steel, has been said to be efficacious. It is not, however, employed in this country, and probably is of little efficacy.

Dicta'mnus Cre'ticus, verus; *origanum Creticum*, *onitis*, dittany of Crete, or Candy wild marjoram. It is the *origanum dictamnus* Lin. Sp. Pl. 823, and is a small shrubby plant, with square stalks, and roundish leaves, that are covered with a thick white down; the flowers are in spikes of a purplish colour. The flowery tops were formerly brought from Crete, and indeed these are somewhat stronger than ours, which are now always used. It is perennial, a native of stony grounds, and bears the winters of our climate. Those we have from Greece, when we receive them, are not greatly superior to our own.

Whilst the leaves are in perfection, they are warm and aromatic, have an agreeable smell, and a hot pungent taste, resembling that of the thymus citratus. The garden pennyroyal is of the same quality, but not equally strong. Both water and spirit take up the virtues of this plant. If a large quantity is distilled at once with water, a small portion of essential oil is obtained, of a yellowish colour, a highly pungent, aromatic taste and smell; congealing in the cold, so as to resemble camphor: the remaining decoction, when inspissated, is a bitterish, disagreeable mass, but destitute of the flavour and warmth of the herb: the spirituous extract possesses all its virtues. See Neumann's Chem. Works; Lewis's Mat. Med.

DICTYOI'DES, (from δικτυον, *a net*, and ειδος, *form*). NET LIKE. See RETE MIRABILE.

DI'DYME, (from διδυμος, *double*). See BIFOLIUM.

DIDYMÆ'A, (from the same). The name of a cataplasm mentioned by Galen, named from the double use to which he applied it.

DI'DYMI, (from the same). See GEMINUS, TESTES, and CEREBELLUM.

DI'DYMUS, (from δις, or δυω, *two*). A TWIN. In botany it means double, or having two of each sort.

DIDYNA'MIA, (from δις, *twice*, and δυναμις, *power*). Linnæus's fourteenth class, comprehending those plants which have hermaphrodite flowers, with four stamens, in two pairs, of different lengths, the outer pair longer, the middle pair shorter, and converging. These flowers have one pistil, and the corolla is irregular. Linnæus has divided this class into two orders, *gymnosperma*, and *angiosperma;* the seeds naked or covered.

DIECBO'LION, (from δια, and εκβαλλω, *to cast out*,) a medicine causing abortion: hence DIECBOLICA.

DIELE'CTRON, (from δια, and ελεκτρον, *amber*). The name of a troche, in which amber is an ingredient.

DIERVILLA. *Lonicera diervilla* Lin. Sp. Pl. 249. This species of honeysuckle is a native of the most northern regions of America, and its young branches are employed in gonorrhœa and suppression of urine.

DIET DRINKS. Alterative decoctions, employed daily in considerable quantities, at least from a pint to a quart. The decoction of sarsaparilla and mezereon, the Lisbon diet drink, is the most common and most useful.

DIETETICS. The doctrines relating to diet.

DIE'XODOS, (from δια, and εξοδος, *a way by which any thing passes*). *Diodos.* In Hippocrates, it is the descent or passage of the excrements by the anus.

DIFFLA'TIO, (from *diffio*, *to blow away*). See PERSPIRATIO.

DIFFU'SUS, (from *diffundo*, *to spread out*). DIFFUSE. In botany it means spreading wide.

DIGA'STRICUS, (from δις, *double*, and γαστηρ, *a belly*). See BIVENTER.

DIGE'STIO, (from *digero*, *to dissolve*). DIGESTION. In surgery it is the disposing an ulcer or wound to suppuration, by the application of proper remedies.

In pharmacy it is the subjecting of bodies, included in proper vessels, to the action of a gentle heat. The term digestion is often used for maceration; and, in this case, the process is without heat: where this circumstance is not expressed, digestion always implies the operation of heat. In some cases, digestion is used to produce a change in a single body, as in hydrargyrus nitratus ruber; in others, to promote solutions, or different combinations. Circulation is a mode of digesting: the vessels generally used are matrasses, or Florence wine flasks, either of which may be converted into circulatory vessels; or the neck of one may be inverted into the neck of the other. The operation is generally performed in a sand bath, by which the degrees of heat may be regulated according to the intention of the chemist. This heat is never so great as to make it boil. Digestion is used for making tinctures, wines, and elixirs.

In the animal economy, it is the conversion of aliment into chyle, and then into blood. By digestion, the specific differences of all substances are abolished; the blood, formed from different kinds of aliment, whether used singly or together, does not sensibly differ in its properties, provided that the organ of digestion be sufficiently powerful to convert them into blood. Digestion, in the stomach alone, is capable of converting our food into chyme, and the continuation of the process can alone assimilate it to our own nature.

This function of the animal economy is of most difficult explanation. The ingenuity of physiologists has been exhausted in the solution of the problem; and we are still at a distance from any theory that will explain all the different appearances satisfactorily.

When, with Hippocrates, we attribute digestion to putrefaction; with Pringle and Macbride, to fermentation; or, with Haller, to the joint action of solution and fermentation; we alter the language only, not the opinions. Van Helmont attributed it to the energy of his archæus, which resided in the stomach; and, though fanciful in language, we shall probably find this process very intimately connected with the vital principle. We must, however, premise some peculiar circumstances in the structure of the parts concerned in the operation, omitted in the general descriptions; because they would appear more advantageously, when their application could be at the same time perceived.

The alimentary canal extends from the mouth to the anus, enlarged at different parts, to detain the food, and assist the changes it is destined to undergo. When the œsophagus passes down on the left side, the canal crosses the body; and we here find the first dilatation, which we style the stomach. In its empty state it appears a bag, into which a substance falls, and from which it must rise to pass out at the other aperture, the pylorus. When, however, the stomach is full, the fundus of this sac is raised against the integuments, and it assumes the form of a crescent. The angle to which the substance passing out must rise, in the empty state, is obliterated; but the food is retained by the contraction of the strait fibres, which draw the pylorus towards the cardia. The fundus of the stomach enlarges between the folds of the epiploon, which is its mesentery; and the large vessels of this membrane are thus emptied, discharging their contents into the stomach, which receives also, at the same time, blood, from its pressure on the spleen, which determines a larger proportion of the vital fluid through the vasa brevia.

The next dilatation is a little below the stomach, at the part styled the duodenum. The intestine, in this part, is not confined by the peritonæum so closely as to form a mesentery; but is loosely connected to the back bone, and admits of considerable distention. Here the chyme receives the bile and the pancreatic juice; and, in this part, its animalisation begins, and chyle is formed. The intestines then proceed, of an uniform diameter, till the end of the ilium is inserted, in the manner before described, into the large intestine (see COLON), where it again stagnates; apparently to admit of the absorption of the remaining chyle.

The food of animals is very various; yet it consists only of a few principles, and these may be reduced to oil, gelatine, and sugar, with the animal matter already prepared. In proportion as the food is of the last kind, its remora in the stomach and duodenum is shorter; but the digestion of matter already animalised, is a problem too simple to detain us. We must remark, however, that the action of the stomach differs from almost every known power. It has no effect on living bodies: its

effects are in proportion to the vital energy; and when this is greatly diminished from any sudden cause, the digestion suffers at the same moment, and in the same ratio. Digestion sweetens also, in a short period, the most putrid substances which the stomach can retain. So different is this process, as well as its instruments, from every other, that we must turn with contempt from the philosophers attempting to imitate it in their phials, did not their exalted character in other pursuits change our contempt to surprise.

The changes produced by digestion are very considerable. The principles of vegetable substances, as we have already seen, consist of oxygen, carbone, and hydrogen; animal substances contain the same principles, with a less proportion of carbone, and with the addition of azote. The production of the azote has occasioned the chief difficulty; for we know that some proportion of carbone is separated with oxygen, by respiration, in the form of carbonic acid gas. We must, however, pursue the subject in its proper order.

The changes in the stomach are, by the most modern physiologists, attributed either to fermentation or solution. Each, however, gives a due share of the credit to the division by mastication, combination with the saliva, the effects of heat, and gentle agitation in the stomach by the action of its fibres, producing a regular progressive and retrograde motion. Fermentation, it is contended, does not probably take place, because we do not find its productions, an ardent spirit, and an acid. We have more than once had occasion to remark that we often find an acid, which we know to be the product of fermentation, though we cannot detect the previous form. We discover, in digestion, an extrication of air, which, when the process is not interrupted, is again combined with the mass, and an acid is perhaps always formed; because, when by accident digestion is disturbed, or stopped, in an early period, it is obvious. In better circumstances this acid disappears, in consequence of a subsequent union. In short, as our vegetable food is susceptible of fermentation, and in circumstances which would most probably favour it, we see no reason for denying that this change takes place.

Those who contend that digestion is a simple solution, have sought, with some anxiety, for a solvent of a peculiar power; and they have at last, apparently, discovered it in what they style the gastric juice, a mucous fluid always found in the stomach, of some peculiar, but no very decisive properties. It is, undoubtedly, a solvent out of the body; but the experiments made by forcing animals to disgorge what they have taken, prove the power of all the fluids of the stomach, not of one only. In every part of the human body, the production of a fluid of peculiar powers is connected with a complicated apparatus. In the stomach the mucous glands only seem to produce the gastric juice. When analysed, it is said, by Struve, to contain a phosphorated ammonia; but this conclusion has not been supported by other chemists. Carminiati digested some veal in water, with a little salt, in a heat of about 100 of Fahrenheit. The decanted liquor he employed in a similar experiment, which he repeated till he produced a fluid resembling the gastric. This would lead us to a suspicion that the gastric juice is only the remnant of former digestions, and, in reality, nothing more than a ferment. We are told, however, by Carminiati himself (Journal de Physique, vol. xxi.), that the gastric fluid of herbivorous and of carnivorous animals, when the stomach is not organically diseased, assists digestion, and cures intermittents, if given as a medicine. Other authors have told us, that it is antiseptic; that it even sweetens putrid meat; and that it greatly assists in healing old ulcers. It is natural to suspect the existence of extraordinary qualities, when detailed by those who, previous to their experiments, had formed a particular system. We may just suggest, however, that if the gastric juice has such miraculous powers, why does it not constantly produce them in the stomach? If, after a meal made with the best appetite, a cause of sudded agitation or of deep distress should occur, the food, which would have otherwise produced wholesome chyle, becomes acid or putrid. The stomach is not, therefore, a containing vessel only, gently agitating the mass.

Fordyce, after describing the structure of the organs of digestion; the matters applied to the food in those organs; and pointing out that the substances employed for food have the same elements, and each of them all the elements, actually found in chyle, viz. a part which is fluid, and contained in the lacteals, but coagulates on extravasation:—a second, which consists of a fluid coagulable by heat, and, in all its properties that have been observed, consonant to the serum of blood; and a third, formed of globules, which render the whole white and opaque; observe, that it was, therefore, only necessary that these elements should be separated from one another, and recombined in order for its formation. That the action of the organs of digestion disunited the elements of the food, which were reunited in a new form, so as to form the essential parts of the chyle; and that these three essential parts of the chyle were always the same; and, therefore, when converted into blood, the blood *à fortiori*, could not, in the smallest degree, be influenced by the food. The elements, according to this author, are separated in the stomach, where they are retained; but the chyle is not formed in this organ. A simple matter, called *chyme*, is only there produced, which in the subsequent state of the process is, by the reunion of its elements, formed into chyle.

Digestion consists of two distinct stages: the first, which takes place in the stomach, styled solution, or fermentation; and the second in the duodenum, which is more strictly animalisation. In the remaining track of the intestine, the animalisation is rendered more complete: the chyle, gradually and progressively formed, is absorbed, carried into the blood, and then applied to supply the different organs, after having been more completely elaborated in the lungs. We must pursue this progress in the order.

It has been always, but with little accuracy, supposed that digestion takes place in the stomach. This is not true; for not a particle of chyle can be at any time discovered in its lymphatics, coloured matters do not tinge their contents; and what is called the chyme resembles in no respect the white fluid destined, at a future period, to fill the blood vessels. In the stomach then, perhaps, we shall find solution only in the saliva and other glands of that organ: but it is a solution which we may try in vain to imitate; because it takes place in an animated organ, whose power cannot be for a moment intermitted, without some injury to the result. Fermentation, also, probably soon comes on; and it is

apparently assisted by the gastric juice, which acts as a leaven, and in this way only. Such a process is peculiarly necessary in herbivorous and granivorous animals, since the change by solution alone is not sufficiently rapid for the wants of the system, or equal to the effect of breaking down the denser substances; and since, perhaps, one stage of assimilation may be necessary in this organ to prepare it for the second. If the gastric juice be formed, as Carminiati suspects, and which is highly probable, since it differs in different animals, and always resembles the nature of their food, it is a ferment peculiarly adapted, not only to assist the separation of the parts, but, in some degree, to assimilate them to its own nature. The fluids of the stomach have no effect in dissolving the husks of vegetables, for instance; and consequently fermentation, in some cases, is absolutely necessary. So far, therefore, there is little mystery.

The distention of the stomach, after a full meal, is not, in the greatest degree, at its termination, if the appetite has not been stimulated by varieties, or by condiments. It is farther increased by the separation of air, which is sometimes so considerable as to rise to the cardia, and be discharged through the œsophagus. It is, however, generally again absorbed by the mass, and carried into the blood. The food detained in the stomach by the action of its longitudinal fibres is lessened in its bulk by the reunion of its air, and the absorption of its watery parts. The pylorus is then brought in a straighter line with the axis of the organ, and the fluid parts gradually pass over. It has been supposed that the pylorus possesses an elective power, to admit of the passage of some bodies, and to refuse others. In every part of the animal economy we seem to perceive a similar power; nor dare we deny it to an organ of so much importance, whose nerves are peculiarly and acutely sensible. Richerand, who has most pointedly enforced this opinion, seems to think that this elective power is at last lost. The stimulus which excited, by its disagreeble impression, the contraction of this aperture, becomes, in time, habitual, and the passage is effected. Independent, however, of this cause, heavy bodies not soluble in the watery fluids are not, for a long time, discharged. They lie at the bottom of the stomach; are not presented to the pylorus when it is full; and, when empty, they cannot rise to the angle which that passage forms. In this way, heavy metallic bodies, and even the heavy mucus of weak stomachs, are not discharged. The stimulus of the latter soon becomes habitual; but, after some time, the action of this organ seems to be excited, and the former are propelled into the duodenum.

The food then in the stomach is in part dissolved by the saliva and fluids of the organ; broken down by fermentation, and, by the latter process, in part animalised. In this state it is carried into the duodenum, a portion of the intestine, for the reasons assigned, capable of a considerable dilatation. It is here exposed to the influence of bile, a fluid, as we have seen, which has almost undergone a second circulation, without being exposed to the air; or, what is of more consequence, without being mixed with fresh animal matter. It is evidently more animalized than any other fluid of the body; and, by its union with the chyme, new combinations take place, which have not yet been accurately observed. Our food, we have said, consists of gelatine, oil, and sugar. These substances are the chief component parts of the chyle. When the vegetable substances are then broken down, we want little more than their separation from the other ingredients, which may be probably effected by the bile, and perhaps the combination of a small portion of azote. Fourcroy supposes that the alkali, and other saline parts of the bile, are combined with the chyle to attenuate it, and that its resin is discharged with the excrements. We should rather suspect that the alkali itself was decomposed, and its azote only combined with the chyle. We certainly find the resin of the bile in the excrementitious part of the contents of the intestines. The pancreatic fluid is here also added; and we have reason to suppose that it dilutes the chyle, while, as an animal fluid, it contributes to the necessary change.

The next portion of the intestine is called *jejunum*. It is distinguished by no peculiar structure, and differs from the rest of the small intestines by being frequently found empty. The only consequence to be drawn from this is, that, in the duodenum, digestion is perfected, and no longer delay is required. As the food, however, proceeds, the process of animalisation appears to go on; and, from the large intestines, the chyle seems to differ in some respects, at least in colour, from that which is carried from the ilium.

In the progress of the alimentary fluid through the lacteals, we find it often conveyed into glands, called *lymphatic*, or *conglobate*. It is here apparently deposited into cells, and mixed still more intimately with animal fluids, from whence it is absorbed by other lacteals, which apparently possess some elective power. Partly for the purpose of a more complete animalisation, and partly to prevent any noxious substance from contaminating the vital fluid, these glands are seemingly interposed. We see an equal anxiety for each purpose in the further provisions. The new aliment is mixed in the thoracic duct with the lymph, absorbed from every cavity, and, even after every precaution, conveyed almost by drops into the blood. It is thus carried gradually to the heart and the lungs, where the last process takes place.

We are now well acquainted with the changes which are produced in this part of the animal system. Atmospheric air is absorbed, and its oxygen, in part, uniting with the blood, gives it a florid hue; and, in part, combining with the carbone, separates it in the form of carbonic acid gas. It is, indeed, doubtful whether any oxygen remains; and whether the separation of the carbone alone may not produce the sensible changes attributed to the oxygen. Our vegetable food, by the gradual admixture of fluids more highly animalised, has now become near to our own nature, but it is still not azotic. This last principle seems to be supplied by the air, from whence azote is very probably absorbed. The experiments by which this is ascertained are not before the public; but those communicated to us render it highly probable.

It may be said, that, though the bile be obstructed, digestion goes on. It does so; but imperfectly, and the body is emaciated, the strength diminished, and atrophy is the consequence. There is some doubt whether any considerable portion of nourishment is, in such cases, conveyed through the lacteals, and whether the body is not supported by absorption from the adipose membrane,

It will be obvious, however, that some nourishment must still be obtained; for the bile, returned to the blood, is discharged by every excretory duct, and, among the rest, by the mucous glands and the pancreas. A small portion, therefore, finds its way to the digestive organs; and those who have remarked with how inconsiderable a degree of nutriment the body is sometimes supported, will not be surprised at the effect of the pittance it must in this way receive.

Another objection will be suggested, by the almost total obstruction of the mesenteric glands in some cases of scrofula. Yet, on minute observation, it will appear that every lacteal does not press through a gland. Sometimes it creeps over the surface to immerge in the following; and sometimes it seems cautiously to avoid every body of this kind interposed.

The "play of affinities," which takes place on the mixture of the bile, is not yet understood. It is certainly considerable; for we sometimes find the benzoic acid in the excrements of herbivorous animals, and sometimes the phosphoric. The former we have reason to believe, from some late experiments, to be a product, whose basis is the vegetable acid; and the latter we have begun to detect in its disguise, and to trace its source in grain. These subjects will soon be more clearly elucidated. Whether produced in the intestines, in the different cavities, or in the circulating system, is yet uncertain; but the phosphoric acid and the ammonia are the creatures of the animal economy, produced by the new combinations constantly taking place.

The red globules of the blood, though evidently derived from the nutriment, resemble so little every part of it, except the oil, that we must profess ourselves ignorant of their source. They are not oily; and though we lose the oil that makes a part of our food, and which is discoverable in the chyle, we can scarcely think that it forms this singular portion of our fluids. It is apparently decomposed, and affords the hydrogen, which is a component part of the animal economy. When we reflect, however, on the other hand, that we have scarcely any instance of globules swimming, unmixed, in a watery fluid, without being oleaginous; that oil affords a very solid, substantial nutriment; and that the red globules are numerous and vivid, in proportion to the strength of the constitution; we have some reason to suppose that they derive, in part, their origin from this source, though changed in their chemical properties. The application of these newly formed fluids must be the subject of future consideration. See NUTRITION.

The digestibility of different substances we considered under the article ALIMENT, and we there spoke from observation, assuming, as the criterion, the exacerbation of hectic paroxysms, which always occurs during digestion, and is greater in proportion to the difficult solubility of the food. Constitutions, however, greatly differ in this respect; and we ought to add, that the opinions of other authors differ from our own. We shall, therefore, adduce the conclusions of a respectable observer, M. Gosse, of Geneva, who, by swallowing air, was at any time able to discharge the contents of the stomach. His experiments are recorded in Spalanzani's work; but, that we may not be suspected of distorting them to favour our own ideas, we shall transcribe the account from a late respectable, but unequal, publication.

"He informs us, that in about an hour and a half after the food is taken into the stomach, it is changed into a pultaceous mass; the gastric juice, likewise, renders it fluid, without altering its nature; and when digestion is properly carried on, there is no appearance of acidity or alkalescence; the food does not ferment; and the process of digestion is not completed until the space of between two and three hours has elapsed.

"The chyme which arises from aliments taken either from the animal or vegetable kingdom is the same; they both are, by the gastric fluid, converted into the same substance, which is in consequence most probably of their both containing gelatine, &c. If, however, the digesting solvent is not in sufficient quantity, or is in a diseased state, the acetous fermentation will take place in vegetable, and the putrid in animal, matter; hence milk, vegetable matter containing sugar, wine, and even spirits, will degenerate, when left to their spontaneous changes in the stomach, to a very strong acid, and sooner sometimes than out of the body, perhaps from the heat, &c. All oily substances likewise become rancid, and flesh meat putrid, producing acid and putrid eructations, which is never the case in a state of healthy digestion; whilst, in many animals, the digestion is finished before the acetous or putrid fermentation can begin.

"Substances insoluble, or that were not digested in the usual time in the stomach.

"Animal substances.

"1. Tendinous parts. 2. Bones. 3. Oily or fatty parts. 4. Indurated white of egg.

"Vegetable substances.

"1. Oily or emulsive seeds. 2. Expressed oils of different nuts and kernels. 3. Dried grapes, and the skins of fish. 4. Rind of farinaceous substances. 5. Pods of beans and peas. 6. Skins of stone fruits. 7. Husks of fruits with grains or seeds. 8. Capsules of fruit with grains. 9. Ligneous stones of fruits. 10. It does not destroy the life of some seeds; hence bitter-sweet, hemp, misletoe, and other plants which sometimes grow upon trees, are produced by the means of the excrements of birds, the kernels of the seeds being defended from the menstruum by their exterior covering.

"Substances partly soluble, or parts of which were digested.

"Animal substances.

"1. Pork dressed various ways. 2. Black puddings. 3. Fritters of eggs, fried eggs and bacon.

"Vegetable substances.

"1. Salads of different kinds rendered more so when dressed. 2. White of cabbage, less soluble than red. 3. Beet, cardoons, onions, and leeks. 4. Roots of scurvy grass, red and yellow carrots, succory, are more insoluble in the form of salad than any other way. 5. The pulp of fruit with seeds, when not fluid. 6. Warm bread and sweet pastry, from their producing acidity. 7. Fresh and dry figs. By frying all the substances in butter or oil they become less soluble. If they are not dissolved in the stomach, they are, however, in the course of their passage through the intestines.

"Substances soluble, or easy of digestion, and which are reduced to a pulp in an hour, or an hour and a half.

"Animal substances.

"1. Veal, lamb, and, in general, the flesh of young

animals, are sooner dissolved than that of old. 2. Fresh eggs. 3. Cow's milk. 4. Perch boiled with a little salt and parsley. When fried or seasoned with oil, wine, and white sauce, it is not so soluble.

"Vegetable substances.

"1. Herbs, as spinach mixed with sorrel, are less soluble, celery, tops of asparagus, hops, and the ornithogalus of the Pyrenees. 2. Bottom of artichokes. 3. Boiled pulp of fruits, seasoned with sugar. 4. Pulp or meal of farinaceous seeds. 5. Different sorts of wheaten bread, without butter, the second day after baking, the crust more so than the crumb. Salted bread of Geneva more so than that of Paris, without salt; brown bread in proportion as it contains more bran is less soluble. 6. Rapes, turnips, potatoes, parsnips, not too old. 7. Gum arabic, but its acid is soon felt. The Arabians use it as food.

"Substances which facilitated the menstrual power of the gastric juice are, sea salt, spices, mustard, scurvy grass, horse radish, radish, capers, wine, spirits in small quantities, cheese, particularly when old, sugar, various bitters.

"Substances which retarded the gastric power are, water, particularly hot, and taken in large quantities. It occasions the food to pass into the intestines without being properly dissolved. All acids, astringents, 24 grains of Peruvian bark, taken half an hour after dinner, stopped digestion. All unctuous substances, kermes, corrosive sublimate. Gosse likewise observed, that employment after a meal suspended or retarded digestion, as well as leaning with the breast against the table; and that repose of mind, vertical position, and gentle exercise, facilitated it."

See Fordyce on Digestion; Richerand's Elements of Physiology; Senebier's Observations (Journal de Physique, Mars, 1785); Carminiati's Experiments, ibid. vol. xxvi.; Spalanzani's Tracts; Brugnatelli Sagio d'un Analisi Chimica de succi Gastrici; Steven's Thesis; Gosse's Experiments.

DIGESTI'VUM, SAL SY'LVII, (from the same). See MARINUM SAL.

DIGESTIVA, (from *digero, to dissolve*). Such applications as promote suppuration, viz. ointments rendered stimulating by turpentines and balsams, poultices and fomentations. The object is to excite suppuration by stimulating the vessels, when too languid; to hasten it when the process goes on too slowly; and to relax the vessels when their action is sufficient. By these effects the choice is easily directed.

DIGITA'LIS, (from *digitus, a finger*). *Aralda, digitalis purpurea* Lin. Sp. Pl. 758. It is a hairy plant, with serrated leaves; a thick angular stalk, on which are numerous purple tubulous flowers, resembling the finger of a glove, hanging downwards, in a row along one side, each on a short pedicle; the flower is followed by an oblong pointed capsule, full of small angular seeds. It is biennial, grows wild in woods and on heaths, only in gravelly soils, and flowers in June, July, and August.

The leaves are bitterish and nauseous to the taste; they yield their virtue both to water and to spirit. Dr. Hulse recommends an ointment made by boiling it in butter, as an application to scrofulous ulcers, with gentle purging two or three times a week.

Dr. Withering considers this as one of the most certain diuretics in the whole materia medica. The leaves, which are chiefly employed, are given from one to three grains, in powder, twice a day, alone, or united with aromatics, and sometimes formed into pills with soap and gum ammoniac: the dose may be gradually increased; but four grains are generally sufficient in dropsical cases. A drachm of the dried leaves may be infused in half a pint of boiling water, for four hours, adding to the strained liquor an ounce of any spirituous water: two table spoonfuls, or an ounce given twice a day, is a moderate dose for an adult: if the patient be stronger than usual, or the symptoms very urgent, this may be given once in eight hours; but, in many instances, half an ounce will be sufficient. When this medicine purges, it is said to fail of success, and opium may be advantageously joined with it: but when the bowels are too tardy, jalap may be added. It seldom succeeds in men of great natural strength, of a tense fibre, warm skin, florid complexion, and a hard pulse. But if the pulse be feeble, or intermitting, the countenance pale, the lips livid, the skin cold, the belly soft and fluctuating, the anasarcous limbs readily pitting with pressure of the finger, we may expect the diuretic effects to follow in the most salutary manner. If given in the form of extract, it must be joined with exercise and tonics. The decoction is occasionally preferred to the powder, and given in the following form: R. Digitalis purpureæ recentis ʒ iv. aquæ distillatæ ℔ ij. coq ad ℔ i. et liquori colato adjiciantur spt. vinosi ʒ ij. fiat decoctio.—One large spoonful is to be administered every morning, in every variety of idiopathic dropsy, and repeated every hour, till the patient has taken from three to eight or nine spoonfuls, or till sickness, or some other disagreeable sensation, be induced. The hydropic fluid generally disappears on the next or on the third day, without any repetition of the medicine; and frequently without any apparently increased evacuation; at other times, with vomiting and a large flow of urine; and sometimes with purging stools.

Such is the flattering account of Dr. Withering; but we cannot confirm it from experience in every part. The digitalis is of a suspicious order, and its exhibition is attended often with inconvenience. Vertigo, sickness, and faintness, frequently follow. More than one patient has died suddenly during its exhibition; and, though these sudden terminations in dropsy are not uncommon, we have apprehended that this poisonous plant may have had a share in the event. We have, therefore, always prescribed it with a trembling caution, and have scarcely ventured giving above two grains three times a day. After some time the pulse becomes slower, the patient weaker, and it seems to be owing to the general relaxation which takes place that the urine passes off. It is singular, but undoubtedly true, that it should be useless in dropsies of the young and strong.

From its lowering the pulse, it has been given freely in spasmodic asthma, and hectic, so far as our experience goes, without success. The pulse is, indeed, rendered slow; but the other symptoms remain with little melioration.

The unguentum digitalis is made in the same manner, and applied to the same uses, as that of cicuta; the ingredients are equal parts of the digitalis purpurea, recently gathered, and hog's lard. (For the process, see

Cicuta.) It is also a name of the *sesamum orientale*. See Sesamum verum.

Digita'lis minima. See Gratiola.

DIGITA'TUS, (from *digitus, a finger*). In botany it means divided into several parts, and meeting together at the tail; like a hand, and its fingers. It is applied to the leaves.

DIGI'TIUM, (from *digitus, a finger*). A contraction of the joint of a finger; and a pain, with wasting of the same part. See also Paronychia.

DIGITO'RUM TE'NSOR. See Extensor digitorum communis.

DI'GITUS, (from *digero, to direct*, as the natural instrument of pointing or directing). A finger. In the hands they have particular names. The first, which is opposite to, and thicker than the rest, is called ἀντίχειρ, and *pollex*; the second, *index*, λιχανος, and *salutaris*; the third, μεσος, *medius*, and *longissimus*; the fourth, παραμεσος, and *annularis*; and the fifth, *minimus*, *auricularis*. The Greeks called the thumb, ἀντίχειρ, because it was alone as powerful as the other four fingers, from ἀντι, *against*, and χειρ, *the hand*; and the Latins *pollex*, from *pollendo*, for the same reason. The second, or fore finger, λιχανος, *index*, because, by pointing, discoveries are made, or indications given; and salutaris, because, being applied to the mouth, it causes a salutary silence. The third, μεσος, medius, and longissimus, the middle finger, from its situation and length. The fourth, παραμεσος, because it was beyond the middle finger; and annularis, from wearing rings upon it, hence called ring finger. The fifth, auricularis, from its clearing the ear, and minimus, from its size. The toes have no names. The thumb and the four fingers are each composed of three bones; those of the fingers are formed alike, but those of the thumb are much thicker and stronger, in proportion to their length. On the outside, the bones of the fingers are convex, within flat. Both ends of the first phalanx are in a cartilaginous state at birth. The first joint of the fingers is arthrodia, the two last are ginglymus. The different parts or bones of the fingers are called *phalanges*; the first phalanx is the largest, and the last the least. (See Phalanx). Digitus, among the Latins, stands also for a measure, similar to dactylus among the Greeks; the smallest measure, by which the distances of space or time are measured, similar to our jot. However, at the present day, it seems to be a measure taken from the breadth of the finger, properly three fourths of an inch, and equivalent to four grains of barley laid breadthwise, so as to touch one another. Astronomers preserve the name in the division of a great circle, *digit*.

DIGLO'SSON, (from δις, *bis*, and γλωσσα, *a tongue*). A name of the laurus Alexandrina, because that above its leaf a less leaf resembles a tongue.

DIGNO'TIO, (from *dignosco, to distinguish*.) See Diagnosis.

DIGY'NIA, (from δις, *bis*, and γυνη, *mulier*.) The name of an order in Linnæus's artificial system, comprehending those plants which have two pistils.

DIHÆ'MATON, (from δια, and αἱμα, *blood*). The name of an antidote, in which is the blood of many different animals.

DIHA'LON, (from δια, and ἁλς, *salt*). A plaster prepared of salt and nitre, adapted to foul ulcers.

DII'PETES, (from διος, *heaven*, and πιπτω, *to fall*; i. e. falling as rain). See Semen.

DILATA'TIO, (from *dilato, to expand,*) *distentio*; dilatation. Sometimes it is used for diastole.

DILATATO'RES ALA'RUM NA'SI, (from the same). Dilators of the nostrils. They are small, thin muscles, having a double order of fibres decussating each other. They rise from the interior and inferior parts of the ossa narium, and are soon inserted into the superior parts of the alæ. They raise the alæ, and dilate the nostrils.

DILATATO'RIUM, (from the same). A surgical intrument for dilating any part.

DILL. H. MUSC. An abbreviation of Johannis Jacobi Dillenii Historia Muscorum.

DILUEN'TIA, (from *diluo, to wash away*). Diluents. These are fluids, which render the substance with which they are mixed still more fluid, without adding any acrimony, and are almost universally water. Heat cannot be considered of this kind, because it is not, in the strict sense of the word, a fluid; and, when salt renders the serum more fluid, the term is improperly applied.

Diluents are, therefore, watery fluids alone; and these undoubtedly dilute the contents of the stomach and bowels; but, should lentor or vicidity exist in the blood, water alone will not remove it. If water is absorbed, it is soon again carried to the kidneys or the skin, and evacuated without any impregnation. Some diluent effect may be produced, if, by joining any of the farinacea, the watery fluid is subjected to the powers of digestion.

DILU'TUM, (from the same). Diluted. See Infusum.

DILYTÆ'A. In Myrepsus, it is the fat of some unknown animal.

DIMIDIA'TUS, (from *dimidium, half,*) divided into half.

DI'NICA, (from δινεω, *to turn round*). Medicines against a vertigo.

DINNER, (from the barbarous Latin word *disnare, to dine*). The principal meal, which should be taken about the middle of the day. See Diæta.

DI'NOS, (from δινεω, *to turn round*). See Vertigo.

DIO'BOGON. See Scrupulus.

DIO'CRES. The name of a pastil in Myrepsus.

DIO'DOS, (from δια, and ὁδος, *the way through*). See Diexodos.

DICŒ'CIA, (from δις, *bis*, and οικος, *domus*). A vegetable which has no hermaphrodite flower; but in which the male flower is upon one plant, and the female flower upon another. It is the twenty-second of Linnæus's classes.

DICŒNA'NTHES, (from δια, and οινανθη, *the flower of the vine,*) an epithem in Trallian against the cholera morbus.

DIO'GMUS, (from διωκω, *to persecute*). See Palpitatio cordis.

DIO'NIS COLLY'RIUM. A collyrium in Oribasius, so called from Dion its author.

DIONY'SIA. The name of a plaster for abscesses, invented by Hera the Cappadocian; also called *dionysianum emplastrum*.

DIONY'SIAS, (from Διονυσος *Bacchus*, or *wine*). See Androsæmum.

DIONISI'SCI. HORNED. Certain bony eminences near the temples; or rather the race distinguished by those prominences; from Dionysius, a name of Bacchus, described as horned.

DIONY'SIUS. See LEPIDIUM.

DIONY'SOS. The name of a collyrium in Ætius; one resembling it is found in P. Ægineta, called *collyrium malabathrinum*, and *isotheon*.

DIOPO'RON, (from διὰ, and ὀπωρα, *autumnal fruit*). The name of a medicine in Cœl. Aurelianus, used against the quinsy.

DIO'PTRA, (from διοπτομαι, *to see through*). An instrument for dilating any natural cavity, the better to see its state, as the speculum uteri.

DIOPTRICS; glasses employed to view distant objects, where the rays pass through the lens, in opposition to those where the object is examined after reflection. Spectacles are dioptrical instruments.

DIOPTRI'SMOS, (from διοπτομαι, *to see through*). The operation which consists in dilating the natural passages with a dioptra.

DIO'ROBON, (from διὰ, and ὀροβος, *a vetch*). A medicine containing vetches.

DIORRHO'SIS, or DIORO'SIS, (from διὰ, and ὀρις, *serum*,) a conversion of the humours into serum and water.

DIORTHO'SIS, (from διὰ, and ὀρθὸς, *right*, or from διορθοω, *to direct*). The restitution of a fractured limb to its natural situation.

DIOSCO'R. An abbreviation of Pedacii Dioscoridis Opera.

DIOSCU'RI, (from Διος κουροι, *the sons of Jupiter*, *Castor* and *Pollux*: the parotid glans are so named from their equality in shape and position). See PAROTIDES.

DIO'TA, (from δὶς, *double*, and οὖς, from οὐς, *the ear*). The name of a wooden cup, with two ears or handles, lined with aromatics, to give a flavour to the liquor contained in it.

DIOXELÆ'UM, (from δ,α, ὀξυς, *acid*, and ἐλαιον, *oleum*). A malagma of oil and vinegar.

DIO'XUS, (from διὰ, and ὀξυς, *acid*). The name of an acid collyrium in Marcellus Empiricus.

DIOSPY'ROS. See GUAJACANA.

DI'PCADI. See BULBUS VOMITORIUS.

DIPCÆ'A. See CIRCÆA.

DIPE'TALUS, (from δὶς, *double*, and πέταλον, *a petal*). Consisting of two petals.

DI'PHRYGES, or DISPHRYGES. SCORIÆ; (from δὶς, *twice*, and φρυγω, *to torrefy*). There are three kinds; 1st, Metallic, produced only in Cyprus; found in the mud of a pool, whence it is taken and dried in the sun, then burnt; as it were twice roasted. 2d, The dross in working copper. 3d, Pyrites calcined to redness.

DI'PLOE, from διπλοος, *double*, called also *meditullium*). It is the soft part between the two tables of the bones of the skull.

DIPLO'MA, The written instrument which gives authority for physicians to practise. It is usually written on parchment, and folded up; hence its name, from διπλοω, *to fold*. Diplomas are now disgracefully sold by colleges founded for better purposes; and the blockhead, who cannot write a prescription, ranks with a man of the greatest learning and experience. Also a DOUBLE VESSEL. To boil in diplomate, is to set one vessel, containing the ingredients intended to be acted upon, in another larger vessel full of water, and to this latter vessel the fire is applied. See BALNEUM MARIÆ.

DIPLO'PIA, (from διπλοη, *duplus*, and ὀψις, *visus*). A depravity of sight, by which the same objects appear double. The symptom is almost always of short duration, and we bear it freely. So long as the object is not within the distance of distinct vision, two images opposite to one faramen, or aperture, having fallen upon the eye, are not united in the retina, but in distinct places; and, therefore, they have not the optic point as a centre: whence the image appears double. The optic portion is a circular point in the bottom of the eye, whose centre the optic axis occupies: but as often as we look at any object with both eyes, so often, unless there should be some defect in the organs, we turn the eyes, that each axis may concur in the same point of the object; and we learn by long habit, that a double image answers to one object, and consequently we judge that object single: but if a double image should fall upon the same eye, and not concur in the optic point, then the same object appears to be seen in two different places, and therefore double. It frequently arises from weakness, when we lose the power over the muscles of the eye, so as not to be able to direct them with accuracy. The diplopia, then, is the forerunner of death, or in fevers, of delirium. At times, the defect seems to be in the brain beyond the eye; and it has been sometimes an early symptom of hydrocephalus, or of an abscess in the basis of the brain near the thalami nervorum opticorum. Dr. Cullen makes it a variety of the second species of pseudoblepsis, which he calls *mutans*, in which objects appear changed from what they really are: and the disease varies according to the variety of the remote cause, of which he enumerates, from Sauvages, ten species. See Nosologia Methodica Sauvagesii, et Culleni. Wallis's Nosologia Methodica Oculorum, with notes.

DIPNO'OS, (from δὶς, *bis*, *double*, and πνεω, *to breathe*). An epithet of wounds which penetrate through some cavity, or quite through a part, or that have two orifices, admitting the air at both ends.

DI'PSACON, the TEASLE, (from δ,ψα, *thirst*). So called from the concave situation of its leaves, which will hold water, by which the thirst of the traveller may be relieved. See ASPALATHUS.

DI'PSACOS, (from διψα, *thirst*). See DIABETES.

DI'PAS. DRY EARTH, (from the same). Also the name of a serpent, whose bite causes thirst. See COBRA.

DIPSE'TICUS, (from διψαω, *to thirst*). An epithet for food which causes thirst.

DIPYRE'NON, (from δὶς, *bis*, *double*, and πυρην, *a berry*, or *kernel*,) the name of a probe, with two buttons on one end. It is mentioned by Cœlius Aurelianus.

DIPYRI'TES, or DIPY'ROS, (from δὶς, *twice*, and πυρ, *fire*). BREAD TWICE BAKED. Hippocrates recommends it in dropsies.

DIRADIA'TIO. See ACTINOBOLISMUS.

DIRE'CTOR, (from *dirigo*, *to direct*). A grooved instrument for guiding an incision knife.

DIRECTO'RES PENIS, (from the same). See ERECTORES PENIS.

DIRI'NGA. A name, in the isle of Java, for the SWEET-SCENTED FLAG. See CALAMUS AROMATICUS.

DISCE'SSUS (from *discedo, to depart*). A chemical term, in French *depart*, or *linquart*, signifies, in general, any separation of two bodies before united: but it is particularly applied to the separation of gold from silver by the nitrous acid, where the silver is dissolved, but the gold left untouched.

DISCOI'DES, (from δισκος, the *quoit* used in the Roman games, and ειδος, *a form*). See CRYSTALLINA.

DISCRE'TA PURGATI'VA, (from *discerno, to separate*). A purgative which evacuates a particular humour.

DISCRI'MEN, is a small roller about twelve feet long, and two fingers broad, rolled up with one head, and used after bleeding in the forehead, in the following manner: the bandage is held with the left thumb upon a compress, so that about a foot hangs below the forehead; then the roller is carried round the temples and occiput in the circular direction; after this, the part which hangs down is to be carried over the head to the occiput, and there, having rolled it several times about the head, it is to be secured. It is a term also applied to the diaphragm.

DISCIFO'RME, (from δισκος, *a quoit*, and *forma, likeness*). See PATELLA.

DI'SCUS, (from δισκω, *to throw*). A DISK, or QUOIT, thrown to a great distance at a mark. It was one of the gymnastic exercises. In botany, the whole surface of a leaf; disk, of a flower, is the central part in radiate compound flowers consisting generally of regular little corollæ or florets; the term is also appled to other aggregate flowers, when the florets, towards the middle, differ from those in the circumference.

DISCU'SSIO, (from δις, and *quatio, to shake through*). See PERSPIRATIO.

DISCUSSO'RIA, DISCUTIE'NTIA, (from *discutio, to discuss*, or *shake to pieces*). DISCUTIENTS, by Dioscorides called also *diachytica*. They are such medicines as dissolve or dissipate a stagnating fluid without an external solution of continuity. In all bruises the fluids are stagnant. If there is no ecchymosis, the vessels are distended and thus weakened, and the principal means of relieving is by exciting their action. Simple friction will often succeed. Ardent spirits, camphor, volatile alkali, the light subtile spirit styled arquebusade, which is only a distillation of spirits from some warm plants, are very active discutients. They are, however, more effectual when united with a sedative, particularly with opium; and it may indeed be doubted whether ardent spirits do not, in part, owe their virtue to their narcotic powers. Relaxants, particularly warmth, and oils, are injurious, and induce suppuration. Cold adds greatly to the effect of discutients, and the most volatile are the most powerful.

DISEASE. See MORBUS.

DISLOCA'TIO, (from δις, *ex, out of*, and *locus, a place*). To put out of its place. See LUXATIO.

DISPENSARY, (from *dispendo, to distribute, the shop in which medicines are prepared*). It is also the appellation of a modern institution, in which the poor are supplied with medicines and advice. It is more advantageous than hospitals, as a greater number of patients are relieved at a less expense; and less useful, as the diet and other circumstances cannot be properly attended to. It is generally the arena, in which the young physician can display his importance, and acquire practical knowledge. Every hospital, however, has its out patients, which are nearly on the same footing with the patients of a dispensary; and, if necessary, are often visited at their own houses.

DISPENSATO'RIUM, (from *dispendo, to distribute*, or *set in order*). DISPENSATORY. A work treating of the composition of remedies; called also *antidotarium*. A dispensatory contains a select number of formulæ, established by the authority of the government of each country, that the medicines may be prepared in a manner, not only correct, but active and uniform. The publication of authorized regular dispensatories is not, however, of a very early date; but, from the time of the Arabians, different works of authority have been considered as the directors of apothecaries. About the middle of the fifteenth contury, the standard volumes were a treatise of Avicenna, and another of Serapion on Simples, which still remain; the *Antidotarium of Mesue*; another of *Nicholas of Salerno*, a tract of *Simon Januensis de Synonymis*; and one of an Arabian author, containing the preparation of simples and chemical remedies, under the name of *Liber Servitoris*. About the end of the century, a collection was made from these authors by Nicholaus Præpositus of Tours; but chiefly from Mesue and Nicholas of Salerno. This general dispensatory was followed by the *Thesaurus Armatariorum*, the *Lumen Apothecariorum*, and the *Luminare Majus*, compilations from the same source.

Of these two luminaries of modern pharmacy, Mesue seems to have lived early in the eleventh century, certainly before its end; and Nicholas of Salerno followed him. Under this name, we have, however, three pharmaceutical works. The principal is styled Nicholaus Magnus; from this there is an abridgment, or rather a contraction, styled Nicholaus Parvus; but, in a subsequent era, another Nicholaus called Myrepsus, sometimes Alexandrinus, appeared, whose work is the largest of the three. We have decided *ex cathedrâ* on many disputed points of chronology in this short history; but have followed the more probable accounts, though we have not room to assign our reasons.

All these works are, in many parts, confused and complicated. The ingredients of the compositions are numerous and contradictory, and of the greater number it is difficult to ascertain the design. Some remedy was introduced for every complaint, and it was, of course, supposed that the whole would be an universal medicine.

The first dispensatory published by authority was that of Valerius Cordus, in 1542, by the authority of the senate of Nuremberg. It is chiefly taken from the authors above mentioned, with the addition of some chemical remedies, particularly ether. The work itself, now before us, is not scarce; but it is particularly known from the comments and quotation of Hoffman. This work was followed by Wecker, whose *Antidotarium Speciale* appeared in 1561, a distinct work from the *Secreta* of the same author, and by Renodæus, who published his Officina Pharmaceutica seu Antidotarium at Paris, in 1608; but these were the works of individuals.

The next dispensatory by authority was the Pharmacopœia Bergamensis, 1581; and it was followed by the Pharmacopœia Augustana, which appeared at Ausburg, in 1601; and, with the notes of Zwelfer, at Rotterdam, in 1653. The former was the reputed parent of every other dispensatory; and it was succeeded by that of London, in 1618, and of Paris, in 1637. In each too

much was copied from Nicholas of Salerno; but they are, when we consider the period at which they appeared, respectable collections. It is too common to despise the ancients; but those who have looked into the Pharmacopœias subsequent to the periods of Nicholaus, will find in them the germs of our most boasted formulæ, though overloaded and disguised by the number of ingredients. It would not be an uninteresting work to restore to each author his original idea. The Persian Pharmacopœia, published in the same century, at Paris, containing the Arabian formulæ, will complete this short view of ancient pharmacy.

There were, indeed, many other Dispensatories published in the same century, or even more early; but, in general, copies from those which preceded. We shall add the titles of the works which had the best pretensions to originality. Of these the first and principal is Florentinum Antidotarium, of which we know not the date; but the Latin translation by Clusius, now before us, was published at Antwerp, in 1561; Montagna's Antidotarium, at Venice, 1565; Fioraventi's Secreti Rationali intorno alla Medicina, &c. appeared at Venice in 1600; Poterius's Pharmacopœia Spagyrica, at Frankfort, 1698; Juncken's Corpus Pharmaceutico-Medicum, at Frankfort, in 1697; Lemery's Pharmacopeé Universelle, in the following year; and Mynsicht's Armamentarium Medico-Chymicum, in 1631. An early Pharmacopœia, by Bauderon, whose date we cannot at present ascertain, was republished, with remarks, at Lyons, in 1681, by F. Verny.

The Dispensatories in the eighteenth century were too numerous to be particularly mentioned. The "mere muster-roll of names" would fill our page, which may be better employed by a slight discriminated view of the merits of the more modern authorised collections.

Every country of Europe has now its own Pharmacopœia, established by authority. In the north, the Swedish, the Danish, and the Russian, Dispensatories are respectable and correct collections of well arranged formulæ. The Danish merits, on the whole, the preference; though the Swedish is more chemically correct. In our own country, the late edition of the London Pharmacopœia is elegantly, and on the whole accurately, chemical. Perhaps it is too concise; nor does it always furnish the formulæ which extensive practice demands. The first edition appeared in 1618; but we cannot find that it was republished till the year 1746, and again in 1788. The Edinburgh college published their first edition in 1722, and it has been followed by editions in 1736, 1747, 1756, 1775, 1792, and 1803. Their last edition is a very elegant and accurate work. The Dublin college has not published any dispensatory till within these few years, under the auspices of Mr. Kirwan: it is what may be expected from a learned body, in an enlightened age.

In Germany, the Wirtemburgh Dispensatory was for many years the standard of German pharmacy, and the best edition was that of 1771. It was afterwards republished, but without any change; and is still a necessary work for those who study the labours of the former German practitioners: it is particularly referred to in Murray's Apparatus Medicaminum. In the north of Germany it has been superseded by the Berlin Dispensatory, the last edition of which is one of the most complete Pharmacopœias which we possess; and by the Brunswick Dispensatory of 1777, a very inferior work, abounding in all the useless exuberance of some ancient collections. On the west, in Holland, the Leyden and Amsterdam Dispensatories direct the practice; but neither has lately been revised.

In the south of Germany, the Fulda Dispensatory is highly esteemed. It is a work of value, and may be perused in every country with advantage. That of Vienna was first printed in 1729, and reprinted in 1765. It has escaped us if any other edition has appeared. Dispensatories have been published at Presburg and Cracow; but they were early works, and of little value.

In France, the first Dispensatory appeared in 1637; and we know of no edition since that of Boyer, in 1758. The Pharmacopœia of Lyons, by Vitet, appeared in 1778, and is a very respectable collection.

The Spanish and Italian Dispensatories are of too little real value to detain us; and we shall close this article with a short enumeration of the principal collections of formulæ not authorised by any government.

The first of these, besides Renodæus and some others formerly mentioned, was Schroeder's Pharmacopœia, in 4to., published at Leyden, in 1656; Triller's Dispensatorium Pharmaceuticum Universale, in two volumes, 4to., published at Frankfort, in 1764: the first volume of this work contains the materia medica. A superior collection, however, is the Dispensatorium Universale of Reuss, in two volumes, 8vo., published at Strasburg, in 1791; and Spielman's Pharmacopœia Generalis, published at the same place in 1783, is a work of value. In our own country, the Dispensatories of Quincy, of James, and Strother, merit our commendation. The first, improved by Lewis, is still a most valuable pharmaceutical work; but the last improved edition by Dr. Duncan, junior, comprehending the last London, Edinburgh and Dublin Pharmacopœias, greatly excels every other collection we have seen. It is full, correct, and satisfactory: with all the improvements of modern science, from the best sources, most skilfully condensed. We owe numerous obligations to it in the present work. If it wants any addition, it is of the formulæ from some of the best Pharmacopœias of the continent; and the addition of another volume, with these formulæ, has been recommended. At present the deficiency is best supplied by the improved editions of Lewis, or by an excellent work entitled "Thesaurus Medicaminum," attributed, with some reason, to Dr. R. Pearson. An excellent work by Plenck, entitled Pharmacopœia Chirurgica, and an admirable little manual under the same title in English, must conclude our list.

DISPE'RMATUS, (from δις, and σπερμα, *semen*). Bearing two seeds.

DISRU'PTIO, (from *disrumpo*, *to break asunder*,) a violent lacerated wound which penetrates the skin to the flesh.

DISSE'CTIO, (from δις, *through*, and *seco*, *to cut*). Dissection. The cutting up a body, with a view of examining the structure of the parts. See Anatomia.

It is scarcely an object of a work of this kind to teach the minutiæ of anatomy, or, of course, to enlarge on the methods by which it may be most satisfactorily learnt. We rather design this article as subservient to forensic medicine, which is an object of considerable importance, and, in general, too much neglected by authors and

professors. We shall add, however, a few observations on this subject, for the assistance of the younger practitioners; we trust not without their use.

At the conclusion of the article CHIRURGIA we spoke of the necessity of frequently using the knife to attain a dexterity in accommodating the hand to every little change of direction; and we would now extend the advice by recommending, as frequently as possible, the dissection of those who die of disease. In the theatres of anatomical investigation, some days have generally elapsed before the body can be obtained, and some further time is necessarily lost before all the cavities can be examined. Exudations, in consequence of this delay, often take place; the blood vessels, if distended, assume a livid hue, and give an unfaithful idea of the real appearance of the parts, so that the practitioner does not learn to distinguish disease when it really occurs. If the dissection of diseased bodies be often practised, some of the sound parts will show the young practitioner their natural appearance, and, in turn, he will see every part in its proper colours.

In such circumstances, his dexterity may be improved by the introduction of probes, bristles, or other instruments, into the different cavities. The probang and catheter he may thus be able to introduce more readily. He may learn to pass a tent to the upper part of the nose, by conveying a string through it to the back part of the fauces; an operation on which, in hæmorrhages of the nose, life may depend. In fact, the young surgeon should take advantage of every opportunity of increasing his readiness in executing every operation which he may be ever required to perform.

Another circumstance of no little importance is, that he will learn, in the subject recently dead, and not injured by hasty and rough conveyance, to see the situation of different viscera with respect to the external organs. He will find, for instance, that at the scrobiculus cordis many important parts meet; the stomach, the gall bladder, and the colon. Each may produce pains there; and it should be his object to discriminate those which are owing to diseases of the different organs. He will learn also from the diseased state, what deviations sometimes take place in these respects. The stomach will be dragged down by a disease of the epiploon; the abdomen filled by one of the ovarium, &c. Each dissection, by careful observation, will thus afford a lesson either of instruction or caution.

Dissection, when necessary to ascertain real diseases, or to detect crimes, should be conducted with the greatest care. In the first instance, the pains are often distant from the seat. We remember a case where pain was almost exclusively confined to the region of the navel; the disease was a scirrhus pylorus: another which the best surgeons pronounced to be a scirrhous prostate; it was a stone impacted in the pelvis of the kidney: of a child whose complaints were attributed to a diseased liver; it was a mesenteric obstruction. Instances of this kind, and many we might add, will inspire a cautious distrust, and the propriety of a doubtful opinion, when originally offered. Yet nothing is more common than to find the most positive decisions. At this moment we have cases pronounced to be a wasting of the liver; a dropsy of the womb; and a polypus of the uterus; the sources of which are either unknown or evidently mistaken. Should such bodies be ever opened, the physician and his science will be disgraced, except by some frauds which, we fear, are too common. Deviations from the common structure have been made by art; and it is always easy to find, in any circumstances, what we wish.

When it is the object to detect crimes, dissection becomes an object of considerable importance. The life of an innocent person may be the sacrifice of ignorance, inattention, or presumption. The principal inconveniences we shall enumerate, as they occur in the greater cavities. In the head, the surgeon is often called on to decide on the cause of death. This may have occurred in a paroxysm of passion, and an accidental rencounter; and death may have arisen from apoplexy, or a blow. In each case, the vessels will be turgid, especially if intoxication, a frequent attendant, has concurred. In such circumstances, it is necessary to know that the vessels of the brain in a healthy state are usually very conspicuous. If no considerable external injury, no inflammation corresponding to the part where a slight or probable blow may have been afflicted, are observable, it may be concluded that the patient did not die from violence. Even general inflammation, though considerable, will scarcely justify the contrary opinion; nor an abscess, if at the basis of the scull, its most common seat, support a different conclusion. On the contrary, a trifling, and even an inconsiderable blow, either on the temple or on the upper orbit of the eye, where the bone is thin, may be fatal; and in such circumstances, the most minute examination of the brain and its bony envelope is essentially necessary. The point of a small sword against the upper part of the orbit has been fatal, by penetrating the brain, though the organ of vision has escaped.

In the chest, blows and wounds, though violent, will not always be fatal; but, in this part of the body, the effects are generally obvious, and no doubt occurs that merits any elucidation.

In the stomach, we are often left in uncertainty. Blows at the pit of the stomach have been sometimes fatal, without leaving any trace. The effect, on this organ, is similar to concussion on the brain. Inflammation seldom points out any evident cause; and death, without any alteration of the structure, ensues.

Greater are, however, the difficulties when poison is the suspected cause of death; and it is necessary that every practitioner should be acquainted with the internal appearances of this organ. Fortunately, the taste of the most dangerous poisons soon guards a person from any permanent injury; and, of others, the effects are strikingly obvious. The idea of Mr. Hunter, that the gastric juice dissolves after death the substance of the stomach, and occasions erosions in it, is found to have no foundation; and it is a proof, among a thousand others, how far a preconceived opinion influences the most accurate observers. Lead, copper, and arsenic, can be ascertained by their most appropriated tests (see VENENUM). The vegetable poisons are too nauseous to escape the organs of taste, and the animal influence other organs. On the intestines we see only the effects of stimulant poisons, of inflammation, and its consequences. Wounds and bruises offer no subject of remarks, as they are sufficiently obvious. Yet sometimes, in severe bruises, the effects, for instance, of military punishment, an abscess forms below, rather

than on the part affected, and is occasionally the cause of death.

In cases of death, in real or supposed puerperal cases, it is absolutely necessary to know the appearance of the organs in a state of health, and in the puerperal state. A woman sometimes dies apparently from poison, and the supposed inducement to this rash act is suspected pregnancy. The cause is, sometimes, with difficulty decided in the early months. If the period of menstruation is at hand, the uterus will assume the appearance of early impregnation, and we once saw it at a different period, though the hymen was entire. The appearance of an uterus, lately gravid, ought also to be known, as it may be sometimes necessary to determine whether a person, who has voluntarily terminated her existence, may have been lately delivered. For two months, at least, and very often much longer, the appearance of a corpus luteum in the ovarium is decisive

In cases of puerperal fever, the subject has been greatly confined by those who have described the appearances on dissection, being imperfectly acquainted with those of the puerperal state. The natural fulness of the uterine vessels has been styled inflammation, and the coagulable lymph a purulent discharge.

In dropsy in tympanites, as well as in the puerperal state just described, the vessels are peculiarly full, and give the suspicion of previous inflammation where none has existed. Adhesions often take place in chronic cases, in the last moments, or soon after death, and excite an unfounded suspicion of an inflammatory disorder having preceded. In real inflammation of the peritonæum, it is thickened, pulpy, and opaque.

A neatness in opening a body and again sewing the wounds, can be judged of by every one. The body should not be too much exposed. In dissecting the head, the integuments should be cut across from ear to ear. They may then be replaced, without disfiguring the subject. To examine the thorax, the cartilages of the ribs should be divided on each side, after dissecting off the integuments and the muscles, near the sternum, which may be turned back; and from the scrobiculus cordis, an incision should be made to each ilium, to examine the state of the abdominal viscera. When these viscera are taken out, ligatures should be made on every canal, previous to dividing it. The parts should be carefully replaced, and the integuments sown with what is styled the flat stitch. See C. Bell's System of Dissection.

DISSE'CTUS, (from *disseco, to cut asunder*). In botany it means cut into small notches, fringed.

DISSEPIME'NTUM, (from *dis*, and *septo, to inclose round*). It is the thin septum which divides the several cells in the fruit of plants. See Capsula.

DISSE'PTUM, (from the same). See Diaphragma.

DISSOLVE'NTIA, (from *dissolvo, to melt*). By Dioscorides called *diachytica;* medicines which dissolve concretions in the body, not only calculous ones, of which we have already spoken, but coagulated lymph, polypi, tubercles, &c. This ridiculous fancy is not yet forgotten. In chemistry, dissolvents are menstrua.

DISSOLU'TIO, (from *dissolvo, to loosen*). Dissolution; *lipothymia*, *syncope*, and *death*. Solution of continuity is distinguished by the same appellation, and thus is synonymous with *dialysis*.

DISSOLU'TUS MO'RBUS, (from *dissolvo*). See Dysenteria.

DI'STA, (from δὶς, *double*). See Dyota.

DISTE'NSIO, (from *distendo, to stretch out*). Distention; *dilatatio*, *pandiculatio*, *convulsio*. Tension has, however, a different meaning, and we shall return to it under the article Febris.

DISTI'CHIA, or DISTICHI'ASIS, (from δὶς, *double*, and στίχος, *a row* or *order*). See Districhiasis.

DISTICHUM, (from the same,) a species of barley which hath only two rows of grains.

DISTILLA'TIO, (from *distillo, to drop gradually*). Distillation; *alsacta*, *catastagmos*. Sometimes it signifies the same as defluxio, or catarrhus; so Shakspeare speaks of "distilling rheum."

In pharmacy it is the separation of the more volatile from the more solid parts of any substance by means of heat. The operation itself consists of the condensing and collecting the lighter parts of bodies, previously rarefied by heat, and thus separated from the less volatile. Re-distilling a fluid several times from fresh parcels of the same kind, is called *cohobatio;* but little advantage is derived from this practice. When distillation is repeated, in order to purify or separate the matter distilled from some parts of less value, it is called *rectification*. Distillation with an alembic or a common still is called *per ascensum*, because the vapours rise and are condensed in the upper part of the vessel; and in this way all distillations may be performed that require no greater heat than boiling water. When a greater heat is required, retorts may be used; and as from their shape the volatile parts can only escape through the side, it is called *per latus*. When the heat is applied above the bodies to be distilled, and the lighter parts forced downwards, it is called *per descensum:* this method is now never used in pharmacy, though occasionally in the arts. When the volatile parts, rarefied by distillation, are dry, the operation is called *sublimation*. When no more heat is applied than is necessary just to raise a vapour, which when condensed only falls in drops, it is called a *cold distillation:* roses and other substances valued only for their flavour, and which do not admit of drying, are advantageously distilled in this way; and the dry cake, left after distilling roses, is well adapted for making a decoction or syrup: in this kind of distillation, the subject should neither be bruised nor have any water added to it: they should be gathered with the morning dew upon them: and a retort placed in a sand bath, with a receiver, is the best apparatus. The worm still is more frequently used, and called the *hot still*, because the materials boil; it communicates with a leaden spiral tube (the worm), placed in a tub filled with cold water (the refrigeratory); in this worm the vapours are condensed, and run out in a small stream into whatever vessel is placed to receive it.

The end of distilling is the separation of volatile substances from those with which they were mixed; as in obtaining vinous spirits, essential oils, volatile spirits, &c. or for the more speedy or effectual combination of such bodies as require a boiling heat for their union.

As a great object in distillation is to apply no more heat than is necessary to accomplish our intention, retorts are sometimes used, and are placed on an open fire. They are placed also in sand or in water, that the

heat may be more certainly adjusted to the degree of volatility which the subject to be distilled possesses. In distilling water, the menstruum should be attended to, as well as the heat to be applied; for, as some essential oils require the full heat of boiling water, they cannot be raised by the use of spirits of wine: this happens in distilling oil of cinnamon, and some other ponderous oils.

Retorts are proper when the subject to be distilled would corrode the metal of a still, as in the preparing a mineral acid, or other corrosive matters. Earthen vessels are sometimes used, and, on some few occasions, iron ones. But these, and many other observations on this subject, are fully noticed under the articles where an attention to them may be required.

DISTILLA'TIO PER DESCEN'SUM. See DESCENSIO.

DISTI'NCTUS, (from *distinguo*, *to set apart*). In botany it means distant, and without any contact of parts.

DISTO'RTIO, (from *distorqueo*, *to wrest aside*). It is applied to the eyes, when a person seems to turn them from the object he would look at, and is then called *squinting*. (See STRABISMUS.) It also signifies the bending of a bone preternaturally to one side. See Bell's Surgery, vol. vi. p. 281.

DISTO'RTIO SPI'NÆ, vel VERTEBRA'RUM. DISTORTION OF THE SPINE. In this disease, the spine becomes more or less curved, and the power of the lower limbs is usually lessened or destroyed. Mr. Pott calls it a kind of palsy in the lower limbs; in another place he speaks of it as a useless state of them. From his account of the disease, it hath a scrofulous origin; but as its most striking symptoms are from the caries, which takes place in the bodies of some of the vertebræ, may it not be properly termed the *strumous spinal caries?* Mr. Bell, in his Surgery, vol. vi. p. 294, calls it *distortion of the spine*.

In this disease, the lower limbs are gradually weakened, or their power is wholly lost. A curvature of the spine nearly about the middle of the lumbar vertebræ is observed, with a crackling sound on bending them. It is sometimes said to take place on the neck, and to be attended with the same effects on the upper extremities; but we recollect no well authenticated case of this kind.

To this distemper both sexes, and all ages, are equally liable; though the majority of these patients are infants or young children.

When the attack is made on an infant of only one or two years old, the true cause is rarely discovered until some time after the effect has taken place; the nurse or parents suppose that the child is weakly, or hath been hurt at its birth. When, on the attack, the patient hath been used to walk, the loss of the use of his legs is gradual, though not in general very slow. At first he shows signs of being soon tired; he is languid, listless, and unwilling to move much, or briskly; soon after he is observed frequently to trip, although there be no impediment in his way. When he attempts to move quickly, his legs involuntarily cross each other, and he is frequently thrown down suddenly, and upon endeavouring to stand still and erect, even for a few minutes, his knees give way, and bend forward. When the distemper is a little farther advanced, it will be found that he cannot, without much difficulty, direct either of his feet precisely to any exact point; and very soon after, both thighs and legs lose their sensibility, and become gradually paralytic. When an adult is thus affected, the progress of the distemper is much the same, but more rapid. Arrived at this state, whatever be the age or sex of the patient, complaint is made of twitching and frequent pains in the thighs, particularly when in bed, and of uneasy sensation at the pit of the stomach; when he sits on a chair or a stool, his legs are almost always found across each other, and drawn up under the seat; the power of walking is soon afterwards lost.

The true curvature is usually from within outwards; sometimes on one side, and sometimes there is a counter curvature resembling an S. This curve of the spine varies in situation, extent, and degree, being either in the lower, or, more rarely, in the upper part of the loins; sometimes comprehending one vertebra only, sometimes two, three, or more; by which the curve becomes necessarily more extensive: but, whatever variety these circumstances may admit, the lower limbs most frequently feel the effect. The arms are said to be sometimes paralytic; and a few instances are said by Dr. Motherby to have occurred, in which both legs and arms were affected. The effect is also different in different subjects: some are rendered totally and absolutely incapable of walking very early, or soon after the appearance of the curvature; others can move with the help of crutches, or by grasping their thighs just above the knees with their hands: some can sit in an erect posture or in a chair without much fatigue; others are incapable of it for any time: some have such a degree of motion in their legs or thighs, as to enable them to turn and move for their own convenience in bed; others cannot move without assistance.

When a naturally weak infant is the subject, the curvature is in the vertebræ of the back: it is not unfrequently productive of additional deformity by gradually rendering the whole back what is vulgarly called *humped;* and by subsequent alterations, such persons are shortened in their stature, and debilitated in their constitution; but in all cases where this effect has been gradually produced, whatever alteration made in the disposition of the ribs and sternum may contribute to such deformity, it will always be found that the curvature of the spine appeared first, and was the chief complaint. Such curvatures, however, do not produce paralysis in either extremity. The reason is, that, in general, the angle is less acute, so that the nerves are not injured; but should any be compressed, their fibres in these central cavities are so much intermixed in plexuses and ganglia, that the parts are weakened only, and their functions impaired, not destroyed. The chief inconveniences arise from the subsequent contraction of the chest and abdomen.

The general health of the patient does not seem, at first, to be materially affected; but when the disease has continued some time, and the curvature is thereby increased, many inconveniences and complaints follow. When the incurvation is in the neck, and to a considerable degree, by affecting several vertebræ, the child finds it inconvenient and painful to support its head, and is always desirous of laying it on a table or pillow, to take off the weight.—When in the dorsal vertebræ, there are a difficulty of breathing, loss of appetite, indi-

gestion, dry cough, quick pulse, what is styled tightness at the stomach, obstinate constipations or purgings, involuntary flow of urine and fæces, with the addition of what are called nervous complaints.

An adult, in a case where no violence hath been committed or received, usually complains first of weakness in his back bone, accompanied with a heavy dull pain, and great lassitude: this is soon followed by an unusual sense of coldness in his thighs, independent of the weather or any obvious cause: his limbs are soon afterwards affected with an unusual sensibility, and frequently convulsed by slight spasms, particularly troublesome in the night. Soon after this, he not only becomes incapable of walking, but his power of retaining or discharging his urine or fæces is considerably impaired. The adult, as well as the child, complains constantly of a tightness and pain at his stomach, and he finds all the offices of his digestive and respiratory organs much impaired.

The loss of motion in the limbs, which generally accompanies a distorted spine, proceeds from this distortion. Until the curvature is discovered, the complaint is considered as nervous; but when the state of the vertebræ is known, it is attributed to some previous blow, fall, or other accident. In some few instances these may have produced the effect; but, in the majority, some predisposing cause, in which the very essence of the disease consists, may be found; and this is a distempered state, generally an inflammation of the ligaments and bones, where the curve soon after makes its appearance. This occasions the ill health of the patient, and in time the curvature. The helpless state of the limbs is the consequence only.

It has been supposed that there is a dislocation of the vertebræ; but the spine bends forward only because the diseased bones, intervening between the sound ones, are unable to bear the parts above. From every circumstance it is evident, that the complaint arises from a scrofulous indisposition affecting the parts that compose the spine, or those in its immediate vicinity: this morbid affection shows itself in a variety of forms; but they, in every instance, determine the true nature of the distemper. Sometimes the deformity of the spine occurs, without any apparent disease of the bones composing it; sometimes the deformity is attended with erosion, or caries of the body of one of the vertebræ; and the same bones are occasionally found to be carious, without any crookedness or alteration of figure. Strumous tubercles in the lungs, and a distempered state of some of the abdominal viscera, are often attendants of this complaint.

When these complaints are not attended with an alteration of the figure of the back bone, neither the real seat nor true nature of the distemper is pointed out by the general symptoms, and they are frequently unknown while the patient lives. When the ligaments and cartilages of the spine become the seat of the disorder, without any affection of the vertebræ, the whole spine, from the lowest vertebra of the neck downwards, gives way laterally, forming a great curve on one side, sometimes a more irregular figure, attended with many marks of ill health. The attack is occasionally on the bodies of some of the vertebræ; and ulceration, with erosion of the bones, is the consequence. This erosion of the bones often produces the curvature peculiar to the disease, by wasting the body of each vertebra affected; and then the spinal processes of the diseased vertebræ protuberate behind, in consequence of the decay of their fore parts. When the dorsal vertebræ are attacked, the sternum and ribs, for want of proper support, necessarily give way, and additional deformity is produced. It sometimes happens that internal abscesses and collections of matter are formed near the spine, which, affecting the spine with caries, and proceeding outward, produce what is called a psoas abscess, and destroy the patient.

If we carefully examine this disease, it will be found, as we have said, to originate from a scrofulous habit, perhaps from a disease of the ligaments, and particularly inflammation of the vertebræ themselves. What we style inflammation of the bones, differs from that of the softer parts. It is rather a slight increased action of the vessels, soon destroying their vital principle, probably from pressure, as distention is not admissible. The bones, thus partially destroyed, are pressed on unequally, and deformity necessarily ensues. When the outside of the vertebra is decayed, there is little change; for the flexors of the trunk are strong, and a slight stooping soon relieves the diseased part. When decayed within, to preserve the equilibrium, the neighbouring vertebræ start out. When the disease is on either side, the curvature is on the opposite, but the curvature on the side is seldom alone. To prevent uneasiness, the patient reclines to the opposite side, and this produces the counter curvature, formerly described.

It will be obvious that the nerves coming from the diseased bone will be compressed by the curvature; but this compression is not complete, and, like all imperfect compressions, is attended with irritation. Thus the early compression in hydrocephalus appears with all the marks of irritation. This is the reason why the paralysis, from curved spine, is attended with spasms, and differs, as we shall soon mention, in this essential circumstance, from other paralyses.

There is another circumstance of some importance, which we must add. If from tonics, or any general plan of restoring strength, the general health is amended, whatever remedy is directed to the spine, the disease is relieved, and often when no application is made. This, though not an isolated fact in nervous compressions, is yet difficult of explanation. It may arise from anastomosis of nerves; but we know not that nervous influence is retrograde or lateral. We suspect, therefore, that the nervous energy, like the arterial, is increased when any obstacle has been interposed; and by this increase the functions are, at least in some degree, restored.

Mr. Pott observes, that, in compliance with custom, he hath called this disease a palsy; but that, notwithstanding the limbs be rendered almost totally useless, yet there are some essential circumstances in which this affection differs from a nervous palsy: the legs and thighs are rendered unfit for all the purposes of loco-motion, and have lost much of their natural sensibility; but they have not the flabby feel of a truly paralytic limb, that seeming looseness at the joints, nor that total incapacity of resistance which admits of motion in almost all directions: on the contrary, the joints have frequently a considerable degree of stiffness, particularly the ankles, so that the feet of children are generally pointed downwards; and they are prevented from setting them flat

on the ground: the legs of the patient are either constantly kept stretched out, and considerable force is required to bend the knees, or they are by the action of the stronger muscles drawn across each other, and require as much to separate them. When the leg is in a straight position, the extensor muscles act so powerfully as to require a considerable degree of force to bend the joints of the knees; and when they have been bent, the legs are immediately and strongly drawn up, with the heels towards the buttocks; by the rigidity of the ankle bones, added to the spasmodic action of the gastrocnemii muscles, the patient's toes are pointed, as we have said, downwards in such a manner as to render it impossible for him to put his feet flat on the ground; which makes one of the decisive characters of this distemper. Thus the marks of distinction between this disease and the palsy are sufficiently strong to show the impropriety of confounding them, and from the slightest attention the two diseases may be easily distinguished.

The restoration of the spine to its natural figure depends much on the early administration of the help proposed: though the distemper may be so far cured, as the patient may recover the use of his limbs, yet it is seldom possible to correct the curvature of the spine; and if the bodies of the vertebræ become completely carious, and the intervening cartilages are destroyed, no assistance is to be expected from any remedies. After the discharge produced by art for the removal of this disorder hath continued for some time, the patient begins to feel better health, he gradually recovers his appetite, is refreshed by his sleep, hath a more quiet and less hectic pulse; but the chief relief is from the loss of the distressing tightness about the stomach: in a little time a warmth and sensibility are felt in the thighs, to which the patient hath been long a stranger; and nearly about the same time the power of retaining and discharging the urine and fæces begins to be in some degree exerted. The first return of the power of motion in the limbs is rather disagreeable, as it is involuntary and spasmodic, principally in the night, and generally attended with sense of pain in all the muscles exerted. At this point it is not uncommon for the patient to remain for some time without making farther progress: this in adults occasions impatience, and in parents despair; but in the milder cases, the power of voluntary motion generally soon follows the involuntary. The knees and ankles by degrees lose their stiffness, and the patient can set his feet flat upon the ground—a certain mark that the power of walking will soon follow. The joints, no longer rigid, are weak; and the first voluntary motions are liable to great variation, from a number of accidental circumstances, both external and internal. The first attempts to walk are feeble, irregular, and unsteady, and bear every mark of nervous and muscular debility; but from this point no instance hath occurred in which the full power of walking was not soon attained. When the patient can first walk, either with crutches or between two supporters, he is generally unable to resist or overcome the more powerful action of the stronger muscles of the thighs over the weaker, by which his legs are frequently brought involuntarily across each other, and he is suddenly thrown down. Adults find assistance in crutches, by laying hold of the chairs or tables; but for children a go-cart is the best assistant: it should reach up to the arm pit, and enclose the whole body. This takes off all inconvenient weight from the legs; and, at the same time, enables the child to move them as much as it pleases. Or the instrument of Mr. Jones should be worn, which, in all cases, would be serviceable, and in many a perfect cure, as it acts by taking off the superincumbent weight from the diseased vertebræ. See his Essay on Crookedness.

While the curvature of the spine remains undiscovered or unattended to, the case is generally supposed to be nervous; and nervous medicines are as generally administered, without advantage. When the case is known, recourse is too frequently had to steel stays, swings, screw chairs, &c. to restore the spine to its natural figure; but still the patient grows unhealthy, and, languishing under a variety of complaints, dies in an exhausted, emaciated state.

The remedy for this dreadful disease consists merely in procuring a large discharge of matter by suppuration, from underneath the membrana adiposa on each side of the curvature, and in maintaining such discharge until the patient shall have perfectly recovered the use of his legs. The effect of drains in all inflammations is well established; and it matters not by what means the discharge is procured, provided it be large, and from a sufficient depth.

In general, an eschar is made on each side of the curved part of the spine with a caustic: it should be of an oval shape, about an inch and a quarter in length, and three quarters of an inch in breadth, at the broadest part. Apply each caustic near the side of the curvature, so as to leave the portion of the skin covering the spinal processes of the protruded bones unhurt, and so large that the sores upon the separation of the eschars may easily hold, each, three or four peas in the case of the smallest curvature, but in large curves at least as many more. A few days after applying the caustics, the sloughs begin to loosen: it is then proper to cut out all the middle, and put into each a large kidney bean: when the bottoms of the sores are become clean in suppuration, sprinkle now and then a small quantity of finely powdered cantharides on them, by which they are prevented from contracting, and the discharge is increased. The issues should be kept open until the cure is complete; that is, until the patient has not only the perfect use of the limbs, but also his former good health. By means of this discharge, the inflammation is checked, and the cartilages between the bodies of the vertebræ having been previously destroyed, the bones are united with each other. No degree of benefit, nor any tendency towards a cure, is to be expected until the caries be stopped: the larger the quantity of bones diseased, and the greater the degree of waste committed by the caries, the greater must be the length of time required for its correction, and for restoring to a sound state so large a quantity of diseased parts. Nothing can be more uncertain than the time required to accomplish a cure: sometimes it is perfected in two months, and at others it requires two years; in the last circumstances, two thirds of the time have passed without any sensible amendment.

The discharge by means of the issues is principally requisite for the cure; yet every assisting means should be applied at the same time, in order to expedite it, such as the bark, cold bathing, frictions, &c. Yet, as we have already observed, general tonics and sea bathing

have at times effected the cure without the issues; and in that case, nature, unassisted, restores the use of the limbs.

In the course of lecturing, in the year 1781, Mr. Pott observed, that it seems to be one of the few things that we may reason upon à priori, viz. that the whole train of the various symptoms of this disease are derived originally from a constitutional predisposing cause; for, whenever, in a curvature of the spine, the discharge begins to have any effect, the lesser symptoms, if they may be so called, as pain in the stomach, tightness across the breast, incapacity of holding the urine or fæces, all give way, before the removal of the lameness from the curve begins to take place.

It is to be observed, a curvature of the spine may take place from the *mollities ossium*, the rickets, and from other causes of caries. An aneurism often produces a caries in the bones; so an aneurism near a vertebra may render it carious: the venereal disease sometimes attacks the vertebræ, and produces the same effect. The scrofula is said to be the constant cause of the angular protuberance, attended with a useless state of one or more of the extremities: but may not any cause, that produces a caries in the vertebræ, occasion the angular instead of the curved appearance of the spine? and when the carious vertebra happens, so as that it is nearly destroyed, may not all the same symptoms proceed from its destruction, though the causes of the caries were various?

See Pott's Works on this subject; Jones's Essay on Crookedness; Select Cases of the Disorder commonly called the Paralysis of the Lower Extremities, by John Jebb, M. D. edit. 2; Bell's Surgery; Lond. Med. Journal, vol. vi. p. 358; Earle on the Distorted Spine.

DISTO'RTOR O'RIS MU'SCULUS, (from *distorqueo, to wrest aside*). See Zygomaticus minor musculus.

DISTRA'CTIO, (from *distraho, to draw apart*). In chemistry it is a forcible division of substances before united, either by separation or calcination.

DISTRIBU'TIO, (from *distribuo, to divide*). Distribution. It sometimes implies separation. In medicine it relates to the nutricious juices, and is the same as *anadosis*, the distribution of aliment over the body; or to the excrements, and is then the same as *diachoresis*, or *diachorema*.

DISTRICHI'ASIS, (from δις, *double*, and θριξ, *a hair*). *Distichia, distichiasis.* A disease of the eyelid, which consists in its having a double row of hairs, or at the least supernumerary ones. Galen, and Ætius. See Trichiasis.

DI'STRIX, (from the same). The hair growing smaller and smaller.

DIURE'SIS, (from δια, *by*, and ουρον, *urine*,) the excretion of urine. It also signifies a diabetes.

DIURE'TICA. Diuretics, (from δια, *by*, and ουρον, *urine*). Medicines which are suited to promote the secretion and provoke the discharge of urine, either by increasing the quantity of water in the mass of blood, or by introducing a matter that may stimulate the kidneys. When medicines are designed to pass off by urine, walking gently in a cool air will assist their action; but considerable warmth directs them to the skin, or at least restrains their efficacy.

The object of this discharge is to carry off various substances, either injurious or no longer useful to the constitution. The principal of this is the urea, or, as it is sometimes called, the *uric acid*. With this we find muriat of potash and soda, phosphat of soda, lime and ammonia, with an excess of phosphoric acid, and an animal extractive matter. The greater number of these are the products of the animal economy, and they are thrown out as injurious. The animal matter has been styled *effete*, a word of no very distinct meaning; but, from the symptoms of disease, it appears to be that matter which is no longer adapted for the different functions of the organ of which it makes a part, but is absorbed and evacuated as excrementitious. See Urine.

The importance of this discharge is sufficiently obvious from the facts before us; and, when retained, the most violent symptoms follow. To obviate these, it is often necessary to restore it; and diuretics are medicines by which this object is effected.

From this view it appears that the mere evacuation of a watery liquid is not sufficient. In many fevers the water is sufficiently copious; but we find no portion of the necessary contents, and some febrile complaints are apparently kept up by their retention. We can often procure a mere watery discharge by frequent draughts of fluid; but it is frequently returned as pure as it is drunk; and, in dropsy, where we want only the discharge of fluid, we gain little, if only what we pour in is thus returned.

One singularity respecting this discharge has occasioned considerable surprise; we mean the very short time sometimes required for the evacuation of watery drinks, and the little impregnation which they receive. It has led to a suspicion that some ducts lead immediately to the kidneys from the stomach: but they have been sought for in vain; and, when we reflect on different facts respecting the secretions, we shall be led to suspect that it is not the same fluid which is evacuated, but that, when a supply is at hand, nature discharges a portion of fluid to prepare for its reception. Thus, at the sight of tempting food, the secretion of the saliva, and probably of the secretions of the stomach, are increased; and, in the opposite scale, when the child is put to the breast, the sense of thirst is immediately felt.

Watery liquids alone will not excite, in any effectual degree, the action of the kidneys; but, if impregnated with the farinacea, or sometimes only with our indigenous aromatics, so as to become subject to the digestive power, they will succeed. In general, diuretics are to be divided into *cooling*, *sedative*, and *stimulant*. The cooling diuretics are the alkalis, chiefly carbonated, or supercarbonated; for the diuretic power of the pure alkalis is doubtful, except in the form of soap. The carbonic acid, when combined with alkalis in various mineral waters, and sometimes alone in water, is equally effectual; and all the neutrals, with either the fixed or the volatile alkali, occasionally act in the same way: the most powerful of the latter is the acetated ammonia.

Vegetable acids, either native or the product of fermentation, are considered as diuretics, and belong to the first order. All the vegetable fruits, particularly of the senticosæ, and all the oleraceous plants, are of a similar nature, though weak in their powers. To assist their action the skin must be kept cool, and every stimulus

avoided; indeed, cold alone, or by means of water, applied to the skin, has a similar effect.

The *sedative* diuretics are more numerous than authors have supposed. The foxglove is at the head of the list; and the squill, though referable to the following order, seems to owe, in part, its virtue to its sedative power. The tobacco, the wild lettuce, the broom, the ice plant, the winter cherry (physalis alkekengi), the wolf's bane root (doronicum pardalianches), opium, which sometimes acts powerfully in this way, the woody nightshade (solanum dulcamara), the rue and savine, if diuretic, with some others, are of this class. They act, as already explained, under the article CATHARTICS, by the general relaxation they produce as deleterious substances. They are of doubtful efficacy, and should be always used with caution. See DIGITALIS.

The *stimulating* diuretics are chiefly vegetable. We borrow one only from the mineral kingdom, though of doubtful origin and efficacy, viz. the naphtha; and two from the chemists, nitrous ether, and oil of wine. Various are the plants arranged among the diuretics of this nature in the authors on the materia medica. Many of the umbellatæ; the most effectual of which are species of apium and daucus (parsley and wild carrot roots and seeds); the stellatæ; the asparagus, bardana, and seneca; the siliquosæ, the alliaceæ, coniferæ, and liliaceæ: of the siliquosæ, the erysimum is most effectual; of the alliaceæ, the allium and squill; of the coniferæ, the juniper; of the liliaceæ of Murray, the colchicum.

The balsams and resins merit our notice also in this place. The former may derive, in part, their virtue from the benzoic (perhaps the vegetable) acid; but there is reason to think that the oil contributes to the effect. The various turpentines are perhaps the most powerful. The Canada balsam is from a species of pinus, and the Chio turpentine from a similar vegetable, the pistaceæ terebinthus. The balsam copaiba, the gum guaiacum, the balsam of Peru, and the gum benjamin, follow in their order; though, as we advance in the list, the powers are weaker, and almost disappear. From some analogy, either botanical or therapeutical, the warm antispasmodic gums have been occasionally added to the diuretics. They may have some effect when the discharge is occasionally checked by spasm; but the olibanum, from a species of juniperus, and the styrax, from other analogies, have the fairest claim to our regard as diuretics. Mercury, which is so generally a stimulant, and sometimes acts on all the variety of glands, is occasionally directed to the kidneys.

The more immediate action of diuretics is connected with the general doctrines of secretion. It is sufficient to remark at present, that the greater number, by their chemical affinity, are confined to that portion of blood from which the urine is derived, the serosity. The stimulant diuretics are said to possess what is styled a specific power on the kidneys. This we must sometimes admit, when a better reason cannot be assigned; but, in this class, the stimulus is by no means confined. Many of the diuretics, by proper management, are sudorific, which may be, in part, explained from their chemical affinity; but they are also expectorant, and occasionally cathartic. In fact, the union of a vegetable acid with a warm oil, which constitutes the balsams and the turpentines, obeys the chemical affinity of either, according to the state of the constitution, or accidental circumstances. Of the action of the sedative order we have already spoken.

Of the use of diuretics in fevers we are not prepared to speak. If the contents of the urine are retained, it will appear, at first sight, an obvious measure to restore the action of the kidneys by diuretics; but the attempt would fail. When the fever relaxes the obstruction, the proper discharge returns; but the cure of fevers is one of the arcana which we cannot yet fathom. It is sufficient if we can assist nature, and conduct them safely to their termination.

The abuse of diuretics, particularly of mineral waters, has been much insisted on. In fact, the long continuance of these medicines, when they produce the discharge, greatly relax the urinary and adjacent organs, and occasion a variety of distressing complaints.

See Hoffman's Med. Rad. Syst. Alexander's Exper. Essays, p. 149, &c.

DIURETICUS SAL. DIURETIC SALT; *acetated kali*, *sal Sennerti*, *tartarus regeneratus*, and *arcanum tartari; terra foliata tartari; essentiale sal.* It is a fixed vegetable alkaline salt, saturated with the acetous acid, and evaporated to dryness: when the process is carried no further, it is of a brownish colour, somewhat oily, and is called *tartarum regeneratum*. When purified to perfect whiteness, it is *sal diureticus*.

Acetated kali is prepared by boiling one pound of kali with four or five pints of distilled vinegar over a gentle fire: when the fermentation ceases, more distilled vinegar must be added, and when the fermentation subsides, still more. When the vinegar is nearly all evaporated, fresh vinegar will not excite any fermentation, which usually happens when about ten quarts have been used: then gently evaporate to dryness. The impure salt is to be melted for a time with a gentle heat, dissolved in water, and filtered through paper. If the melting hath been duly performed, the filtered liquor will be colourless: if otherwise, of a brown colour. The water is then to be evaporated with a very gentle heat, in a shallow glass vessel; the salt, as it dries, being frequently stirred, that the humidity may the sooner and more completely be discharged. It should be kept in a vessel close stopped, or it will dissolve by the moisture of the air. If, on dissolving a little of it in water, or the spirit of wine, any fæces are observed in either of these liquids, the whole must be dissolved in spirit, filtered, and again evaporated. Pharmac. Lond. 1788.

To succeed completely, the salt must be perfectly saturated with the acid, properly calcined, and at last dried, without too much heat. The first is ascertained by dipping a coloured paper into it, as directed in the article SPT. MINDER. The degree of calcination may be judged of, by dropping a little in water, and observing when it begins to part with its blackness readily: if, after this, the calcination is continued, the salt will be brownish. In the last drying, care must be taken not to melt it; for thus its whiteness will be lessened, in consequence of a decomposition of a portion of the acetous acid, and a deposition will take place on dissolving it in spirit, as the carbonate of potash is insoluble in alcohol.

The only use of rendering this salt white by depriving it of its oil, or carbone—for it is uncertain to what the colour may be owing—is, that it may rest more easily on weak stomachs; but if the process was carried on no

further than to saturate the alkaline salt, if the evaporation of the liquor was performed in a water bath, the oily part of the salt would not have an empyreumatic flavour, so as to become offensive; the remaining trouble would be spared, and a medicine of equal goodness obtained.

Dr. Lewis directs the salt of tar to be dissolved in cold water, and filtered, and then this solution to be saturated with distilled vinegar: after which the evaporation is to take place over a very gentle fire, so that the liquor may not boil, until a pellicle appears on its surface: the process must be finished in a water bath; the pellicle, as it whitens, must be taken off, and the fluid continually stirred, until the whole is taken away in the form of a white scum, which may be dried in an oven.

In making this salt, care should be taken to use a pure alkali, in which no neutral is mixed; but, in general, a mixture of the salt of tartar with vinegar, to a point of saturation, without evaporation, or any other trouble, is very little, if at all, inferior. Two drachms of the alkali saturated with vinegar, it is said, have been very successful in dropsies.

Some chemists have proposed making this salt by a decomposition of acetite of lead by carbonate or sulphate of potash. It may be very readily prepared by using the acetous acid separated from an acetated kali, made with common vinegar, by means of sulphuric acid.

In doses of about twenty or thirty grains, this salt is a mild, cooling aperient and diuretic; from a drachm to half an ounce it is purgative. As a purgative it is mild and easy, and as it is diuretic also, it is a peculiarly proper purgative in dropsies. In the jaundice and similar complaints this salt may be given to advantage, and preparations of steel afterwards employed. See Lewis's Mat. Med. Neumann's Chem. Works.

DIU'RNUS, (from *dies, a day*). An epithet of diseases whose exacerbations are in the day time.

DIUTU'RNUS, (from *diu, a long time*). Applied to diseases it signifies chronical.

DIVARICA'TUS, (from *divarico, to spread asunder*). In botany it means the branches spread wide asunder.

DIVARICA'TION, in medicine, signifies often the intersection of muscular or tendinous fibres.

DIVE'RGENS, (from *divergo, to separate,*) branches proceeding horizontally from the stem.

DIVERSO'RIUM, (from *diverso, to resort to*). See RECEPTACULUM CHYLI.

DIVERTI'CULUM. A DEVIATION, chiefly applied to an unusual course of the intestine. Nuck applied this term to the opening through which the round ligaments of the uterus pass.

DIVI'NUM O'LEUM. See LATERITIUM OLEUM.

DIVI'NUS; appertaining to, or coming from, God. A pompous epithet of many compositions, from their supposed excellencies.

DIVI'NUS LA'PIS. The name of a preparation made by fusing alum, saltpetre, and Cyprian vitriol together, adding a small portion of camphor, while fluid.

DIVI'SUS, (from *divido, to divide*). In botany it means divided, separated into two parts.

DIVU'LSIO URI'NÆ, (from *divello, to pull asunder*). An irregular separation of urine, in which the sediment is divided, ragged, and uneven.

DO'CHME. A measure among the Greeks of four fingers' breadth.

DOCIMA'STICA. See CUPELLA.

DOCIMA'STICE. The docimastic art: the art of analysing fossils.

DOCK. A common plant, of which different kinds are used in medicine, particularly the water dock, HYDROLAPATHUM, q. v. The wood sorrel is sometimes called the *sour dock*. The docks are, in their botanical analogy, nearly allied to the rhubarb.

DOCTILE'TUS. Paracelsus mentions it as a medicine for cancer; but he does not explain what it is.

DO'CTOR, (from *doceo, to teach*). The highest step in medical rank: formerly confined to men who were appointed by authority to direct the application of medicines for the prevention and cure of diseases. At this time the term is most shamefully prostituted; for, so far from being confined to men who have had the honour conferred upon them from merit, and a proper education, it is as liberally bestowed upon the most ignorant pretenders.

DOD. An abbreviation of Remberti Dodonæi Stirpium Historiæ Pemptades sex.

DODECADA'CTYLON, (from δωδεκα, *twelve*, and δακτυλος, *finger's length*). See DUODENUM.

DODECA'NDRIA, (from δωδεκα, *twelve*, and ανηρ, *husband*). The eleventh of Linnæus's classes of plants. It comprehends those plants which produce hermaphrodite flowers, and have from twelve to nineteen stamina. The five orders are taken from the number of the pistils.

DODECAPHA'RMACUM, (from δωδεκα, *twelve*, and φαρμακον, *a medicine*). See APOSTOLORUM UNGUENTUM.

DOCECA'THEON, (from δωδεκα, and τιθημι, *pono*). The name of an antidote which consists of twelve simples, described by P. Ægineta; and of the SANICULA.

DO'DRA. A potion among the ancients, consisting of nine ingredients.

DO'DRANS, (see CYATHUS,) the name also of a measure of nine inches, and a weight of ten ounces.

DŒ'DYX, (from δοιδυξ, *a pestle and mortar.*) See COCHLEARIA.

DO'GGA. An Arabic term for the *paronychia*.

DOG AND DUCK WATERS. This spring is situated in Surrey, about half a mile from Westminster bridge. Its solid contents appear different at different times. Dr. Hales obtained from one gallon 324 grains; Dr. Fothergill, 200; Dr. Rutty, only 96. Of this about $\frac{1}{12}$th part is an earth, which, Dr. Rutty says, is soluble in acids, but does not calcine to lime: the salt is vitriolated magnesia and sea salt mixed together. Drunk from one to three pints, it generally purges briskly. See AQUÆ CATHARTICÆ AMARÆ.

DO'GMA, (from δοκεω, *to be of opinion*). It is a principle, tenet, or settled opinion, with regard to matters of faith or philosophy: in medicine, a sentiment founded on established principles, whatever may have been their basis. Hence,

DOGMA'TICUS. DOGMATIST. A sect of ancient physicians, of which Hippocrates is supposed to have been the first. They supposed principles drew conclusions, and applied those principles and conclu-

sions to particular diseases: hence were they called *logici*, logicians, and were distinguished from the empirici and methodici. They are what are at present styled regular scientific physicians, in opposition to quacks and Brunonians.

DOLABRIFO'RMIS, (from *dolabra*, *an axe*, and *forma*, *likeness*). In botany it means shaped like an axe.

DO'LICHOS, (δολιχος). *Long*, or *prolix*. A POD OF KIDNEY BEAN. See PHASEOLUS ZURRATENSIS.

DO'LICHOS SOIA, Lin. Sp. Pl. 1023; the plant which affords the soy. See CONDIMENT.

DO'LICHOS PRURIENS, Lin. Sp. Pl. 1019. From the bean of this plant the hairy covering is scraped, and given to destroy worms. See ANTHELMINTICA.

DOLOI'RES. See DELIGATIO.

DO'LOR. PAIN; *algema*. Boerhaave, and most other authors on this subject, assign a stretching of the nerves as the only immediate cause of pain: but this is a partial view of the subject, since compression, irritation, and many other causes, concur. See the articles CEREBRUM, NERVI, and SYMPATHIA.

Many kinds of pain are described by authors; as a gravitative pain, or a sense of weight on the part affected, as the liver; a pulsative pain, which always succeeds some remarkable inflammation in the containing parts, and is a symptom of suppuration; a tensive or a distending pain, excited by the distention of some nervous, muscular, or membranous part, from a fluid, or flatulence; an acute pain, when attended with quick and lively sensations; a dull pain, when attended with numbness.

The mediate and more remote causes of pain are generally obvious, and the cure will consist generally in removing them; for though, in many instances, the chief complaint is very distant from the seat of these causes, yet their removal is the most effectual method of relief. For these methods we must refer to the particular articles.

When pain is owing to inflammation, the pulse is quicker than in a natural state, generally full, hard, and tense; the pain is equal, throbbing, and unremitting.—If a spasm is the cause, the pulse is rarely affected; at intervals the pain abates, and then returns with a considerable degree of aggravation; gentle motion sometimes abates the pain; but in inflammatory pains no such relief is ever experienced.

The pains so frequently attendant on child-bed women, called after pains, from their occurring after delivery, are often occasioned by coagulated blood, which excites the action of the uterus to discharge it. Care should be taken not to confound them with the pains attending puerperal fevers, or the colic. After pains come by fits, and soon go off, but return at different intervals, usually longer each day, and after two or three days generally cease. Notwithstanding these pains, the lochia flow properly; but the violence of the pain is generally followed by the discharge of clots of coagulated blood. This is not the case in colic; and puerperal fever is attended with shivering and tumefaction, with soreness on the abdomen.

As these pains are spasmodic, opiates, with frequent draughts of warm caudle, camomile tea, &c. are only necessary. See PUERPERALIS FEBRIS.

Pain forms, with some nosologists, a class of diseases, under the denomination PAINFUL DISEASES, because pain is the characteristic symptom and constant concomitant of such complaints, as gout, rheumatism, and colic, and these all arise either from irritation, spasm, or distention; but most commonly from the first often inducing the two last.

When pains arise on taking cold during the use of mercury, which is not unfrequently the case, a continuance or a repetition of the mercurial course is the only cure. See the third volume of the London Medical Observations and Inquiries, p. 244.

DO'LOR FACIEI CRUCIANS. We have adopted this little change from Dr. Fothergill's appellation of the *tic douloureux*. In fact, it is a pure unmixed pain, from a nervous affection only; and, when we consider the subject of nosology, we shall find, in this, and some other diseases, a strong inducement to form an order or class of DOLORES.

It is an affection of a branch of the fifth pair of nerves, which passes through the infra orbital foramen to the cheeks. The pain is most excruciating, not constant, but not regularly intermittent, or ushered in by a febrile paroxysm. Opiates scarcely lull its violence, and the only remedy is the division of the nerves. It has been said that the pain returns after the operation; but we have no evidence that nervous sensation is communicated through the medium which unites the end of the wounded nerves, though some sensation is referred to the part, from an affection of the trunk, or superior branches. If there was the slightest suspicion of this kind, a portion of the divided nerve might be cut off, so that the extremities would be no longer in contact. A more common cause of the failure of the operation is, that the trunk of the nerve, when it escapes from the foramen, is not divided; but some principal branch has been mistaken for it. Dr. Fothergill, in a late treatise on the subject, has collected all that has been said on the TIC DOLOUREUX, q. v. The name is derived from the pungent stroke with which the pain attacks, resembling the bite of an insect.

DOLO'RES, vel DOLOROSI, EXTRI'NSECI, and INTRI'NSECI. Painful diseases of the limbs or internal parts.

DOME'STICUS, (from *domus*, *a house*). DOMESTIC. In zoology it signifies animals fed at home, in distinction from those which are wild. It botany it signifies cultivated; in pharmacy, some medicines prepared for a family without the direction of a physician.

DOMI'NICUM SERPE'NTUN. See BOICININGA.

DO'RCAS, (from δερκω, *to see*; from the acuteness of his vision). See CAPRA ALPINA, and CAPREOLUS.

DO'REA. See HEMERALOPS.

DO'RIA NARBONE'NSIUM; from Andrew Doria, who brought it from Africa. *Damasonium*, *lobelii*, and *mathioli*; *alisma*; *alisma damasonium* Lin. Sp. Pl. 486. DORIA'S WOUND WORT. It grows on the banks of rivers, flowers in July and August, and is commended as a vulnerary, but not much employed.

DO'RIA HE'BRA. See VIRGA AUREA.

DO'RIDIS HU'MOR. See AQUA MARINA.

DO'RIS, (from its country). See ANCHUSA.

DORO'NICUM, (from the Arabic term *dorongi*). LEOPARD'S BANE.

DORO'NICUM AUSTRI'ACUM, GERMA'NICUM. See ARNICA MONTANA.

DORO'NICUM ROMA'NUM; *doronicum radice scorpii, aconitum pardalianches*, BROAD LEAVED LEOPARD and WOLF'S BANE; *doronicum pardalianches* Lin. Sp. Pl. 1247, var. β.

It is a native of the Alps; cultivated in our gardens; hath heart-shaped leaves, and roots that are knotted, and resemble a scorpion's tail. It flowers in June and July. The roots are sweetish to the taste, slightly aromatic, and extolled in epilepsies; but they are neglected at present in our practice. The plant is supposed to be the *duronego* of the Arabians.

DORSA'LIS, (from *dorsum, the back,*) belonging to the back. In botany it means a plant which bears its seed on the back of its leaves. The filices are, on this account, termed *dorsales*.

DORSA'LES NE'RVI, (from *dorsum, the back,*) the nerves which pass out from the vertebræ of the back. These dorsal nerves, as soon as they pass from the vertebræ, send out two branches anteriorly, called *costales*, which contribute to form the intercostal, and several twigs backwards to the muscles. The dorsal nerves go to the internal and external intercostal muscles, running on the under side of the ribs: those that supply the true ribs extend as far as the sternum; those that go to the spurious ribs are dispersed on the muscles of the belly. The first dorsal nerve goes to the axilla, to join the cervical; the last is diffused over the transversalis and obliqui interni; and at the spine of the os ilium it throws a branch out, forming a cutaneous nerve on the hip.

DORSTE'NIA, (from Dr. Dorston). See CONTRAYERVA.

DORSUM. The BACK. Most etymologists derive it from *deorsum*, because it bends downwards; *antisternon*, and *metaphrenon*; but this last appellation properly means the part between the shoulders. We use the term back in a figurative sense, as the back of the head; and the epithet dorsalis is applied to diseases originating apparently from the back.

A gibbosity is a preternatural incurvation of the spine of the back, either to the posterior or to the lateral parts. It generally happens from external causes, as blows, tight stays, &c.; sometimes from a relaxation of the ligaments of the belly, or from scrofula. Gouey gives an instance of it from a preternatural contraction of the muscles of the belly. See Heister's Institutes of Surgery, and DISTORTIO SPINÆ.

DORY'CNIUM, (from δορυ, *a dart*). See CISTUS.

DOSE. The quantity of medicine directed to be taken at once. See POSOLOGIA.

DO'THIEN. See FURUNCULUS.

DOUCHE LA. See DUCCIA, and STILLICIDIUM.

DOVE'RI PU'LVIS, (from its inventor *Dover.*) See *Pulv. ipecacuanhæ compt.* under IPECACUANHA.

DRA'BA, (from δρασσω, *to seize*; so called from the sudden effect on the nose of those who eat it,) *lepidium Arabis*; ARABIAN MUSTARD and TURKEY CRESSUS. *Iberis umbellata* Lin. Sp. Pl. 906? The seeds serve as pepper in seasonings, but are not used as a medicine.

DRA'CHMA, (from the Hebrew *drachmon*). Among the Greeks this was the name of a coin; and of a weight divided into six oboli. The Romans reckoned eight drachms to an ounce, and twelve ounces to a pound: in our apothecaries' present weights, the drachm makes three scruples, or sixty grains.

DRA'CO, (from δρακων, *a dragon*; because its flowers resemble the mouth of a dragon,) *tarachon, dracunculus hortensis, abrotanum lilii folio*, TARRAGON. *Artemisia dracunculus* Lin. Sp. Pl. 1189.

The leaves of this herb resemble those of hyssop, and their scent that of fennel: the flowers grow on the top of the plant, and appear like those of southernwood. It grows in gardens, and flowers in July and August; is warm and stomachic, used as a condiment, but not employed in medicine.

DRA'CO A'RBOR I'NDICA SILIQU'OSA. See ANGSANA.

DRA'CO FI'GENS. The name of an anti-epileptic powder extolled by Dolæus.

DRA'CO SYLVE'STRIS. See PTARMICA.

DRACONTHÆ'MA, (from δρακων, *a dragon*, and αιμα, *blood*. See SANGUIS DRACONIS.

DRACO'NTIA. See DRACONTIUM.

DRACO'NTIA, MINOR. See ARUM.

DRACO'NTIA MA'CRA. See DRACUNCULI.

DRACO'NTIDES; the name of some veins proceeding directly from the heart.

DRACO'NTIUM, (from δρακων, *a dragon*; from its root resembling a dragon's tail,) *dracunculus polyphyllus, colubrina, dracontia, Erva de Sancta Maria, gigarus serpentaria, arum polyphyllum*, DRAGON'S and MANY-LEAVED ARUM. *Arum dracunculus* Lin. Sp. Pl. 1367. It is a plant with smooth glossy leaves, set on long pedicles; the stem is single, thick, whitish, and variegated with purple streaks; on the top is a long sheath, including a dark coloured pistil, like that of arum, but larger, succeeded by a cluster of red berries. The root is large, rather round, externally inclining to yellow, and internally white. It is perennial; a native of the southern parts of Europe.

Its botanical analogy and its medical virtues render it a good substitute for the arum; and the same pharmaceutic treatment is necessary. See ARUM.

DRACU'NCULUS HORTE'NSIS, (a dim. of *draco*). See DRACO.

DRACU'NCULI, (from δρακων, *a serpent*). GUINEA WORMS; called also *capillares vermiculi*, TAPE WORM, and SOLITARY WORM. The Arabians call it *Medinensis*, vel *medena vena*. They styled it *vena*, because they doubted it being a living animal, and *Medinensis* from the frequency of its appearance at Medina. Hence Avicenna treats of it among abscesses. Le Clerc and many others mistake them for the *bovina affectio*; but Ætius separates, and Albucasis distinguishes them with great care.

Dr. Freind thinks that Ætius first gave an account of these worms; but Plutarch quotes Agartharchides on this subject long before Ætius. Plutarch calls them δρακοντια μακρα.

They are common in both the Indies, in most parts of Africa, occasionally in Genoa, and other hot countries.

"These worms resemble the common worm, but are often much larger; commonly found in the legs, but sometimes in the muscular part of the arms. They are bred in Ethiopia and India, principally affecting children; and their generation is not unlike that of the broad worms of the belly; hence their name TAPE

worm. While they move under the skin they create no trouble; but in length of time the place near the dracunculus suppurates, and the animal puts forth its head. If it be drawn, it excites considerable uneasiness, especially if drawn so forcibly as to break it; for the part left within creates intolerable pain." (Ætius in Tetrabib. 4. serm. 2. cap. 85.) Paulus Ægineta mentions them as being always seated in the muscular parts of the thighs, legs, and arms; and he says, that sometimes they are met with in the sides of children. Avicenna observes, that these worms are from ten to fifteen palms long. Albucasis mentions one of twenty palms. In the sixth vol. of the Edinb. Med. Essays, mention is made of one that was three yards and a half in length.

In some instances, besides the pain which these worms occasion, a fever is also a consequence.

Kempfer observes, that these worms prevail most when the weather is hottest; and he attributes their production to drinking stagnant rain water. Dr. Towne. in his Treatise of the Diseases of the West Indies, properly describes this worm as being long, white, round, and resembling round tape or bobbin.

Nothing is necessary until a tumour comes on; and then the best method is to promote suppuration: as soon as the tumour is open, the head of the worm appears, which, being tied by a thread, may be secured on a roll of linen spread with sticking plaster, and as the worm appears, it may be rolled round this linen, until the whole is extracted; after which, the treatment is in no respect uncommon. During the time that this worm is drawing out, the greatest care is necessary that it may not be broken, for the consequence of such an accident is tedious ulcers in the whole length of the limb which contains the remaining part. A daily use of aloes, or of any other anthelmintic, during the extraction of the worm, is supposed to hasten its expulsion.

DRACU'NCULUS. See Draco, Dracontium.

Dracu'nculus prate'nsis. See Ptarmica.

DRAGACA'NTHA, DRAGA'NTUM. See Gum tragacanthæ.

DRA'GMA, and DRA'GMIS, (from *φραττομαι*). A handful. See Manipulus, and Pugilus.

DRAKE'NA RA'DIX, (from sir Francis Drake, who first brought it from America). See Radix contrayerva.

DRANGÆ'A. A name of several antidotes. See Tragæa.

DRANK. See Ægylops.

DRA'STICOS, (from *δραω*, *to act*, *effect*, or *perform*). Drastic, active. It is an epithet bestowed on medicines of quick action and powerful operation, commonly applied to cathartics of a violent quality. See Cathartica.

DRESDE'NSIS PU'LVIS; an oleo saccharum, containing the oil of cinnamon.

DRIFF. Butler's stone, or some similar preparation; also named *periapton*, *salutis magneticum*; and said to cure diseases by a touch of it with the lips and tongue. Van Helmont.

DRIMYLE'ON, and DRIMYMOROS, (from *δριμυς*, *eager*, *shrewd*, and *λεων*, *a lion*,) a term of reproach bestowed by Menodotus, the empiric, upon the physicians of his time, who professed to govern practice by their reason.

DRIMYPHA'GIA, (from *δριμυς*, *acrid*, and *φαγω*, *to eat*). The eating of acrid substances.

DRO'MA. The name of a plaster described by Myrepsus.

DROPA'CES, and DROPACI'SMUS, (from *δρεπω*, *to remove*). See Ceropissus.

DROSA'TUM, i. e. Rosátum. Wine made of roses infused, or any other composition where roses make the chief ingredient.

DRO'SERON. The name of an ointment in Myrepsus.

DROSIOBE'TANON, (from *δροσος*, *dew*, and *βοτανη*, *an herb*; from its being covered with dew). See Betonica.

DROSOME'LI, (from *δροσος*, *dew*, and *μελι*, *honey*). See Manna.

DRU'PAS, a contraction of *δρυπεπης*, (from *δρυς*, *a tree*, and *πιπτω*, *to fall*). See Olea.

DRYO'PTERIS, (from *δρυς*, and *πτερις*, *fern*; because it grows upon oak trees). See Polypodium tenerum minus.

DRY'PA, the same as drupas. In botany it means a pulpy pericarpium surrounding a stone, as the peach and cherry. See Olea.

DU'BEL CO'LEPH. A composition of coral and amber.

DU'BELECH. The cavity of an abscess, with manifest solution of continuity.

DUBLE'TUS. See Abscessus.

DU'CCIA. A drop. It implies also that species of bathing which we call pumping, and the French *la douche*. Baccius, in his Treatise of Baths, lib. ii. gives rules for this kind of bathing. See also Le Dran's Observations, p. 310.

DU'CIS HOLSA'TIÆ SAL. Nitre.

DU'CTUS, (from *duco*, *to lead*). A duct or canal; a word frequently applied to parts of the body through which particular fluids are conveyed.

Du'ctus arterio'sus. It is found only in the fœtus, and very young children, arising from the aorta descendens, immediately below the left subclavian artery. In adults it is closed up, and appears like a short ligament adhering by one end to the aorta, and by the other to the pulmonary artery; so that, in reality, it deserves no other name than that of *ligamentum arteriosum*.

Du'ctus au'ris pala'tinus. See Tuba Eustachiana.

Du'ctus ad nasum. See Antrum genæ.

Du'ctus biliaris, and Du'ctus commu'nis choledo'chus. See Jecur.

Du'ctus lactiferi. The excretory ducts from the glans of the breast, which convey the milk to the nipple.

Duc'tus ni'gri. On separating the crystalline and vitreous humours from their adhesions to the ciliary processes, part of the black pigment, on the choroides, is left in black radiated lines, which are thus named.

Du'ctus pancreatis opens into the duodenum, near, or often at, an aperture common to it and the ductus communis choledochus.

Du'ctus saliva'lis. See Saliva.

Du'ctus steno'nis. See Salivalis ductus stenonis.

Du'ctus thora'cicus. Thoracic duct. Pecquet discovered and demonstrated it at Paris, 1615, 1652. It is a thin transparent canal, which runs up from the

receptaculum chyli, along the spina dorsi, between the vena azygos and aorta, often above the fifth vertebra of the back; from thence it passes behind the aorta, towards the left side, and ascends behind the left subclavian vein, where it terminates in some subjects by a kind of vesicula; in others by several branches united together, and opens into the back side of the subclavian vein near the outside of the internal jugular. It is furnished with many semilunar valves directed upwards, to prevent regurgitation. Its opening into the subclavian vein in the human body is, in the place of valves, covered by several pelliculæ, so disposed as to admit only the gradual entrance of the chyle into the vein, and hinder the blood from running into the duct. It is sometimes double, one lying on each side; and sometimes it is accompanied with appendices, called *pamphiniformes*. Any compression upon this duct will occasion atrophy, and death; as it prevents the fluids by which the animal is to be nourished from entering the course of circulation. See Monro's Osteology.

Du'ctus veno'sus. When the vena cava passes the liver, in the fœtus, it sends off the ductus venosus, which communicates with the sinus of the vena portæ; but in the adults becomes a flat ligament.

Du'ctus Wha'rtoni. From Wharton the discoverer. The inferior salival duct is thus named from his describing it.

DUDA'IM. See Mandragora.

DUE'LLA. A weight of eight scruples.

DULCA'CIDUM, (from *dulcis*, *sweet*, and *acidum*, *sour*). Any preparation that is sweet and tart, as oxymel.

DULCAMA'RA, (from *dulcis*, and *amarum*, *bitter*). See Solanum lignosum.

DULCE'DO SATURNI, i. e. *cerussa*. See Plumbum.

Dulce'do veneris. See Clitoris.

DU'LCIS RA'DIX. See Glycyrrhiza.

DU'LECH. A term used by Paracelsus and Helmont for a spongy stone generated in the body.

DULWICH WATERS. This well is situated in the county of Surrey, about four miles south east of London-bridge. The water is clear, slightly brackish, and tastes a little bitter in the throat. A gallon at one time yielded two, at another three, drachms of solid matter, containing a small portion of calcareous earth, and a vitriolated magnesia, mixed with a portion of marine salt. From one to three pints in a morning are a dose. See Aquæ minerales.

DU'MUS, (from δύω, *to rest under*). A brush, or Shrub. Bushes send out branches from near their roots; and are distinguished from trees, whose stem rises considerably before any branches are sent out.

DUO'BUS, Sal de. See Nitrum.

DUODENA'LIS, or INTESTINALIS ARTE'RIA, (from *the intestine*, called *duodenum*). As soon as the gastrica dextra hath passed behind the stomach, it sends out the duodenal artery (which sometimes comes from the trunk of the hepatica): it runs along the duodenum, on the side next the pancreas, to both which it furnishes branches, as well as to the neighbouring part of the stomach.

Duodena'lis ve'na. A branch from the vena portæ ventralis, called *intestinalis;* it is distributed chiefly in the duodenum, but sends some branches to the pancreas. A branch of the gastrica has the same appellation, and the hæmorrhoidalis interna gives a branch of this name to the duodenum.

DUODE'NUM, (from *duodeni*, *twelve*). This intestine is thus named from a supposition that its length does not exceed the breadth of twelve fingers; and if measured with the ends of the fingers, the idea is sufficiently correct: it is also called *dodecadactylon*, *ecphysis*, *portorarium*. It begins at the right orifice of the stomach behind the liver; runs backward, and obliquely downward; then turns a second time towards the right kidney, to which it is attached by the cellular membrane. It next passes between the kidney and liver, across the spine about the last vertebra of the back; and it comes out on the left side, behind the root of the mesentery: as soon as it arrives at the mesentery, it forms the jejunum. It is the widest and shortest of the small intestines; indeed it is sometimes called *ventriculus succenturiatus*, an office we have already assigned to it (see Digestion). Its extremity, next the jejunum, is fixed in a course almost perpendicular upwards. It is not entirely covered with the peritonæum, nor contracted by a mesentery; but attached to the neighbouring parts. Its outer coat is surrounded by a loose cellular membrane; the villi in its inside are thicker than in the stomach, and its texture resembles a fungus, as the inner coat is loose, and folded into what are called *valvulæ conniventes*, like the gills of a mushroom. On the edges of these valves are very fine papillæ of different shapes, apparently pierced with many holes, seen only by a magnifier; and in other parts are villous tubercles at different distances from each other. This villous substance contains many capillary vessels, not only conveying red blood, but apparently lymph or chyle. Several follicles are discovered in the cellular substance, which have been considered as the origin of the lacteals. These have been called, from their discoverer, the *ampullæ of Liberkuhn*.

In the inner surface, almost at the lower part of its first turn, there is a longitudinal protuberance, at the point of which is an opening, where the pancreatic and biliary ducts discharge their contents.

As its form is much like that of the stomach, so is its use: it is furnished with fluids peculiar to itself, since not only numerous small glands were discovered by Brunnerus in it, but the pancreatic juice, mixing with the bile, accomplishes, in this intestine, the further elaboration of the chyle: thus the digestion of the aliment, begun in the stomach, is completed in the duodenum. (See Duodenalis arteria et vena.) Its nerves are the middle plexus of the semilunar ganglion, and some filaments of the plexus stomachicus and hepaticus. The duodenum is connected with the œsophagus by the same coats, and hence they communicate with the coat which surrounds the fauces and the mouth. Like the stomach the duodenum hath a very extensive nervous connection with the other parts of the body.

Of such importance is the duodenum, that Sylvius thinks it the seat of almost all the disorders in the physician's province. Van Helmont agrees with him; and the influence of this part is certainly considerable.

In the circulation, no morbid matter can be discovered; in the stomach and duodenum, a stagnation, and

consequent degeneracy are often produced: if the bile and other fluids stagnate in the duodenum, they soon occasion great anxiety, with other unpleasant symptoms. From this source, viz. the morbid contents of the duodenum, many disorders have been traced; and the opinion is further confimed by the success of emetics, and of gentle purgatives, in the cure of many chronic complaints. Emetics often evacuate the contents of the duodenum by a continuation of the inverted motion, as we find by their discharging bile after their continued action. See Monro's Observations on the Intestines, in the Edinburgh Essays, and Frederic Hoffman on the Duodenum.

DUPLICA'NA, (from *duplex*, *double*.) See TERTIANA DUPLEX.

DUPO'NDIUM. A weight equal to four drachms.

DU'RA MATER, (from *durus*, *hard*, and *mater*, *mother*). It is so called from its hardness, compared with that of the pia mater, and from its being the source of all the other membranes; *omenta cilamides*, *cuticularis membrana*, and *crassa meninx*, to distinguish it from the meninx tenuis or pia mater. See PIA MATER.

The dura mater, to which dermatoides is used as an epithet, from its skin or leather-like appearance, lies contiguous to the inside of the skull; its substance is very compact; white, and glistening like a tendon, and divided into two or more lamellæ. The external surface of this membrane is analogous to the internal surface of the periosteum in all parts of the body; it adheres more firmly to the cranium at the sutures than elsewhere, because of the vessels which run in these, and in the processes which are thrown out. The inner surface of the dura mater is, in general, a smooth membrane, and lies loose upon the pia mater, except at the sinuses, where they are attached by means of the veins which come out from the pia mater; and, sinking into the dura mater, form these cavities. The processes of the dura mater are divided into the external and the internal. The true external are those which line the foramina, which are afterwards lost in the pericranium, or accompany the nerves. These processes are accommodated, in general, to the size and direction of the nerves; but when the processes of the dura mater are mentioned, in general, the internal ones are meant. The longitudinal, or the processus falciformis, or falx (from its shape being like that of a sickle), begins at the crista galli; runs in the direction of the sagittal suture, to the middle of the os occipitis, dividing, as already explained, the cerebrum into two hemispheres; it there forms two transverse processes, which lie between the two posterior lobes of the cerebrum and cerebellum. The glands of the dura mater, spoken of by some old anatomists, do not exist. The sinuses of the dura mater are venal, though their structure and form differ from veins; every section is triangular, and their shape like a prism. The veins are every where pouring their blood into these sinuses from all parts of the brain, and there are several cords going across them, which, from their discoverer, are called *chordæ Willisii*; but the veins and sinuses of the brain have already been described (see CEREBRUM). The principal sinus runs along the processes. The dura mater appears more red than the tendons, because of the arteries which pass over its surface before they penetrate it. The arteries go from side to side, but do not open into the sinuses, as has been asserted. Wherever an artery runs upon the dura mater, it is accompanied with one or more veins, which contribute to make the sulci on the cranium, as well as the arteries. Its principal uses are as a covering for the brain; and it serves as an inner periosteum. The use of the processes is to connect the bones, and of the sinuses to retain the necessary proportion of blood.

The dura mater, when exposed in a living animal, is seen to have a pulsation corresponding to that of the arteries, owing to the systole and diastole of the arteries of the pia mater. When the dura mater is laid bare, it commonly sloughs like a tendon; in some cases it is ossified. The brain is sometimes protruded through the bregma in children, with its covering, the dura mater. Gooch, in his Medical Observations, gives an instance of a fractured skull, when a fluid being perceived under the dura mater, this membrane was cut through with the scissors, and the patient recovered.

The nerves have been said to arise from the fifth and seventh pair; but the modern anatomists do not acknowledge them.

DU'RÆ MATRIS ARTERIÆ, and MENINGEÆ. The DURA-MATRAL ARTERIES. The external carotid artery sends a branch through the spinal hole of the os sphenoidale, which is the middle artery of the dura mater, and is called, by way of eminence, the *artery of the dura mater*. It is divided into many branches, which are dispersed through the substance of the external lamina as high as the falx, where these ramifications communicate with the branches on the other side. The impressions of this artery are seen on the inside of the parietal bones; the anterior and lower angle of which, instead of a simple impression, contain a canal for the passage of a trunk of this artery; on which account, several accidents happen in fractures of the skull. The external carotid sends off another branch, through the superior orbitary fissure, to the dura mater, called its anterior artery; and it receives branches from the carotid and the vertebrals. Winslow calls the first mentioned of these arteries, *spheno-spinalis*. Dr. Hunter observes that the dura-matral artery proceeds from the inferior maxillary artery, and passes through a hole in the petrous part of the temporal bone.

DURA'TUS, (from *durus*, *hard*.) HARDENED; but in Scribonius Largus it means macerated.

DURO'NEGO. BROAD LEAVED LEOPARD'S BANE. See DORONICUM ROMANUM.

DU'TRAY. See STRAMONIUM.

DWARFS; diminutive beings whose growth has been checked by art, or arrested by disease. Their height differs; but, in general, they have exceeded three feet. The Polish Borulawski was, however, but twenty-eight inches; and Bebe, kept by Stanislaus, king of Poland, measured only thirty-three inches. Their intellectual faculties are, however, imperfect: they are lively, but simple; and sharp, but timorous. Borulawski seems to have possessed superior mental powers. It is not easy to assign a cause for such diminutive forms, except their growth is checked by disease, and their forms distorted by confinement in one posture.

DYAMA'SSIEN. See ÆRIS FLOS.

DY'NAMIS, (from δυναμαι, *to be able*). It is the faculty or power from whence an action proceeds.

Galen often uses this word for a composition of a medicine, particularly of an approved one.

DYO'TA, or DISTA, (from δυω, *two*, and ους, ωτος, *an ear*). A PELICAN, OR CIRCULATING VESSEL, WITH TWO HANDLES OR EARS.

DYSÆSTHE'SIA, (from δυς, *difficulty*, and αισθανομαι, *to feel* or *perceive*). A DULLNESS OF SENSATION, OR FAULTY SENSE. Under this term, Dr. Cullen forms his first order of his fourth class *locales*; though in the enumeration of the species he has not adhered closely to the definition. Diseases of this order are synonymous with *hallucinationes*, according to this author, and are considered as complaints whose principal symptom is a depraved or erroneous imagination. He defines them, the senses depraved or destroyed from some defect or fault of the external organs. Privativi are reduced to this head.

DYSA'LTHES, (from δυς, *difficulty*, and αλθω, *to cure*). DIFFICULT OF CURE.

DYSANAGO'GOS, (from δυς, and αναγω, *to subduc*). An epithet for tough viscid matter, which is with difficulty expectorated.

DYSCATAPO'TIA, (from δυς, and καταπινω, *to drink*). A difficulty of swallowing liquids, which Dr. Mead thinks a more proper term than that used for canine madness, viz. *hydrophobia*, as it is more particularly descriptive of the affection under which the unhappy patients labour; but, in reality, they *dread* water from the difficulty of swallowing it.

DYSCINE'SIA, (from δυς, and κινεω, *to move*). Difficulty of motion, from faulty or defective organs: also termed *intemperies*. This is the third order of Dr. Cullen's class *locales*—defined, motions impeded or depraved from the fault of the organs.

DYSCRA'SIA, (from δυς, and κερανυμι, *to mix*). DYSCRACY. An ill temperament or habit of the blood and humours, as in the jaundice and scurvy.

DYSCRI'TOS, (from δυς, and κρισις, *crisis*). Difficult to be brought to a crisis, or brought to an imperfect crisis.

DYSECŒ'A, (from δυς, *difficult*, and ακουω, *to hear*). DEAFNESS, called also *cophosis*. Dr. Cullen places this genus of disease in the class *locales*, and order *dysæsthesiæ*, which he defines, hearing diminished or abolished. He points out two species:

1. DYSECŒ'A ORGANICA, from a fault in the organs, by which sound is transmitted into the internal ear.

2. DYSECŒ'A ATONICA, in which there is no manifest fault in the organs for transmitting sound into the internal ear; but merely a defect of the nervous power. See SURDITAS.

DYSE'LCES, (from δυς, and ελκος, *an ulcer*,) an epithet for such persons whose ulcers are difficult to heal.

DYSE'METI, (from δυς, and εμεω, *to vomit*). Those who vomit with difficulty.

DYSENTE'RIA, (from δυς, *difficult*, and εντερα, *the intestines*). Intestines with difficulty moved, though sometimes called *diarrhœa carnosa* and *dissolutus morbus*, often the *blood flux*, because blood occasionally appears in the stools: this, however, is not always a symptom, nor essential to the disease. Dr. Akenside calls the dysentery a rheumatism in the bowels, and thinks dysentery and rheumatism are the same: the Latins call it *tormina*: Cœlius Aurelianus, a rheumatism of the belly, preceded either by a diarrhœa, a cholera morbus, or a tumour of the abdomen. Dr. Cullen defines it, "a contagious fever, in which the patient has frequent mucous or bloody stools, accompanied with much griping and followed by a tenesmus; the alvine fæces being for the must part retained." The stools, though frequent, are generally small in quantity; the matter voided is chiefly mucus; sometimes blood. At the same time the natural fæces seldom appear; or they are small in quantity, compact and hardened. He places this disease in the class *pyrexiæ*, and order *profluvia*. There is but one species, which varies its name from different circumstances, e. g. *dysenteria castrensis*, from happening in a camp, on account of the soldiers being more exposed to the night air, which produces or aggravates the disease; *dysenteria verminosa*, from being occasionally accompanied with worms; *dysenteria carnosa*, when fleshy or sebaceous lumps are discharged; *dysenteria intermittens*, when accompanied with an intermittent fever; *dysenteria alba*, when the stools are not mixed with blood; *dysenteria miliaria*, when accompanied with miliary eruptions. The others are symptomatic. This disease is sometimes acute; but more frequently of a chronic kind.

As diarrhœa and dysentery equally consist of an increased discharge by stool, the diseases have been generally confounded; and a diarrhœa, especially if attended with a discharge of blood, has been styled a dysentery. The more attentive observation of the moderns has corrected this confusion, from which even the work of Sauvages is not free; though the correction is, in a great degree, owing to the labours of nosologists.

Diarrhœa chiefly consists of the evacuation of fœculent matter, for the stools, even when watery, contain dissolved fæces: in dysentery the stools are retained, and the evacuation, discharged with much straining, is a small portion of mucus only. Each is attended with pain and tenesmus: but in dysentery, the pain and straining are extremely violent. Again: the diarrhœa and dysentery are both occasionally epidemic; the latter is not only epidemic in a more extensive degree, but may be traced by infection. It is sometimes also local in its attacks, and may be traced either to the influence of neighbouring marshes, or alternates, with remitting fevers. In diarrhœa the discharges are sometimes tinged with blood; in dysentery the sanguineous discharge is often considerable: in the former, fever seldom attends, or is inflammatory only; in the latter, the fever is of the nervous and putrid kind; the prostration of strength considerable.

Various observations have been recorded to distinguish the seat of the disease, according as the blood is more or less florid, more or less intimately mixed with the fæces. These are, however, trifling, and in general unfounded. The true seat of the dysentery is the large intestines, generally their lower part; and the disease is immediately owing to a spasmodic stricture producing increased, but ineffectual, exertions on the upper part; and this spasm, to inflammation of the villous coat.

It has been common to seek for the more remote causes in acrimony of the fluids, of the ingesta, of the bile, and the other abdominal secretions. Even Sydenham, who saw clearly that it was a febrile disease,

directed to the intestines, thought it owing to a morbid matter brought by the meseriac arteries. Hippocrates, however, long ago observed, that dysenteries are most common in summers that succeed cold and dry winters, followed by a rainy spring; that they occur also when a dry spring succeeds a rainy winter. Bontius remarks, that the hottest weather produces them when the nights begin to be cold. These are the periods when remittents and intermittents most prevail; when marsh miasmata are the most copious and active; when the exciting cause of cold most powerfully assists their action. In fact, it is a contagious remittent fever, with an erysipelatous affection of the internal coat of the intestines exciting a spasm, and its consequences already described; viz. increased action, sufficient to occasion the discharge of mucus, but not to evacuate the accumulated fæces. This discharge of mucus is common from every mucous membrane, when the action of the organs, which the membrane lines, is augmented, as in the bronchiæ and bladder; and we know that the fæces are retained, both from their not appearing, and from their hardened state on the solution of the disease.

The diagnostics, according to Sydenham's celebrated description, are as follow: "The patient is attacked with a chillness and shaking, which are immediately succeeded by a heat of the whole body; soon after this, gripes and stools follow: it is indeed often not preceded by a fever; but the gripes attack first, and the stools soon succeed. Intolerable gripings, and a painful descent, as it were, of the bowels, accompany every evacuation. The discharges are chiefly mucous, except now and then an excrementitious one intervenes, without any considerable pain. The mucous stools are generally streaked with blood; but sometimes no appearance thereof is seen throughout the disease: nevertheless, if the stools are frequent, mucous, and accompanied with gripings, the distemper may as justly be entitled a dysentery as if blood were discharged along with them. If the patient is in the vigour of life, or hath been treated with cardiacs, a fever arises, and the tongue is covered with a thick, white mucus; and if he hath been much heated, it is black and dry: great loss of strength, a lowness of spirits, and all the signs of an ill-conditioned fever, are joined with it. This disease is attended with extreme pain and sickness, greatly endangering life if unskilfully treated; for, when the spirits are much exhausted, and the vital heat diminished by frequent stools, before the matter can be expelled from the blood, a coldness of the extremities ensues, and there is danger of death, even within the periods of acute diseases. But if the patient escapes for this time, several symptoms of a different kind succeed. Sometimes, in the progress of the disease, instead of the sanguineous filaments, which are usually mixed with the stools in the beginning, a large quantity of pure blood, unmixed with mucus, is voided at every stool; which, as it manifests an erosion of some of the larger vessels of the intestines, threatens death. Sometimes an incurable gangrene seizes the intestines, which is caused by a violent inflammation excited by the afflux of hot acrid matter to the affected parts. At the decline of the disease, aphthæ frequently affect the internal parts of the mouth, especially if the patient hath been kept hot for a long time, and the evacuation of the matter hath been checked by astringents; the fuel of the disease not having been first carried off by cathartics: these aphthæ generally foreshow imminent death. If the patient survives the foregoing symptoms, and the disease proves lasting, the intestines at length seem to be affected successively downwards, till it be driven to the rectum, and ends in a tenesmus; upon which the natural stools occasion great pain in the bowels, the fæces, in their passage through them, abrading the small guts; whereas the mucous stools only offend the rectum during the time that the matter is made and discharged. Though this disease is often mortal in grown persons, and especially in the aged, it is nevertheless very gentle in children, who have it sometimes for several months without any inconvenience, provided the cure of it be left to nature."

The principal distinctions of dysentery into inflammatory, putrid, and malignant, are without foundation, as will be obvious from the following short description. It is evident that these are inflammatory or putrid fevers, with inflammation in the bowels, or putrid diarrhœas.

The *inflammatory dysentery* approaches with a violent fever, and a hard pulse, which in other dysenteries is generally small, and that (only in the progress of the sickness) becomes full; an almost continued and intolerable pain in the belly, which increases on the part being touched, and still more after vomiting; stools very inconsiderable with respect to quantity; a head-ach, red face, and sometimes a distended belly.

A putrid dysentery is distinguished by a bitterness in the mouth, which appears directly on the first attack; a vomiting of bilious matter, which is sometimes also mingled with worms; a shivering that returns in the course of the disorder; the slightness of the fever, the paleness of the countenance, and the variegated colour of the excrements.

Dysente'ria mali'gna. A malignant dysentery is attended in the beginning, or whenever any other kind degenerates into it, by a sudden weakness, great anxiety about the pit of the stomach, heaviness in the head, a heavy, oppressed, sunk countenance, frequent slight convulsions, a weak voice, frequent faintingst miliary eruptions, petechiæ, aphthæ, sickness, and a very weak pulse.

Having distinguished dysentery from diarrhœa, we need not add to the length of the article by enlarging on the distinction between this disease, a bloody flux from piles, or an abscess of the intestines. The description of Sydenham is alone sufficient to establish the diagnosis. The scirrho-contracted rectum sometimes produces symptoms not unlike dysentery. The absence however, of pain, of fever, of the mucous dejections, and the troublesome tenesmus, sufficiently points out the difference.

The explanation of the symptoms, from what has been said, is not difficult. The appearance of the fatty matter, which is less easily explained, seems owing to the diseased state of the glands, from the continuance of the disease, for, apparently, it is not hardened mucus. The skins, in the stools, are probably abrasions of the villous coat. Aphthæ are a symptom of low, long continued fever, from whatever cause it may proceed.

A dysentery commonly begins as an acute disease;

but it degenerates, after some time, into a chronic complaint; and, in that case, to the other symptoms, a decayed appetite, dryness of the skin, sunk features, a lividly yellow complexion, great weakness, and emaciation, are added.

In general, the prognostics are taken from the intenseness of the symptoms, the colour and smell of the stools, the strength of the patient, and the length of the disorder's continuance. It is never without danger, and never to be slightly regarded; for nature alone contributes very little to its cure. There is always danger of a mortification of the bowels, until the disease gives way. When the excrements are of various colours, and of an offensive smell, there are probably ulcers in the intestines, and the danger is increased. If blood appears on the first day, or the irritation great, the danger is in proportion. When the fever is urgent, when the cause is contagion, the patient already reduced by previous sickness, or sinking under any other disorder, the danger is proportionably enhanced. An hiccough, delirium, the pain and thirst ceasing at once, the excrements passing involuntarily, convulsions, coldness of the extremities, with vomiting, are among the mortal symptoms.

To prevent the complaint, those who are in warm climates should carefully avoid the coldness of the evenings, and the chilling dews which succeed the sultry days; those who are confined in jails, or in camps, should avoid the vapours from putrid fæces; and if any putrid disease is prevalent, the bark, with laxatives, may be taken at proper intervals. If there is any suspicion of the disease approaching, an emetic should be given immediately; a warm sudorific should succeed; and, in the morning, a dose of some gentle purgative, to promote the proper discharge from the intestines.

In the progress of this complaint, the air should be kept as pure as possible, and moderately warm: cleanliness is absolutely necessary; the excrements should be immediately removed; the linen, and every thing about the patient, frequently changed. The diet may be of rice, salop, panada, the broth of lean meat acidulated with lemon or orange juice, jelly of animal substances with cinnamon. Dr. Rutherford advises a few handfuls of wheat flour to be boiled, tied up tight in a rag, for six or eight hours. It will then be hard, and two or three table spoonfuls, when grated, may be boiled, in milk and water, to the consistence of pap: this may be made agreeable to the palate with sugar, and used both for the general food, and for the substance of clysters, which in this disorder are frequently required. For drink, milk and water, butter milk, the white decoction, or, what is still preferable, a decoction of mallows in milk and water, may be freely used. Frequent dilution with mucilaginous drinks of every kind is highly proper.

It was usual with Sydenham, and some other judicious practitioners, whose success justified their proceeding, to begin, if called in early after the first attack, by giving a gentle emetic, and copious draughts of some thin fluid, to cleanse the stomach: clysters of the same were frequently injected, to lessen or dilute the irritating matter if it existed; but more certainly to soften as a fomentation.

Sydenham ordered bleeding, if the symptoms required it; then directed a large quantity of cold whey to be drunk; and clysters of the same to be injected and repeated until the pains were abated: these were administered warm. After this the patient was put in bed, and a sweat promoted. When the patient was greatly exhausted, endeavours were used to check the evacuation.

The cure of dysentery, as described by the earlier authors, is confused and contradictory. As an increased evacuation it has been treated by astringents; as a spasm, by opiates; and as an hæmorrhage, by sedatives. Zimmerman seems to have first established the most rational views, and the most enlightened practice; yet even this requires, in different climates, considerable modifications, and numerous auxiliaries. Navy and army surgeons assert that practitioners, in general, know little of dysentery. They seldom, indeed, see the complicated cases, the numerous forms of the disease, or its singular changes. We shall give a consistent view of their doctrines and opinions, for it is one of the few diseases where we do not speak from any very extensive practice of our own. Our predecessors were certainly little acquainted with it.

As an inflammation, *bleeding* may appear the most proper step in the earliest stages; but the fever is of the putrid kind, and the inflammation erysipelatous. We find some army surgeons bleeding the strong, robust soldiers, on a violent attack in the earliest stages, with apparent advantage. It is not, however, a remedy adapted to the nature of the disease; and, though occasionally admissible, should be rarely employed.

Emetics, particularly the antimonial ones, are of more importance; they are adapted to the disease as febrile, and peculiarly to spasm, since, on their first action, a general relaxation is produced in the system. This relaxation is more considerable, and longer continued by giving nauseating doses only; and it is probable that the ipecacuanha, the antimonials in their various forms, the white vitriol, &c. act as much by the nausea they produce, as by increasing the discharge from the skin. Vomiting, except in the commencement, cannot be encouraged with advantage.

As the fæces are retained, *cathartics* would appear peculiarly proper; and when some relaxation of the spasm has been produced, they are found to be the most effectual remedies. Zimmerman rests chiefly on the use of the milder laxatives, neutral salts, the tamarinds, senna, and manna; and it will be indeed obvious that these, as well by their cooling as their relaxing power, must be useful. The narcotic laxatives, which we have described as producing so general a solution of tension through the whole system, may perhaps be found useful, particularly the tobacco; yet the great previous debility renders its use highly precarious, and we know not that it has been employed. Dr. Hagstroom, from the idea of dysentery proceeding from animalcules, employed the nux vomica, he says, with considerable success. This medicine is, indeed, a powerful narcotic, but, we believe, not a laxative.

The more active purgatives have not been lately employed. Respecting the utility of rhubarb, practitioners have greatly differed. By some it has been considered as a specific, by others as injurious. In general, it is too violent in its operation, and is by the best practitioners now disregarded. In the Amænitates Academicæ is a thesis, formerly quoted, entitled Exanthemata Viva, where the author asserts, that he has discovered animalcules in the dysentery, to which he attributes

the disease; and he thinks it a great support of his idea, that they were immediately destroyed by an infusion of rhubarb.

Diaphoretics are the most important medicines in this complaint; and to the relaxation of the skin must be attributed the good effects of ipecacuanha; of the vitrum ceratum antimonii; and, in some measure, of opiates. The more violent stimulant sudorifics have been avoided; and, from our observations on cathartics, it will be obvious that they must be injurious; yet ipecacuanha seems also to possess a peculiar sedative power, which renders it useful in all cases of increased action of the intestines; nor is it without reason that Dr. Akenside seems to have commended it so warmly.

The action of diaphoretics must, however, be supported by warm diluting liquors; by proper, though not heavy, bed clothes; and every method of supporting a gentle, free perspiration, approaching at least to sweating, for the patient should not sweat profusely. The object is rather to produce a general relaxation than to weaken by the discharge.

Sedatives have not been much employed; and when opiates have been given to lull the violence of the pain, practitioners have rather aimed at procuring present ease than at removing the complaint. But, from the view we have taken, it will be obvious that opium is of considerable service. It is singular that the opium with ipecacuanha, Dover's powder, has not been more frequently used. We suspect that its action as a sudorific is too violent; and that the disease, like other fevers, is more effectually removed by a gentle diaphoresis, than a more considerable discharge from the skin.

As the discharge of either mucus or blood is often violent, it is not surprising that astringents have been employed. All the variety have been given, and each has been commended by its partisans. Alum, gall nuts, white vitriol, logwood, simarouba, cascarilla, columbo root, and a variety of similar medicines, have been employed in this disease; but their good effects have, we believe, been owing to an unsuspected source. The gall nut is, indeed, a pure astringent, though not without some suspicion of a narcotic power. Alum is not only a sedative but a purgative, and an useful remedy in many cases of colic. The white vitriol is a tonic and a sedative; the logwood combines, with its astringency, no inconsiderable portion of mucilage. The simarouba, like its botanical associate, unites with its bitter a warm diaphoretic power; the columbo root differs little from common bitters, which alone are not astringent. Of all these supposed astringents, therefore, the cascarilla only acts as probably such; and for these reasons they have, perhaps, not been so injurious as they would have otherwise been found, for astringents are certainly not adapted to the disease: and, though we find the acacia, or its substitute, the conserve of sloes, and the catechu, sometimes mentioned, they have been long neglected by the best modern practitioners. If even the more powerful tonics are ever employed, the intestines must be previously emptied, and all inflammation removed. This is, perhaps, also the only time for the exhibition of the cascarilla.

Goettlieb Richter, in his Medical and Surgical Observations, observes, that the dysentery is a rheumatic or catarrhous affection of the larger intestines; and that the proper remedies for the disease are sedatives and diaphoretics. In three epidemic dysenteries, which he carefully and accurately observed, he was fully convinced that the bilious appearances were accidental and accessory; and he produces several facts to prove that the bilious acrimony was not the cause of the disease, but rather the effect of irritation in the bowels, producing an increased secretion of bile, and that they had no essential influence on the principal complaint.

From this view, he depended upon opium and antimony for the cure, which they effected by allaying pain and irritation, and raising a gentle diaphoresis. He asserts also, that by the use of opium the bilious symptoms disappeared, and the patient was cured without evacuation. He does not totally reject vomits and purgatives; but if they are indicated at the beginning of the disease, he administers them. Vomits evacuate the bile, diminish the spasm in the intestines, and promote a gentle perspiration; for which purpose, he prefers ipecacuanha to emetic tartar; to clear the intestines, manna; but more particularly calomel, which from experience he found more powerful and more gentle than other purgatives; and so far from increasing the pains in the bowels, it frequently diminishes them. Rhubarb he considers as a very dangerous medicine in this disease; though, after it is cured, he approves of it as a strengthener of the stomach and intestines. When the fever is considerable, the antimon. tartarisatum, in small doses, was given, with sal ammoniac, or Mindererus' spirit. When inconsiderable, tinct. thebaic. with vinum antimonii Huxhami; or extr. opii with ipecacuanha. But in order to cure the disease radically, the use of opium must be continued, and emetics given at intervals, if necessary. A soft pulse, and moist skin, are the chief signs of the good effects of opium, and of a certain amendment. Warm fomentations to the abdomen; and frictions, with volatile camphorated liniment, were useful: but if there was a fixed pain in the belly, or they were constant, a blister on the abdomen produced the best effects. In cases where the evacuations were very fetid, and the patient much debilitated, the arnica was very useful; and when a lientery remained after the disease, the columbo root exceeded all other remedies.

The *chronic dysentery* is a very different complaint, and has not been so fully considered as it deserves. After the acute disease is removed, a tenderness of the bowels remains. They are excited to action frequently, and by the slightest causes; the stools are small, mucous, and often offensive, with frequent pains; the strength and appetite greatly impaired; the skin dry; the complexion of a dark yellow; and the eyes sunk. Either from the original cause, the climate, in which it occurred, or the disease itself, the power of the digestive organs is frequently impaired, and the liver often injured. The blood is confined to the larger vessels, and the determination to the surface greatly diminished. The remaining disease of the intestines seems to be a chronic, erysipelatous inflammation, a defect of mucus, and often, perhaps, an erosion of the villous coat.

In this state of the complaint, tonics have little power. A mild, nutritious diet; the lighter bitters, as the columbo root, and the camomile flowers; a warm climate; or flannel clothing; are chiefly necessary. The increased action of the larger intestines often requires opium to be injected in a clyster; and we have found

equal parts of soap and wax, with a small portion of the pulvis Doveri, of considerable service. The soap renders the wax soluble in our fluids; and, together, they supply the abraded mucus, while the Dover's powder not only checks the too violent action of the bowels, but determines to the surface. With every exertion, however, the disease is only palliated. The patient must rest contented with infirm health during the remainder of his existence. We mean not to say that every dysentery terminates in this state; but every violent dysentery leaves some unpleasant remains of this kind.

See Alex. Trallian; Aretæus; Cœlius Aurelianus, and Celsus; Baker on the Dysentery; Akenside's Commentary; Zimmerman on the Dysentery, translated by Hopson; Degner de Dysenteria; Wallis's Sydenham; Dr. Wilson on the Dysentery; Cullen's First Lines, vol. iii. p. 101. edit. 4; Moseley on Tropical Diseases; Lond. Med. Journ. vol. ii. p. 86, iii. 189. vol. vii. p. 337; Goettlieb Richter's work before quoted.

Dysente'ria a catha'rticis, and parisi'aca. Diarrhœa mucosa. See Diarrhœa.

DYSEPULO'TICUS, (from δυς, *difficult*, and επουλοω, *to cicatrise*). An epithet for an ulcer which is difficult to heal.

DYSHÆ'MORRHOIS, (from δυς, and αιμορροις, *the piles*). Suppression of the bleeding piles.

DYSHE'LCES, (from δυς, *male*, and ελκος, *ulcus*). Ulcers with difficulty cured.

DYSI'ATOS, (from δυς, *difficulty*, and ιαομαι, *to heal* or *cure*). Difficult of cure.

DYSLO'CHIA, (from δυς, and λοχια, *lochia*). Suppression of the lochia. See Lochia.

DYSMENORRHŒ'A, (from δυς, and μηνορροις, *menses*). Difficult or painful menstruation. See Menses deficientes.

DYSO'DES, (from δυς, *bad*, and οζω, *to smell*). An ill smell, fetid. Fœsius thinks that in Hippocrates it means a fetid disorder of the small intestines. It is also the name of a malagma for the pleurisy, and of an acopon, which Galen and Paulus describe. Sauvages, and some other nosologists, form a genus of disorder which they name dysodia, and define it to be disagreeable exhalation from the whole body, or from a particular part, the skin, the mouth, or the feet.

Dr. Percival takes notice of a kind of offensive breath, (dysodes pulmonica,) often found in persons with a narrow chest and scorbutic habit. He observes, that it seems to originate from a want of power to make a full expiration, by which too much perspirable matter is retained, and corrupted by stagnation in the vesicles of the lungs. In such cases he hath found the most salutary effects from the use of myrrh and fixed air, internally administered. These antiseptic substances are probably carried to the lungs, and correct the offensive vapour at the same time that they invigorate the smallest ramifications of the bronchiæ.

DYSO'PIA, (from δυς, *difficulter*, and οψις, *visus*). Difficult sight; *parorasis*. Dr. Cullen places this genus of disease in the class *locales*, and order *dysæsthesiæ*, which he defines, depraved vision, so that objects cannot be seen, except in a certain degree of light, at a given distance, or in a particular position. He distinguishes five species.

1. Dyso'pia tenebrarum, ambylopia crepuscularis: when a great light is required for distinct vision.

2. Dyso'pia luminis, *amblyopia meridiana*, when sight is most distinct in an obscure light.

3. Dyso'pia, called also *amblyopia dissitorum*, when objects must be very near to be seen.

4. Dyso'pia amblyopia, *D. proximorum*, when objects cannot be seen distinctly, if very near.

5. Dyso'pia lateralis, also called *amblyopia luscorum*, when objects are best discerned by a side view.

In the first case, the disease depends on weakness of sight; in the second from too great irritability of the organ. In persons whose hair is white, and the edges of the eye lids red, the pigment, usually black, is of a lighter colour, as in cats and the white rabbits. The rays of light are therefore not lost, as when the pigment is black; and strong light occasions pain. Every one has experienced, in a strong sunshine, the effect of

"Tenebræ per tantum lumen obortæ."

The third and fourth species are the presbytia and myopia; and the fifth depends on some partial obfuscation of the cornea, or humours, or a partial paralysis of the retina.

DYSORE'XIA, (from δυς, *bad*, and ορεξις, *appetite*). A bad, or a depraved appetite, as when the appetite is weakened, excessive, or requires unusual food; it is synonymous with *hyperæsthesis*, *morositates*, and *privativi*. This is the second order of Dr. Cullen's *locales*, which he divides into two sections, *appetitus erronei*, and *deficientes*; Synop. Nosol. Meth. (See Anorexia). He places *morbi pathetici* as synonymous, p. 318, 324.

DYSPE'PSIA, from δυς, *difficult* or *bad*, and πεπτω, *to concoct*). Difficulty of, or rather depraved, digestion. See Apepsia.

DYSPHA'GIA, (from δυς, and φαγω, *to eat*). Dr. Cullen ranks this under his class *locales*, and order *dyscinesiæ*, and defines it, impeded deglutitition, unattended with inflammatory affection, or injured respiration. See Deglutitio.

DYSPERMATI'SMUS, (from δυς, *difficulter*, and σπερματιζω, *semino*,) *agenesia*. Dr. Cullen places this genus of disease in the class *locales*, and order *epischeses*, which he defines a slow or impeded emission in coition of the semen virile, insufficient for the purpose of generation. The first species is,

1. Dyspermati'smus urethralis, when the cause of obstruction is in the urethra.

2. Dyspermati'smus nodosus, when a tumour is formed in either corpus cavernosum penis.

3. Dyspermati'smus præputialis, when the impediment is from a straitness of the orifice of the prepuce.

4. Dyspermati'smus mucosus, when the urethra is obstructed by a viscid mucus.

5. Dyspermati'smus hypertonicus, when there is an excess of erection of the penis.

6. Dyspermati'smus epilepticus, from epileptic fits coming on during coition.

7. Dyspermati'smus ephractodes, from a want of vigour in the genitals.

8. Dyspermati'smus refluus, in which the semen is thrown back into the urinary bladder. See Sterilitas.

DYSPHO'NIA, (from δυς, *difficulty*, and φωνη, *the voice*). A difficulty of speech.

DYSPNŒ'A. Difficult breathing, (from δυς, *difficulty*, and πνεω, *to breathe*). *Dyspnoon.* This is a genus of the class *neuroses*, and order *spasmi*. Dr. Cullen defines it to be a constant difficulty of breathing, without a sense of straitness in the breast, but rather that of fulness and obstruction; a cough frequently attending through the whole course of the disease. He distinguishes eight species.

1. Dyspnœ'a catarrhalis, when with a cough there are copious discharges of viscid mucus, called also *asthma catarrhale*, *pneumodes*, *pneumonicum*, and *pituitosum*.

2. Dyspnœ'a sicca, when there is a cough without any considerable discharge.

3. Dyspnœ'a aerea, when the disease is much increased by slight changes of the weather.

4. Dyspnœ'a terrea, when earthy or calculous matters are spit up.

5. Dyspnœ'a aquosa, when there is a scarcity of urine, and œdematous feet, without any symptoms of a dropsy in the chest.

6. Dyspnœ'a pinguedinosa, from corpulency.

7. Dyspnœ'a thoracica, when parts surrounding the chest are injured or deformed.

8. Dyspnœ'a extrinseca, from manifest external causes, *asthma pulverulentorum*, and *metallicum*.

It is spoken of by many as a species of asthma; but much difficulty attends this view of the complaint, and as much in affording relief. If respiration be only obstructed and quick, without the other symptom, it is called *dyspnœa;* if attended with different symptoms, they give an appropriate name. To this place belong several of the species of the orthopnœa, to which the reader is referred.

It is, in general, a spasm affecting the vital functions. Sauvages defines it, a disease whose principal symptom is a shortness of breathing, with chronic indisposition, not intermitting, and without signs of hydrothorax or empyema. Its most usual causes are, phlegm lodged in the bronchiæ, or the too strong constriction of the bronchiæ themselves, which prevents the easy ingress of the air into the lungs. Sauvages enumerates no less than twenty-two species: but the greater number are symptomatic; and few, if any, admit of more effectual remedies than such as mitigate their violence. It is generally advisable to moderate the plethora in the lungs, and avoid all hurry of respiration.

Sometimes nauseating emetics are good expectorants in this case, especially if given in small doses. Gum ammoniacum, and asafœtida, may be employed; and blisters are often beneficial. Issues have been formed in the thigh; and in some cases seem to have been useful, but in too many instances fail. See Asthma.

DYSPNO'ON. See Dyspnœa.

DYSRA'CHITIS. The name of a plaster in Galen.

DYSTHERAPEU'TOS, (from δυς, *difficulty*, and θεραπευω, *to heal*). Difficult to heal.

DYSTO'CHIA, (from δυς, *difficult*, and τικτω, *to bring forth young*). Difficulty in labour or child birth.

DYSTŒCHI'ASIS, (from δυς, *bad*, and στοιχος, *order*,) an irregular disposition of the hairs in the eye lids.

DYSU'RIA. Dysury, (from δυς, *painful*, and ουρον, *urine*). A difficulty of voiding the urine; *stillicidium*, *ardor urinæ*, *culbicio*, obstruction, heat, difficulty of voiding urine, and strangury.

A total suppression is called *ischuria;* a partial suppression *dysuria;* and this may be with or without heat. When there are frequent painful or uneasy urgings to discharge the urine, and it passes off only by drops, or in very small quantities, the disease is called a *strangury*. When a sense of pain or heat attends the discharge, it passes with difficulty, and is styled *heat of the urine*.

The dysuria is acute or chronic. Dr. Cullen places this disease is the class *locales*, and order *epischeses*, and defines it, a painful, and by some means impeded, emission of urine. He distinguishes six species.

1. Dysu'ria ardens, when the urine burns in passing off, and there is not any evident disorder in the bladder.

2. Dysu'ria spasmodica, when a spasm affects the parts which communicate with, and are communicated to, the neck of the bladder.

3. Dysu'ria compressionis, from parts contiguous pressing on the bladder.

4. Dysu'ria phlogistica, when the parts around are inflamed.

5. Dysu'ria irritata, when there are signs of a stone in the vesica.

6. Dysu'ria mucosa, when there is a copious excretion of mucus; also called *vesicæ catarrhus; chylaria;* if the mucous urine is whitish; *pyuria*, *pyuria arthritica*, vel *viscida*.

The causes are various: as, caruncles in the urethra; a stone in the neck of the bladder, or in the urethra; spasm, or inflammation in either; acrimony in the urine, abrading the mucus from either; the venereal disease, and the scurvy; and ulcer, or a deficiency of mucus for lubricating the urinary passages. The chronic dysury is generally occasioned by a metastasis of gout; sometimes, it is said, of scurvy, or rheumatism; but we know distinctly of no such effect, except from gout, or the irritation of a stone. Catarrhus vesicæ sometimes leaves a tender state of this organ easily excited to inflammation by accidental cold; by excess in the use of spirituous liquors; and from hence, perhaps, sometimes supposed to be rheumatic.

The diagnostic signs of a dysury sometimes so much resemble those of a stone in the bladder, that no little difficulty attends the distinction, especially when the dysury is of the chronic kind. However, in general, the difficulty of discharging urine is unattended with pain or heat, except during the endeavours to void it, or its actual passing off; and for a short time the pain perceived afterwards is in the glans, a circumstance not so particularly attendant in the stone: in the chronic dysury, bloody urine is more frequently caused by exercise, and voided in large quantities after violent exertions than in calculus; the pain does not come on in violent paroxysms without an evident cause; tenesmus more seldom attends; nor is the flow of urine, when begun, at once checked.

Heat of urine does not arise from an increase of its natural heat; but from its irritating a tender, and often an inflamed, part. If the burning heat proceed from acrimony in the urine, it will be known by the high

colour and paucity of the discharge, or from a mixture of unusual matter.

Blood, and sometimes pus, when in contact with the neck of the bladder, produce violent pain. The discharge of mucus appears rather to be the effect than the cause of pain; but, in both, the pain is felt at the extremity of the glans, for, when any membrane is affected, the irritation is chiefly felt at its most sensible termination: thus irritation, in any of the small branches of the aspera arteria, is sensible only at its upper part; and a stone, even in the pelvis of the kidney, is felt at the extremity of the glans penis.

The dysury is not a dangerous disorder; but it is both troublesome and difficult of cure, particularly in the aged. The principal distinction necessary in this disease is, to ascertain the nature of the discharge. Dysury is usually attended with a mucous sediment in the urine, which is sometimes mistaken for pus. The mucus is, however, white, light, and flocculent, without smell: pus more filamentous, heavy, and of a greenish colour, with, generally, some fever; often remitting.

The cure must greatly depend on the cause. We have remarked that we seldom perceive the influence of acrimony except in gout; we meant of acrimony generated in the constitution, for large quantities of spices, even of spirits, particularly gin, will produce it; and the stimulus of cantharides from a blister is a very common cause. In every instance of dysuria, dilution is necessary; and it is of service to give the diluting liquors in a mucilaginous form. Gum arabic, the altheæ root, the jelly of the orchis (salep), infusion of linseed, of oatmeal, and barley, have been employed. There is little foundation for choice, since each is effectual, in proportion to its quantity of mucilage; and in this respect they do not generally differ: the gum arabic, in barley water, is as effectual as any other; but from one to two ounces of the gum should be taken daily. An elegant form of althæa, styled *pate de Gaimauve*, we have found very useful; more so, perhaps, because it is pleasant, and taken, on that account, more freely. Injecting these fluids is useless, for the injection does not penetrate far into the urethra; and, except in cases of gonorrhœa, the seat of the complaint is very distant.

Bathing the penis, and particularly its glans, will often relieve, by communicating the relaxation to the vessels above, the only way in which injections can be useful; and warm brandy, or other stimulant applications to the perinæum, will be often beneficial. A blister to that part, removed before any of the cantharides can be absorbed, is equally effectual. A starch clyster, with opium, may be considered as an external application, since it is external to the part affected, and often almost immediately relieves.

Internally, opium and camphor are highly useful. The cooling power of the latter is very soon felt in the urinary organs, and it appears to be quickly effectual. In the form of Dover's powder we have found the opium particularly useful. Cooling laxatives and diuretics, which operate without any stimulus, particularly the neutral purging salts, often relieve. Nitre, which seems in almost every view useful, is suspected of sometimes irritating the neck of the bladder. If employed, it should be given in small quantities, copiously diluted, and generally with camphor. Oil has been recommended, and particularly olive oil, as a laxative; but it is not peculiarly beneficial: the balsams, except in chronic dysury, from weakness, are generally injurious. When dysury arises from caruncles, bougies are necessary.

In the chronic dysury, after other means fail, a salivation excited by the use of mercury has succeeded; and an issue in the inside of one thigh, a little above the knee, is said to have prevented the return, or at least rendered relapses very moderate; and this effect may, perhaps, follow, if the disease arises from gout. When the patient is too weak to admit of salivation, a dose of the uva ursi may be taken every morning, and after it half a pint of lime water, mixed with a strong decoction of the great water-dock root. The uva ursi, however, though warmly recommended in this complaint, has seldom succeeded in our hands, and never except it be taken in enormous doses.

Dr. Percival observes, that there is a species of chronic dysury to which persons of an arthritic or scorbutic habit, and who have passed the meridian of life, are peculiarly liable. It is often mistaken for the stone, and aggravated by the use of lithontriptics. He adds, that it hath many symptoms in common with that disorder: such as frequent and urgent calls to make water; pain at the extremity of the urethra; a mucous discharge; tenesmus, and sometimes a suppression of urine. But the patients who labour under it feel no uneasy weight in the perinæum, and always void their water with much less difficulty in an erect than in a horizontal posture. The complaint, also, may be further distinguished from the stone, by having shorter intervals of ease; by more frequently injuring the retentive power of the bladder; and by occasioning no sudden interruption to the stream of urine in the absence of pain. It seems to arise from a catarrh on, and increased sensibility of, the coats of the bladder, as we have already explained. The efforts to discharge the urine should, however, be restrained as much as possible, because they increase the pain and irritation. Of all the remedies which Dr. Percival tried, he says that mercury was the most successful; it seldom failed to afford relief, and generally cured, if administered with perseverance and in sufficient quantity. According to the urgency of the case, one, two, or three scruples of the ung. hydrargyri fortius should be rubbed into the thighs every night, till a slight ptyalism ensues: the symptoms for the most part abate before the spitting comes on; and after it has continued a little while, they disappear. Sometimes, in slighter cases, he advises half a grain of calomel, with two grains of James's fever powder, twice a day; and this small dose of mercury, if duly continued, will effect a cure, without producing any salivation, or even soreness of the mouth. In such cases, however, an affection of the prostate gland may be suspected to have been the cause; and it so frequently occasions chronic dysury, that its state should be always ascertained by examination, if chronic dysury is obstinate. See Lond. Med. Journ, vol. iv. p. 69.

Violent heat in the urinary passages of women has been cured by the use of the bark.

See the authors under the article Ischuria; Biss's Essays; Lobb on Painful Distempers; Gooch's Cases and Remarks, vol. ii.

E.

EATON'S STYPTIC. A quack remedy for checking hæmorrhages: it consists of calcined vitriolated iron, steeped in brandy.

EAU DE LUCE. Sps. AMMONIÆ SUCCINATUS. See ALCALI.

EAU DE RABEL, consists of one part of sulphuric acid added to three of alcohol; chiefly useful in increased mucous evacuations.

E'BEL. The seed of sage, or of juniper.

EBE'SMECH. A name in Langius for quicksilver.

E'BISCUS. See ALTHEA.

EBRACTEA'TUS. Without a bractea or floral leaf.

EBRIECA'TUM, (from *ebrio, to be drunk*). By this term Paracelsus expresses the partial loss of reason from drunkenness; and by the addition of the word *cæleste*, that kind of enthusiasm which is affected by many heathen priests.

EBRI'ETAS, (from the same). DRUNKENNESS. Spirituous liquors animate, and for a time our natural vigour is more active; but this effect is fleeting. If they are often repeated, or too freely used, their excess of action enervates the constitution; the appetite and the digestion are impaired; the spirits fail; and a general feebleness ensues.

The effects of spirits on the human body have not been discussed with philosophical precision, nor is this the place for the enquiry. It has been generally supposed that alcohol is a stimulant, and that the repeated stimulus exhausts the excitability. From every experiment, however, on the nerves, it has been found a sedative; and those who trust in such conclusions have supposed, as usual, that it combines a stimulant power. Were we inclined to form systems, we should endeavour to show that it is really a sedative, and that its apparent stimulus is only an instance of irregular, rather than increased, action. Whatever be the source, its secondary effects are allowed to be highly sedative; and from the diminution of irritability, the most fatal effects are derived, particularly indurations of the liver, which have been ridiculously attributed to its coagulating the blood.

To relieve the effects of ebriety, we must employ moderate stimulants and tonics, particularly those which contain no portion of ardent spirits. The most effectual are the Bath waters, carbonated ammonia, or even the pure alkali; light bitters with aromatics. The most difficult, but the most essential, part of the cure, is to prevent the continuance of the practice. This can be seldom attained; never, it is said, with females; but men will sometimes "turn from the error of their ways." As the want of irritability is chiefly felt in the liver, its circulation should be assisted by a gentle, steady stimulus to its ducts, by those laxatives which assist the secretion of bile.

When the over-night's potation has been too liberal, a wet napkin should be bound round the head; a quantity of cold water should be placed at the bed-side; and if a restlessness comes on with heat, a dryness of the tongue, &c. this water should be drunk as freely as the thirst requires: thus, by degrees, a perspiration is produced, and the most effectual relief obtained. On the succeeding day, abstemiousness is requisite; and such a regimen should be pursued as is consistent with the nature of the constitution. A man of a strong, healthy, plethoric habit should drink plentifully of thin, warm, diluting liquids, mixed with vegetable acids; keep in bed, and promote perspiration. The weak, delicate, and relaxed, besides abstinence from solid diet, should ride on horseback, or take some other gentle exercise in the pure air; a glass or two of generous wine, as a cordial, may be allowed, or such other means pursued as are calculated to invigorate the system, and keep up an increased state of insensible perspiration. See Wallis on Health and Disease.

To the most violent effects of fermented spirits vinegar is an antidote. A sponge dipped in vinegar should be frequently applied to the mouth and nose; an emetic that operates quickly should be given; a clyster, and, after it, a purging draught, may be administered; and a gentle sweat promoted.

EBSHAME'NSIS SAL. See CATHARTICUS SAL.

EBULLITION. BOILING. The rapid separation of aeriform bubbles, in consequence of the application of heat to any fluid. These bubbles are in the state of vesicular vapours, and no permanent aeriform fluid is produced without some further chemical change.

E'BULUS, (from *ebullio, to boil*; from its supposed power of concocting the humours of the body,) *chamæacte, sambucus humilis, sambucus herbacea*, WALL WORT, DANE WORT, and DWARF ELDER: *sambucus ebulus* Lin. Sp. Pl. 385.

It is an herbaceous plant, dying to the ground in winter, with longer leaves than those of the elder tree, and

nine leaves on one rib. It grows wild in many parts of England, flowers in July, and produces ripe black berries in the beginning of September.

Its virtues are the same as those of the common elder, but it is somewhat more efficacious. It is an active hydragogue, and in smaller doses a powerful resolvent and deobstruent. See Cullen's Materia Medica; Wallis's Sydenham.

E'BUR, Ivory, (from *è* and *barrus*, *the elephant*, because ivory comes from that animal,) see Spodium arabum.

E'bur fo'ssile. See Unicornu.

ECALCARA'TUS, (from *è*, *without*, and *calcar*, *a spur*). In botany it means having no spur.

ECAUDA'TUS, (from *è*, and *cauda*, *a tail*). Not having the elongation of the base of a leaf, called its *tail*.

ECBO'LION, (from *ἐκβαλλω*, *to cast out*). See Diecbolion, hence Diecbolica.

ECBRA'SMATA, (from *ἐκβρασσω*, *to cast out*, or from *βραζω*, *to be very hot*,) *ecchymata*, *ardentes papulæ*. Fiery pustules on the surface of the body.

ECBRA'SMUS, (from *ἐκβραζω*, *to become hot*). See Fermentatio.

ECBYRSO'MATA, (from *ἐκ*, *out of*, and *βυρσα*, *a skin*). Protuberances of the bones at the joint, which appear through the skin.

ECCATHA'RTICA, (from *ἐκ*, and *καθαιρω*, *to purge*). Remedies which, applied to the skin, are supposed to open the pores; but in general they are understood to be deobstruents: sometimes expectorants and purgatives are distinguished by this appellation.

ECCHYLO'MA, (from *ἐκ*, and *χυλος*, *a juice*). See Extractum.

ECCHY'MATA, (from *ἐκχυω*, *to pour out*). See Ecbrasmata.

ECCHYMO'MA ARTERIO'SUM, (from the same). The false aneurism. See Aneurisma.

ECCRY'SIS, (from *ἐκκρινω*, *to flow out*,) is an excretion, expulsion, or removal of any excrementitious or morbid matter from the body, either by the bowels or any other convenient passage. It sometimes means the excreted matter itself. Apocrisis, a similar term according to Hippocrates, is applied to the contagious effluvia of the air, or to a morbid quality communicated to the air by exhalations, called *miasmata*.

ECCYMO'SIS, ECCHYMO'MA, (from *ἐκχυω*, *to pour out*, or from *ἐξ*, *without*, and *χυμος*, *juice*,) *exsuccatio*. Sometimes Crustula and Sugillatio are applied in this sense; which see. It is an effusion of humours from their respective vessels under the integuments; either from a relaxation of the exhalants, or a bruise and consequent rupture of the vessels themselves. This blood, when collected under the skin, is called an *ecchymosis*; the skin in the mean time remaining entire, sometimes a tumour is formed by it, which is soft and livid, and generally without pain. If the quantity of blood is not considerable, it is usually again absorbed; if great, it sometimes suppurates; and any further inconvenience seldom follows: a mortification may, however, be the result in diseased or languid habits. Dr. Cullen places this genus of disease in the class *locales*, and order *tumores*, and defines it, a diffused tumour, a little elevated, growing blue or black. The causes are, pressure or bruises: from the latter the ecchymoses are called *stigmata*. They sometimes also arise from blood letting, either in consequence of the orifice in the skin sliding over that of the vein, or from the vein being cut through. Livid or black spots are sometimes a symptom of the scurvy: when round and small, they are named *thrombi*; when more diffused, *ecchymoses*. It should not be mistaken for a spurious aneurism. See Aneurism.

In slight cases, compresses dipped in vinegar, or in water so strongly impregnated with salt as to suspend an egg, frequently applied and kept upon the part, are alone necessary. If the ecchymosis tend to suppuration, it must be treated as an abscess. If the quantity of coagulated blood be considerable, it must be discharged by as many incisions as are requisite; then treated as an approaching mortification. See Bell's, White's, and Heister's Surgery. Van Swieten's Commentaries on Boerhaave's Aphorisms, sect. 324, 1151.

ECCLY'SIS, (from *ἐκκλινω*, *to bend*, or *turn aside*). See Luxatio.

E'CCOPE, (from *ἐκκοπτω*, *to cut off*). The cutting off of any part.

ECCOPE'US (from *ἐκ*, and *κοπτω*, *to cut*). An ancient instrument, of the same use as the modern raspatory.

ECCOPRO'TICA, (from *ἐκ*, and *κοπρος*, *dung*,) *copiocritica*. Mild aperients, or gently purging medicines which assist the natural evacuation by stool. See Cathartica.

ECCRINOLO'GICA, (from *ἐκκρινω*, *to secrete*, or *separate*). That part of medicine which relates to the doctrine of excretions.

E'CDORA, (from *ἐκ*, and *δερω*, *to excoriate*). See Excoriatio. An excoriation of the urethra. P. Amannus.

ECHECO'LLON, (from *ἐκ*, and *κολλα*, *glue*). A Glutinous topic.

ECHETRO'SIS. See Bryonia alba.

ECHINA'TA SE'MINA. Seeds which are prickly and rough, from *echinus*, a hedge hog.

ECHINI'DES. A medicine for purging the womb. Hippocrates.

ECHINO'PHORA, (from *ἐχινος*, and *φερω*, *to bear*). See Caucalis.

ECHINOPHTHA'LMIA, (from *ἐχινος*, *a hedge hog*, and *ὀφθαλμια*, *an inflammation of the eye*). An inflammation of the hairy part of the eye lids; probably because the eye lid is set with hairs, as the echinus with prickles.

ECHINO'PUS, (from *ἐχινος*, *as beset with prickles*). *Crocodilion*, *acanthalruca*, *scabiosa carduifolia*, *sphærocephala elatior*, globe thistle. *Echinops sphærocephalus* Lin. Sp. Pl. 1314. It is raised in our gardens. The root and seeds are moderately diuretic, but not used.

ECHI'NUS. A hedge hog; *acanthion*. In botany, those plants or parts of plants which are beset very closely with spines; or the prickly head or cover of the seed.

Echi'nus mari'nus. The sea hedge hog or urchin. See Amygdaloides.

ECHI'TES CORYMBO'SA. See Caoutchouc.

E'CHOS, (from *ἠχος*, *sound*). See Tinnitus aurium.

E'CHYSIS, (from *ἐκχυω*, *to pour out*). See Lipothymia.

ECLAMPSIA TYPHO'DES. See Raphania.

ECLA'MPSIS, (from *ἐκλαμπω*, *to shine*). It is a

flashing light, or those sparklings which strike the eyes of epileptic patients. Cœlius Aurelianus calls them *circuli ignei*. Though only a symptom of the epilepsy, Hippocrates uses the term for the disease itself. Dr. Cullen places it as a synonym with epilepsia, and adds, "that Vogel and Sauvages distinguished an eclampsia as an acute disease from epilepsy, which they consider a chronic one; but as it is very difficult every where to place accurate limits between acute and chronic diseases, and as the eclampsia of Sauvages will exactly agree, for the most part, as well in the causes as symptoms, with epilepsy, I could by no means arrange it in a different genus from epilepsy."

ECLE'CTICA MEDICI'NA, (from εκλεγω, *to elect*). Archigenus, and some others, selected from all other sects what appeared to them to be the best and most rational; hence they were called *eclectics*, and their medicine, *eclectic medicine*. Boerhaave's system is of this kind.

ECLE'CTOS, ECLE'GMA, and ECLEI'CTOS, (from λειχω, *to lick*). See Linctus.

ECLY'SIS, (from εκλυω, *to dissolve*). An universal faintness.

ECMA'GMA, (from εκμασσω, *to form together*). See Crocomagma.

ECPEPIE'SMENOS, (from εκπιεζω, *to depress* or *press outward*). An epithet for ulcers with protuberating lips.

ECPHRA'CTICA, (from εκ, and φρασσω, *to obstruct*). Deobstruent medicines.

ECPHRA'XIS, (from the same). An opening of the pores.

E'CPHYAS, (from εκ, and φυω, *to produce*). An appendix, or excrescence. The *appendicula vermiformis* is sometimes thus called.

ECPHYSE'SIS, (from εκ, and φυσαω, *to breathe through*). A quick expulsion of the air out of the lungs.

E'CPHYSE, (from the same,) flatus from the bladder through the urethra, and from the womb through the vagina.

E'CPHYSIS, (from εκ, and φυω, *to produce*). See Apophysis, also Duodenum.

ECPIE'SMA, (from εκ, and πιεζω, *to press out*). Magma; or the juice that is pressed out from the plants of which the magma is made. It is also, with little propriety, the name of a kind of fracture of the cranium, in which the bones are shattered, and press inwardly, on the membranes of the brain.

ECPIESMOS, (from εκ, and πιεζω, *to press out*.) In general it implies expression; but it is the name of a disorder of the eye, which consists in a great prominence of the entire globe, thrust, as it were, almost out of the orbit by a flow of humours, or a tumour from the bottom or sides of the orbit.

It is also a true exophthalmia produced by strong exertions, by which the eyes are so far pressed out as to remain prominent. Protuberances of the eyes, happening from child bed pains, are often cured by the succeeding discharges and lochia. It is therefore unnecessary to employ any remedy. Wallis's Nosologia Oculorum.

ECPI'PTICA. See Ecpyema.

ECPLERO'MA, (from εκπληρουω, *to fill*). Any substance to fill a cavity. In Hippocrates, they are hard balls of leather, or other substances, adapted to fill the arm pits, while, by the help of the heels, placed against the balls, and pressing the same, the luxated os humeri is reduced into its place.

ECPLE'XIS, (from εκπλησσω, *to terrify* or *astonish*). A stupor or astonishment, from sudden external accidents.

ECPNEUMATO'SIS, ECPNŒ'A, (from εκ, and πνεω, *to breathe out*). See Expiratio.

ECPTO'MA, (from εκπιπτω, *to fall out*). The exclusion of the secundines; and the separation of corrupt parts. See also Lupatio, Hernia scrotalis, and Procidentia uteri.

ECPYE'MA, (from εκ, and πυον, *to convert into pus*,) the suppuration of a collection of pus, from tumour, or vomica. Medicines abounding with maturating or suppuratory powers were consequently called by Galen εκπυκτικα. Empyema was used by the ancients in the same diffuse sense, but the moderns confine it to a disease of the chest. See Empyema.

E'CPYSIS. See Excrescentia.

ECRUE'LLES. See Scrofula.

ECRE'XIS, (from εκρηγνυμι, *to break*). A rupture. Hippocrates expresses by this term a rupture or laceration of the womb. See Hernia, and Hernia uteri.

ECRI'SIS, (from εκρεω, *to flow out*). See Semen.

E'CROE, (from εκρεω, *to flow*). *Exerhesis*, or *exerhysis*. An efflux, or the course by which any fluid, which requires purging, is evacuated.

ECRY'THMUS, (from εξ, *ex*, and ρυθμος, *harmony*). See Arythmus.

ECSARCO'MA, (from εκ, and σαρξ, *flesh*). A fleshy excrescence.

E'CSTASIS, (from εξισταμαι, *to be out of one's senses*). An ecstacy. It is a species of catalepsy; but in this complaint the patient recollects the ideas that passed in his mind during the paroxysm, and often what was said by those around. In Hippocrates it signifies a delirium; and Dr. Cullen ranks it as a species of apoplexy, *apoplexia mentalis*, arising from affections of the mind.

ECSTRO'PHIUS, (from εκστρεφω, *to invert*). An epithet for any medicine that forces the internal piles beyond the sphincter.

ECTA'SIS, (from εκ, and τεινω, *to extend*). An extension of the skin, the reverse to wrinkling.

ECTE'XIS, (from εκτηκω, *to liquefy*, or *consume*). See Emaciatio.

ECTHELY'NSIS, (from εκθηλυνω, *to render effeminate*). Softness. It is applied to the skin, bones, and flesh when lax and soft; and to bandages when not sufficiently tight.

ECTHLI'MMA, (from εκθλιβω, *to dash*, or *press out against*). An ulceration caused by pressure on the skin.

ECTHLI'PSIS, (from the same). Elision or expression. It is spoken of swelled eyes, when they dart forth sparks of light.

E'CTHYMA, (from εκθυω, *to break out*). See Pustula, and Cutanei morbi.

ECTILLO'TICA, (from εκτιλλω, *to pull out*). Medicines which consume tubercles and corns, or which assist in drawing away superfluous hairs. See Ectyllotica.

E'CTOME, (from εκ, *out*, and τεμνω, *to cut*). Excision or extirpation. See Amputatio.

ECTO'PIÆ, (from ἐκ and τοπος, *locus*). PROTRUSIONS, OR MISPLACED PARTS. Diseases in which a part of the body is moved from its proper seat, and forms a tumour. It is the seventh order of Dr. Cullen's *locales*, in which he includes *hernia*, *prolapsus*, and *luxatio*. Synopsis Nosologiæ Method. vol. ii. p. 366.

ECTOPOCY'STICA, ISCHU'RIA, (from ἐκτοπος, *misplaced*, and κυστις, *a bladder*). A suppression of urine from a rupture or hernia of the bladder. See ISCHURIA.

E'CTOMON. See HELLEBORUS NIGER.

ECTRI'MMA, (from ἐκτριβω, of τριβω, *to rub*). An ATTRITION OR GALLING; an ulceration of the skin about the os sacrum. Hippocrates.

E'CTROPE, (from ἐκτρεπω, *to divert*, *pervert*, or *invert*,) any duct by which the fluids are diverted and drawn off. In P. Ægineta it is the same as

ECTRO'PIUM, (from the same,) an inversion or everson of the eye lids, so that their interior red skin becomes prominent, and the eyes exposed. When this misfortune happens in the superior eye lid, in consequence of its resemblance to a hare's eye, it is called by the Greeks *lagophthalmia*; but Galen, in his Definit. Med. makes *ectropium* an eversion of the eye lids in general. According to Paulus Ægineta, however, lib. vi. cap. 12, the ectropium is peculiar to the under eye lid, and lagophthalmus to the upper; but the term lagophthalmia is sometimes applied to the eye lid, when retracted only, without eversion.

Sometimes this disorder is unaccompanied with any other; but often an inflammation of the eye, a sarcoma, or an encanthis, attends it. When alone, it is caused by cicatrices after wounds, exulcerations, burns, and imprudent use of astringents, or from the protuberance of the internal fleshy parts. In old people a relaxation of the orbicular muscle sometimes occasions it in the lower eye lid. If the eye lid is greatly distorted or contracted, or if the disorder hath been of long continuance, a remedy is rarely to be expected.

When a cicatrix is the cause, it must be softened by a frequent application of the steams of warm water, the egg liquor mentioned in the article ANCHYLOSIS, &c. At night, proper compresses may be applied to confine the eye lids.

When a contraction of the eyelid is the cause, if emollients and compresses fail, an incision in the form of a crescent may be made at a small distance from the eye lashes, to give room for the eye lid to cover the globe: in the upper eye lid the points of the incision should be downwards, and in the under eye lid upwards. The number of incisions may be one or more, according to the degree of the contraction; if more than one are required, the second must be parallel to the first, and at a small distance from it. After the operation at the second dressing, some digestive must be applied to encourage the granulations betwixt the incisions; and slips of sticking plaster used, to keep the upper and lower eye lids close until the incisions are healed. Fungous flesh is to be treated in the usual way. If it arise from a relaxation of the orbicular muscle, relief must be attempted by spirituous and strengthening applications. If tumours in the orbit are the the cause, and they are not of a cancerous kind, the cure will depend on their extirpation. Ware's Remarks on the Ophthalmy, &c. See BLEPHAROPTOSIS.

Galen, Celsus, P. Ægineta, Keckius's Dissertation on the Ectropium, Heister's Surgery, London Medical Observations and Inquiries, vol. iv. p. 371. Warner's Cases in Surgery, p. 34. and Mons. St. Yves on the Disorders of the Eyes. Bell's Surgery, vol. iii. p. 287. Wallis's Nosology of the Eyes, p. 13. White's Surgery, p. 248.

ECTRO'SIS, (from ἐκτιτρωχω, *to miscarry*). See ABORTUS.

ECTROTICA, and ECTYRO'TICA, (from the same). Medicines which cause miscarriage.

ECTYLO'TICA; medicines that destroy callosities. See ECTILLOTICA.

ECZE'MA, and ECZE'SMA, (from ἐκζεω, *to boil out*, or *to be hot*). See PUSTULA.

EDE'NTULUS, (from ἀ, *without*, and *dens*, *a tooth*). WITHOUT TEETH.

E'DERA TRIFO'LIA. See TOXICODENDRON.

EDE'SSENUM PELA'RIUM. The name of a collyrium in Ætius, containing edes or amber.

E'DRA. A FRACTURED BONE, in which, beside the fracture, there is an impression of the instrument by which it was broken.

EDULCORA'NTIA, (from *edulco*, *to make sweet*, or *purify*). Medicines supposed to correct or "sweeten" the blood; a word, which, if allowed to have any precise meaning, must be considered as similar to *alterantia*.

EDULCORA'TIO, (from the same,) SWEETENING WITH SUGAR OR HONEY; but, in chemistry, it is the rendering preparations mild, by repeated affusions of water, to separate the acids and salts, or by different combinations to sheath their acrimony. See CALCINATIO by detonation.

EFFERVESCE'NTIA, (from *effervesco*, *to grow hot*). EFFERVESCENCE. It signifies a slight degree of ebullition in liquors exposed to the necessary degree of heat. The chemists apply it to the ebullition excited by mixing an acid and alkali. It is occasionally confounded with fermentation; but fermentation is now limited to that commotion in vegetable juices which produces a vinous or an acetous liquor, and those ebullitions that are produced by the mixture of bodies are called *effervescences*.

E'FFILA. See LENTICULÆ.

EFFLORA'TIO, or EFFLORESCE'NTIA, (from *efflouresco*, *to blow as a flower*). See EXANTHEMA.

EFFLU'VIA, (from *effluo*, *to flow out*). Minute particles which exhale from bodies. By these effluvia from morbid bodies, contagion is propagated. See CONTAGIO.

EFFŒ'TUS, (from ἐ, and *fœtus*, *without an embryo*). BARREN, CHILDLESS; and figuratively, any thing so decayed as to have lost its virtue.

EFFRACTU'RA, (from *effringo*, *to break*). A species of fracture of the cranium when the bone is broken and much depressed by a blow.

EFFUSIO, synonymous with extravasation; fluids passing into the cellular membrane, generally from rupture of the vessels, though sometimes from debility and relaxation of the exhalants.

EGE'STIO. EXCRETION; a term generally used with respect to evacuations by stool.

EJACULA'NTIA, and EJACULATO'RIA VA'SA, (from *ejaculo*, *to cast out*). The vessels which convey the seminal matter secreted in the testicles to the penis. These are the *epididymis*, and the *deferentia vasa*: the *vesiculæ seminales* are the receptacles to the semen.

EILA'MIDES, (from *ειλεω, to involve*). See Dura mater.

EILE'MA, (from *ειλεω, to involve,*) painful convolutions of the intestines, from flatulence. (Hippocrates.) Sometimes it signifies a covering, and, according to Vogel, a fixed local pain in the intestines resembling a nail.

EILE'ON, (from *ειλεω, to wind*). See Ileum intestinum.

EILE'OS, (from the same). See Iliaca passio.

EI'SBOLE, (from *εις, into*, and *βαλλω, to cast*). An injection; but the term is used to express the access of a distemper, or of a particular paroxysm.

EI'SPNOE, (from *εις, in*, and *πνεω, to breathe*). See Inspiratio.

ELA-CA'LLI. *Euphorbia nerüfolia* Lin. Sp. Pl. 648. An East Indian shrub, whose juice is an excellent cathartic in dropsies. Raii Hist.

ELÆA'GNUS, (from *ελαιον, oil*, and *αγνος, chaste*). See Myrtus Brabantica, and Oleaster.

ELÆOME'LI, (from *ελαιον, oil*, and *μελι, honey*). In Syria this oil is prepared from the buds or the trunk of a certain tree unknown to naturalists, but probably a species of fraxinus: it is sweet, thicker than honey, and of a purging quality. Dios. lib. i. c. 37.

ELÆOSA'CCHARUM, (from *ελαιον, oil*, and *σακχαρ, sugar*). A mixture of essential oil with sugar. The oil requires at least eight or ten times its quantity of sugar, which should be well rubbed with the mixture, and kept closely from the air. In the essential oil of vegetables reside most of the virtues that are communicated to water, or to vinous spirit by distillation; and if a proper quantity of water, or of vinous spirit be added to these elæosacchara, a medicine is immediately produced, of similar efficacy with distilled water, and of any given strength.

ELA'NULA. See Alumen.

ELA'PHICON, ELAPHOBO'SCUM, (from *ελαφος*, and *βοσκω, to eat*, because stags are fond of them). See Pastinaca sylvestris, and Sisarum.

ELAPHOPI'LA, (from *ελαφος, a stag*, and *pilus, hair*). See Cervus.

E'LAPS. A serpent, whose bite produces a disorder like the iliac passion.

E'LAS MA'RIS. See Plumbum ustum.

ELA'SIS, and ELATER, (from *ελαυνω, to impel*). See Elasticitas.

ELA'SMA, (from the same). A lamina or plate of any kind; though used to express a clyster pipe. See Enema.

ELASTI'CITAS, ELA'SIS, ELA'TER. Elasticity, (from the same). It is the property in bodies by which they restore themselves spontaneously to the figure and dimensions which they had lost by pressure or extension.

E'LATE. The vagina, which incloses the flowers and rudiments of the great palm tree.

E'LATE THELE'IA. See Abies.

ELATE'RII CORT. See Thuris cortex.

ELAT'ERIUM; a word often used by Hippocrates to express an internal application of a digestive or a detergent nature. The inspissated juice of the wild cucumber. See Cucumis agrestis.

ELATHE'RIA. See Thuris cortex.

ELATINE, (from *ελατων*, as the smaller species). *Antirrhinum elatine* Lin. Sp. Pl. 851. The leaves of this plant are rough and bitter to the taste; and were formerly recommended internally as an antiscorbutic, and applied externally to heal old ulcers.

ELA'TINUM O'LEUM. The name of an oil in Dioscorides.

E'LCOS. See Catagma.

ELCO'SIS, (from *ελκος, an ulcer*). Numerous, or large chronic ulcers, carious, fetid, and attended with a slow fever.

ELECTA'RIUM, vel ELECTUARIUM, (from *eligo, to choose*, or rather *lackata*, from *laack*, Heb. *to lick up*, or the Greek word *λειχω, to lick*). An electuary. An electuary is of the same consistence and materials as a bolus; and where the accuracy of the dose is not essential, and a frequent change unnecessary, it is preferable to the bolus. In electuaries, when kept in the shops, medicines which will ferment or combine in new forms must be avoided. Nauseous medicines cannot be easily taken in any electuary, and, for these, pills are preferable. The latter is also the more convenient form for many metallic preparations. If electuaries are too hard, they candy; if too soft, they ferment. When soft, they are called *opiata*. The lighter powders require thrice their weight of honey, and twice the weight of common syrup; but to prevent drying too fast, a little conserve should be added. Deyeux recommends previously crystallizing the sugar in the syrup, or, at least, separating as much of it as will crystallize. The remainder will form electuaries not subject to this inconvenience, since the drying depends on the crystallization of the sugar. Treacle is not subject to this inconvenience.

Extemporaneous electuaries should not exceed two or three ounces, half of which is conserve: but this is not a fixed rule, for the consideration of how much of the medicine can conveniently be given for one dose is sometimes to be attended to; when the ingredients are unpleasant, the taste is best covered by mucilage, or a solution of liquorice juice. Mucilage is well adapted for the exhibition of powders. See Lemery's Universal Pharmacopœia.

ELECTIVE ATTRACTION, (from *eligo, to choose*, or *select*). This term has been usually applied to chemical affinities; but as we have employed it in physiological discussions, we shall state the foundation on which we rest.

This power is chiefly observed in the absorbent system. There is little doubt but that, on the surface, noxious vapours and noxious fluids are not taken up; and, apparently, when watery fluids are not wanted, even water is not absorbed. In many cases, when the introduction of medicines into the circulating system was thought necessary, numerous experiments were made to discover whether the chyle was impregnated with remedies given to dogs. These, though sought for at different periods, after having been taken, were seldom found. Thus we have an additional proof of the superintending power of nature to guard the constitution against injury; since, as we have had occasion to remark, the most innocuous fluids injected into the blood vessels occasion the most fatal symptoms.

How far this choice prevails we are not informed. In Dr. Alexander's experiments, bark and nitre seem to have been conveyed to the blood, as they appeared in the urine. Even at the first view, these experiments-

appear inconclusive, and other more accurate observers have not supported his opinion.

This elective power appears equally striking in the stomach and intestines. Food the most strange and singular is sometimes longed for, particularly in fevers, about, or after, their crisis; and the desire may be indulged with little injury. The mildest foods are often, by an apparently similar caprice, rejected by this organ and the intestines. In the glandular system we perceive a similar election. The fluids pass through the kidneys often in small and inefficient quantities, apparently from the presence of some medicine which they repel; for, if that is disused, the secretion returns. In this case we find all the other symptoms of a noxious matter; the functions are disturbed, the mind agitated, and fever excited. These symptoms are sometimes owing to an excess of stimulus, which, in weak organs, produces irregular action; but more frequently to the repulsion of the fluids, for where there is attraction, repulsion is also found. Why medicines affect a particular gland or injure the stomach, though inoccuous in the eye, is a subject not connected with the present, and will be spoken of under the article SECRETION; and occasionally mentioned as a specific stimulus.

ELE'CTIO, (from *eligo, to choose*). ELECTION; that part of pharmacy which consists in a knowledge of the materia medica, and directs the choice of drugs, distinguishing the good from the bad.

ELECTRICITAS; ELECTRICITY, (from ἠλεκτρον, *amber*). The quality which amber possesses of attracting light bodies when rubbed, has expanded into consequences the most extensive, and results the most important: it has become the science of electricity; has drawn thunder from the clouds; and, in the hands of philosophers, may deprive earthquakes of their destructive power. Our province is more humble: it is to trace its powers in a little microcosm, in a limited circle, where we once hoped to find it a salutary guardian; but where it appears only, if not a harmless, at least not a beneficial agent.

We must not detail the principles of this science, or enlarge on contending systems. It will simplify our language if we consider *positive* electricity as the excess, and *negative* as a deficiency, of this fluid: the former as the excess of uncombined electricity, the latter as a deprivation of the due or necessary quantity. A theory of this kind we could render equally probable with any other; but it is unnecessary, since the facts may be readily translated into a more fashionable language, if such a translation be required.

In the view we have just offered, each body has its proportionate share of this fluid, which may be increased or diminished; but, in either case, the equilibrium is only restored with some violence, called a *shock;* though it may more silently take place by appropriate means, to be afterwards described. This share is determined by the nature of the body; but is, in general, greater or less as the body is a conductor or a non-conductor; i. e. that it has a power of conducting any excess of electricity to its common reservoir, the earth, or of confining it to its own substance. Thus metals and fluids are powerful *conductors;* any dry bodies, particularly vitreous ones, *non-conductors*. The human body is, in general, a conductor, as consisting of fluids, and communicating with the earth by its surface, commonly moistened by the perspiration.

It has been rendered highly probable, by an anonymous author, in a collection of essays (Exeter Essays), that, on the conversion of any fluid to an aerial form, the electrical escapes; and, on the contrary, that when air is converted to a fluid, that it disappears; probably, in the first instance, separated from, and in the last combined with, the fluid. If this be true, in meteorological phenomena, as it seems to be, from a very careful induction from facts, it probably is so in physiology; and it is supported by some striking appearances. Thus the electricity of the human body, in its healthy state, is, like that of the generality of bodies, positive: such also is the electricity of the blood; but, in the animal economy, various functions continually go on, in which air is separated and carried off. The electricity, therefore, of the body must be constantly changing; and we, of course, find, as may be expected, that of some of the fluids negative. Such is the electricity of all the excrementitious fluids.

Again: We know that in confined air, in heated and crowded rooms, these aerial changes are more considerable; and it is consequently not uncommon, in such circumstances, to find the electricity of the whole body negative. Such observations have, unfortunately, not been duly examined, and we must take advantage of incidental facts. The ignis fatuus is, we know, inflammable air ignited by electricity. It flies from a person who pursues it, because the electricity of each is positive; but Dr. Priestley has recorded an observation, where it seemed to follow the person, who had been long in a crowded room; and we learn from Mr. Read, (Phil. Transactions for 1794) that the electricity of the air, in such an apartment, probably from the perspirations of a numerous assembly, is negative. We may conclude, then, that the positive electricity of the body disappears in the animal process; but nothing is lost. It, perhaps, performs a most important office, which we can only at present guess at; but this is scarcely a place for conjecture. Let us, however, at once hazard it. The electrical fluid, by its union, elicits heat (Pictet sur le Feu, 108); and this fluid is nearly and intimately connected with the nervous power. The one is probably occasioned, and the other supported, by the electricity that disappears.

If a resinous, as well as a vitreous, electricity exist, in other words, two fluids of different and opposite properties, the distinction appears to be immaterial in a medical view. Each produces similar effects when used as a remedy, and this consideration led us to adopt the simple language with which we introduced the subject.

Electricity is employed in medicine chiefly when accumulated. If the communication with the earth is cut off, and the fluid accumulated in the body by the action of a proper machine, it is called *simple electricity*. If then the fluid is drawn off, silently, by points, or more actively by rounded conductors, the *electric aura*, or *electric sparks*, are said to be drawn. If the accumulated electricity be at once discharged, or, in other language, if the communication between the different sides of the electrical jar be suddenly restored, the shock is said to be produced. Electricity, in each instance, acts as a stimulus only. Simple electricity increases the circulation, accelerates the jet of blood in bleeding, increases

perspiration, as well as the other secretions and the appetite. When the aura is gently drawn off, a slight stimulus augments the action of the vessels, from which it is taken; when by rounded conductors, in the form of sparks, the stimulus is more considerable. When the equilibrium is suddenly restored, every fibre seems agitated. When slight it is felt in the fingers and wrists only; when gradually more violent, the shock affects the elbows, the arms, and the chest. This happens when the equilibrium is restored, by touching the conductor with each hand; and, in this case, the fluid takes the shortest circuit, through the arms and breast, apparently passing through the nerves; for its effects are chiefly felt where they are more strictly tied down by their sheaths. When the stimulus is wanted in any particular part, the conductors are so placed as to convey the fluid necessary to restore the equilibrium through that part. The effects of the shock are said to be stimulant; but it is rather a violent concussion, without any discriminated or permanent change. It may be made so strong as to kill smaller animals; and, for a time, to deprive even a human being of his senses. When animals are killed by it, the irritability of the muscles is destroyed, an effect also occasioned by hydrogen: sometimes an important blood vessel is ruptured. If the shock be a stimulus, and destroy by excess of excitement, we might expect, that, in a less degree, it would prove useful as such. It undoubtedly excites the action of a paralysed muscle, but produces no permanent good effect; so that this mode of employing electricity is now almost wholly disused.

In general, then, electricity must be considered as a simple stimulant; and it increases all the actions going on in the system, whether salutary or morbid. It promotes suppuration, and more firmly impacts the fluids in infarcted glands. But it also discusses tumours not too firmly fixed, and assists the recovery of the nervous power of a debilitated organ.

From this view of the subject, it will be obvious that electricity is chiefly useful in asthenic diseases, and in obstructions not yet insurmountable. It must be hurtful in inflammatory disorders; where, with an inflammatory diathesis, there is a strong determination to any part; when the irritability is considerable, or the obstruction firm, and of long standing.

In *febrile diseases*, it has been seldom employed, except to terrify on the approach of intermittents; when, by the unexpected shock, it often succeeds.

In *inflammations*, it has been sometimes employed to discuss phlegmons; occasionally to relieve ophthalmiæ. In both cases the shocks are inadmissible. In the former sparks may be drawn; but, in the latter, the points must be used to solicit the aura. In the tooth ach it has been also sometimes employed, as well as in the gout and in inflammatory cynanche, but with very little effectual relief; and it is now, in general, disused.

The chief complaints in which advantage from electricity has been expected are the palsies. It was first used at Geneva; and was said to have cured a locksmith and one other person of hæmiphlegiæ. It is now well known, that the relief obtained by each was temporary only; and though it continues to be employed, generally in the form of shocks, its utility is inconsiderable and temporary. In many instances it has certainly been injurious.

In the more partial palsies, drawing sparks has been occasionally beneficial, though in no considerable degree: and the power of debilitated organs, as of the eye in gutta serena; of the ear in deafness; or of a palsied muscle, has been sometimes, in part, restored. Electricity has been also tried in chronic rheumatism, a species of palsy, and in amænorrhœa. Slight shocks, in each, have been sometimes useful. In the last complaint, the fluid must be directed through the pelvis. We have sometimes succeeded in procuring a return of the menses by these means; but we have more often produced leucorrhœa. Electricity has been also often employed to restore suspended animation from apparent drowning, and is supposed to be a powerful and effectual remedy; but we have never found it of the slightest use. A physician at Brunswick, M. Friske, has directed the shocks, through the abdomen, to kill the tape worm; in which he thinks he has succeeded. On recurring to the authors on medical electricity, in almost all we observe a very prudent remark, that during its course the proper medicines are by no means to be omitted.

ELECTRO'DES, (from ἤλεκτρον, *amber*, and εἶδος, *likeness*). An epithet for stools which shine like amber.

ELE'CTRUM, (from ἕλκω, *to draw*, because of its attractive power. Amber. (See Succinum.) It is also a mixture of gold with a fifth part silver.

Ele'ctrum minera'le; a mass of tin and copper, with double its quantity of martial regulus of antimony, melted together. This mass, powdered and detonated with nitre and charcoal, powdered again while hot, and then digested in spirit of wine, produces a tincture of a fine red colour, accounted a deobstruent.

ELECTUA'RIUM è SE'NNA. See Senna.

ELE'GMA, (from λείχω, *to lick*). See Linctus.

ELELI'SPHACOS, (from ἐλείζω, *to distort*, and σφακος, *sage*,) the name of a species of sage, from the appearance of its leaves and branches curling spirally: its virtues are the same with those of sage. See Salvia.

ELEME'NTUM. Element, (quasi *elicimentum*, quod omnia ex iis *elicita* sunt et extracta). A simple body, from whence any thing is first constituted, and which may be resolved into parts not of a different nature, but homogeneous. Empedocles and Aristotle acknowledged as elements, air, earth, fire, and water; an opinion now proved fallacious. Paracelsus, with other chemists, considered earth, salt, sulphur, and mercury, in the same sense; but these are allowed to be the result of theory without the support of experiment. Principles which cannot be subdivided by art are called *elements* or *first principles;* and the principles made up of these, secondary principles. Some writers carry this order much further; but it must be confessed, no means have yet been devised to show, unequivocally, whether any such subordination of principles exists. We may indeed discover the component parts of bodies, but we know nothing of their arrangement; and what are considered at one time as the simplest form of bodies, are at others found to be compounds. Hence it is said that the word ought not to be used, but as an expression denoting the last term of our analytical results. Galen observes, that the element is the smallest and most minute part of any thing whose element it is. But the word elements, in a figurative sense, is used for the principles and foundations of any art or science, as

Euclid's elements, the elements of chemistry, elements of medicine: sometimes, as in Haller's great work, the Elementa Physiologiæ, it implies the minutest component parts; while the abstract, or rudiments, are styled "First Lines."

E'LEMI; called also *icicariba*, *icica*, and *gum elemi*, is a dry resinous substance, brought from the East Indies and Æthiopia; but an inferior sort is the produce of an olive tree in the Spanish West Indies; the *amyris elemifera* Lin. Sp. Pl. 495. The elemi tree is also called *myrobalanus Zeylanicus; elemnifera Curassavica arbor; kækuria*. What is brought from the east is wrapped in flag leaves; is softish, somewhat transparent; of a pale whitish yellow colour, inclining to green; inflammable, and of an agreeable flavour when melting; to the taste bitterish; dissolving totally in rectified spirit of wine; and yielding, by distillation with water, about one ounce of essential oil from sixteen of the gum. Dr. Wright informs us that a resin, not apparently different from the elemi, is obtained from the *bursera gummifera* Lin. Sp. Pl. 471; the tree supposed to afford the simarouba. Of this resin, alcohol dissolves 0.94; and it contains also about 0.06 of essential oil.

It is chiefly used as a digestive in the form of an ointment: the London college gives the following prescription, in which it is the chief ingredient.—*Unguentum elemi*, Ointment of Elemi. Take of mutton suet prepared, two pounds; of gum elemi, one pound; of common turpentine, ten ounces. Melt the gum with the suet; and when all is quickly removed from the fire, add the turpentine; and, while the mixture is fluid, strain it.

Arcæus was its first prescriber, and it was formerly called *linimentum* vel *balsamum Arcæi*. (See Lewis's Materia Medica. Neumann's Chem. Works.) When two ounces of olive oil are added, it has been called *unguentum elemi compositum*. It is the best of the terebinthinate applications for encouraging a salutary digestion in ulcers. If to half a pound of this ointment one drachm of ærugo æris is added, it becomes *unguentum elemi cum ærugine*. The verdigrise must be mixed with a little oil, and gradually stirred into the ointment whilst in a melting state. This remedy has been long used as a stimulant to foul ulcers.

ELEMNI'FERA CURASSA VICA A'RBOR (from *elemi*, and *fero*, *to bear*). See Elemi.

ELE'NGI. A tall tree which grows in Malabar, and bears fragrant flowers, esteemed for their cordial quality. *Mimusops elengi* Lin. Sp. Pl. 497.

ELEOSELI'NUM, (from ἕλος, *a fen*, and σελινον, *parsley*). See Apium.

ELEPHA'NTIA, (from *elephas*, on account of the great enlargement of the body in this disease). An anasarca.

Elepha'ntia A'rabum. In Dr. Cullen's Nosology it is synonymous with elephantiasis. The term is, however, occasionally confined to this disease, when it affects the feet.

ELEPHANTI'ASIS; *lazari morbus* vel *malum*; *Phæniceus morbus*, is generally ranked as a species of leprosy (see Lepra Arabum); but is distinguished from the leprosy by being seated in the flesh, while the leprosy only affects the skin, or, at the most, the integuments. This disorder receives its name from its often affecting the legs, so as to make them resemble those of an elephant; but in many instances the legs are not affected.

Dr. Cullen places this genus of disease in the class *cachexiæ*, and order *impetigines*, and defines it a contagious disease, wherein the skin is thick, wrinkled, rough, and unctuous, divested of its hair; the extremities insensible, with respect to feeling; the face disfigured with hard tumours, called *tubera*; the voice hoarse and nasal. In different parts of the skin sometimes arise fungi, having the appearance of mulberries or raspberries.

Dr. Towne assures us, that negroes are very commonly the subjects of this disorder, and that it bears a great affinity to the best account we have of the lepra of the Arabians. He says those are the most subject to it, who, after severe acute fevers, long continued intermittents, or other tedious diseases, are either much exposed to the inclemency of rainy seasons, and the cold dews of the evening, or who are constrained to subsist on bad diet.

On the first attack the patient complains of shiverings; these continue a few hours, and are succeeded by a pain in the head, back, and loins; a nausea and vomiting soon follow, with pain in one of the inguinal glands (never in both): a severe fever follows; the gland reddens, becomes hard, but seldom suppurates; a red streak runs down the thigh, from the swelled gland to the leg, almost an inch broad, and of a flesh colour: this streak soon swells, and then the fever abates, and the matter is thrown upon the leg by an imperfect crisis. By degrees the leg is more and more tumefied, and the veins are formed into large varices, which are very apparent from the knee downward to the toes. Soon after, the skin grows rugged and unequal; a scaly substance soon forms on it, with fissures interspersed. These scales do not dry, but are daily protruded forward, until the leg is greatly enlarged. Though this scaly substance appear harsh and insensible, if it is very superficially touched with the point of a lancet, the blood freely oozes out. Notwithstanding the monstrous size of the diseased leg, the appetite remains good, and in all other respects the patient is healthy: many continue in this state for twenty years or more, and make no other complaint than what the enormous size of the leg occasions. It rarely happens that both legs are affected. White people suffer from this disorder when in the same circumstances which produce it in the negro. The disease is infectious, and often found to be hereditary.

The cure is uncertain: after cleansing the first passages, warm diophoretics may be mixed with antimonials, and administered with the bark. The diet and mode of living should conduce to increase the vis vitæ. Mercury is said to be injurious; but experience has occasionally shown its utility, when joined with the remedies just mentioned.

Aretæus describes the elephantiasis with great accuracy. Towne is particular in the account of it. See Turner also in his Diseases of the Skin, and Brook's Practice of Physic.

In the London Medical Transactions, vol. i. p. 23, is inserted a description of the elephantiasis, as it appears in Madeira, with the method which in one instance was attended with success. In this country the disorder appears at first in the form of tubercles on any or all parts of

the body; in time they ulcerate: if they occur on the beard or eye brows, the hairs fall off; but this does not always happen on the head. The legs swell, and are hard; white scales cover them, and fissures occasionally appear, though the legs are sometimes emaciated and full of ulcers. The alæ nasi are swollen and rough; the cartilage of the nose sometimes destroyed; the lobes of the ears are swollen; the voice hoarse; the nails are thick and scaly; the skin white, shining, and insensible; the breath offensive; the pulse weak and slow. Many other very disagreeable symptoms occur in different patients. None are observed to receive this disorder from others by contact; but generally the children of the diseased are subjected to it.

It usually appears here as a chronic disease on the decline of life, and every circumstance shows a great deficiency of nervous power. We never saw, in the few cases that have occurred to us, any advantage from medicine; but the bark, with the following embrocation and blistering, is said to have relieved after mercurials and antimonials had failed. The following is the mode recommended: Applicetur emplastrum epispasticum nuchæ. ℞. Cort. Peruv. pulv. ℥ i ss. cort. radicis sassafræ pulv. ℥ ss. syr. q. s. fiat. electar. cap. q. n. m. majoris bis in die.

℞. Spt. vini tenuior. ℥ viii. lixiv. tart. ℥ i. spt. sal ammon. ℥ ii. m. f. embrocatio qua inungantur partes affectæ mane nocteque.

The disease was, however, apparently mistaken, or the event unfaithfully related.

The cause is often indigestion, and it has been attributed, in the island of Madeira, to the poison of fish. Sometimes emetics, and in some instances cooling antiphlogistic medicines, are said to have been there serviceable. In the elephantiasis of the East (see Asiatic Researches), white arsenic is said to have succeeded. Dr. Semple advises mercury and antimony, with an embrocation consisting of eight ounces of spirit of wine, an ounce of aqua kali, with twice as much aqua ammoniæ.

ELEPHA'NTINUM EMPL. A plaster described in Oribasius. Celsus describes one of the same name, but very different in qualities.

E'LEPHAS, (from the Hebrew term, *eleph*). In chemistry it signifies *aquafortis;* in zoology, the large animal called an *elephant;* in nosology, the *elephantiasis*.

ELE'RSNA. See Molybdæna.

ELE'TTARI. See Cardamomum.

Ele'ttari primum. See Amomum.

ELUTHE'RIA. See Thuris cortex.

ELEVA'TIO, (from *elevo, to lift up*). See Sublimatio.

ELEVA'TOR AURI'CULÆ. This muscle arises from the external termination of the frontal muscle, it being formed of different fleshy fibres covering the temporal muscle; and being thin and membranous, is carried over it; then growing narrower, is inserted into the upper part of the ear, bringing it upward and forward.

Eleva'tor la'bii inferio'ris. See Levator labii inferioris.

Eleva'tor labii superioris. See Levator labii superioris.

Eleva'tor labio'rum. See Levator communis.

Eleva'tor na'si ala'rum. These muscles arise from the top of the bone of the nose near the lachrymal cavity, with a sharp and fleshy beginning, and falling down towards its sides in a triangular figure, not much unlike the Greek letter Δ, run downwards the length of the bone, and are inserted broad and fleshy into the alæ nasi.

Eleva'tor o'culi; *superbus, attollens*, and *rectus superior*. This muscle rises from the bottom of the socket, near the hole which gives a passage to the optic nerve; then passing over the upper part of the globe of the eye, is inserted into the superior and anterior part of the sclerotica.

Eleva'tor pa'lpebræ superio'ris. See Levator palpebræ superioris.

ELEVATO'RES A'NI. See Levatores ani.

ELEVATO'RIUM, (from *elevo, to lift up*). An elevator. An instrument to raise a depression in the skull.

ELHA'NNE A'RABUM. See Ligustrum Indicum.

ELICHRY'SUM. Helychryson, (from ἥλιος, *the sun*, and χρυσος, *gold;* from their shining yellow appearance). *Goldylocks*. It is a small, shrubby, downy plant, clothed with long very narrow leaves, producing on the tops of the branches several small round heads of bright yellow scaly flowers; a native of the southern parts of France; flowers in May and June, and holds its leaves all the winter.

Elichry'sum, coma aurea, called also *linaria aurea, linosyris, virga aurea, conyza, gnaphalium luteum*, and German goldylocks, *gnaphalium stœchas* Lin. Sp. Pl. 1193. It is cultivated in gardens, and flowers in May. The flowers are said to be diuretic.

Elichry'sum, called also *chrysocome, coma aurea*, golden maiden hair, golden stœchas, golden or yellow casidony, goldylocks, *chrysocoma coma aurea* Lin. Sp. Pl. 1177.

The flowers, naturally dry and firm, retain their figure and glossy yellow colour for years. Both the flowers and leaves, if rubbed a little, smell strongly, and have the flavour of musk; but to the taste are warm, pungent, bitterish, and astringent. Water and rectified spirit take up their flavour in distillation and infusion. It is not much used in medicine, although it has been esteemed as astringent and tonic. See Lewis's Materia Medica, or Neumann's Chemical Works.

Elichry'sum montanum. See Gnaphalium montanum; *g. dioicum* Lin. Sp. Pl. 1199.

ELI'DRION. Rulandus says, it is mastich; mercury; rapontic; or a mixture of silver, brass, and gold.

ELI'GII MO'RBUS. See Fistula.

ELIQUA'TIO, Eliqation, (from *eliquo, to melt down,*) an operation by which a more fusible substance is separated from one less fusible, by means of a heat sufficiently intense to melt the former, but not the latter. Thus, an allay of copper and lead may be separated by applying a heat which shall melt the lead, but not the copper.

ELITHROI'DES. See Testes.

ELI'XIR, (from the Arabic term *al-ecsir*, or *chemistry*, an appropriate production of the chemical art,) sometimes, according to Lemery, called *enchyloma*. An elixir is only a compound tincture.

Eli'xir a'loes, and Eli'xir proprieta'tis. *Vitriolicum*. See Aloes.

ELI'XIR MY'RRHÆ COMP. and ELI'XIR UTERI'NUM. See MYRRHA.

ELI'XIS, (from λειχω, *to lick*). See LINCTUS.

ELIXIVIATIO, (from *elixo*, *to boil*). ELIXIVIATION; the operation by which a fixed salt is extracted from the ashes of vegetables, by an affusion of water.

E'LLEBORINE. See HELLERORUS NIGER HORTENS.

E'LLEBORUS. See HELLEBORUS.

E'LLOBOS, (from εν, *in*, and λοβος, *a lobe*). An epithet for such seeds or fruits as are in pods or lobes.

E'LLY'CHNION, and E'LLYCHNIO'TOS, (from λυχνος, *a lamp*). The WICK OF A LAMP OR CANDLE. These were made of the papyrus, of the fruit of the ricinus, &c.; used by the ancients instead of cotton.

ELMI'NTHES, (from ειλεω, *to involve*; from their contortions). See VERMES.

ELO'DES, from ελος, *a swamp*; from the great moisture attending it). This is a species of tritæophya, or remittent fever, of the typhous kind, which usually terminates in fourteen or twenty-one days: it is epidemic, though not strikingly contagious; and from the beginning of the disease, through its course, profuse sweating attends. It differs from the sweating sickness, supposed to be peculiar to England, in its type, duration, and degree of debility.

ELO'GIUM, for ELLOGIUM, (from εν, and λογος, *ratio*). See RENUNCIATIO.

ELONGA'TIO, (from *elongo*, *to lengthen out*). See LUXATIO.

ELOPHOBO'SCUM. See CARA BRASILIENSIBUS.

E'LITZ. See ÆRIS FLOS.

ELUTRIA'TIO. ELUTRIATION, (from *elutro*, *to decant*). This is an operation performed by washing solid substances with water, stirring them well together, and hastily pouring off the water, while the lighter part remains suspended in the agitated fluid, that it may be separated from the heavier part. By this operation metallic ores are cleansed from the earth, stones, and other lighter unmetallic parts adhering to them.

ELU'VIES, (from *eluo*, *to wash out*). The humour discharged in a fluor albus. Pechlinus.

ELUXA'TIO. See LUXATIO.

ELYMAGRO'STIS, (from ελειμος, *the herb panic*, and αγρωστις, *wild*). See PANICUM.

E'LYMOS. The HERB PANIC, (from ειλεω, *to involve*; because its seeds are covered by an involucrum).

ELYTHROI'DES or ELITHROIDES, (from ελυτρον, *vagina*, and ειδος, *form*). The tunica vaginalis of the testis. See TESTES.

ELYTROCE'LE, (from ελυτρον, *vagina*, and κηλη, *hernia*). See HERNIA VAGINALIS.

ELY'TRON, (from ελυω, *to involve*, or *cover*). A covering or sheath. Hippocrates calls the membranes which involve the spinal marrow ελυτρα.

EMACIA'NTES, (from *emacio*, *to make lean*). Diseases that occasion a wasting of the whole body.

EMA'NSIO. Etmuller uses this word instead of suppressio, when speaking of suppressed menses. Emansio mensium, is the retention or absence of the menses beyond their usual period of appearing. See MENSES DEFICIENTES.

EMARGINA'TIO, (from *emargino*, *to cleanse the edges*,) cleansing a wound of the scurf about its edge.

EMARGINA'TUS. EMARGINATE, (from *e*, *from*, and *margo*, *margin*,) deficient in its margin: when applied to the apex of a leaf, it signifies terminating in a notch, the margin being discontinued or broken.

EMASCULA'TUS, (from *emasculo*, *to castrate*). See MALAZISSATUS.

EMBA'MMA, vel BA'MMA, (from βαπτω, *to immerge*, or *dip*,) *apiobamma*. A sauce or pickle to dip victuals in. Mustard is a kind of embamma. It sometimes means a slight tincture, and is applied to water in which hot iron hath been quenched.

EMBA'PHION. A CRUET for containing embammas.

E'MBASIS, (from εν, and βαινω, *to go*). See DEXAMENE.

E'MBLEG. See MYROBALANI EMBLICI.

E'MBOLE, (from εμβαλλω, *to put in*). The reduction or setting of a dislocated bone. See LUXATIO.

EMBORI'SMA. See ANEURISMA.

E'MBOTUM. A FUNNEL conveying fumes into any part of the body.

EMBRE'GMA, EMBROCA'TIO, (from εμβρεχω, *to moisten*, *sprinkle*, or *soak in*). EMBROCATION, *empluvium*, *embroche*, and *cataclysmus*. It is an external fluid application, usually prepared of volatile and spirituous ingredients, and mostly used to relieve pains, numbness, or palsies. See LOTIO.

E'MBROCHE, (from εμβρεχω, *to make wet*). See EMBROCATIO, and FOTUS.

EMBRONTE'TOS, (from βροντη, *thunder*,) thunderstruck. See APOPLECTICI.

E'MBRYO. An EMBRIO, (from εν, *in*, and βρυω, *to bud*). A CHILD IN THE WOMB; but Hippocrates confines the term to the child in its third stage, that is, before it is complete. See CONCEPTIO.

Galen remarks that the Greeks did not call the fœtus under two months old by the name of *embryon*, but named it *cuema*; but others styled it *embryon* during the whole time of its being in the womb. Homer applies the term embryon to the fœtus of brutes, and Theophrastus to the seeds of plants; and they are followed by all the moderns.

EMBRY'ONUM BALSAMUM vel SPT. It is a prescription of Bates; but in point of excellency is exceeded by a mixture of the spirituous aniseseed water and simple cinnamon water, in equal parts.

EMBRYOTHLA'STES, (from εμβρυον, *a fœtus*, and θλαω, *to break*). An instrument to break the bones of a fœtus, in order to its more easy delivery; or a crotchet for extracting a fœtus. See EMBRYULCIA.

EMBRYOTO'MIA. EMBRIOTOMY, from εμβρυον, *a fœtus*, and τεμνω, *to cut*). It is the division of the child while in the womb, in order to its easier delivery.

EMBRYU'LCUS. (from εμβρυον, *a fœtus*, and ελκω, *to draw*). The instrument required for artificial delivery, or embryulcia.

EMBRYU'LCIA, (from εμβρυον, *a fœtus*, and ελκω, *to draw*). A hook for the extraction of a child when labour is difficult. In the present practice of midwifery, as circumstances vary, the fœtus is drawn from the uterus by the blunt hook, the straight forceps, the curved forceps, or the crotchet: the latter would be fatal to the child, if alive, so that it is seldom employed

unless it is known to be dead; but its delivery is only expedited and facilitated by the other three.

The blunt hook is used when the child presents with its breech, and the pains are not sufficient for effecting its delivery. In this case the hook is carefully to be fixed in the groin of the child, and, as the pains return nature must be assisted by gently pulling with the hook; but if much strength is required, it is still better to leave the delivery to the usual assistance of the hands only with the labour pains, because the hook may dislocate or break the thigh of the child. When the hook is used, it should be taken away as soon as the finger can be fixed in the child's groin.

The crotchets are used in the same manner as the forceps, except that the crotchet, having a hook at its point, is forced into the part to which it is applied.

The straight forceps are used for bringing the head of the child forward, when, by reason of its size, or the want of pains, it cannot otherwise be protruded; but much care should be taken in using them. They are never to be employed while the head is above the brim of the pelvis, and indeed very rarely when it has descended lower. Dr. Hunter absolutely forbids their use, if they can possibly be avoided, consistently with the safety of the child; for, if time is allowed, the parts will dilate, and the head will be moulded so as to pass with the least possible violence.

The forceps, as improved by Smellie, are the best; he reduced their length, to prevent their being used before the head is sufficiently low. They should not be applied before the ears can be felt, and previous to their use the following rules should be observed:

1. The external parts should be sufficiently dilated.

2. The exact situation of the child's head should be known; and this is best discovered by feeling one ear.

3. A finger should be in the os internum to guide the forceps, lest a part of the uterus itself should be included in them. When the finger cannot be thus introduced, great care is required in passing the forceps along the side of the child's head.

4. The blades of the forceps should be well greased before they are introduced.

5. If possible, apply the blades over the child's ears; for thus they are placed on the narrowest part of the head; when this cannot be done, fix one before one ear, and the other behind the opposite one.

6. The forceps should be passed up in the direction of a line that may be supposed to pass through betwixt the navel and the scrobiculus cordis; at the same time keeping the handles as far back as the perinæum will easily admit. When the forceps are secure, pull them from blade to blade; for otherwise they are apt to slip off.

7. The handles should be tied tight before the operator begins to pull downwards with them; and when the two blades are locked, the lock should be about an inch from the child's head.

8. As the child's head advances, the operator should alternately rest and pull while the perinæum is on the stretch, and until the vertex is brought from under the os pubis; then the handles of the forceps being gradually raised towards the mother's belly, and the pulling repeated with caution, whilst with one hand the perinæum is supported, the forehead will be freed from it. The forceps are now to be taken away, and the delivery finished, as is usual, with the hands alone.

The different cases in which these forceps are required may be seen under the article PRÆSENTATIO.

The long curved forceps were invented by Smellie, with a view to save the life of the child, when, the body being delivered, the head could not be brought away in the usual manner. In this case the crotchet was formerly used. These forceps are longer than the straight ones, because they are applied when the head of the child is above the brim of the pelvis; but as it can very rarely happen that where the buttocks have passed (especially when doubled, as in breech presentations) the head will be detained, these instruments are scarcely ever necessary. Indeed, when the head is separated from the body, and left in the uterus, if the pelvis be much distorted, the long curved forceps may sometimes be preferable to the straight ones; but in this case, if the size of the head is lessened by emptying it of part of the brain, the delivery may generally be effected by one hand and one blade of a crotchet. Notwithstanding the advantages proposed by the use of the foregoing instruments, in some cases they are unavailing: it is then advised to open the head by the use of a large pair of scissors, with a stop put on the outward edge of each blade, about the middle; the inner edges of which are blunted downwards. These contrivances are, first, to stop the scissors before they are expanded in a proper situation, and to prevent cutting the vagina or uterus, in occasionally closing them. See PRÆSENTATIO, cases where the head presents, which will show the utility of these instruments more clearly. See the figures of these instruments represented in plate 5 of Midwifery, No. 3, 4, 5, 6, 7, 15.

E'MBULA. A PIPE.

EMBULA'RCHI SUFFUMI'GIUM. A SUFFUMIGATION, described by Ætius.

E'MERUS, also *colutea*, *scorpioides major*, and *sena*, *scorpium*, *colutea humilis*, *colutea scorpioides humilis*, *colutea siliquosa minor*, *coronilla montana*, and LESSER SCORPION SENA; *coronilla emerus* Lin. Sp. Pl. 1046. It grows on hilly places; its leaves are cathartic, and poor people sometimes gather and use them for that purpose.

E'MERUS AMERICA'NUS. See INDICUM.

EME'SIA, EME'SMA, and EME'TOS, (from *εμεω, to vomit*). The action of VOMITING.

EME'TICA, EMETICS, (from *εμεω, to vomit,*) *anocathartica*, and *vomitoria*; medicines which excite vomiting.

The use of these medicines is so extensive, and their effects often so important, that they will justify our considering them at some length. The most simple view we can take of emetics is, that they evacuate the stomach by the inverted action of its own motions with those of the œsophagus, assisted by the contraction of the diaphragm and abdominal muscles. This alone is an object of no little importance when we consider the extensive influence of this organ, and the very dangerous consequences which arise from its acrimonious or vitiated contents. But the advantages do not rest here. The same inverted motion is communicated to the duodenum, and, in some degree, to the inferior parts of the

canal. Into this second stomach, as we have described it, the bile and pancreatic juice are poured; and, while the joint action of the diaphragm and the abdominal muscles compress the gall bladder to evacuate its contents, the inverted motion of the duodenum and stomach evacuate it. Emetics, in this way, unite with cathartics in assisting the secretion and discharge of bile; in relieving or preventing infarctions of the liver: for, while the latter promote the secretion by stimulating the ducts, the former contribute to the same purpose by an action more strictly mechanical.

We have often had occasion to remark the extensive influence of the stomach in the animal economy, particularly its connexion with the state of the brain and the extreme vessels. The first effect of emetics, in consequence of this connexion, is to produce a general relaxation, approaching sometimes to faintness. In this state the extreme vessels sympathise and yield, with little resistance, to the force of the circulation. Perspiration follows, which by the action of vomiting is still further increased; and, if this is kept up by other means, the most salutary changes are often produced. We perceive the connexion of the stomach with the head, rather in the morbid than the salutary effects. During the action of vomiting, the return of the blood from the head is impeded, and all its vessels are distended; which has occasioned some hesitation in the use of emetics, when these vessels were previously distended, as in apoplexy and palsy. In such circumstances, however, we find the irritation on the brain communicated to the stomach, and vomiting excited.

The agitation of vomiting has been considered as useful; but this is a vague, indistinct indication. Medicines of this kind have, however, been employed where obstructions have been suspected; and, in the brain, the alternate filling and emptying their vessels may contribute to excite and support their action. We see some traces of such an influence from their utility in nervous diseases, particularly in those attended with general languor, as hypochondriasis, and in obstructed menses; but more strikingly in the good effects of very active emetics, particularly of vitriolated mercury in the cure of gutta serena. Another distant effect of emetics is more certain: their increasing the action of the absorbent system. Their operation, in this way, is not easily explained, but such effects are well established; and, on this account, we shall find them extremely serviceable, when we wish to promote the absorption of purulent matter that we cannot with ease or safety evacuate. They cannot be employed to relieve the more extensive accumulations of dropsies.

A very important effect of emetics, referrible in part to their action, and sometimes, perhaps, to the nature of the medicine, is their power of emulging the bronchial glands. On the first access of nausea, we find a flow of saliva, and a little discharge from the bronchiæ; but, when the emetic begins to act with some violence, this discharge is considerable; and no remedy is more powerful in producing a complete evacuation of those glands, or relieving them from the infarctions of viscid mucus. In part, this effect may be owing to the medicine; for we shall find some of the most active emetics to be expectorants also.

Emetics are of very different kinds. Some are purely stimulant, as mustard, volatile alkali, and horse radish root. Others are sedative or relaxant. Opium, in large doses, acts as an emetic. Foxglove, tobacco, putrid substances, oil, and warm water, are emetics of different strength, nearly in their order. The greater number, however, act apparently by a peculiar stimulus. In some of these the stimulus is obvious; and, when the stomach is not affected, acts on other secretory organs. The principal emetics of this kind are the antimonial preparations, which affect the bowels, the skin, and sometimes the bronchial glands. The mercurials are similar in this respect; but the copper, zinc, and platina, which in all their forms are emetic, seem not to affect any other glands. The acrimony of the squill and the seneka root is very general: they are not only emetics, but cathartics and expectorants. The asarabacca and the groundsel juice are more limited in their stimulant powers. The former, besides its emetic property, acts chiefly as an errhine, and the latter only on the intestines. The ipecacuanha is the connecting link between these more general stimulants and medicines, which seem to act from a specific influence on the stomach. There are certainly emetics which may be referred to this head. The vitriols of zinc, already mentioned, not to separate the metallic substances, have little general stimulus; and the air of the lungs which, when swallowed, proves certainly emetic, is wholly without any other power. Every nauseous taste tends to excite the action of the stomach; and to this head may be referred the bitters, as wormwood, camomile flowers, the seeds of the carduus benedictus and broom. Putrid substances, and the liver of sulphur, act apparently in the same way.

Other causes of vomiting are more obscure in their action. Association of ideas is a mental operation; yet a very frequent and certain cause of vomiting is, the recollection of objects connected with the evacuation of the stomach at a former period. Motion in a circle, in a ship, or in an unaccustomed direction, has the same effect. The motion of a wheel carriage, especially if the windows are closed, or the person sits in the back seat of a coach, will often produce vomiting. This effect, as connected with the changes in the common sensorium, must remain in obscurity.

The principle on which emetics act is not readily explained. It has been said that they are constantly sedatives; and, as plausibly, that they are always stimulant. Very powerful emetics belong to each class, yet, perhaps, a different principle influences their operation. The affection of the stomach is apparently increased action; but, in medicine, increased action is sometimes owing to a defect. It is, more obviously, irregular action; and we might thus attribute vomiting to the principle we have already endeavoured to establish, that irregular action is connected with a diminution of tone. We certainly, in this way, approach, at least, very near the truth; and the facts will in general support it. In every instance, however, except where vomiting is owing to an affection of the brain, there appears to be a substance inimical to the constitution, which the stomach, influenced by the vires medicatrices, attempts to discharge; and the necessary motions are consequently excited. Yet we must keep in our view, that languor and faintness, from any cause, will produce the

same effect; and we thus see why causes of extreme debility will equally excite this organ, independent even of the presence of any medicine, certainly by the intervention of any violent commotion. In this way may, probably, be explained the experiments of those who have excited vomiting by injections of emetic medicines into the veins. In fact, every foreign substance in the blood vessels excites such commotions, with faintings and convulsions; nor is it surprising that the stomach should equally suffer. In general, then, the most active emetics are the most powerful sedatives; and the whole class of poisons, particularly the narcotic cathartics, are violently emetic.

The motions of the stomach during the operation of emetics are, as we have said, inverted. This has been proved by ocular observation; and it is equally certain, that the action of the muscular fibres of the œsophagus is equally inverted. A nauseous draught, the repetition of an emetic, will sometimes excite the action of the œsophagus only; and we once saw it so permanently excited by a crystal of emetic tartar sticking in it, that the mildest fluids could not, for a long time, pass into the stomach. The action of the fibres of the stomach surrounding the cardia is, in some instances, exclusively excited: as in those who discharge wind, a small portion of acid, of oil, or any substance swimming on the surface of the contents of the stomach, and producing cardialgia. The more violent exertions of this organ alone discharge its whole contents; and such exertions must be strong and long continued before they are communicated to the duodenum. These are not facts merely of curiosity, but of great importance in the exhibition of vomits. It is in vain to expect benefit from them, if only the slight ineffectual discharge of a little of the tea, which has been drunk, takes place. The strain, such as arises from the action of the greater curvature, is necessary, if any viscid mucus is to be evacuated; if any effect on the liver can be expected. The evacuation of bile appears towards the end of the operation, sometimes after the interval of two or three hours; frequently on taking in the first draught of negus, or a similar cordial. The expediency of the remedy is then triumphantly pointed out; but, in reality, the bile was the effect, and was not previously in the stomach. The assisting actions of the diaphragm and abdominal viscera are sufficiently felt during the operation, if the facts were not ascertained by the experiments of Mr. Haighton.

These observations are of some importance in the administration of emetics. If the medicine is not for some time in the stomach previous to the vomiting, the whole organ is seldom excited. It has been usual to direct that the emetic shall be first discharged, probably from its apprehension of doing some injury. The practice is, however, proper, from its thus exciting every portion; but, as the vomiting, without some contents, is painful, on the first oppearance of sickness a little camomile tea may be allowed. In the whole operation, however, if more than a half pint of any fluid is contained in the stomach at one time, the greater is the probability of its acting incompletely. In cases of poisons the vomiting is extremely violent, and we then only want to dilute, and to render the action as easy as is consistent with the discharge. The dry vomits, as they are called, where all drinking is precluded, are painful remedies, but of great importance in assisting the bronchial discharges, or in relieving visceral obstructions.

Opposed to the severity of dry vomits, are the milder nauseating doses of antimonials or squills. These assist, in some degree, the discharge from the bronchiæ, but not so effectually as full vomiting. Their chief advantages are in the earlier state of fevers; in which they, in some degree, contribute to relieve the dryness of the skin, and to mitigate, by this effect, the great heat.

The use of emetics is very extensive. In *fevers* of every kind they are most powerful remedies. In *intermittents*, the vomiting, sometimes excited on the accession by nature, has taught us to lessen the violence of the paroxysm by emetics; and occasionally to prevent it, by their previous exhibition, and continuing to support the perspiration they excite. In every intermittent, and remittents also, we find bilious congestions, which active vomiting contributes to relieve. By this means the paroxysms of each gradually become milder; and there have been many instances where no other remedy was required.

In *continued fevers* emetics are highly useful, but their effects are not equally striking. The debilitating power of every febrile attack affects the stomach, and produces those irregularities of the digestive process which we have already described. The wholesome aliment is, in this way, converted into an injurious load; and emetics are not more useful in determining to the skin, than in removing the acrimonious or putrid saburræ. When contagion also has been received, though breathed with the air, it immediately affects the stomach, producing a bad taste in the mouth. This, with all the subsequent bad consequences, an emetic, followed by a brisk cathartic, will often remove. The particular kinds of fever offer few remarks of importance. In the synocha, bleeding, if it be at all admissible, should be premised; but the young practitioner, eager with his lancet, should reflect, that every throbbing pulse is not a strong one; nor does every headach portend approaching delirium. Emetics have often been of service even in the most inflammatory fevers, when bleeding has not preceded; and we should always consider, that the most putrid fevers are sometimes ushered in by symptoms seemingly inflammatory. In the lower putrid fevers, emetics are useful; but the nauseating doses, which may be continued in inflammatory fever, should soon be omitted in the latter, as they debilitate in a considerable degree.

In the next order, the *phlegmasiæ*, emetics are less essentially necessary; and, in these, bleeding must be frequently premised. After vomiting, the nauseating doses may be continued with the best effects. In the *pneumonia* they are often important remedies, from their power of emulging the bronchial glands. In *phrenitis*, though dangerous from increasing the accumulation in the head, we are sometimes obliged to employ them. In *cynanche* they are inconvenient, though useful, remedies. When the inflammation terminates in suppuration, suffocation often impends, and then vomiting, a precarious remedy, which may even bring on the fate it is intended to avert, may at once rescue the victim from the grave. Firm and steady must be the physician

who prescribes it; but he who would for a moment hesitate when his patient's life is at stake, whatever risk he may personally run, merits not the name of man, nor the character of a physician. In the other pyrexiæ we find little room for the use of this remedy. In *hepatitis*, for obvious reasons, it is doubtful, though sometimes useful; in *enteritis* the natural vomiting is often the most troublesome symptom; but in the *peritonitis puerperarum*, emetics, given early, have been considered as a most certain remedy. It would give us the greatest satisfaction could we confirm these assertions. On trial we have, however, found them useful. In *gout*, emetics have been employed to obviate the return of paroxysms; and in *rheumatism*, if bark be useful in this view, vomits must be equally so.

If the explanation we have offered of febrile cutaneous diseases be correct, emetics must be a remedy of peculiar value and importance in the order *exanthemata*. We need not enlarge on the different kinds, for in each these remedies are useful on the first appearance of fever. In those, however, attended with nervous or putrid fever, the repetition must be attempted with caution.

In *hæmorrhages*, emetics are supposed of doubtful efficacy; but they are more generally useful than has been supposed. With respect to the *hæmorrhagia cerebri* we shall reserve our observations for the present; and in *epistaxis* we need not have recourse to an active, uncertain remedy, when we have more safe ones within our reach. In *hæmoptysis*, emetics have been forbidden; but with little reason. Dr. Robinson, near sixty years since, recommended them as safe and effectual remedies; and we know that there are none which more certainly deserve this character: yet the general opinion is so decidedly in opposition to their employment, that, unless in emergency, we think they should not be exhibited; or even *in emergency* not professedly as emetics. One of the most obstinate hæmoptyses the author of this article ever saw, yielded only to the digitalis, which acted as a violent emetic; and its action was continued for several days. The bleeding only ceased during the operation of vomiting, and was finally stopped. Vomiting has been employed with success in *mænorrhagia;* but a physician may brave popular prejudice more safely in any disease than in female ones: nor is their utility in this complaint very clearly established. We speak, however, only at present of febrile mænorrhagia. In every other kind, emetics are decidedly injurious.

Of the *profluvia*, the only genera, *catarrh*, and *dysentery*, are greatly benefited by these remedies; nor can we add to what we have already remarked respecting their utility, or offer any observations to limit their employment.

The order *neuroses* offers abundant subject of discussion, was this a place for extensive inquiries; and had we not, in part, anticipated every essential remark. It will be at once obvious, that we refer to apoplexy and palsy, and the disputes which have arisen on the subject. In our former article (see Apoplexia) we gave the result of our observations; and then remarked that, though we had been ourselves cautious in the exhibition of emetics, we had seen them employed by others without injury; adding, that their inconveniences were slight and transitory, their good effects considerable and permanent. To this we may now subjoin what has since occurred in the progress of our work, that the venous system of the brain is apparently calculated to admit of distention, without any essential injury. The coats of many of the sinuses, particularly those at the base of the brain, admit easily of distention, are tortuous, and anastomose freely. On the whole, then, though we must consider emetics as remedies somewhat precarious, we think that they ought to be employed in such circumstances; and on taxing, most impartially, our recollection, we cannot find that, in a single instance, in our hands, or those of others, they have been hurtful. On the contrary, we have very often found them beneficial.

In the *adynamiæ*, emetics are of very extensive utility. They are of doubtful efficacy in *syncope*, when the disease arises from a topical affection of the heart and larger arteries, or when owing to debility, or an exhausted constitution. In many, perhaps the greater number of instances, fainting proceeds from accumulations in the stomach, and emetics are then absolutely necessary. In *dyspepsia*, *hypochondriasis*, and *chlorosis*, they are remedies of the greatest importance.

The order styled *spasmi* is a group of diseases scarcely connected. *Palpitatio*, however, like syncope, more commonly depends on accumulations in the stomach and bowels than on any other cause; and *asthma*, with *dyspnœa*, as we have seen, is greatly relieved by the operation of emetics, when not owing to any topical affection of the heart and arteries. If any medicine be useful in *pertussis*, it is occasional vomiting; but the *pyrosis* is a spasmodic complaint, and ultimately cured by a very different plan. Emetics are often useful as temporary palliatives. In *colica*, in *cholera*, and *diarrhœa*, we have had occasion to point out their utility; but in *hysteria*, though sometimes necessary, they are of doubtful efficacy. In the other genera they are not employed, or only occasionally useful.

In the *vesaniæ*, emetics are the most important remedies. When the disease is not connected with the stomach, which generally happens, they are probably useful by the agitation formerly mentioned among their effects.

In the first order of the *cachexiæ*, the *marcores*, we find little foundation for their employment; yet, as in *tabes* the hectic fever is mentioned, they may appear to be indicated. But the fever, in this case, is from debility only, the exacerbation of the common evening paroxysm. It reminds us, however, of an omission, which we must supply, the utility of emetics in *phthisis;* a disease that has no appropriate place in the system of Dr. Cullen, which we have chiefly followed. Whether we consider the fever as a remittent, the bronchial glands as infarcted, or the existence of purulent matter in a concealed abscess, emetics appear to be medicines of the greatest utility. In fact, they are so; and could phthisis be ever cured, it would be by the joint action of emetics and blisters. No remedy is so generally useful as a slight emetic, frequently repeated; it checks the fever, relieves the burning heat, renders the respiration more free, and the cough more loose. Yet hæret, lateri lethalis arundo, emetics will *not* cure. In *dropsies* we have mentioned the occasional utility of natural vomiting, and stated that we have not yet been able to imitate it by art; but in *hydrocephalus* and

hydrothorax it is inadmissible. We find a few solitary cases where the water in *hydrocele*, a partial dropsy, has been evacuated in this way.

For the various genera of the order *impetigenes* we find little room for the use of this remedy. If *frambœsia*, as Dr. Adams thinks (Memoirs of the Medical Society, vol. vi.), be an exanthema, emetics may be of service, as they very certainly are in *icterus*. Even where the pain at the pit of the stomach is violent, and the existence of a calculus unequivocal, though emetics may for a time increase the pain, the relaxation which they produce assists its passage. Neither in accidental nor in artificial vomiting have we ever found, in this case, any inflammation (the great source of alarm) follow. Emetics are of more importance in the last class of diseases, than from their *local* nature might be expected. In every case of obstructed sense, where the cause is not so firmly fixed as to resist every power, these remedies are useful; in the *caligo* for instance, *amaurosis*, *dysœcia*, and *ageustia;* in the greater number of depraved and deficient appetites; and in some of the depraved or irregular motions. In the *apocenoses*, the passive hæmorrhages, or mucous discharges, they are certainly injurious. In the *epischeses*, if we except the *amenorrhœa*, and in the *tumores*, except the purulent ones, they are hurtful.

The choice of emetics is a subject of some importance; but it is chiefly regulated by the quickness or the violence of their action. The most quickly operating emetic, in cases of emergency, is the white vitriol; the most violent is the turbith mineral. It is common to select the mercurial emetics in venereal cases; but this plan is not attended with peculiar advantages. We have often thought it singular that the squills are not more frequently employed for this purpose in asthma or pneumonia. They indeed produce a very permanent and distressing nausea, and are often employed as nauseating remedies; but we suspect that they might be particularly useful if given in these cases so as to produce full vomiting. In such instances physicians seem to prefer the antimonial emetics, and it must be allowed that the squills are very uncertain in their operation.

Emetics are injurious when there is any original defect in the head, in the heart and larger arteries, or, perhaps, in the abdominal viscera, if we except the liver; in the aneurisms of the larger vessels, in the delicate and the weak, if particularly plethoric. If no plethora exists, debility is seldom so considerable as to contraindicate vomiting, should there be any foundation for thinking it may produce real good effect.

With respect to the administration, we have little to add to what we have already remarked. In cases of fever we prefer the evening; in asthmatic cases, the morning; in hectics, the period when the febrile accession is most strongly marked. In the other disorders there is little choice of time. The preferable form is a liquid; and were the preparation of the ipecacuanha wine to be always depended on, this would be the best form of a medicine almost universally employed as an emetic, since the powder, apparently entangled in the coats of the stomach, sometimes occasions a continuance of painful retchings. Those who have repeatedly taken this medicine often find even the smell or taste sufficient to excite vomiting; and, from what has been said, it will be obvious that such vomiting will be ineffectual. To patients of this class it may be given in pills, or the tartarised antimony may be substituted.

Vomits, taken in the morning, should be allowed to produce their operation in bed. In the evening, if not taken in bed, the patient should immediately retire to it, without exposing himself to any chill. At any other period of the day, cold, after the vomiting, should be carefully avoided.

Any warm liquid may be employed to facilitate the action of the emetic; but the camomile, the carduus tea, mustard infusion, or whey, or the volatile alkali added to the bitter infusions, greatly facilitate it.

EMETI'CUM MI'TE. The mild emetic of Boerhaave is made by deflagrating one part of crude antimony with two of nitre. By this process all the sulphur is consumed, and a large proportion of oxygen combined with the metal, which reduces it to the state of an inert earth; it is therefore, in every sense, mild.

EME'TICUM VI'NUM. See ANTIMONIALE VINUM.

EMETOCATHA'RTICUM, (from ἐμέω, and καθαίρω). A medicine which operates both by vomit and stool.

EMISSA'RIUM, (from *emitto, to send forth*). An EMISSARY. In medicine it is any outlet, whether natural or morbid, from which any thing is discharged.

EMMENAGO'GA, EMMENAGOGUES, (from ἐμμηνα, *the menstrual discharges*, and ἀγω, *to propel*,) *menagoga;* medicines suited to promote the menstrual flux in women; or to excite and restore it when retained or suppressed.

The establishment of this class has occasioned much hypercriticism; yet, as pointing out a change to be produced, it is equally proper with emetics or cathartics; nor is it an objection that we must produce the change through some medium, and not by any direct action on the vessels themselves.

Emmenagogues are general or partial stimulants, tonics, or antispasmodics. We cannot, however, enlarge on their utility or application, while the cause of the discharge itself has not been investigated. We are compelled, therefore, to defer the consideration to a future part of the work, and trust then to be able to give a comprehensive account of the whole subject: we shall endeavour to give a satisfactory one. See MENSES.

EMME'NIA, (from μην, *a month*). See MENSES.

EMMO'TOS, (from μολος, *lint*). An epithet for persons, parts of the body, or disorders, that require lint for the cure.

EMO'DIA, (from ἐν, and ὀδους, *dens*). A STUPOR OF THE TEETH.

EMOLLIE'NTIA, (from *emollio, to soften*). EMOLLIENTS, *malacticos*. Medicines which lessen the force of cohesion in our simple solids, and therefore soften and diminish the hardness and rigidity of the parts to which they are applied. They not only relax the solids, but also sheath and defend them from the acrimony of the fluids. When externally applied, they are termed *emollientia;* internally administered, *demulcentia*. (See DEMULCENTIA.) Dr. Cullen thinks that emollients act upon the parts to which they are immediately applied, either by insinuating themselves into the substance of the solid, and diminishing the density and force of cohesion of the mixt; or, by being insinuated

into the interstices of dry particles, they diminish the friction that might otherwise occur, and thereby render the whole more flexible.

We have not, however, the slightest evidence that any permanent change can be made in the mixt, by the temporary application of oil or warm water. The nervous system is relaxed by warmth, and the simple solids partake of the change; but it is temporary only. A permanent change is only produced by a warm climate, or some relaxing occupation. In the simple solids we only find a greater flexibility, in consequence of emollients, which in Dr. Cullen's system appears to be correctly explained.

Emollient topics are formed of water, oily and mucilaginous substances. Water, particularly when assisted by a moderate heat, is plentifully absorbed from the whole surface of the body. It powerfully relaxes and dilutes, being miscible, though it does not enter into the composition of the solid, with almost every animal fluid. Oil relaxes and obtunds what is rigid and acrimonious; and mucilage equally sheaths sharp humours. In compositions of this kind, the aqueous part should be freely admitted, for the mucilages require to be largely diluted; gentle friction on the part increases their efficacy, by promoting the circulation; but the heat with which they are applied should not exceed what produces a pleasing sensation. From the relaxing and demulcent quality of emollient topics, they are useful sedative applications, when pain from tension, or from irritation, is excited: from the sympathy of the nerves, their efficacy is conveyed to distant and deep seated parts; and thus the warm bath proves so powerful a sedative. From the same principles these applications are also antispasmodics. Emollients, by relaxing the fibres, and promoting the circulation, hasten suppuration. See Aikin's Observations on the external Use of Preparations of Lead, p. 29, &c.

EMO'TIO, (from *emoveo, to move out*). When used with respect to the mind it signifies a delirium; when relative to some bone, a luxation.

EMPA'LEMENT. See CALYX.

EMPA'SMA, (from *πασσω, to sprinkle upon*). See CATAPASMA.

EMPE'ROS, (from *εμπειρω, to mutilate*). MUTILATED.

E'MPETRUM, (from *εν*, and *πετρος, a stone*). See ALYPUM.

E'MPETRUM THYMELÆ'Æ FO'LIIS, also called *sanamunda*, and SEA HEATH SPURGE; *daphne thymelæa* Lin. Sp. Pl. 509; grows on the coast of Andalusia, and flowers in February. A drachm of the root purges violently. About Gibraltar it is called *burhalaga;* but only used to heat ovens.

EMPHRA'CTICA, (from *εμφρασσω, to obstruct*). Such topical applications as obstruct the pores when applied to the skin; also named *emplastica, emplattomena*.

EMPHRA'GMA, (from *εμφρασσω, to obstruct*). An IMPEDIMENT OR OBSTRUCTION; the parts of a child which present in an unnatural posture, and obstruct the birth. Hippocrates.

EMPHYSEMA, (from *εμφυσαω, to inflate,*) *inflatio;* and sometimes *leucophlegmatia;* is any flatulent tumour; but it means generally a soft tumour arising from air being admitted into the cellular membrane. In Hippocrates it signifies an inflation of the belly, and sometimes a tumour in general. When ruptures or tumours are of the flatulent kind, they are called *physocele*. Dr. Cullen means by the word pneumatosis, which is his general name for this disease, the swelling formed by air, a flatus, or rarefied fluids. He places it in the class *cachexiæ* and order *intumescentiæ*, and defines it, a tense, elastic tumour of the body, making, on pressure under the hand, a crackling noise. The species are, 1. *Pneumatosis spontanea*, when it happens without manifest cause; 2. *Pneumatosis traumatica*, when from a wound in the thorax; 3. *Pneumatosis venenata*, when from the swallowing or external application of poison; 4. *Pneumatosis hysterica*, when accompanied with hysterics.

The most frequent cause of this disorder is the piercing of the plura by a sharp pointed instrument, or wounding the lungs by the pointed fragments of broken ribs; though it sometimes happens that an emphysema is produced by internal lacerations of the air vessels of the lungs, without any injury to the pleura. Putridity separates air both in vegetable and animal substances; and, consequently, emphysema is the consequence of mortifications, and sometimes attends putrid fevers. It more seldom happens from pointed instruments than might be expected, as the blood instantly stops the passage.

An emphysema is known by a soft puffy swelling: the skin appears glossy, the tumour gives way on pressure, but it instantly returns; a crackling is perceived on pressing the emphysematous tumour. When the lungs are wounded, a troublesome cough attends, and the matter expectorated is mixed with blood; sometimes air escapes from the lungs into the cavity of the pleura, and occasions great difficulty of breathing, anxiety, a sense of suffocation, stupor, a livid colour in the face, and, if relief is not speedily obtained, death. The air detained in any part of the cellular membrane may produce a mortification in it.

When these tumours occur in putrid disorders, fomentations may be applied, made with equal parts of sharp vinegar and rectified spirit of wine; but when a wound is the cause, if the breathing is quick and laborious, blood must be taken, and the operation repeated as often as this symptom renders it necessary. Punctures, or rather small incisions, may be made into the cellular membrane with a lancet, or in different parts of the body; the air will thus be evacuated, if gentle pressure is also made on the tumour: after its evacuation, a compress may be dipped in vinegar, and applied over the part where the wound is supposed to be, secured by a tight bandage; and the patient should be directed to lie on the injured side, to prevent a fresh afflux of air. Nitre, and pectoral emulsions, may be given to prevent internal suppuration. When the air is detained in the cavity of the breast, Mr. Hewson proposes to discharge it by a small opening made with a knife on the fore part of the chest, which, if on the right side, must be between the fifth and sixth ribs, because there the integuments are thin: but if on the left side, the opening must be betwixt the seventh and eighth, or betwixt the eighth and ninth ribs; the better to avoid wounding the pericardium. See Le Dran's Observations, N° 29; James's Medical Dictionary, art. *Fractura;* and London Medical Observations and Inquiries, vol. ii. p. 17, vol. iii. p. 28—36, 372—399; White's Surgery, p. 78.

EMPI'RICA SE'CTA, (from ἐν, and πεῖρα, *experientia*). The EMPIRIC SECT. It was begun by Serapion of Alexandria, or by Heracleon, about 278 years before the birth of Christ. The empyrical physicians conducted themselves wholly by experience, without study or theory, like the quacks of the present day. See Celsus de Medicinâ, p. 3, 8, 8vo. Lugd. Bat. 1746.

EMPI'RICUS. An EMPIRIC, (from πεῖρω, *to experience*, or ἐμπειρῶ, *to try*,) an epithet applied to practitioners who founded their practice on experience only, or rather on incontrovertible facts, totally freed from all speculative ideas. In a bad sense, it is an appellation bestowed on quacks, who, without knowledge, pretend to perform miracles by some desperate nostrum; careless of the destruction they create, and eager only to pillage their unfortunate patients, generally at the expence of their health, and too often of their lives. For the difference between the empiric and dogmatist, see Percival's Essays, Medical and Experimental, vol. i.; which is, however, nearly a copy of one of Dr. Cullen's early introductory lectures.

EMPLA'STICA, (from ἐμπλάσσω, *to spread upon*). See EMPRACTICA.

EMPLA'STRUM. (from the same). PLASTER. Plasters are compositions for external use: they are not always applied for any medical virtue; but chiefly used to retain other dressings, or to keep the parts to which they are applied warm and tight. These effects they produce more equally and steadily than a bandage of linen, especially if there be no swelling. They are composed of oily and unctuous substances, united with powders, into such a consistence, that the compound may remain firm in the cold without sticking to the fingers; that it may be soft and pliable in a gentle heat; and that, by the warmth of the human body, it may be so tenacious as readily to adhere. When a plaster is softened to the consistence of warm wax, it is called *cerate*; though the term is generally confined at present to such plasters as contain wax in their composition: when so soft as to spread easily whilst cold, yet not to run with the heat of the body, an *ointment*; and if betwixt the consistence of an ointment and oil, a *liniment*.

Calces of lead boiled with expressed oils unite into a plaster of a good consistence, and are a proper basis for several other plasters. Plasters may also be made of resins, gummy resins, &c. without wax, especially in extemporaneous prescription; but for officinal compositions they are less proper, as they soon grow too soft in keeping, and lose their form in a warm air.

As some difference is observed in the hardness of a plaster for the breast or stomach, and one that is to be applied to the limbs, the following proportions are generally directed. For a soft plaster, take one ounce of expressed oil, one ounce of wax, and half an ounce of any powder; for a harder, add an ounce more of wax, and half an ounce of powder.

M. Deyeux, in the 33d volume of the Annales de Chimie, has added some chemical refinements with respect to this officinal preparation, which merit our attention. He considers *plasters* to consist merely of the union of oil, or a mixture of oil and wax with metallic oxides. Those in which these substances are united with vegetable juices he styles *ointments*.

The union of oils with metallic oxides he supposes to be a true chemical combination, which some pharmaceutical authors have styled *soaps*; he thinks without reason, as they are neither soluble in water nor alcohol. In proof of the chemical union, he adds, that some metallic oxides, particularly those of iron, refuse to unite with oils; for, though they apparently mix, yet, when diluted, the oxide separates, which is by no means the case with similar combinations. The oxides of lead, bismuth, and mercury, unite with oil, though not with equal facility.

There are three methods of uniting oil with metallic oxides: the first is by agitation, without heat. In this way the oxide of lead combines with oil; but the operation is slow and laborious: and, though the union appears to be complete, the plaster never attains a proper consistence. The second is to boil the oxide and oil with water, and in this case the water acts only as a balneum mariæ, to facilitate the union, by bringing the particles of the oil and oxide together in an attenuated state. By this process we usually obtain a plaster of a proper consistence. The third is the common method of uniting the oxide with the heated oil by agitation. Plasters, thus made, are always dark in their colour, and exhale a peculiar odour, which distinguishes them. In every process the oxide should be in the minutest state of division, particularly in the last, since the metal would be otherwise revived, which sometimes happens, particularly in a saturnine ointment, called by the French pharmaceutists, unguentum de la mere; an event in part owing to the large proportion of animal oils which it contains. The only method of avoiding this inconvenience is to hasten the union, which is best effected by a minute division of the oxides. Though all oils unite with metallic oxides, the results are different. With oxides of lead, for instance, particularly litharge, linseed oil unites freely, and softens by the heat of the hand only: while, with olive oil, it is so dry as to admit of being powdered, and must be heated to be properly spread. In general, drying oils afford the softest plasters; and olive oil, digested with the root of althæa, gives a softer ointment than it would have done, previous to the process. Those oils which are not drying are preferable; but the olive oil, generally sold, is seldom uniform in its properties.

The metallic oxides differ perhaps as much as the oils. Litharge affords drier plasters than minium or the white oxides of lead. Other oxides may unite readily with oil; but a sufficient number of experiments has not yet been made. M. Deyeux suspects that the very pure red oxide of mercury, if finely powdered, so as to prevent its being deoxydated, might advantageously supersede the oxide of lead in many plasters.

When plasters, from age, become too dry, they must be moistened with a due proportion of oil; but, in general, the proportion of oil in those liable to become brittle by age is too small. The access of air often changes the colour of plasters, and very probably their qualities; so that they should be carefully guarded from it, especially those subject to such a change.

EMPLA'STRUM ADHÆSIVUM NIGRUM. The BLACK STICKING PLASTER, LADY'S COURT PLASTER, and the CHICHESTER PLASTER.

Dissolve twelve ounces of gum benjamin in twelve ounces of rectified spirit of wine: in a separate vessel

dissolve a pound of the best isinglass in five pints of pure water; strain each solution; mix them, and let them stand in a narrow vessel, that the grosser parts may subside: when the clear liquor is cold, it will form a jelly; and it must be warmed when spread. This quantity suffices for covering ten yards of half-yard-wide silk: the silk must be stretched in a frame, and the mixture spread on it with a brush. As each spreading dries, it must be repeated to the tenth or twelfth time; and a gloss is obtained by a light touch of the brush at the last operation.

Its use is generally known; but the following is an easy substitute: Dissolve a pound and a quarter of fine isinglass in five pints of water; and before it cools spread it on silk in the manner above directed.

Emplastrum ad contusa Boerhaavii. ℞. Bryoniæ in farinam reductæ ℥ ij. florum sulph. ℥ i. hydrargyri cum sulphure ʒ iij. galbani puri, et s. a. soluti ℥ iv. emplastri de meliloto ℥ iv. ol. chamæmeli q. s. ut fiat emplastrum. The three last ingredients are to be melted together, and the powder stirred in. Modern practice adopts this, only using the emplastrum ceræ compositum, instead of that of melilot; and one ounce of olive oil in the place of the oleum chamæmeli: it is supposed to be a beneficial application, particularly in scrofulous indurations.

Emplastrum anodynum. Take four pounds of common plaster; melt it over a gentle fire, with an ounce and a half of common black pitch. When this is to be applied, mix with each ounce, weight, half a drachm of opium, and the same quantity of camphor in fine powder. It is said to be very efficacious in relieving old pains; but the proportion of camphor and opium may be doubled.

Empla'strum a'ttrahens. See Emplastrum ceræ, under Cera.

Empla'strum vesicato'rium. See Cantharides.

Empla'strum cu'mini. See Cuminum.

Empla'strum commu'ne; formerly called *diachylon*, now *lithargyri emplastrum.*

Take of olive oil, one gallon; of litharge finely powdered, five pounds; boil them together with about a quart of water over a gentle fire, continually stirring till the oil and the litharge are united, and acquire the due consistence of a plaster; and if the water is wasted before the operation is finished, more water (previously heated) must be poured on.

As soon as the mixture is warm, begin to stir it: in about four hours the boiling will be completed; but to ascertain this, drop a little on a tile to cool, by which you will easily discover whether the litharge be dissolved; the boiling must be continued very gently, or the plaster will be black; perhaps boil over suddenly. If water should be added that is not very hot, the plaster will explode with violence, and be wasted; an accident which will happen with hot water, if the plaster is too hot. If the composition proves discoloured, the addition of a little white lead and oil will improve it; but if expected to be very white, true olive oil must be used.

Emplastrum nigrum Domini Sharp. seu *Emplastrum cerussæ.*—℞. Olei olivarum ℥ xij. ceræ flavæ ℥ ij. ss. cerussæ ℥ x. Let the oil and wax be melted together, the ceruss added, and the whole boiled to a consistence of a plaster. Sharp used it as an application to diseased knees; but Kirkland employs a plaster of red lead and oil, boiled to a dark brown colour, for the same purpose.

Emplastrum stimulans, seu *ammoniæ*, stimulant plaster, or plaster of ammonia.—℞. Saponis ʒ ij. emplastri lithargyri ℥ ss. ammoniæ muriatæ ℥ i. Let the soap and litharge plaster be melted together, and when nearly cold, the muriated ammonia, in fine powder, be stirred in. This plaster must be made at the time of application, else the alkali, set at liberty by the decomposition of the muriated ammonia, will fly off, and frustrate the intent of the remedy. In delicate and irritable skins, the quantity of the ammonia must be lessened, lest the plaster blister the part. In chronic enlargement of the joints, or tumours without inflammation; in some scrofulous affections of the knee or elbow joints; but particularly in those gelatinous swellings which frequently form on the olecranon, it has been of singular service, probably by stimulating the absorbents, and increasing their power of action.

Empla'strum sapo'nis. ℞. Saponis ℥ ij. emplastr. lithargyri ℔ iij. These, melted together, must be boiled to a proper consistence. It is a mild discutient, and to tumours of various kinds is considered as an useful application; but as soap is much more advantageously used in liquid forms, the practitioner will rarely be induced to apply it in that of a solid.

Empla'strum stoma'chicum. Stomach plaster. Now called *emplastrum labdani compositum*, compound plaster of labdanum.

Take of soft labdanum, three ounces; of frankincense, one ounce; cinnamon and expressed oil of mace, of each half an ounce; of essential oil of mint, one drachm: add to the frankincense, first melted, the labdanum heated, till it becomes soft, and then the oil of mace; afterwards mix the cinnamon with the oil of mint, beat them together in a warm mortar, and keep the whole in a vessel well closed.

The plasters should be frequently renewed, and applied on the five lower ribs of the left side, towards the back. It has been supposed of use also to promote the suppuration of indolent tumours.

EMPLATTO'MENA, (from ἐμπλαττω, *to obstruct*). See Emphractica.

EMPNEUMATO'SIS, (from ἐμπνεω, *to blow into*, or *inflate*). An inflation of the stomach, the womb, or other parts.

EMPO'RIUM, (from ἐμπορος, *negotiator*, from ἐμπορεω, *to negotiate*). See Cerebrum.

EMPRION, (from πριω, *to saw*). Saw-like. A kind of pulse mentioned by Galen, in which the artery is unequally distended in different parts.

EMPROSTHO'TONOS, (from ἐμπροσθεν, *forwards*, and τεινω, *to bend*). A spasm which bends the body forward, and confines it in that position. Celsus, lib. iv. cap. 3, restricts the term to a convulsive stiffness of the neck, by which the chin is fixed on the breast. See Tetanus.

E'MPTYSIS, (from πτυω, *to spit out*). Spitting of blood; a discharge which comes only from the mouth, fauces, and parts adjacent. Aretæus.

EMPYE'MA, (from ἐν, *within*, and πυον, *pus*, or *matter*). The ancients called all internal suppurations *empyema*, (see ecpyema); but at present this name is confined to a collection of purulent matter, lying loose in the cavity of the breast, and lodging on the dia-

phragm. Dr. Cullen considers it as a consequence of pneumonia, and says, its symptoms are, a remission of pain, after a pleurisy has terminated in suppuration, often after a vomica; whilst a difficulty of breathing, cough, uneasiness in lying down, and hectic fever, continue: frequently attended with a sensation of some fluid fluctuating in the breast, and symptoms of a hydrothorax.

Aretæus, lib. i. De Causis et Signis Morborum Chronicorum, cap. 9, says, "They who have purulent abscesses in the cavities of the body, whether within the thorax or below the diaphragm, if the pus be discharged upwards, are called *εμπυοι (empyi)*; if downwards, *apostomatici*. And if there be a suppuration in the thorax, and the pus be discharged through the lungs, it is called *εμπυη*." But the moderns styled it only an *empyema* when purulent matter floats upon the diaphragm. If matter is lodged on both sides of the breast, there are two empyemas.

The pus, that forms an empyema, may be from an abscess in the lungs, pleura, mediastinum, pericardium, or diaphragm; or perhaps from that inflammatory exudation, or inspissated serum, which, Dr. Hunter observes, resembles pus, often found in large quantities in the cavities of the breast, belly, &c. Wounds in the breast may also evacuate their matter into its cavity, and prove a cause of this disease. Le Dran informs us, that he met with instances of abscesses in the liver making a way through the diaphragm, and emptying themselves into the breast. Some instances of this have occurred in modern times, and small apertures in the diaphragm, through which pus has passed, anatomists have observed and described. (Pemberton on the Diseases of the Abdominal Viscera, p. 36). From Sauvages may be collected six varieties, although they are not always capable of being distinguished, viz. *Empyema à peripneumonia*; and *vomica*; *empyema pleuræ*; *mediastina*; *diaphragmatis*; and *intercostale*.

When any fluid matter is collected in the cavity of the breast, it may be known by the following signs: the breathing is short and laborious; expiration is more difficult than inspiration; the patient perceives a fluctuation when he changes his position from side to side, or presses the abdomen against the edge of a table; sometimes there is an enlargement of the cavity of the thorax, and an œdematous fulness of the skin and flesh of one or both sides of the chest; a dry cough; a slow fever; heat at the extremities of the fingers; and hollowness of the eyes. The patient cannot lie on the sound side, though in hectics he can only sleep easily on it. The kind of matter can only be known by the nature of the disorder, which preceded an accumulation, and from the concomitant symptoms. The matter may be blood or pus: and the latter of these may be suspected, when there hath been an inflammatory disorder in the lungs, pleura, or other parts in the breast, attended with symptoms of suppuration, and particularly if viscid sweats attend.

If the matter of an empyema be not speedily expectorated, the patient dies of a consumption, with a hectic fever, which is always exasperated at night. If the mediastinum is corroded, upon opening the thorax a sudden suffocation must ensue. If the empyema is of long standing, the strength decayed, with a colliquative diarrhœa, and a wasting of the body, the operation, instead of relieving, hastens the death of the patient. When this disorder is merely local, the operation may succeed; but if the habit be strumous, or otherwise unsound; if fever, coughing, thirst and other symptoms, are either numerous or considerable in their degree; there is but little hope of recovery. The operation is also ineffectual if the lungs adhere considerably to the pleura, or if the matter lodged on the diaphragm was emptied from a cyst.

The chirurgical method by which relief is obtained is called THE OPERATION FOR THE EMPYEMA. The fluid to be voided by this operation is matter. In this case, therefore, only the assistance of a surgeon is required; for blood will be gradually absorbed, and need not be removed by any artificial opening. Gooch relates a case in his Medical Observations of air in the thorax producing the symptoms of an empyema: it passed through an ulcer in the lungs; but the ulcer healing, the air was evacuated by the operation for the empyema, and a complete cure effected.

The manner of operating is to fix on the part for the perforation; then, with a knife or a trochar, a passage may be formed for the offending air. Whether an opening is made by means of a knife or a trochar, as Albinus hath observed that the diaphragm on the right side ascends higher into the thorax than on the left, it may be proper to pierce it on the right side between the third and fourth spurious ribs; but on the left, between the second and third, and at about half or two thirds of the distance from the sternum to the vertebra; for here the muscles are thinnest, the artery is concealed under the rib, and the diaphragm at a due distance. The puncture must be made with the utmost caution, lest there should be an adhesion of the lungs to the pleura; a canula for a time left in the wound, and the wound itself kept open. Matter, lodged in both cavities of the thorax, requires that the operation be performed on each side. See Hippocrates, Galen, Aretæus, Boerhaave, with Van Swieten's Comments, Le Dran's Operations, Sharp's Operations, Heister's Surgery, Bell's Surgery, vol. ii. p. 383, Kirkland's Medical Surgery, vol. ii. p. 175, Pearson's Principles of Surgery, vol. i. p. 94, White's Surgery, p. 303.

EMPYE'MATA, (from *εμπυημα*). So the ancients called suppurating medicines; for they named an internal collection of pus *empyema*.

E'MPYI. Purulent or suppurated, or those who have purulent abscesses internally.

EMPYREU'MA, (from *εμπυριναω, to kindle*, or *εν πυρι, in the fire*). In chemistry it is the offensive smell and taste which distilled waters, or other substances, receive from being too much exposed to the fire, when their mucilage is burnt.

EMPYREUMA'TICA, O'LEA, (from *εμπυρευμα*). EMPYREUMATIC OILS. Oils both of the animal and vegetable kind, distilled with a heat greater than that of boiling water; and thus receiving a burnt smell. These oils are sometimes considered as of a distinct class; but they are only burnt, and dissolve more or less in rectified spirit of wine; are acrid; by repeated distillations volatile, and almost free from their disagreeable smell. In some respects they resemble the essential oils of vegetables. They are considered as powerful antispasmodics: that chiefly used is the *oleum Dippelii animale*.

E'MPYROS, (from *εν*, and *πυρ*, *fire*). One labouring under a fever.

EMU'LGENS, (from *emulgo, to milk out*). EMUL-

GENT, milking out. The term is applied to the arteries and veins, from the aorta and vena cava to the kidneys. According to the ancients, they strained and milked the serum through the kidneys.

EMULGE'NTES ARTE'RIÆ and VE'NÆ. See RENALES ARTERIÆ and VENÆ.

EMU'LSIO, (from *emulgeo*). Medicines of any kind resembling milk; though the London college has rejected that term, and supplied it with *lac*. They are generally made from farinaceous seeds, beat up with some fluid, with which their oily parts are intimately blended; and chiefly used for common drink in acute disorders. For the *emulsio communis*, or *lac*, *amygdalæ*, *emulsio absorbens*, and *emulsio*, *camphorata*, see AMYGDALÆ DULCES.

EMUNCTO'RIA. EMUNCTORIES, (from *emungo*, *to clean*, *wipe away*, or *draw off*,) the passages, particularly the glands, by which excrementitious matters are evacuated. The parotides supposed to receive the excrements from the brain, the axillary glands from the heart, and the inguinal from the liver, were κατ ἐξοχην, thus named. It is, however, often the appellation of glands which separate useful fluids.

ENÆ'MOS, (from ἐν, and αἱμα, *blood*,) topical medicines appropriated to bleeding wounds. Hippocrates.

ENÆORE'MA, (from αἰωρῶ, *sublime*,) the pendulous substance which floats in the middle of the urine, *sublimamentum*, *nubecula suspensa*, *sublimatio urinæ*.

ENA'MEL. See DENS.

ENA'RGES, (from ἀργης, *white*, or *evident*). Hippocrates applies this epithet to dreams.

ENARICY'MON, (from ἐν, ἀρι, *soon*, and κυω, *to conceive*). See ARICIMON.

ENARTHRO'SIS, (from ἐν, *in*, and ἀρθρον, *a joint*). See DIARTHROSIS.

ENCA'NTHIS, (from ἐν, *in*, and κανθῶ, *an angle of the eye*,) an encysted tumour on its inner angle. At the first a tubercle appears on the caruncula lachrymalis, or on the cuticle adjacent; afterwards this tumour extends over the pupil of the eye. The tears in consequence trickle down the cheeks, the sight is impaired, the countenance deformed, and the eyes inflamed. When of a milder nature, it may be destroyed by gentle escharotics; the belly should be kept lax, and an issue in the arm, or a perpetual blister between the shoulders, should continue to discharge.

When this tumour is malignant, it is attended with pain, is of a livid hue, and often cancerous. If manifestly cancerous, palliatives only are to be used; but otherwise, the whole tumour and its cyst should be dissected, raising it with the forceps, to avoid cutting either the eye or the caruncle: if the latter is hurt, the tears will always run down the cheek; so that it is safer to leave a little of luxuriant flesh, and to destroy it afterwards with a caustic. See ECTROPIUM; Heister's Surgery; and White's Surgery, p. 231.

ENCA'RDION, (from ἐν, and καρδια, *the heart*). See MEDITULLIUM.

ENCA'RDIUM PRE'MNU. The heart and marrow of the trunk of trees; the tender medullary substance which grows on the tops of the great palm tree. Dioscorides. By Theophrastus styled *encephalus*.

ENCATALE'PSIS, (from ἐν, and καταλειπω, *to leave*). See CATALEPSIS.

ENCATHI'SMA, (from ἐγκαθημαι, *to sit in*). See SEMICUPIUM.

ENCAU'MA, (from ἐν, and καιω, *to burn*). The scoriæ of silver, as well as the mark left by a burn, and a pustule produced by the same cause. It is also the appellation of a superficial ulceration on the eye. Those ulcerations on the eyes, from defluxions of humours, receive, according to Ætius, different names: when formed on the pupil, covering a great part of it, and of a bluish colour, it is called *caligo:* when the ulcer is less wide, but deeper, and seated in the pupil, *nubecula:* when the surface of the pupil appears rough, and of an ash colour, *epicauma:* and when, after a fever, the ulcer has a sordid crust, seated either on the pupil or the white part of the eye, *encauma;* which when fixed in the pupil, all the humours of the eye are mixed, and the organ is destroyed. In the beginning of these cases, relief is sometimes obtained by keeping the bowels loose. White's Surgery, p. 229.

ENCAU'SIS, (from the same). A BURN; or rather the inflammation caused by it. It is also that action of external heat upon the body, as of the sun, or fire, and a synonym with *deustio;* sometimes an appellation of the HEART BURN, with thirst; in Dr. Cullen's Nosology synonymous with *erythema* and *ambustio*.

ENCE'PHALON and ENCE'PHALUS, (from ἐν, *within*, and κεφαλη, *the head*). The encephalon includes the cerebrum, the cerebellum, the medulla oblongata, with their membranes.

ENCEPHALOCE'LE, (from ἐγκεφαλος, *cerebrum*, and κηλε, *a tumour*). See HERNIA CEREBRI.

ENCE'RIS, (from ἐν, and κηρος, *wax*). Bits of wax found in plasters as they cool.

ENCHARA'XIS, (from ἐν, and χαραττω, *to scarify*). See SCARIFICATIO.

ENCHEIRE'SIS, (from ἐν, and χειρ, *the hand*). This word imports the manual treatment of any subject, and is a part of the title of one of Galen's works on dissection.

ENCHO'NDROS, (from ἐν, and χονδρος, signifying both *a grain* and *a cartilage*,) granulated and cartilaginous.

ENCHO'RIOS, (from ἐν, and χωρος, *a region*, or *country*). See ENDEMIUS.

ENCHRI'STA, (from ἐγχριω, *to anoint*). Liniments to anoint any part.

ENCHU'SA. See ANCHUSA.

ENCHYLO'MA, (from ἐν, and χυλος, *juice*). See ELIXIR.

ENCHY'MA, (from ἐγχυω, *to infuse*). INFUSION, or a sanguine plethora.

ENCHY'MATA, (from ἐγχυω, *to pour into*). Liquid medicines to be poured into the eyes or ears.

ENCHYMO'MA, (from the same). In the writings of the ancient physicians it implies that sudden effusion of blood into the cutaneous vessels which arises from joy, anger, or shame, and, in the last instance, is usually called BLUSHING. Dr. Hunter thinks it a nervous affection; but Dr. Whytt, with more propriety, ascribes it to the increased action of the smaller vessels, which has been attributed to a nervous connection, but which we suspect, though less obvious, is very general, over the whole surface.

ENCHYMO'SIS, (from the same). An extravasa-

tion of blood, which makes the part appear livid; sometimes synonymous with *ecchymosis*.

ENCHY'SA. See ANCHUSA.

ENCHY'TOS, (from *εγχυω*, *to infuse*). An epithet for a fluid injected into any cavity of the body.

ENCLY'SMA, (from *εν*, and *κλυζω*, *to clean*). See ENEMA.

ENCÆ'LIA, (from *εν*, and *κοιλια*, *the belly*,) the contents of the abdomen.

ENCOLPI'SMOS, (from *εγκολπιζω*, *to insinuate*). An uterine injection.

E'NCOPE, (from *εν*, and *κοπτω*, *to cut*). An incision; and, figuratively, an impediment.

ENCRA'NION, (from *εν*, and *κρανιον*, *the skull*). See CEREBELLUM.

E'NCRIS, (from *εγκρις*). A cake made of fine meal boiled in oil, and sweetened with honey.

E'NCYMON, (from *εγκυω*, *to conceive*). Pregnant.

ENCY'STIS, (from *εν*, and *κυστις*, *a bag*). See NÆVUS.

ENDEDINE'MENOS, (from *ενδινεω*, *to turn round like a vortex*,) an epithet for the eyes, which perpetually turn in their orbits.

ENDEI'XIS, (from *ενδεικνυμι*, *to show*). See INDICATIO.

ENDE'MIAS, or ENDE'MIUS, (from *εν*, and *δημος*, *people*,) *enchorios*, *popularis*. A term applicable to diseases common to the inhabitants living in one country, from a cause connected with it, as intermittents with the marshes of Essex, and fens of Cambridgeshire; the swelled throat in the Alps; and the plica and pertussis in Poland. It is opposed to EPIDEMIUS, q. v.

E'NDESIS, (from *εν*, and *δεω*, *to tie*). A LIGATURE, BAND, OR CONNECTION.

E'NDICA. A sediment at the bottom of a fluid; called also *mose hazuania*. Rulandus.

E'NDIVA, (quasi *eundo viâ*, from its frequent occurrence,) *intybum sativum*, *seriola*, *cichoreum endivia* Lin. Sp. Pl. 1142. *Endivia vulgaris*, ENDIVE. This plant is in common use as a salad: it very much resembles succory, both in its appearance and virtues. It is etiolated, viz. blanched, by excluding the light. Without this process it is bitter, and not eatable. The Batavian endive, whose leaves are not deeply crenated, requires no previous etiolation. It is considered as warmer than lettuces, but differs little in its properties from other salads.

E'NDIVA ERECTA LUTEA NAPIFOLIA. See LAMPSANA.

ENELLA'GMENOS, (from *εναλλαττω*, *to alternate*). An epithet applied to the joints of the vertebræ, because of their alternate or mutual receptions and insertions.

E'NEMA. A CLYSTER, (from *ενιημι*, *to inject*,) *enclysma*, *catlaysma*, and *lotio*. Any liquid medicine injected into the anus. Clysters are usually injected by means of a bladder and pipe, called *clusma*, *fistula*, *auliscos*; from whence *fistula armata*, *pipe*, and *bladder*: but in many other countries a syringe is always used, by which the liquor is thrown up further into the bowels.

The quantity of liquor used in each clyster will vary according to the age of the patient and intention proposed. For infants, two ounces are sufficient; a child of six years old, from six to eight ounces; a youth of fourteen years, from eight ounces to a pint; and to an adult, from a pint to a pint and half. In general, the bulk should be considerable; for they stimulate from their bulk alone, and a quart of milk and water will often produce the appropriate effect; a circumstance of some utility, when the too anxious friends dread every evacuant. When the more active purgatives are thus combined with increased bulk, they seldom fail.

Clysters seldom reach beyond the sigmoid flexure, or that turn of the colon, on the left side, before its straight direction obtains for it the name of the rectum. They thus operate chiefly by stimulating the lower part of the gut, and evacuate only to the extent which that stimulus reaches. They are of little use, therefore, as evacuants, unless a purgative has been taken, whose effects we wish to hasten. This is often of considerable service where only small doses of cathartics can be retained; for by these means they prove effectual; and frequent solicitations by clysters produce, in such circumstances, the best effects.

In diarrhœas, and all disorders where the intestines are weak, or whenever the clyster is to be retained, the quantity for an adult should not exceed five or six ounces.

In ardent fevers, and inflammations of the bowels, they answer the end of a fomentation, and should be administered from a pint to a quart. In putrid fevers, this mode of introducing the bark and fixed air into the constitution has been adopted, it has been said, with success. Nourishment may be conveyed by clysters, when, from some complaint of the mouth, throat, or stomach, nothing can be swallowed or retained: many have been thus supported during several weeks. In such cases a quarter of a pint of rich broth is injected, with thirty or forty drops of tinctura opii, every five or six hours, and bark with port wine has been injected in the same way. The effects are not, however, so decidedly beneficial as they have been represented.

Clysters should never be either hot or cold when used; but so warm, that, when inclosed in a bladder, the heat gives only an agreeable sensation to the closed eye lid.

When a clyster is intended only to evacuate, three or four ounces of common salt, or as much soap in a pint and half of water, are sometimes equally effectual with any quantity of the other purging medicines.

When a very powerful stimulus is required in purging clysters, it is usual to mix emetics with them, and of these the vinum antimonii merits, it is said, the preference. But any of the more active purgatives will equally succeed; and there is not a more effectual purgative clyster than three drachms of the pulp of colocynth, boiled for a quarter of an hour in a sufficient quantity of water, to strain off a little more than a pint. To this should be added two ounces of oil, and as much vitriolated magnesia.

The usual method of injecting clysters is very inadequate, and often ineffectual. An injecting syringe, which holds a pint and half, is the proper instrument; and it is sometimes of advantage to have a lateral pipe, by which it may be supplied without withdrawing. We might thus even fill the colon, and produce many beneficial effects; since a fomentation could be in this way effectually applied to many important parts, when in a

state of inflammation, or otherwise diseased. De Haen, by such an instrument, filled the colon of a dog, and in some experiments even conquered the obstruction which its valve offers.

E'NEMA EX A'MYLO. See AMYUM.

E'NEOS. *Vain, empty*, or *useless*. The Greeks call those who are unable to perform the common offices of life, as dumb, deaf, or foolish persons, ενιοι.

ENE'RGIA, (from εν, and εργον, *a work*). ENERGY; force, vigour, efficacy.

ENERVA'TIO, (from *enervo, to weaken*,) an equivocal term, signifying aponeurosis or debility.

E'NFLURE DES JAMBES. See LYMPHÆ DUCTUS.

E'NFONDE. See CASSADA.

ENGISO'MA, (from εγγιζω, *to draw near*). An instrument formerly used about fractures of the cranium; and from hence employed to signify a fracture of the cranium, in the middle of which the bone presses upon the membranes of the brain, resembling a γειτον, or *pent house*.

ENGOMPHO'SIS, (from εν, and γομφος, *a nail*). See GOMPHOMA.

ENGO'NIOS, (from εν, and γωνια, *an angle*), the bending of the arm at a right angle. Hippocrates.

ENGO'RGEMENT LAI'TEUX. See LYMPHÆ DUCTUS.

ENHÆ'MON, (from εν, and αιμα, *blood*). STYPTIC. The name of an astringent plaster in Myrepsus.

ENI'XA, (from *enitor, to endeavour*). A WOMAN IN CHILD BED.

ENI'XUM, (from *enitor, to produce*); the appellation of a neutral salt. See NEUTRI.

ENI'XUM PARACE'LSI SAL. From the discoverer Paracelsus: *kali vitriolatum*.

ENNEA'NDRIA, (from εννεα, *novem*, and ανηρ, *maritus*): the ninth class of the Linnæan system, comprehending such hermaphrodite flowers as have nine stamina.

ENNEAPET'ALUS, (from εννεα, *novem*, and πεταλον, *a flower-leaf*). Having nine petals.

ENNEAPHA'RMACOS, (from εννεα, *nine*, and φαρμακον, *a medicine*,) a composition of nine simple ingredients. It is also the name of a pessary mentioned by Galen and Ægineta; of the antidotus Heraclidis; and of several plasters mentioned by Ætius and Celsus.

ENNEAPHY'LLUM, (from εννεα, *nine*, and φυλλον, *a leaf*). See HELLEBORUS NIGER HORTENSIS, &c.

ENOCHDIA'NA VI'TA. A VERY LONG LIFE; the life of Enoch. Paracelsus.

ENRY'THMOS, (from εν, and ρυθμος, *number*). See ARYTHMUS.

ENS. An ENTITY, or thing really existing. In Paracelsus *ens* imports the power, virtue, and efficacy, which a thing exerts upon our bodies.

ENS PA'RVUM SAPIE'NTUM. It is soap made by mixing fixed alkaline salt with distilled vegetable oil. The salt must be quite hot when mixed with the oil, for the least portion of water prevents their union: after their combination they are to be placed some time in a subterraneous place. A small quantity of the salt remaining on the surface of the oil will attract water, and prevent the success of the process.

ENS PRI'MUM SALIUM. See CIRCULATUM.

ENS PRI'MUM SOLA'RE. See ANTIMONIUM.

ENS VE'NERIS. See FLORES MARTIALES, under FERRUM.

ENSA'TUS, (from *ensis, a sword*). In botany it means shaped like a sword.

ENSIFO'RMIS CARTILAGO, (from *ensis, a sword*, and *forma, a form*). The SWORD LIKE CARTILAGE, called also *xiphoides; mucronatum os*, or *mucronata cartilago*; by Hippocrates, *chondros*; and when bifurcated, *furcula* or *furcella inferior*. It is the cartilage at the bottom of the sternum; but the ancients often give the name of *ensiformis* to the whole breast bone. Dr. Hunter observes, that "if this cartilage be forced inwardly by a blow, it will occasion vomiting and violent pains, by pressing against the pylorus: in this case it would be proper to lay it bare and elevate it; but the diaphragm arising partly from it would probably replace it." From the form, or from accidents in this cartilage, many diseases arise; as a cough, pain in stooping, and difficult breathing. These symptoms are accounted for, when we consider that the diaphragm is attached to it, and that the great lobe of the liver and the stomach lie immediately under it.

ENSTA'CTON, (from εν, and σταζω, *to distil*). INSTILLATION. The name of a liquid collyrium in Galen, which Ægineta calls *stacticon*.

ENTA'LI. FOSSIL ALUM. See VAS.

ENTA'TICA MEDICAME'NTA, (from ενταινω, *to strain*). Medicines that provoke venery. Cœlius Aurelianus calls them *satyrica*.

ENTA'TICON. The name of a plaster in P. Ægineta.

E'NTERA, (from ενδος, *within*,) the bags in which were inclosed medicines for fomentation. Hippocrates.

ENTERADE'NES, (from ενδερον, *an intestine*, and αδην, *a gland*). The INTESTINAL GLANDS. See INTESTINA.

ENTERE'NCHYTÆ, (from ενδερα, *the intestines*, and εγχυω, *to infuse*). Instruments for administering clysters.

ENTERI'TIS, (from ενδερα, *intestines*). See INFLAMMATIO INTESTINORUM.

ENTERI'TIS MESENTE'RICA, (from the same, and μεσεντερια, *mesentery*). See INFLAMMATIO MESENTERII.

ENTEROCE'LE, (from ενδερον, *an intestine*, and κηλη, *a rupture*). See HERNIA SCROTALIS.

ENTEROCE'LE OVULA'RIS. A rupture of the intestines through the foramen ovale.

ENTERO EPIPLOCE'LE, (from ενδερον, επιπλοον, *the omentum*, and κηλη, *tumor*,) when both the omentum and intestines protrude through the integuments of the belly.

ENTERO-HYDROCE'LE, (from εντερον, ὑδωρ, *water*, and κηλη, *a hernia*). A dropsy of the scrotum, with a descent of the intestine.

ENTERO'MPHALOS, (from ενδερον, and ομφαλος, *the navel*). A rupture of the intestine at the navel. This seldom happens to women in labour, or from labour; but it often occurs in those debilitated by numerous births; to women who are fat and indolent.

E'NTERON, (from εντος, *within*). INTERNAL and INTESTINE. In Hippocrates Epid. 6. § 4. ap. 3. *enteron* signifies simply the colon.

ENTEROPHY'TUM, (from ἔντερον, and φυτόν, *a plant*). The sea chitterling, which grows in the shape of a plant.

ENTERORA'PHE, (from ἔντερον, and ῥαφή, *a suture*). A SUTURE of the INTESTINES. It is performed with the glover's stitch, and the end of the thread must be left beyond the external wound, to connect both, in order to form an adhesion, or an artificial anus.

ENTEROSCHEOCE'LE, (from ἔντερον, ὄσχεον, *the scrotum*, and κήλη, *a hernia*). See HERNIA SCROTALIS.

ENTHEMA'TA, (from ἐντίθημι, *to put in*). Medicines applied immediately to recent wounds, in order to prevent an inflammation, or stop a hæmorrhage.

ENTHE'TOS, (from ἐντίθημι, *to put in*). Any thing introduced, but particularly lint introduced into the nose to stop a hæmorrhage.

ENTHLA'SIS, (from ἐνθλάζω, *to press upon*,) *illisio*; a contusion, with the impression of the instrument by which it happened.

ENTHUSIA'SMUS, (from ἐνθουσιάζω, *to rave*). An HEATED IMAGINATION, when a person deeply contemplating religious subjects loses his reason, and sees strange sights, or hears the noise of musical instruments.

ENTRICHO'MA, (from ἐν, and τρίχωμα, *the hair*). The edge of the eye lid on which the hairs grow.

ENTRI'MMA, (from ἐν, and τρίβω, *to grate*, or *triturate*). See INTRITUM.

E'NTROCHUS, (from ἐν, and τροχός, *a wheel*). An oblong stone nearly as thick as the finger, from one to two inches long; bluish, composed of joints frequently found in clay pits. Sometimes the joints are found separate, and are called *trochitæ*. It is a part of the arm of a petrified star fish, or a similar sea animal. It is always hardened with sparry matter, and, like it, is supposed to be diuretic. A trochite, when found separate, is nearly an inch in diameter, with a hole in the centre; varying in thickness; when broken, it is glossy and shining.

ENTRO'PIUM, (from ἐν, and τρέπω, *to turn in*). Introversion of the eye lid. See TRICHIA.

ENTYPO'SIS, (from ἐντυπόω, *to make an impression*). The acetabulum of the humerus. It is not used by any medical writer, but mentioned by Julius Pollux.

ENUCLEA'TIO, (from *enucleo*). The taking a kernel from a nut; figuratively, clearing a difficulty.

E'NULA, (a corruption of *Helenium*; so called from Helene, the island where they grow,) *aroma germanicum*, *enula campana*, *aster*, *omnium maximus*; SCABWORT, and ELECAMPANE. *Inula Helenium* Lin. Sp. Pl. 1236.

It is a large plant, with long, wrinkled leaves, that are serrated; of a pale green colour above, and hoary underneath: the flowers are yellow, of a discous kind, and followed by oblong seeds, winged with down; the roots are short and thick, unctuous to the touch; brown or blackish on the outside, and whitish within. It is perennial, grows wild in moist rich soils, and flowers in June.

The fresh roots have a weak but not very grateful smell; when perfectly dried, they are more pleasing; when chewed, they discover at the first a kind of rancid glutinous taste, quickly succeeded by an aromatic bitterness, which by degrees becomes more pungent. They are diaphoretic, diuretic, and stomachic; if taken freely, they are gently laxative; powerfully attenuate viscid humours, and assist expectoration in coughs and humoral asthmas. The ancients had a high opinion of their virtues, and from their sensible and chemical qualities they promise to be a medicine of some efficacy. Elecampane is now chiefly recommended where the digestion is impaired; in pulmonic affections, and uterine obstructions; sometimes as an anthelmintic, and in mucous discharges from the rectum: but Dr. Cullen, notwithstanding its allowed qualities, says, still he is at a loss to determine what are its peculiar virtues. We have not extensively used this remedy, but have chiefly found it as a warm expectorant, and have employed it with most success in those cases of hectics where the bronchial glands were considerably weakened, and the discharge was copious and watery.

The spirituous extract is the most active preparation; but the watery is more abundant, and scarcely inferior to the former. Neumann obtained from one ounce of the dry root, by means of water, six drachms and a half of extract; but with spirit, only two drachms and a half. Much of the aromatic warmth and bitterness of these roots reside in the less volatile parts, which are, therefore, preserved in the watery extract. In distillation with water an essential oil arises which concretes into white flakes, and partly into an unctuous mass, like soft wax. Thirty ounces of roots afford about a drachm of this oil. The younger Geoffroy observes, that this oil resides in the exterior part of the root, near the bark. When this concrete oil is newly distilled, it strongly possesses the flavour of elecampane; but soon loses its smell by keeping.

Extractum Enulæ Campestris.—Boil elecampane roots in water; press and strain the decoction. When settled, pour off the clear liquor, and boil it to a consistence of pills, taking care to prevent its burning towards the end of the operation. The dose may be from ℈ i. to ʒ i. in a lax state of the fibres of the stomach, and in some disorders of the breast.

The dose of the root may be two scruples: in infusion, one drachm; and from ʒ ij. to ℥ ss. in decoction.

The candied elecampane root is prepared in the same manner as the eringo root. (See ERYNGIUM.) Raii Hist.; Lewis's Materia Medica; Neumann's Chemical Works; Cullen's Materia Medica.

E'NULON, (from ἐν, and οὖλον, *the gums*). See GINGIVÆ.

ENURE'SIS, (from ἐν, and οὖρον, *to discharge urine*). See URINE, *incontinence of*.

ENYPOSA'PROS, (from ἐν, ὑπό, and σαπρός, *putrid*). An epithet applied to the sputum of hectic patients, who generally compare it with the taste of a spoiled egg: a tendency to putrescency.

ENY'STRON, (from ἐνύω, *to perfect*). See ABOMASUM.

E'ON. The whole compass of the eye.

EPACMA'STICI, (from ἐπακμάζω, *to increase*). See ACMASTICOS.

EPAGO'GION, (from ἐπάγω, *to draw out*). An appellation in Dioscorides of the prepuce. See PRÆPUTIUM.

EPANADIDO'NTES PURE'TI, (from ἐπαναδίδωμι, *to increase*). Fevers, whose heat is not pungent to the

touch in the beginning but becomes more so as they advance.

EPANADIPLO'SIS, (from ἐπαναδιπλόω, *to reduplicate,*) the reduplication of a fit of a semitertian fever; that is, the renewal of the cold before the hot fit is completed.

EPANA'STASIS, from ἐπί, and ἀνίστημι, *to excite*). A TUMOUR OR TUBERCLE.

EPANCYLO'TUS, (from ἐπί, and ἀγκύλος, *crooked*). A bandage described by Oribasius.

EPANTHE'SMA, or EPANTHI'SMA, from ἐπί, and ἄνθος, *a flower*. An EFFLORESCENCE. See EXANTHEMA.

EPAOI'DAI. See AMULETA.

EPAPHÆ'RESIS, (from ἐπί, importing a *repetition*, and ἀφαίρησις, *a removal*). In Galen it is used to express a repeated evacuation by bleeding.

EPA'RGEMOS, (from ἐπί, and ἀργεῖμον, *the disease called albugo*). An epithet for a person affected with the disorder of the eyes called *argemon*.

EPA'RMA, and EPA'RSIS, (from ἐπί, and αἴρω, *to elevate*). Any kind of tumour, but usually applied to the parotis.

E'PAROTH. See BOTRYS MEXICANA.

EPENCRA'NIS, from ἐπί, ἐν, and κρανίον, *the skull*). A name of the *cerebellum*.

EPERLA'NUS; *viola marina*. The SMELT. This fish receives its first name from its pearl colour, and the second from its violet smell. It is very nourishing, and as easy to digest.

EPHEBÆ'ON, (from ἐπί, and ἥβη, *the groin*). See PUBIS OSSA.

EPHEDRA'NA, (from ἐφίζομαι, *to sit upon*). See CLUNES.

EPHE'LCIS, (from ἐπί, *upon*, and ἕλκος, *an ulcer*). The crust of an ulcer, a small abrasion, or bloody fragment coughed up.

EPHE'LIDES, (from ἐπί, and ἥλιος, *the sun*. SUNBURNING, *æstates*, *nitiligo lentigines*, *lenticulæ*, from their size and colour resembling a lentil seed.) FRECKLES, TAN, MORPHEW, which seem only to differ in degree; they are yellowish coloured spots spread over the face, neck, and hands, brought on in particular constitutions by heat; they chiefly affect people of delicate complexions, and who have red hair, and are confined to those parts exposed to the sun; in winter they often disappear. Juice of lemons, mixed with sugar and borax finely powdered and digested for eight days, frequently remove them. Homberg also recommends bullock's gall, mixed with alum, and after the alum has precipitated, exposed three or four months to the sun in a close phial. Of the NITILIGO, or *morphew*, Sauvages enumerates four, and of the EPHELIS, six species. Nosologia Methodica, vol. i. p. 127, 128.

EPHEM. GERM. An abbreviation of Ephemerides Medicophysicæ Germanicæ. Nov. is added when the *new* collection is referred to.

EPHE'MERA, (from ἐπί, and ἡμέρα, *a day*). A fever of one day's continuance only; *diaria febris*. The heat of the body is moderate, such as attends an excess of wine, or a violent passion. The pulse is somewhat full and quick, but soft and regular; the urine unchanged: neither is the complaint preceded by any sickness, yawning, propensity to sleep, or horror. It comes on suddenly, unattended with any pain of the head and stomach, nausea, burning heat, or inquietude. The disorder sometimes goes off without any apparent evacuation; but oftener by a free perspiration, or at most a pleasant moderate sweat. It generally arises from watching, solicitude, sorrow, anger, inebriety, fatigue, heat of the sun, or inanition, and usually terminates in one, at the furthest, in two or three days. Nature commonly effects a cure. The fever described by Lommius, and other ancient authors, under this title, is evidently an exacerbation of the common febrile accession, in consequence of some of the causes mentioned. There is, however, an ephemera of a different kind, marked by violent rigor, and succeeded by burning heat, which disappears at the end of the twenty-four hours, leaving only debility. It is the occasional recurrence of such ephemeræ which has induced nosologists to establish a genus which they style *erratica*, but which seems to have no existence. We have seen such ephemeræ frequently, without being able to trace their source. We have generally, however, had reason to suspect that they were owing to obstructed viscera, or at least connected with some internal disorder. They require no remedy but rest and warm diluting liquors. See Lommii Observationes Medicæ. Sauvagesii Nosologia.

EPHE'MERA DICHOMENE; the *febris erratica* of nosogists just mentioned.

EPHEME'RIDES, (from ἐφημερίς, *an almanack*, as they may be foretold by the almanack). Van Helmont calls those diseases which seize the patient at particular times of the moon, *ephemérides ægrotórum*, the ALMANACKS OF THE SICK.

EPHE'MERON, (from ἐπί, and ἡμέρα, *a day*; because the flowers continue but a day). See HERMODACTYLUS.

EPHE'SIUM. The name of a plaster described in Celsus.

EPHIA'LTES, or EPIA'LTES, (from ἐφάλλομαι, *to leap upon*). See INCUBO.

EPHIA'LTIA, (from *ephialtes;* because it occasions the night mare). See PÆONIA.

EPHIDRO'SIS, (from ἐφιδρόω, *to break out into a sweat,*) *hydropedesis*, *desudatio* and *mador*. Dr. Cullen places this disease in the class *locales*, and order *apocenoses;* and defines it a preternatural evacuation of sweat, one species only of which he considers as idiopathic; *ephidrosis spontanea*. The rest are symptomatic, of which he enumerates nineteen varieties—seven according to the diseases which they accompany, viz. *febrile*, *febricose*, *hectic*, *exanthematic*, *syncopic*, *scorbutic*, *saburral;* eleven, from the nature of the sweat; *lacteal*, *melleous*, *vinous*, *green*, *black*, *pale yellow*, *urinous*, *bloody*, *bluish*, *acid*, *arenous;* and one, from the part whence the sweat is effused, viz. *lateral;* or, more properly, *local*. The idiopathic ephidrosis is most frequently the result of debility. Sauvages has three or four times observed men who were afflicted violently with night sweats, that continued for months without fever, bringing on emaciation, debility, and loss of appetite: these were cured by cathartics, the mineral waters styled *acidulæ*, and milk; but amongst boys the disease used to continue long. These sweats seem to resemble DIABETES and CŒLIACA PASSIO, q. v. The sweating sickness, said to be peculiar to England and to Englishmen, in every climate, was a fever. See Cullen's Synopsis, and Sauvages's Nosolog. Methodica.

EPHI'PPIUM, A SADDLE. See SELLA TURCICA. It is called *ephippium*, from its resemblance to a saddle.

EPHO'DES, (from ἐπι and ὁδος, *a way*). In Hippocrates it means the ducts or passages by which the excrementitious fluids of the body are evacuated; the periodical attack of a fever, from the common use of the term to express the attack of thieves; or the access of similar or dissimilar things which may be useful or hurtful to the body.

EPI'ALOS. An epithet of a fever, (from ἠπιος, *gentle*, and ἁλς, *the sea*). Galen defines it to be a fever in which the patient labours under a preternatural heat, and a coldness at the same time; called by the Latins *quercera*. Hesychius confines it to the cold shivering preceding a fever; and other authors enumerate it among the varieties of tertian fever.

EPI'BOLE, (from ἐπι and βαλλω, *to be cast upon*). See INCUBO.

EPICA'NTHIDES, (from ἐπι, and κανθος, *the angle of the eye*). See CANTHI.

EPICA'RPIUM, (from ἐπι, and καρπος, *the wrist*). See CATAPLASMA.

EPICAU'MA, (from ἐπι, and καιω, *to burn*). See ENCAUMA.

EPICERA'STICA, (from ἐπι, and κεραννυμι, *to mix*, or *attemperate*). Medicines supposed to dilute obtund acrimony, and relieve troublesome sensations.

EPI'CHOLOS, (from ἐπι, and χολη, *bile*). BILIOUS.

EPICHORDIS, (from ἐπι, and χορδη, *a gut*). See MESENTERIUM.

EPICHO'RIOS, (from ἐπι, and χωρα, *a region*). See EPIDEMIUS.

EPICŒ'LIS, (from ἐπι and κοιλις, *the eye lid*). The UPPER EYE LID.

EPICO'LICÆ REGIO'NES, (from ἐπι, *super*, and κωλον, *colon*). The lateral or lumbar region; the parts of the body adjacent to the colon.

EPICRA'NIUM, (from ἐπι, and κρανιον, *the skull*). See OCCIPITO FRONTALIS.

EPICRA'SIS, (from ἐπι, and κερανυμι, *to temper*). A critical evacuation, or an attemperation of bad humours. When a cure is performed in the latter way, it is called *per epicrasin*. The term is often employed by the Galenists and Boerhaavians; but as we have no evidence of a depraved state of the fluids in the circulating system, we are neither anxious to "attemper" or "evacuate" them.

EPICTE'NION, (from ἐπι, *above*, and κτεις, *pubes*). The part above the pubes; and the fine lint which is wafted in the air where flax is dressing.

EPICYE'MA, and EPICYE'SIS, (from ἐπι, and κυω, *to conceive*). EPIGONON. SUPERFŒTATION, SUPERIMPREGNATION; a second conception whilst the woman is in a state of pregnancy: but this event never takes place. In Hippocrates it is a FŒTUS; sometimes a MOLE. See SUPERFŒTATIO.

EPIDE'MICA A'QUA. See ALEXITERIA AQUA SPIRITUOSA.

EPIDE'MIUS, (from ἐπι, *upon*, and δημος, *the people*). *Epichorios; pandemius, popularis, regionalis morbus.* An epithet of diseases which at certain times are popular, and frequently attack; then for a time disappear, and again return.

The extensive influence of epidemic diseases has excited the greatest attention to their causes. In almost every ruder age they have been referred to the anger of their peculiar divinities, and sacrifices were instituted to reconcile them. More lately Dr. Webster has attempted to connect them with the eruptions of volcanos, or the devastation of earthquakes. A more sound philosophy, and more attentive observation have shown, that they are owing very often to the effluvia of neighbouring marshes, and their occasional appearance is connected with the prevailing wind which passes from the marsh to the habitations. Another cause of their prevalence is, the wind from the marsh coinciding with the time when the moist ground begins to appear, from the waters subsiding. This is the period of sickness; for the marsh, while covered with water, is innocuous Another cause of epidemics is the weather. A long continued warm season, suddenly interrupted by a cold piercing wind, will produce a violent and extensive epidemic, which particularly attacks in the highest, and apparently the most healthy, situations; for this reason, that the inhabitants are there most exposed to cold. But if this interchange of weather occurs to the inhabitants of a crowded city, the epidemic will be highly putrid, and often fatal. Should contagion of a malignant kind concur, the devastation of the epidemic will increase in proportion. These are the concurring causes of the American yellow fever, and the late fatal epidemics in Spain.

There are, however, causes which we cannot investigate. Extensive epidemics appear, and travel in succession, with different severity, through every part of the globe that we are acquainted with. The destroying angel seems to move with a studied regularity, without our being able to arrest his steps or alter his course. We often find these inexplicable epidemics without much danger, influencing the appearance of diseases and their treatment. Thus, while some epidemics prevail, evacuations from the bowels are necessary in almost every complaint; even where, in appearance, unnecessary or contraindicated. In others, they are, with difficulty, borne in any disorder. This necessary attention to the prevalence of the constitution merits very particular attention; and the more extensive a physician's experience is, by so much will he be better able to treat the commonest disease.

Epidemics connected with the seasons or prevailing temperature may be easily traced, and we shall find them occasionally mitigated or severe: sometimes apparently stopped; at others exerting their power with increased virulence. The peculiar treatment, however, suggested by a general epidemic, should not at once be discontinued. The human constitution does not soon change; the alteration is gradual, and almost imperceptible: nor should the medical plans be altered till they are decidedly injurious.

When an epidemic has continued for some time, the body is habituated to the influence of the morbid cause; suffers less from it; and the health is more readily restored. At this time, remedies before useless are found to produce some salutary effects; and, at the end of an epidemic, we usually are told of a plan which never fails. On its return, these boasted plans are as ineffectual as before. In fact, they only combated, with success, a disease of reduced power.

We greatly want a judicious and well connected

account of epidemics. Dr. Webster has lately brought together a very extensive collection of facts of this kind, with the views formerly mentioned; but the chaff is so intimately mixed with the grain, that the salutary information is with difficulty selected. See also Observations on Epidemic Disorders, &c.

We cannot give a better view of the epidemics of the two last centuries than in the comprehensive abstract of Dr. Sims.

"1. The first epidemic constitution was as follows: The years 1590, 1591, 1592, were all exceedingly dry; as was part of 1593; afterwards very rainy weather until the end of 1597. In 1593 the plague killed eleven thousand five hundred and three in London; the same year it was prevalent in Alcmaar. A catarrh prevailed in 1597. The rainy weather began in Florence in 1592, during which a pestilential fever raged there, attended with a whitish tongue, and an inflammation, with ulcers about the throat and mouth.

"2. There was, in 1598, an excessive heat and drought, which continued next year; 1600, a severe winter; 1601, a drought of five months' continuance; 1602, a cold spring and summer, cold dry harvest and winter; the rest of this constitution very rainy, until the end of 1608, except seven weeks' frost in 1607. In 1603 the plague was imported from Ostend, where, and in the Low countries, it raged much, and killed thirty-six thousand two hundred and sixty-nine in London.

"3. In 1609, three months most rigorous frost, wherein the Thames became like a solid highway; 1610, an excessive hot dry summer, as were those of 1611 and 1612; 1616, 1617, and 1619. The winters of 1614 and 1615 great frost and snow; the rest of this constitution wet until the end of 1624. In 1609 the plague broke out in Alcmaar, as also in Denmark. In 1610 the Hungarian fever commenced in many places, and made great havoc for several years, so as often to be denominated a plague. About the same time the malignant sore throat is supposed to have commenced in Spain, where it killed incredible numbers. In 1611 the plague is said to have destroyed two hundred thousand at Constantinople. In 1614 the most fatal small pox spread all over Europe. In 1618 the sore throat broke out at Naples, where it continued its ravages for twenty years; it was preceded by a similar disorder among cattle. In 1618 the plague existed in Bergen. In 1619 it broke out in Denmark and in Grand Cairo.

"4. In 1625, a hard frosty winter, summer wet and hot; 1626 and 1627 excessively hot summers; 1630 and 1631, a great drought; the other years wet until 1634. In 1625 the plague killed thirty-five thousand four hundred and seventeen in London; it raged in Denmark both in 1625 and 1629; as also in 1625 in Leyden. In 1632 inflammations of the jaws prevailed, with an erysipelas in one or more parts of the body.

"5. In 1634, an excessively frosty winter; 1635, 1636, 1637, and 1638, very hot and dry summers; then very rainy years until 1643. In 1635 the plague in Leyden, and the camp fever spread all over Germany. In 1636 the plague was in London, whereof died thirteen thousand four hundred and eighty; in 1637, the plague in Denmark.

"6. The years 1643 and 1645 were remarkable for hot summers, followed by inconstant rainy seasons until 1650. In 1648 a fatal malignant fever was spread by the armies all over England; 1644, a malignant epidemic fever in Denmark; a similar fever in England, in which there was a roughness and sliminess of the throat and jaws, with pain, but scarcely any swelling or inflammation: it seemed only a mere defluction, by which the sick seemed choked, and for which astringent gargles were useful. In 1650 a general catarrh prevailed.

"7. The years 1651 and 1659 had both very hot summers, and proved mostly dry; thence to 1655 very wet. The winters of 1651 and 1658 remarkably cold. In 1651, in the country about Rome, a contagious epidemic quinsey prevailed, and made terrible slaughter among children. A small ulcer arose in the mouth, for which juice of wood sorrel, syrup of pomegranates, with the bark, and chiefly the acid of vitriol, were useful. All that took these medicines recovered; but those who were not tractable, and refused medicines, died: it did not seize adults, nor the aged. In 1654 the plague was in Denmark; and in 1655, and the two following years, it prevailed exceedingly in the south of Europe; the agues likewise of these hot years were malignant, and spotted fevers were very common. In 1664, after a mild rainy winter, a malignant purple fever raged in Prussia, and killed great numbers under twelve years of age, those only escaping who had no inflammation or œdematous tumour in the throat. Such as recovered, after sweating, had scales peeling off the skin; then adults had a swelling over their body and of their belly, which continued several weeks like leucophlegmatia, and then went off by sweat and urine. This epidemic seems a considerable deviation from their general progress laid down in the scheme of them already mentioned, and is, therefore, particularly noticed in this place.

"8. In 1665, an excessively severe frost, which continued to the end of March, summer temperate; 1666, a very hot dry year, followed by two as wet and cold. In 1665, immediately after the frost, began the plague in London, which killed, according to the least computation, sixty-eight thousand five hundred and ninety-six. Since that time the plague has vanished from London, and all other epidemics seem to have become less malignant, owing to many causes; among which may, perhaps, be a greater use of fresh vegetable food, a less use of fish, an universal use of tea, superior cleanliness in our persons, a greater attention to the poor in times of scarcity, which are now scarcely felt in any extreme degree, and, lastly, the tremendous fire in 1666, since which the streets have been very much widened, and the houses so enlarged, that the same number of inhabitants now occupy above double the space. In 1667 an epidemic fever, with aphthæ, prevailed in Holland, in which acids were useful, but neither bleeding nor purging.

"9. In 1669, the summer intolerably hot, after which the winter was as severely cold and frosty; 1670, a severe frosty winter; the rest of this constitution bad and wet. In 1669 a most fatal fever prevailed, with slimy tongue, sore mouth, &c. in which bleeding was hurtful, but acids and laxatives very beneficial. Sydenham does not mention this fever, nor its return in 1678, although, next to the plague, they were the greatest epidemics in his time; which, together with his

little knowledge of putrid fevers, can only be attributed to his practice lying about the court; whilst Morton, who practised in the city, gives abundant proofs that putrid complaints were as prevalent then as at this time. The same year, in Norway, malignant measles are said to have prevailed, with thrush, which, if mismanaged or neglected, ended in a fatal mortification. In 1675 a coryza, or cough, were prevalent.

"10. In 1678, summer and harvest droughty, hot, and clear; 1679, winter long, severe frost, and intensely cold; 1680 and 1681, summer extremely dry and hot; the next two years rainy. In 1678 the same fever and sore throat prevailed as in 1669. In 1679, after a most deluging October, a catarrh was universal. In 1682, sphacelated tongues and angina maligna prevailed among cattle; in the same year, in Dublin, a fatal petechial fever.

"11. The year 1684 was remarkable for the severest frost remembered at that time, succeeded by a very dry and hot summer, to which 1686 bore a near resemblance: the other years were rainy till 1691. In 1684 spotted fevers, particularly of the miliary kind, were common. This and the following year of 1685 are remarkable for the greatest number of burials; from 1665 to 1714, although 1684 does not contain St. James's, Westminster, and neither 1684 nor 1685 contain St. Ann's, Westminster, nor St. John's, Wapping, parishes, which are inserted in every following bill of mortality, and which then buried above sixteen hundred annually at a medium. In 1688 an epidemic catarrh prevailed all over Europe.

"12. A frosty winter in 1691, and excessively hot and dry summer. The same in 1694, the other years rainy and variable. In 1691 a fatal spotted fever prevailed; in 1693 an universal catarrh; and in 1695 the hooping cough.

"13. Of 1698, an exceedingly hard frost in the winter; the rest of this constitution rather rainy. In October, 1698, began a fatal contagious spotted fever, which spread all over England. Coughs attended most of the diseases in 1703.

"14. The year 1704 was excessively dry, so that the grass was burnt up; this continued until August 15, 1705; the rest of this constitution cold and wet. In 1704 malignant spotted fevers were common. In 1708 coughs and coryzas prevailed every where, so that few escaped.

"15. In 1709, great frost all over Europe, and even in Portugal; 1712, a very frosty winter; the rest of this constitution variable. In 1709 the plague broke out in Dantzick, immediately after the thaw, and killed twenty four thousand five hundred and fifty-three. In 1710 the plague in Copenhagen killed twenty-five thousand. In 1712, sore throats universal in July and August, with dizziness and pains of the limbs, in London.

"16. The year 1714, and the six succeeding years, were all dry, with hot summers. In the winter of 1716 so severe a frost that the Thames was covered with booths; that of 1718 likewise very frosty; the rest to 1731, cold, wet, and variable, except 1723, which was cold and dry; and 1729, which was a cold dry winter, followed by a hot dry summer. In 1720 the plague killed sixty thousand in Marseilles. In 1729 an universal epidemic catarrh prevailed in November.

"17. The year 1731 was a very dry one, which continued until harvest 1732; summer of 1733 rather dry and pleasant, as was most of 1738; the remainder of this constitution extremely wet. In the beginning of 1733 was an epidemic catarrh; 1737, 1738, and 1739, were all much affected with catarrhal fevers, especially among children.

"18. In 1740 was the severest frosty winter and spring that had happened for three hundred years; 1741, extremely dry hot summer; 1742, a variable, but dry, year; the rest of this constitution wet or variable. In 1740 a malignant petechial fever made great havock in Bristol, and in Galway in Ireland. In 1741 it reached London, where this and the last year were the most mortal ever known, except when the plague reigned, the burials amounting to sixty two thousand nine hundred and eighty. In 1742 the putrid sore throat broke out. In March, 1744, an epidemic catarrh was universal, and was more fatal than usual.

"19. In 1747, there was an excessively hot dry summer; 1750, a dry year throughout and intensely hot summer; the rest of this constitution moderate, variable, or wet. In 1747, and the succeeding years, the sore throat seemed to acquire new vigour, alarming the inhabitants of these kingdoms very much. In November, 1758, there was an universal epidemic catarrh.

"20. The year 1760 was droughty from June 26 to September 16; the end of that and the following year severely wet, as was the end of 1763 and beginning of 1764; the rest of this constitution moderate. In April and May, 1762, a most epidemic catarrh.

"21. A very dry year, and rather hot summer in 1765, as was the next year, though not quite so much so; the remainder of this constitution moderate years, rather inclining to wet. During this constitution no very remarkable epidemic till the universal catarrh in November, 1775, unless we reckon such, the small pox of the year 1772, which, succeeding a hard winter, were more fatal than they had ever been before in London.

"22. The year 1776 was dry, and 1778 still more so. The winter of 1780 was the most frosty since 1740: yet these deviations from what might be accounted moderate weather were so small as scarcely to deserve notice. In May, 1782, there was a very general epidemic catarrh; and early in 1783 began the constitution which produced the epidemic scarlatina anginosa, which spread very considerably."

See Dr. Wallis's Sydenham.

EPIDE'RMIS, (from *επι*, and *δερας*, *the skin*). See Clitoris.

EPIDE'RMIS, (from *επι*, *upon*, and *δερμα*, *the skin*). See Cuticula.

EPIDE'SMIS, (from *επι*, and *δεω*, *to bind*). A bandage by which splints, bolsters, &c. are secured.

EPIDI'DYMIS, from *επι*, *upon* and *διδυμος*, *a testicle*). The epididymis may be reckoned a testis accessorius, called by Hippocrates, *parastata*. It is a body on the upper part of the testicle, formed of a continuation of the tubes that constitute its body: the continuance of the epididymis upwards forms the vas deferens. See Testes.

Epidi'dymis diste'nsa. See Spermatocele.

EPIDO'SIS, (from *επιδιδωμι*, *to increase*). Preternatural enlargement of the parts.

EPI'DROME, (from *επι*, *upon*, and *δρεμω*, *to run*). An afflux of humours, particularly from a ligature.

EPIGA'STRICÆ ARTE'RIÆ, (from *epigastrum*). The EPIGASTRIC ARTERIES. The external iliac artery divides into two branches at the ligamentum Poupartii; one of these is the epigastric, which runs to the inside of the rectus abdominis, at whose upper part it communicates with the internal mammary. Dr. Hunter observes, that in the operation for the femoral rupture, we endanger dividing the epigastrica if we cut upwards and outwards; and if upwards and inwards, the spermatic, as the hernial sac lies in the angle between the two.

EPIGA'STRICÆ VE'NÆ. The EPIGASTRIC VEINS. The external iliac veins, a little before their going out of the belly, send off from the inside the epigastric veins, from whence branches run to the neighbouring glands, up the musculi recti abdominis, and then, advancing, join the mammaria.

EPIGA'STRIUM, (from επι, *upon*, or *above*, and γαστηρ, *the stomach*). The upper fore part of the belly; reaching from the pit of the stomach to an imaginary line above the navel, supposed to be drawn from one extremity of the last of the false ribs to the other. Its sides are called hypochondria, and are covered by the false ribs, betwixt which lies the epigastrium.

EPIGE'NEMA, (from επιγινομαι, *to generate anew*). Sometimes it signifies an adventitious symptom; at others any thing added, as a fur on the tongue.

EPIGINO'MENA, (from επιγινομαι, *to succeed*, or *supervene*). Those symptoms which naturally succeed, or may be expected in the progress of a disease (Galen); but Fœsius considers them as accessions of some new affection, which never happened but in stubborn and malignant disease. See EPIPHÆNOMENA.

EPIGLO'SSUM, (from επι, *upon*, and γλωττα, *the tongue;* from a less leaf growing above a larger in the shape of a tongue). See LAURUS ALEXANDRINA.

EPIGLO'TTIS, (from επι, and γλωτις, *the aperture of the larynx*). See ASPERA ARTERIA.

EPIGLO'TTUM, (from επιγλωτις). An instrument mentioned by Paracelsus for elevating the eye lids, resembling in shape the epiglottis.

EPIGLU'TIS, (from επι, and γλουτος, *the buttock*). The superior part of the buttock.

EPIGO'NATIS, (from επι, and γονυ, *a knee*). See PATELLA.

EPIGO'NON, (from επιγινομαι, *to proceed upon*). See EPICYEMA.

EPIGO'NIDES, (from επι, and γονυ, *the knee*). The muscles inserted into the knees.

EPILE'PSIA, (from επιλαμβανω, *to seize, invade*, or *oppress*). The EPILEPSY; *Abas, morbus caducus, interlunius, magnus*, and *attonitus morbus, analepsia;* by Paracelsus, *catalentia;* by the Portuguese, *cobrello;* by Hippocrates, *eclampsis*, FALLING SICKNESS; *heracleios*, the GREAT OR HERCULEAN DISEASE, from its violence and intractability; the SACRED OR DIVINE DISEASE, because it was supposed owing to the divine influence; *morbus infantilis* and *puerilis*, as happening most frequently to infants and children; *comiste*, and *comitialis morbus*, since people were frequently seized with it whilst in the *comitia*.

Dr. Cullen places this genus of disease in the class *neuroses*, and order *spasmi*. He defines it a convulsion of the muscles, attended with a loss of sense, terminating in a state of insensibility, and seeming sleep. He distinguishes three species:

1. EPILE'PSIA CEREBRALIS, when it arises suddenly without any manifest cause; no uneasiness preceding, except sometimes a giddiness or loss of sight.

2. EPILE'PSIA SYMPATHICA, when it arises without any manifest cause; but is preceded by a particular sensation, called *aura epileptica*, from some part of the body rising upwards to the head.

3. EPILE'PSIA OCCASIONALIS, when from manifest irritation, and ceases on the removal of that morbid cause.

An epilepsy is a violent, involuntary, or convulsive contraction of the muscular parts of the whole body, attended with an abolition of sense, owing generally to some irritation in the common sensorium, producing insensibility, and consequently irregular action. When the cause is in the brain itself, it is called an idiopathic epilepsy; when in other parts, symptomatic.

The idiopathic epilepsy is remotely occasioned by external violence; by bony protuberances arising internally in the basis of the skull, in the lateral or the falciform sinuses; from an obstruction of the jugular veins; from polypous concretions; the passions of the mind; an ill conformation of the brain, &c.

A symptomatic epilepsy is produced by cachectic and hypochondriac habits; flatulencies proceeding from the stomach and bowels; spasms of the intestines; irregular secretions and excretions; the acrid matter of eruptive and other diseases conveyed to the brain; gout; pains that are violent and attended with spasms; stones passing through the ureters; worms; poisons, &c.

The diagnostics vary in different people: some are suddenly seized; others have a train of symptoms foreboding the attack, such as weariness, an oppressive pain in the head, interrupted sleep, a languid pulse, a pale countenance, stupor and drowsiness, an unusual dread and terror, a ringing in the ears, palpitation of the heart, inflation of the precordia, disturbed respiration, rumbling in the bowels, a discharge of fetid stools, coldness in the joints, and a copious discharge of urine. A cold vapour is sometimes perceived gradually ascending from the extremities to the brain. Whether these symptoms precede the attack, or are absent, the fit approaches suddenly, and as it were unexpectedly; the patient falls down; the thumbs are firmly fixed on the palms of the hands; the eyes are distorted, and the white part only appears; all sensation, both internal and external, is lost; a froth is forced through the closed lips, with a hissing noise; the tongue is often lacerated by the teeth; and the limbs are agitated with the most violent convulsive motions. In some, the distortions and gesticulations are ridiculous and distressing; in others, instead of convulsive motion, there is highly rigid spasm in all the members, by which they are so fixed that no force can move them. The seed is occasionally ejected, and sometimes the urine is discharged to a considerable distance, and this, as well as the discharges by stool, are involuntary. At length these symptoms remit; the patient seems to have a sort of respite at intervals, but the eye lids remain immovable; the teeth grind upon each other, the tongue hangs out of the mouth. When the paroxysm ceases, the patient is entirely ignorant of every thing that happened during

it; he rolls on the ground; his countenance appears sad; he begins to yawn, and stretches himself with a kind of violent effort; he rises and walks slowly, seems uneasy, and the veins of his forehead appear distended. The recollection returns very slowly, and the symptoms which preceded the fit sometimes continue after it. The returns, in many instances, are regularly periodical; more frequently irregular and uncertain. By a frequent recurrence of this disorder the patient grows dejected; is indolent; subject to a vertigo and a trembling if he looks upward; is irritable, and quickly agitated.

The epilepsy should be distinguished from the apoplexy, convulsions, and hysterics. In apoplexy there are no convulsions; the breath is drawn with a stertor, and the pulse is unusually slow and laborious. If convulsions and hysterics are confounded with epilepsy, the inconvenience is not very great. The remedies do not materially differ; and those reputed epilepsies, attended with, and in part owing to, flatulencies in the stomach, are more nearly allied to hysteria. We may add also, that the epilepsies attended with stupor rather than convulsions, do not essentially differ from apoplexy.

Hereditary epilepsy is rarely cured; and when the disorder is chronical or habitual, success is scarcely to be expected. When the approach of puberty, the eruption of the menses, or the first delivery, does not remove an epilepsy in woman, an hereditary cause may be suspected, and a cure is not to be expected. When caused by frights, they are so rarely cured as to afford but little hope; for, when the patient seems recovered, trifles occasion a relapse. When the fit approaches during sleep, the danger is greater. Hippocrates asserts, that boys are relieved from this disorder about their seventh, fourteenth, or seventeenth year. There are hopes of cure when the case is not inveterate or hereditary, when the cause is in the primæ viæ, too great irritability, or some disorder translated to the brain. In all spasmodic diseases, the disease often continues from custom alone, after the original cause has long ceased to act; so that much depends upon breaking the habit. If several successive attacks can be prevented, it may never return. No medicine will so certainly prevent an epileptic fit, as a vomit given an hour before the attack. But this can only be employed when the disease is regularly periodical, as its approach is known by previous symptoms. In the epilepsia nocturna, a dose of ipecacuanha may be given at bed time.

From the variety of causes, and the nature of some of these, it is difficult to state the indications and method of cure. We may, with the generality of authors, propose, 1. To prevent an impending paroxysm. 2. To shorten a present one. 3. To guard against future attacks. The first of these intentions is answered in plethoric habits by suitable evacuations and antispasmodics, as nitre, opium, musk, &c.; in languid constitutions, by warm, nervous medicines, as castor, valerian, camphor, fetid gums, volatile salts, the bark, and chalybeates. Cheyne thinks that the epilepsy differs but little in degree from the hypochondriac and hysteric fits; and observes, that, when the former abate, they end in the latter, and when the latter are violent, they become epileptic: he therefore urges a free use of vomits, bitters, and steel. The second intention is supplied by sinapisms or blisters, if the fits are long; but before these are applied, or when the fits are short, if the jaws are separated by a wedge as far as they can be opened in health, the fit, it is said, will be removed; and in cases where the patient hath due notice of their approach, he may prevent them by introducing the wedge into his mouth. When the fits are preceded by a peculiar sensation in the toes, feet, or legs, a bandage applied tight below the knee will often prevent the paroxysm; or wherever these sensations are felt, a bandage may be applied there, and continued from thence upwards. Instances of perfect cures have occurred, by cutting down on the part in which those peculiar feelings were first perceived. (See an instance in the Edinb. Med. Essays, vol. iv. and the article Sesamoidea.) Cœlius Aurelianus prefers the blowing of strong vinegar up the nostrils to volatile salts. The third intention requires, if possible, that the cause be known, in order to its being removed: but in some instances it cannot be discovered; and in others no remedy could be applied.

In the article Convulsions we stated what appeared to us a correct view of the subject, and this is more particularly applicable to epilepsy. We there remarked that convulsions were irregular actions, depending chiefly on debility, though generally excited by some, often almost imperceptible, irritation. To prevent the return of the fits, both objects must be combined; and we have fortunately some medicines, or combinations of medicines, which will answer both intentions.

Dissections have taught us that exostoses in the cranium, obstructions in the venous system of the brain, and various causes of irritation in that organ, frequently produce epileptic paroxysms. It will be obvious that no medicine has power over these; yet, in a very few instances, where, from venereal complaints, the external injuries of the bone lead to a strong presumption of internal ones producing the disease, long continued, gentle courses of mercury have succeeded: we say in a very few instances, for, in general, the bones are too intimately diseased to admit of very considerable relief. Yet where we find these mechanical irritations to produce epilepsy, though we cannot remove them, we can often mitigate the paroxysms. In such cases we generally find the fits increased by every circumstance which accelerates the circulation through the head; and, taking the hint from this fact, a drain from any part of the neck or head, by means of a blister or a seton; a free discharge from the bowels; a milk diet, with the utmost tranquillity of body and mind, have given very considerable relief. Indeed, in almost every case of epilepsy, except where it is connected with great debility, or has been produced by debilitating causes, these means of relief will be found highly useful.

Another cause of topical, nervous irritation occurs in those cases where the fit is preceded by a sensation of cold air, rising from some portion of either (though generally the lower) extremity. An instance of this kind is recorded where a hard body was found on the nerve, which was removed, and the fits ceased. In other cases a drain from that part, by means of a blister, has succeeded; but, as the cause is fixed and often within our reach, many remedies may be applied to the nerve, or if it be not a considerable one, it may be divided above the part whence the irritation proceeds.

These are unfortunately the very few instances on which our foundation is firm, and in which, if we cannot cure, we can often alleviate. In general, we must rest on the vague indications of counteracting irritability, or any concealed source of irritation. From the stomach and bowels the latter often unsuspectedly proceeds; and, in every instance, these organs should be kept free by occasional emetics, and the regular use of laxatives and anthelmintics, when worms, as sometimes happens, are the cause. From the observations under the article CATHARTICA, it will be obvious that these are means of removing many kinds of irritation in different organs; and from their use in chorea and palpitations, it is probable that they will be found extensively useful. Convulsions do not differ so greatly as authors have generally represented. In the diagnosis, which we hastily passed over because it did not admit of any practical application, they appeared to run into each other; and it is difficult, if not impossible, to distinguish epilepsy from other convulsions but from the violence, the obstinacy, and often the regularity, of the return of paroxysms. The foaming at the mouth is occasioned only by the convulsions of the muscles of the jaws emulging the salivary glands and combining the saliva with the air; yet this is the chief distinction. The paroxysms arising from a distant aura is a good mark of distinction; but it would greatly contract our views, and exclude many cases from the share of attention which they would otherwise receive.

Another source of irritation, less obscure, arises from the suppression of the usual evacuations. The German physicians are uncommonly anxious to procure or restore the hæmorrhoidal discharge; but, in this country, we do not find it such an essential evacuation. The suppression of cutaneous affections has occasioned the disease; the repulsion of gout; and sometimes the deficiency of constitutional strength, which prevents its formation, has had the same effect. In some cases, the eruption of the menses will occasion pain and convulsive paroxysms. In all these instances, the knowledge of the cause will suggest the means of relief.

When causes of debility and irritability produce epilepsy; in other words, when the irritability is so great that the slightest irritation will induce the fits; the remedy is equally obvious. Warm generous diet, which may appear at first indicated, must be used with caution, since a fulness of the vessels is, alone, in tender habits, a cause of irritability. Tonics and narcotic bitters are the best remedies in such cases, anxiously guarding, as usual, against any accumulations in the head; but not by such remedies as will weaken.

In the greater number of instances, however, we have only the vague indication formerly mentioned to direct us; and many are the nauseous disgusting remedies recommended by ancient authors, which act on the mind by exciting horror, and thus, by fixing the attention, destroy the habit; for nervous paroxysms, after their cause is removed, are frequently renewed by habit only. These we shall not stay to enumerate: they are almost forgotten, and we wish not to revive their memory. Superstition has, however, employed one remedy, not yet wholly disused, the misletoe, retained, perhaps, as a tonic from its connection with the oak. It has, however, no such power: its taste is nauseous, and it may be sedative; but its quality is almost wholly mucilaginous.

Tonics, in general, are freely employed; and, of these, the Peruvian bark is the principal remedy from the vegetable kingdom; yet alone it is seldom trusted, and would probably seldom succeed. The metals, we have said, are very generally tonic, differing only in the degree of inflammatory stimulus, most conspicuous in iron. All have, however, been employed, viz. silver (argentum nitratum); iron (flores martiales, ferrum vitriolatum, rubigo ferri, squamæ ferri, and chalybs preparatum); copper (cuprum vitriolatum and ammoniacum); zinc (zincum vitriolatum, ustum); tin (limatura vel pulvis stanni); arsenic (kali arsenicatum). Each has been used with success; but the silver, the copper, and zinc, have been preferred. These are more effectual when combined; but as we cannot suspect any chemical union, the increased power is probably owing to their being borne by the stomach in increased quantities. (See COMBINATION OF MEDICINES). As a tonic, the cold bath is also an excellent remedy.

The medicines which obviate irritation are the sedatives and antispasmodics. Of these the chief is opium, and the valerian: camphor is similar in its powers; and the leaves of the orange tree, the extractum hyoscyami, the peony root, flowers of the cardamine pratensis, are medicines of the same class. We have found little benefit from any except the valerian and camphor. The flowers of the cardamine have failed in every instance; the leaves of the orange tree have produced only a temporary and inconsiderable benefit. The union, however, of these with the tonics has been particularly serviceable; and their effects seem to support the opinion we have attempted to establish. The bark and valerian united have afforded relief, which neither separately could procure; and the camphor, with the zinc, been highly and deservedly commended. Opium has been combined with all the metallic preparations with advantage. If, according to this idea, such combinations are pursued, much benefit will probably result.

The tribe of antispasmodics has been employed; but not often successful. The ether, rectified animal oil of Dippel, oleum vini, musk, castor, and asafœtida, are the principal remedies of this class; but they are seldom trusted alone; and of their separate or comparative merits it is not easy to speak. We have placed them nearly in the order of their power.

Of anthelmintics we have not spoken with sufficient distinctness. Worms are not an uncommon source of irritation in the tender habits of children; and epileptic paroxysms should always, in such cases, be attacked with this remedy, unless they arise from fright, or some more obvious cause. We have nothing to add at present to what we have remarked in the article ANTHELMINTICS, q. v.

See Hippocrates, Celsus, Cœlius Aurelianus, Aretæus, Hoffman, Boerhaave; and among the best authors on this subject, Threlfal's and Lyson's Essays on Epilepsy; Cullen's First Lines, vol. iii. edit. 4.

EPIME'LIS, (from *επι*, and *μηλον*, *an apple*). See AMAMELIS.

EPIMO'RIOS, (from *επι*, and *μειρω*, *to divide*). In Galen it is an epithet of the difference of pulse with respect to the inequality of their time in beating.

EPIMU'LIS, (from επι, and μυλη, *a knee*). See PATELLA.

EPINEU'COS, (from επι, and νευω, *to nod* or *incline*,) an epithet of a pulse which beats unequally in different parts of the artery; also called *perineneucos*. Galen thinks it common in hectics.

EPINE'PHELOS, (from επι, and νεφελη, *a cloud*). CLOUDY. An epithet applied to the enæorema in the urine, which appears like a cloud.

EPINO'TION, (from επι, and νωτος, *the back*). The SHOULDER BLADE. See SCAPULA.

EPINY'CTIS, (from επι, and νυξ, *night*). A pustule which arises in the night resembling a furunculus; according to Sauvages, these are pustules of a blackish-red colour, crowding together, three or four lines in diameter, affecting chiefly the legs, and very frequently painful, chiefly in the night. He enumerates two species:

EPINY'CTIS VULGARIS and PRURIGINOSA. Celsus considers it as malignant, and describes it as of a whitish or somewhat livid colour, with a violent inflammation around it; affecting the hands, arms, and thighs. The ancients rank it with the terminthus, which is rather less; and it is sometimes described as of a dusky red, occasionally of a livid and pale colour, with great inflammation and pain. In a few days it is said to burst, and separate in a slough. When opened, there is an efflux of sanies; a deep ulcer follows, and the pain is more violent than in proportion to its magnitude, for it is scarcely as large as a bean; according to Paulus and Ætius, chiefly troublesome in the night. Celsus recommends that in this, and all other kinds of pustules, the patient walk much, abstain from all acrid food, and be very sparing in his diet. Sauvages recommends bleeding, a cooling diet, antiphlogistic, cathartic, emollient gruels, with the application of cataplasms of mallow flowers, and lintseed.

E'PIOS. MILD, GENTLE. An epithet which Hippocrates bestows on mild epidemic fevers.

EPIPA'CTIS, (from επιπαχλοω, *to coagulate*; because it coagulates milk). Dioscorides mentions this plant, and Boerhaave thinks it the helleborine latifolia montana of C. Bauhina. *Serapias helleborine* Lin. Sp. Pl. 1344.

EPIPAROXY'SMUS, (from επι, and παροξυσμος, *paroxysm*,) when the patient suffers more exacerbations than usual in a fever.

EPIPA'SMA. See CATAPLASMA.

EPIPA'STON, (from επι, and παστος, *to sprinkle*). See CATAPASMA.

EPIPE'CHYS, (from επι, and πηχυς, *the cubit*,) the part of the arm above the cubit.

EPIPE'PHYCOS, (from επι, and φυω, *to grow*). See ADNATA.

EPIPHÆNO'MENA, (from επι, and φαινομενον, *a phenomenon* or *symptom*,) adventitious symptoms which do not appear till the disease is formed: the same probably as epiginomena.

EPIPHLE'BOS, (from επι, and φλεψ, *a vein*). One whose veins are prominent.

EPIPHLOGI'SMA, (from επι, and φλογιζω, *to inflame*). A violent inflammation, attended with pain, tumour, and redness; or internally a burning heat. The shingles of Hippocrates. See ERYSIPELAS.

EPI'PHORA, (from επιφερω, *to carry with a force*). In a medical sense, it is a violent determination, generally inflammatory, of the fluids to any part of the body; but more particularly the flow of tears from the eyes, in consequence of obstructed puncta lachrymalia, impervious nasal duct, or an inflammation of the eyes.

The epiphora, or watery eye, called *rhocas*, *lippitudo*, *oculus lachrymans*, and MOON EYE, is sometimes confounded with the fistula lachrymalis, for in both the tears run down the cheeks; but in the latter, pus is mixed with the tears. The obstruction in the puncta lachrymalia and nasal duct is sometimes owing to a tumour, as the encanthis in the great angle of the eye; to any accident, as a wound, or burn; to the destruction of the nasal duct; a polypus of the nose; a fistula lachrymalis; an inversion of the eye lid (see ENTROPIUM); an erosion or other defect of the caruncula lachrymalis.

Dr. Cullen places this disease in the class *locales*, and order *apocenoses*, and defines it a flux of the lachrymal humour. Only one species, the epiphora frigida, can, he thinks, be esteemed idiopathic; and of this there are twelve varieties.

When the cause is a tumour in the angle of the eye, a polypus in the nose, a distortion in the eye lids, and a fistula lachrymalis, it must be removed. When from a conglutination of the puncta lachrymalia, we are to examine whether their ducts are totally obstructed or their mouths only covered; for if after a burn, or from a cicatrix after a wound, a cure is hardly to be expected: but if only a cuticle covers the duct, a perforation may be made with a needle; then a hog's bristle, or silver wire oiled, be passed through, and continued till the part is healed. If from a total want of the caruncula lachrymalis, a cure cannot be effected, because that gland cannot be restored. Mr. Ware thinks it may be occasioned either by a more copious secretion of tears than the puncta lachrymalia are capable of absorbing; or, which is more commonly the cause, by an obstruction in the lachrymal canal. It is the opinion of some anatomists, not only that part of the tears transude through the pores of the conjunctiva and cornea, but that their quantity is increased, and their acrimony abated, by the secretions of the caruncula lachrymalis, and the glandulæ Meibomii. A morbid epiphora is consequently produced by an inflammation in the membranes of the eye, and to be cured by the remedies of inflammation. No such transudation, however, appears to take place. When it originates from an obstruction in the ducts, leading from the puncta lachrymalia into the lachrymal sac, which rarely occurs, the tears fall over the cheeks, and the sac is constantly empty. Pressure therefore on the sac can produce no regurgitation, either of the tears or mucus, into the eye. A probe, of a suitable size, must in that case be introduced through the puncta of the obstructed ducts into the sac; and the operation repeated daily, till the obstruction is removed. The part in which the obstruction most commonly lies is in the sac itself; then the tears, on pressing the sac, mixed sometimes with mucus, flow back into the eye, through the puncture. The causes producing this obstruction to the passage of the tears, are either a thickening of the membrane lining the sac, from previous inflammation;

inspissated mucus lodged in the inferior portion of the cavity, from the same cause; or a spasmodic action of that part called the *sphincter of the sac*.—These three causes sometimes exist together, and mutually increase each other's effect.

Of the various remedies which have been proposed for the cure, Mr. Ware approves most of Monsieur Avel's, recommended first in the year 1712; which consisted in first passing a probe, and afterwards injecting a fluid through the puncta lachrymalia, in order to clear the matter which obstructed the lachrymal passage. Mr. Ware adopted this plan, which in several cases was attended with success. He had a small silver syringe, with pipes fitted to it of various sizes, much shorter than that represented in plate 37, vol. iii. of Bell's Surgery: they were a little arched towards the point, for the convenience of being introduced into the punctum lachrymale with more ease; of these he used the largest that could be introduced without pain, and through it he injected warm water. In introducing the pipe, he found it convenient to stand either behind the patient, or on the side opposite to that of the diseased eye, and always high enough to give him a full command of the patient's head. The syringe being held in the right hand, the eye lid was drawn downward, and a little outward, with the fore finger of the left hand. This brought the inferior punctum fully within the sight of the operator, and placed it in a position very convenient for admitting the point of the pipe. When the pipe was introduced, the finger was removed from the lower lid, and applied as accurately as possible over the superior punctum, to prevent the liquor from escaping through it; and with this finger the lachrymal sac was occasionally compressed, to assist the determination of the liquor downwards to the nose. See Ware on the Epiphora, or Watery Eye; Heister's Surgery; White's Surgery, p. 233; and Dr. Wallis's Nosologia Oculorum.

EPIPHYLLOSPE'RMUS, (from *επι*, *upon*, *φυλλον*, *a leaf*, and *σπερμα*, *seed*). Plants whose seeds grow on the back of their leaves.

EPI'PHYSIS, (from *επιφυω*, *to grow to* or *upon*). *Additamentum*, APPENDIX, is a small bone annexed to the larger by means of an intervening cartilage, only observable in growing subjects, for in adults the epiphysis cannot be distinguished from the bone. Epiphyses are of a larger diameter than the bone they belong to, and serve to render the articulation more firm: the muscles also inserted into them act with greater force, as their axis are further removed from the centre of motion. They are sometimes separated from the head of the bone, and mistaken for a luxation, or a fracture. See SYMPHYSIS.

EPIPLA'SMA, (from *επι*, and *πλασσω*, *to spread*). (See CATAPLASMA.) A name for an application of wheat meal, boiled in hydrelæum, to wounds.

EPIPLOCE'LE, (from *επιπλοον*, *the omentum*, and *κηλη*, *a rupture*,) *hernia omentalis*. A RUPTURE OF THE OMENTUM; or a protrusion of the omentum through apertures in the integuments of the belly. Sometimes, according to Mr. Sharpe, so large a quantity of the omentum hath fallen into the scrotum, that its weight drawing the stomach and bowels downwards hath excited vomiting, inflammation, and symptoms similar to those of the bubonocele. When this happens, he thinks it necessary to operate as in the bubonocele. The rings of the muscles must be dilated; or the whole cannot be returned. But except inflammation has commenced, this method is not to be attempted.

EPIPLOI'CÆ APPENDI'CULÆ, (from *επιπλοον*, *the omentum*). The peritoneal coal of the intestines sends out some processes like little epiploons, to which Winslow gives this name.

EPIPLOI'CA ARTE'RIA. See SPLENICA ARTERIA.

EPIPLOI'CA DE'XTRA VE'NA is a branch from the trunk of the meseraica major, which goes to the omentum.

EPIPLOI'CA SINI'STRA VE'NA arises from the splenica at the small extremity of the pancreas, and is ramified on the omentum so far as the colon, where it communicates with the hæmorrhoidalis interna.

EPIPLOI'TIS, (from *επιπλοον*, *omentum*). See PERITONITIS OMENTALIS, and PUERPERILIS FEBRIS.

EPIPLOOCOMI'STES, (from *επιπλοον*, *the cawl*, and *κομιζω*, *to carry*). Those who have the omentum in a morbid state; so that it appears, on a comparative view, larger than that of brutes—a circumstance which rarely occurs. It is also applied to those who labour under a rupture of the omentum; but probably it is only a term of raillery.

EPIPLOO'MPHALON, (from *επιπλοον*, *the omentum*, and *ομφαλος*, *the navel*). See HERNIA UMBILICALIS.

EPI'PLOON, (from *επιπλεω*, *to run over*,) because it seems to float upon the intestines. See OMENTUM.

EPIPLOSCHEOCE'LE, (from *επιπλοον*, *οσχεον*, *the scrotum*, and *κηλη*, *a tumour* or *rupture*). See HERNIA SCROTALIS.

EPIPOLÆ'US, (from *επιπολαζω*, *to be light*). SLIGHT, GENTLE. Hippocrates applies it to disorders that are not dangerous.

EPIPOLA'SIS, (from *επιπεπολαζω*, *to swim on the top*,) a REDUNDANCE and FLUCTUATION. In chemistry when what is sublimed ascends only to the surface and there settles, this term is applied.

EPIPORO'MA, (from *επιπωροω*, *to harden*). An indurated tumour on the joints. See TOPHUS.

EPISARCI'DIUM, (from *επι*, and *σαρξ*, *flesh*). See ANASARCA.

EPISCHE'SIS, (from *επισχω*, *to retain*). See EPISTASIS.

EPI'SCHION, (from *επι*, and *ισχιον*, *ischium*). See OSSA PUBIS.

EPISCOPA'LES VALV'ULÆ. Valves resembling a mitre, (from *episcopus*). See COR.

EPISE'ION. See PUBIS OSSA.

EPISEMA'SIA, (from *επι*, and *σημαινω*, *to signify*). See ANNOTATIO.

EPISPA'SMOS, (from *επι*, and *σπασμος*). In Hippocrates it generally means inspiration; but has been supposed to imply a more quick inspiration than usual.

EPISPA'SMOS, (from *επισπαω*, *to draw*). Medicines which draw the fluids more copiously into the parts to which they are applied, and therefore, strictly, a term of the same meaning as attrahentia; but as the effect of the epispastics is commonly that of exciting blisters, the term is often employed for that of vesicatoria and vesicantia. What the ancients called *epispastice* were such external applications as only reddened the skin,

and according to the different degree of effect, received different names; the slightest were called *phænigmoi*, the next *sinapismi*, the more active *vesicatorii*, and the strongest *caustici*. The London college hath changed the name of the blistering plaster from vesicatorium to emplastrum cantharidis. See CATAPLASMA, BLISTERS, and CANTHARIDES.

EPISPA'STICUM MEDICAME'NTUM. A dry powder sprinkled on malignant ulcers, to promote a separation.

EPISPHÆRIA, (from σφαιρα, *a sphere*). The windings of the exterior substance of the brain; sometimes the circular vessels on its surface.

EPISTAPHYLI'NI, (from επι, and σταφυλινος *a parsnip*,) from their resemblance to a parsnip. See STAPHYLINI.

EPI'STASIS, (from επι, and ιστημι, *to stay*,) *epischesis*. A suppression of proper excretions; or rather the superficies of urine, called *insidentia*, opposed to the *upostasis*, *subsidentia*, or sediment in urine. Epistasis is applied in Hippocrates to the beginning and increase of the fit.

EPISTA'XIS, (from επισταζω, *instillo*). Hæmorrhage from the nose. See HÆMORRHAGIA.

EPISTO'MION, (from επι, and στομιον, *a mouth*). A stopper for a bottle, and a vent-hole of a register furnace.

EPISTROPHÆ'US, (from επι, and στρεφω, *to turn*). Epistrophea and epistrophis. The first vertebra of the neck: the same term is applied, though improperly, to the second.

EPITEDEU'MA, (from επιτηδευω, *to appropriate*). The way of living each person adopts. Cœlius Aurelianus calls it *vitæ affectiones*; and Celsus, *vitæ propositæ*.

EPITHE'LIUM, (from επι, and τιθημι, *to cover*). See CUTICULA, and PROLARIUM.

EPITHE'MA, (from επι, *upon*, and τιθημι, *to lay upon* or *apply*). A LID or COVER; but used to signify a topical medicine. Epithems are, 1. Liquid; and, when applied warm, called *fomentations* or *embrocations*; 2. Dry or solid; viz. medicated powders folded in cloths, called *sacculus*, and *saccus*; when applied to the head, *cucupha*, and *cucullus*; to the forehead, *frontale*; to the breast or stomach, *scutum* and *pulvinar*; when used as a pillow, *lectulus*; 3. Those of the soft kind, as sinapisms, and poultices. Turner confines the name of *epithem* to liquids in which rags are dipped, to be applied to the parts affected. See Gaubius de Formulus Medicamentorum.

EPITHESIS, (from επι, and τιθημι, *to lay upon*). In surgery, it is the straightening of crooked limbs by means of instruments.

EPITHY'MBRUM, (from επι, and θυμβρα, *savory*). A species of moss growing on the thymbra, or winter savory.

EPITHY'MUM, (from επι, and θυμον, *thyme*). See CUSCUTA.

EPOCHETEU'SIS, (from εποχαλευω, *to drain*). A derivation of the juices to other parts.

EPO'MIS, i. e. ACROMION, (from επι, and ωμος, *shoulder*). See SCAPULA.

EPO'MPHALUM, (from επι, and ομφαλος, *the navel*). Any application to the navel.

EPO'DE, and EPO'DOS, (from επι, and ωδη, *a song*, the absurd attempt of curing distempers by incantations.

EPO'SCHION, (from επι, and ασχιον, *a branch*). The tendril of a plant.

EPOMPHA'LION, (from επι, and ομφαλος, *the navel*,) a medicine supposed to purge when applied to the navel.

EPOSILI'NGA. SCALES OF IRON.

EPSOME'NSIS A'QUA. EPSOM WATER. From this water the bitter purging salt was first procured. Epsom water, which rises near Epsom, in Surrey, differs, at different times, in its solid contents: for, from a gallon Dr. Lister obtained one ounce and a half; Dr. Rutty, one ounce, and in some seasons half the quantity; Dr. Lucas, only five drachms and one scruple. Of this solid matter Dr. Allen alleged that one eighth was an earth, or insoluble matter: but Dr. Rutty found a much less proportion of it; and to him it appeared of a calcareous nature. The salt is mostly a vitriolated magnesia, and probably contains some earth; for Dr. Rutty affirms, that it requires at least twenty-four times its own weight of water entirely to dissolve this salt, though the factitious Epsom salt dissolves readily in little more than an equal weight of water.

EPSOME'NSIS SAL. See CATHARTICUS SAL.

EPU'LIS, (from επι, *upon*, and ουλα, *the gums*). Vogel describes it, "a tubercle on the gums without inflammation."—Of these there are two species; one without pain, the other troublesome, and often degenerating into a cancer; some have a broad basis, and others a slender neck, by which they are united to the gums.

The best method of cure is totally to extirpate them. When they have a small neck, or root, they may be separated by a thread; but when the basis is broad, it may be destroyed with the aqua kali, or a solution of sal ammoniac. If these mild corrosives fail, it is better to use the knife than to employ the stronger ones.

After the tumour is extirpated, the mouth should be washed with red wine, or oxycrate with alum; and when the blood ceases to flow, the honey of roses may be applied. See Turner's Surgery, vol. i. p. 210. Heister's Surgery.

EPULO'TICA, (from επι, and ουλη, *a cicatrix*; επουλωω, is *to cicatrise*). EPULOTIC. *Cicatrisantia; desiccativa; apulotica;* topical medicines which absorb moisture, repress fungous flesh, and dispose wounds or ulcers to heal. Dry lint, a gentle compress, and the cerate, with lapis calaminaris, are the general applications. Dr. Cullen thinks it is extremely doubtful if any medicine exists which can induce new skin on a wound: the propriety of the term, therefore, may be justly questioned.

E'QUI CLI'BANUS. In chemistry it is the heat of horse dung.

EQUI'NA FRA'SA. See FABA MINOR.

EQUISETUM, (from *equus*, *a horse*, and *seta*, *a hair*). *Cauda equina*, HORSE TAIL. *Hippuris vulgaris* Lin. Sp. Pl. 6. It has been recommended as an astringent in diarrhœas and hæmorrhages; but is now little used.

E'QUI VE'NTER. See VENTER.

EQUITA'TIO, (from *equito*, *to ride*). RIDING. When the bowels are empty, they are powerfully strengthened by this species of exercise. Its use arises from the repeated gentle agitation given to these parts,

calculated to remove visceral obstructions, promote the circulation of the blood, determine the fluids to the surface of the body, and increase perspiration. Dr. Huxham had so high an opinion of this remedy, that he says, where medicine has failed, in some chronic diseases, riding only has performed a cure: when a patient can therefore sit on horseback, he recommends the daily use of this exercise. See Æora.

E'RAWAY. See Cataputia.

EREBI'NTHUS. See Cicer.

ERECTIU'SCULUS, (a dim. of *erectus*). In botany, it means erected, or lifted up a little.

ERE'CTOR CLITO'RIDIS, (from *erigo, to lift up*). See Clitoridis musculus.

ERECTO'RES PENIS. These muscles, arising from the inside of the tuberosity of the ischium, are lost in the crura, where they unite. They are also called *directores penis;* and Spigelius calls them *collaterales penis*, from their collateral order of fibres.

ERE'GMOS, (from ῥηγνυμι, *to break*). It is any leguminous fruit decorticated and broken into pieces. Fœsius thinks it is bean meal.

ERETHI'SMOS, (from ερεθιζω, *to excite, irritate*). In general, medicinally used, it signifies every thing irritating, comprehending whatever weakens the vires vitæ, and thus destroys the vital heat; or impedes critical efforts, from hence styled σημεια ερεθιστικα, *signa irritantia*. In particular, it signifies an irritation of the belly, from thin acrimonious humours, and their discharge in liquid stools. Some modern authors give this appellation to a fatal disease of the apoplectic kind, which sometimes occurs during a mercurial course.

ERE'TRIA TE'RRA, (from *Eretria*, the place from whence it was brought). Eretrian earth, styled *canabil*. It is a peculiar alkaline bole; once much used as an astringent and sudorific. Dioscorides and Galen describe two kinds, white and grey: the latter was in the highest estimation. The ancient esteemed it an useful medicine, and were very careful in their mode of preparing it, by frequent washing. Though unknown to the present practice, some think it may, from its alkaline quality, be still useful. It is dug up in the Negropont, near ancient Eretria, where it might be readily procured.

EREU'GMOS, and EREUXIS, (from ερευγω, *to eructate*). An eructation.

EREU'MENA U'RA. Urine that assumes a cloudy consistence in the middle.

ERGA'SIMA. See Myrrha.

ERGASTE'RIUM, (from εργον, *a work*). A laboratory. In particular, it is that part of a furnace in which the cupel, alembic, or retort, containing the matter to be acted on, is placed.

E'RGOT. So the French call a disease, which resembles one in England, caused by eating bad corn. It consists of extreme debility, with mortification of the extremities, partly from the unalimentary nature of the substance; but more probably from the effect of some animalcule, for which the injured grain (generally rye) affords a nidus. The name is derived from the resemblance of the diseased corn to a cock's spur.

ERI'CA, (from ερεικω, *to break*; so called because it is broken to make besoms of). Erice, common heath, heather, ling. The flower is of a curious structure, and a decoction of the plant is recommended as a solvent for the stone; five ounces of it are to be drunk every night and morning. See Raii Hist. It is the *erica vulgaris* Lin. Sp. Pl. 501.

ERICE'RUM. The name of several collyria in Ætius, so called from *erica, heath*, which is an ingredient.

ERI'GERUM, (from ηρ, *the spring*, and γηρων, *old;* because in spring it has a white blossom, like the hair of an old man). *Simpson*, and *groundsel*, called also, by Myrepsus, *cortalon*. It is a low plant, and too generally known to require a description. The species used in medicine, the *senecio vulgaris* Lin. Sp. Pl. 1216, is an annual plant; but may be found at all times of the year. The expressed juice of the leaves, or an infusion of them, is a powerful emetic and cathartic. A tea cupful of the juice will operate with maniacs as an emetic when other means fail, and thus slight attacks of the disorder may be removed. See Lewis's Materia Medica; and for its singular power externally applied, Edinburgh Medical Essays, vol. ii. art. 5.

ERI'NEAS. See Ficus sativa.

E'RIX. See Jecur.

ERIZA'MBA. See Asphodelus luteus.

ERODE'NTIA, (from *erodo, to eat away*). See Escharotica.

ERODI'NIUM. See Prognosis.

ERO'SUS, (from *erodo, to eat away*). In botany it means notched at the edges, as if gnawed or eaten.

ERO'TION, (from εραω, *to love;* because bees are fond of it). See Melissa.

EROTOMA'NIA, (from ερως, *love*, and μανια, *madness*). That sort of melancholy arising from disappointed love, or anxiety from delay. See Melancholia.

ERO'TYLUS, (from ερως, *love*). A species of fungus resembling erotium. See Coralloides fungus.

ERRA'NA, ERRA'TICA, (from *erro, to deviate*). Erratic fevers, irregular tertians or quartans. See Intermittens.

ERRHI'NA, (from ῥιν, *the nose*). *Sternutatoria*. Errhines, called *nasal, caput purgia*, which last is a barbarous term, implying those remedies which purge the head. These are either errhines, or masticatories: the former is the term given by Galen to sternutatories; substances which, if snuffed up the nose, promote a discharge of mucus from that organ. At present the milder sorts are distinguished by the name of *errhines*, and the stronger by that of *sternutatories*, because they excite a sneezing. Besides the general shock that sneezing gives to the whole body, it tends to remove remote obstruction; so as to be useful in lethargies, epilepsies, palsies, apoplexies, head achs, vertigos, catarrhs, gutta serena, &c. The action of sneezing seems to be more extensively useful by its general shock than that of vomiting; but it should be observed, that if there is any kind of plethora in the habit, sternutatories are dangerous. There seems little distinction in the different articles which compose this class, except in their violence. The betony, the sweet marjoram, the orris root, and rosemary tops, are of the milder kind: the asarum, euphorbium, the tobacco, the white hellebore, and the turbith mineral, of the latter. The more acrid are chiefly evacuants. The use of errhines is now very limited, and principally confined to inflammatory obstruc-

tions in the nose, and to gutta serena. The agitation they produce does not extend beyond the head. See Cullen's Materia Medica.

ERRI'PSIS, (from *ῥιπτω, to precipitate*). When spoken with respect to the body, it signifies a loss of strength.

E'RROR LO'CI, (from *erro, to deviate*). Boerhaave introduced this term, from the opinion that the vessels were of different sizes for the circulation of blood, serum, and lymph; and that when the larger sized globules were forced into the lesser vessels by an error of place, they were obstructed. This opinion is, however, no longer adopted, as it originated from microscopical observations, in which the conclusions were too hastily drawn.

ERU'CA, (from *erugo, to make smooth;* from the smoothness of its leaves). Rocket; *euzomon*. It resembles mustard in appearance, but is distinguished by the smoothness of the leaves, and its disagreeable smell. The seeds have a pungent taste, somewhat like that of mustard, but weaker. The sort used in medicine is the *brassica eruca* Lin. Sp. Pl. 923. It is also a term for mustard. See Sinapi.

Eru'ca sati'va, called also *eruca latifolia alba, eruca major sativa*. Garden rocket; *brassica eruca* Lin. Sp. Pl. 923. The roots have a hot biting taste, and the seeds have the same qualities. The herb is eaten as a salad, and is somewhat warm and diuretic; but is not in use as a medicine.

Eru'ca sylve'stris, called also *eruca sylvestris major*, and *eruca tenuifolia, brassica erucastrum* Lin. Sp. Pl. 923. Wild rocket.

Eru'ca si'liqua cauli oppressa. Hedge mustard. See Erysimum.

ERUTHE'MATA, (from *ἐρυθω, to make red*). Red fiery tumours which arise from inflammation, as in erysipelas.

E'RVA DE SA'NCTA MARI'A. See Dracontium.

ERVI'LIA, (dim. from *ervum, vetch*). See Ochrus.

E'RVUM, (quasi *arvum, a field;* because it grows wild in the fields,) *orobus, crobrychis peregrina*. The bitter vetch; *ervum ervilia* Lin. This plant grows two feet in height: its leaves and flowers are like those of the tare in their shape, but are less, and of a white colour; they are succeeded by pods which contain two or three large, round, whitish seeds. It is a native of France, Italy, and the warmer parts of Europe. The seeds have a farinaceous, disagreeable, bitter taste; are supposed nephritic, powerfully diuretic, and, if mixed with honey, expectorant.

E'rvum lens. See Lens.

ERY'NGIUM, (from *ἐρυγγανω, to eructate;* because it causes eructations). Eryngo. *Eringus, eryngium maritimum, inguinalis, ætherea herba, aster atticus, hyophthalmos, crocodilion, iringus, and* sea holly, *eryngium campestre* Lin. Gen. Pl. 337; supposed to be the *ηρυγγιον* of Dioscorides, who with other ancient writers, speak highly of its efficacy.

The *eryngium maritimum* Lin. Sp. Pl. 337, does not differ in quality or power. It is a bluish branched plant, with mallow-like, thick, prickly leaves, angular or jagged about the edges; the flowers are white; the roots slender and long, brown on the outside, and white within. It is perennial, growing plentifully on some of our sandy and gravelly shores; and flowers in July.

The root has an agreeable sweet taste, which on chewing is followed by a light aromatic pungency. Freely used, it is aperient, diuretic, and antiscorbutic. It has been extolled as an aphrodisiac; but it is now very seldom used except as a comfect.

The candied roots, bought at the confectioners, are ingredients in artificial asses' milk, which is thus made:

Take of candied eryngo root one ounce; pearl barley, half an ounce; liquorice root, three drachms; boil them in two pints of water to one pint, to which add a pint of new milk from the cow; boil them gently together, and strain the decoction. Half a pint should be drunk three times a day.

Ery'ngium fœtidum, Lin. Sp. Pl. 336, is highly esteemed in America as an antihysteric medicine; and in large doses is said to act powerfully as a cathartic and a diuretic. It is chiefly employed in the hysteria and dropsy.

ERY'SIMUM, (from *ἐρυω, to draw;* from its power of drawing blisters). *Iris, camelina, chamæpitys, verbena fœmina, eruca siliqua cauli oppressa*. Hedge mustard. *Erysimum officinale* Lin. Sp. Pl. 922.

It is a hairy plant, with oblong narrow leaves, tough branched stalks; bearing numerous small yellow flowers; followed by short roundish pods, full of small reddish brown seeds. It is annual, common in waste places, and flowers in July.

This plant is not in much esteem: it has been employed in the cure of hoarseness like the horse radish (see Raphanus rusticanus); and perhaps, as having less acrimony than the other siliquose plants, it may be more frequently used. Cullen's Materia Medica. The leaves are herbaceous to the taste; the flowers attenuant, expectorant, and diuretic; the seeds resemble in their qualities those of mustard, but are much weaker: their acrimony is extracted totally by water, and partially by spirit. Water is strongly impregnated with them in distillation. Stahl highly commends the active parts of this plant in scirrho-cancerous tumours. It is also a name of the sophia.

Ery'simum allia'ria. See Alliaria.

Ery'simum barbarea. See Barbarea.

Ery'simum latifo'lium, also called *sinapi sylvestre*, &c. Broad leaved hedge mustard. Its virtues are similar to those of the other kind. Raii Hist.

Ery'simum theophra'sti. See Fagopyrum.

ERYSI'PELAS, (from *ἐρυω, to draw*, and *πελας, near*; because the neighbouring parts are affected by the eruption; or from *ἐρυθρος, red*, and *μελας, black, a dark red*). *Antonii sancti ignis; ignis sacer; brunus; herpes ferus; ignis Persicus; ἐπιφλογισμα; zoster, zona, macula lata;* the girdle; shingles; in Switzerland, the violet; in this country, the rose; by Galen and Celsus, phygethlon; commonly in English, Saint Anthony's fire.

Dr. Cullen places this disease in the class *pyrexiæ*, and order *exanthemata*; which he defines an inflammatory fever of two or three days, attended commonly with sleepiness, often with delirium. In some parts of

the skin, most frequently on the face, there is an erythematous inflammation. (See PHLOGOSIS ERYTHEMA.) He distinguishes two species:

1. ERYSI'PELAS VESICULOSUM; an ERYTHEMA, with a spreading redness occupying a broad space, which in some parts runs into large blisters; comprehending the *e. rosa; typhodes; pestilens; contagiosum;* and *febris erysipelatosa* of Sydenham.

2. ERYSI'PELAS PHLYCTENODES; an ERYTHEMA, consisting of many pimples occupying particular parts of the trunk of the body, and running quickly into phlyctenæ, or small blisters. This comprehends the *e. zoster; e. zona;* SHINGLES; *zona ignea* of Hoffman; *herpes zoster.* When symptomatic it is the *e. ex veneno.* The term erysipelas has been applied by medical writers to the erythematous inflammation, as well as the erysipelatous fever; but Sauvages properly uses the term vitium cutaneum, because, where only a symptomatic fever attends, he calls it *erythema;* and *erysipelas* when exanthematic fever precedes.

This disorder may affect any part of the body; but the face is most frequently its seat; next the arms, the body, and then the feet. The seat of the true species is in the surface of the skin; Heister says in the scarf-skin and the internal membranes.

It most frequently happens in autumn, or in any season when hot weather is succeeded by cold and wet. The sanguine and plethoric, young people, and pregnant women, are most subject to it: those who have once been affected are very liable to future attacks.

The causes are chiefly sudden cold succeeding a great heat or sweat, obstructed perspiration, and an acrimonious blood. Tissot attributes it to two causes; 1st, An acrid humour, commonly bilious, diffused through the mass of blood; and this was the opinion of Hippocrates and Galen. 2dly, The humours not being duly discharged by perspiration.

The symptoms of this disease are well described by Tissot. It begins with a violent shivering, succeeded by a burning heat, a violent headach, and sickness, that continue till the erysipelas appears, which happens only on the second or third day: the fever and sickness then abate; though frequently a small degree of both remains during the increase of the disease. When the inflammation is in the face, the headach continues until the decline of the eruption; the eye lids swell, and the eyes close. It often passes from one cheek to the other, and extends successively over the forehead, neck, and nape of the neck, when the disease is of unusual duration. Sometimes also, when in a high degree, the fever continues, the brain is oppressed, the patient is delirious, and in great danger. A violent erysipelas in the neck brings on a severe and often fatal angina. When it attacks the leg, the whole limb is swelled, and the heat and irritation from it extend up to the thigh. Whenever the tumour is considerable, the part it seizes is covered with small pustules, filled with a clear watery humour, resembling those which appear after a burn: these afterwards dry and scale off. Sometimes, when erysipelas affects the face, the fluid from the pustules is glutinous, and forms a thick scurf nearly resembling those of sucking children, and they continue on the face many days. When the disease is violent, it continues eight, ten, or twelve days, at the same height; and is at last terminated by a very plentiful sweat, that may sometimes be predicted by a restlessness, attended with shivering, and a little anxiety of some hours duration. In the progress of the disease, the whole skin, and even the inside of the mouth, are very dry.

An erysipelas rarely comes in this climate to suppuration; when it does, the suppuration is always unkindly, and much disposed to degenerate into an ulcer. But in the colder countries, and even in Scotland, a phlegmonous inflammation, with proper pus, often comes on in different points. Sometimes a malignant species of erysipelas is epidemical, and then it frequently terminates in a gangrene. The eruption often retires suddenly; and the patient is disordered with a propensity to vomit, a sensible anxiety and heat; the erysipelas appears again in a different part, and he feels himself relieved. But if, instead of re-appearing on the surface, the humour is thrown upon the brain, or the breast, he dies within a few hours; and these fatal changes and translations sometimes occur without the least reason for ascribing them either to any error of the patient, or his physician. If the humours have been transferred to the brain, the patient immediately becomes delirious, with a highly flushed visage, and very quick sparkling eyes; soon after he becomes delirious, and dies lethargic. When the head, however, is affected, it is not always that the external inflammation recedes: more frequently the violence of the determination is such that the internal as well as the external carotids take their share, and the brain as well as the skin suffers. The lungs are more seldom attacked, and generally from a recession of the external inflammation. The anxiety and heat are then violent. There are some constitutions subject to a very frequent, and, as it were, an habitual erysipelas: if it often affects the face, it is generally repeated on the same side, and that eye is at length considerably weakened.

Sydenham reckons the ESSERA (which see) among species of erysipelas.

Erysipelas should be distinguished from the plague, and from inflammations of different kinds that appear on the skin.

When erysipelas approaches suddenly, but with little disturbance, and attacks a person with a good habit; and when no important parts are affected, there is little danger. Sometimes a convulsive disease, as an asthma, or colic, hath been relieved by the approach of erysipelas externally. Danger is very considerable when this disorder is deeply seated, fixed on the brain or lungs, and the habit of body weak; in some debilitated constitutions this disorder leaves a swelling in the foot or ankle, both troublesome and difficult to remove. By bad management it is easily and soon rendered fatal; and frequent returns denote a disordered liver or gall bladder: when seated in the face, and drowsiness attends it, there is danger of a phrenitis, or of a lethargy: when it seizes the breast, particularly of women in child bed, or who give suck, an abscess is often the consequence: if the nostrils and mouth are dry, and the patient is drowsy, an inflammation of the brain of a similar kind is to be suspected. It is generally fatal within the seventh day; and to those who are often seized with this disease it at last proves fatal.

The causes of erysipelas are the same with those of all febrile cutaneous complaints, an acrimonious discharge, stopped by the cuticle, and exciting inflammation on the skin. The matter is, however, in a larger quantity, and seemingly more fluid than the virus of any other exanthema. It flows with considerable rapidity, very copiously between the cuticle and cutis, elevating the former, and occasionally arising in pustules. At the same time, it is not naturally of a kind to excite active inflammation; but is rather the effect of diminished power of the vessels, for it is a disease to which persons who have lived long in a warm climate are peculiarly subject. It is owing to the effusion of a fluid similar to that thrown out when the tone of the vessels has been destroyed by violent previous excitements, as in burns, from continued cold, as in chilblains, or from the application of sedative poisons. It sometimes, indeed, in cold regions and inflammatory constitutions, suppurates properly; but more often produces a foul ulcer, with tendency to gangrene. We have four times seen it epidemic; and more than once we have had reason to suspect that it was communicated by infection.

Ir sometimes appears in a more chronical form, and often returns at regular periods in broken constitutions. It does not then appear to be a salutary deposition, though it has not been thought expedient to prevent its recurrence. To support the strength and regulate the state of the perspiration, are the best means of at least avoiding considerable danger from it.

In erysipelas the diet should be mild: roasted apples may be eaten freely; the drink may be whey, barley water, small beer, water gruel, or, if the pulse sinks, small negus may be allowed. The patient should keep out of the bed during some hours in the day; and equal care should be taken to guard against the extremes of heat and cold. In the slighter cases, perspiration may be kept up with frequent draughts of camomile or of elder flower tea, acidulated with the spiritus febrifugus of Clutton, or with other cooling diaphoretics. If the face and head be affected, gentle but repeated purging is useful, and it should be continued until all danger seems to be alleviated. But if the pulse is strong and hard, the patient may be bled, and this evacuation repeated as the fever and his strength indicate. Whenever the head is much affected, numerous and repeated blisters must be applied: we have found four large ones scarcely sufficient to deplete the vessels of the brain. The bowels may be kept soluble by means of cream of tartar, whey, tamarinds, &c. Dr. Freind observes, that when the head is affected, purges are the best remedies, and they undoubtedly are so; but it should be added, that sinapisms may be also applied with singular advantage to the soles of the feet.

When the external inflammation recedes, the disease must be treated as an internal inflammation of the part affected, not of the active kind; for when the pulse is low, cordials and the warmer perspiratives are necessary; and wine often an essential remedy.

From the nature of this disease, and from the peculiarities in the skins of different persons, much caution is required in the application of external remedies. When the scarf skin is raised in blisters, and the serum begins to transude, absorbing powders, such as chalk finely powdered, or fine flour, may be sprinkled slightly over the inflamed part. In every period of the disease some fluid exudes, and these applications are useful. Watery fluids are injurious, and saturnine applications, unless used with prudence and caution, dangerous; yet Goulard's solution has been sometimes, it is said, employed with advantage.

The symptoms of a suppuration will sometimes come on, but this process should be by no means encouraged. The abscess will be deep, foul, and difficult to heal.

If a gangrene is threatened, besides the inward use of camphor and the bark, spirituous and astringent applications should be employed externally, such as mixtures of lime water with camphorated spirit, or camphorated spirit mixed with tincture of myrrh, or an infusion of the bark.

Erysipelas is sometimes of the nervous or low kind; appearing with a puffy redness in the skin instead of a swelling; the pain is more acute, but the throbbing of the vessels less; no circumscribed tumours appear, but the parts are more inflamed: at the decline of the disease, the redness of skin becomes of a purple hue; it is very liable to terminate in a mortification; the habit from the first, and throughout, is very irritable, and the strength depressed. It is generally accompanied with cardialgia, itching, inflammation of the skin, painful ulcerations, and small lucid pustules.

In some strong habits, both a phlegmonous and the low erysipelatous inflammation attend together; in which case, a moderate evacuation of blood may be allowed, but should be cautiously attempted. If the patient labours under great depression of strength, irritability, &c. we must support his strength with wine, and the warmest cordials; when blisters arise, the bark may be freely given, from ʒ vi. to ℥ i. or more if the stomach will bear it, in twenty-four hours. When the eruption is apparently complete and the pustules ripened, snip the blisters, and absorb the fluid with soft rag; then apply the unguent. spermatis ceti, or ung. lapidis calaminaris. See Sydenham; Heister's Institutions of Surgery, p. i. lib. iv. c. vi. p. 290; Cullen's First Lines, edit. 4. vol. ii.; Kirkland's Medical Surgery, vol. i. p. 329, 404; Pearson's Principles of Surgery, vol. i. p. 173; and White's Surgery, p. 12.

Erysi'pelas bulla'tum, and inflammato'rium. See Œdema erysipelatoides.

Erysi'pelas cu'rans a'rbor. See Mallea-mothe.

Erysi'pelas infant'ilis. Erysipelas of infants was first noticed by Dr. Underwood, who calls it *anomalous inflammation;* though he speaks of infants being liable to erysipelatous inflammation.

It never appears after the month, but most frequently shows itself a few days after birth; and children are sometimes born with it: in a few instances it is preceded by jaundice or a locked jaw. It attacks suddenly the most robust as well as delicate children, and its progress is rapid; the skin turns of a purplish hue, and soon becomes very hard.

The milder species appears often on the fingers and hands, or the feet and ankles, and sometimes upon or near the joints, suppurating quickly. The more violent kind is almost always seated about the pubes, extending upwards on the belly, and down the thighs and legs;

though it sometimes begins in the neck. The swelling is moderate; but after becoming hard, the parts turn purple, and very often sphacelate; especially in boys, when it falls on the scrotum. The penis then swells, and the prepuce appears emphysematous as in children when a stone sticks in the urethra.

Osiander seems to connect it with the epidemic constitution; and remarks, that when it appeared, puerperal fevers of a bilious or rheumatic kind were common. The danger is less in proportion to the extent of the inflammation.

Various means have been used with little success; though for a time benefit was apparently received from saturnine fomentations and poultices, applied on the very first appearance of the inflammation: but it soon spread, and a gangrene came on. When matter is formed, the tender infant soon sinks under the discharge. The bark, with a small portion of the confectio aromatica, sometimes succeeds. Dr. Garthshore has recommended the application of linen compresses wrung out of camphorated spirit of wine, in the place of the vegeto-mineral water, which has proved successful in some instances; though the greatest number of infants, attacked with this disorder, still sink under its violence, and many of them in a very few days.

Professor Hufeland recommends evacuating the alimentary canal and stomach, giving afterwards diaphoretics and antispasmodics, particularly valerian and the calx of zinc. Bark and camphor he only advises when mortification threatens; and saturnine applications are, he thinks, dangerous. See Underwood on the Diseases of Children; Bromfield in the Medical Commentaries; Osiander's Essays on Physic and Midwifery; Hufeland's Observations on the Erysipelas of new born Children; and Gertanner's Memoir.

ERYSI'PELAS PULMO'NIS LO'MMII. See INFLAMMATIO CORDIS.

ERYSIPELATO'IDES, from *erysipelas*, and *εἶδος*, *likeness*,) a tumor resembling the erysipelas, or a spurious erysipelas. See ŒDEMA ERYSIPELATOIDES.

ERYSISCE'PTRUM, (from *ἐρυθρος*, *red*, and *σκηπτρον*, *sceptrum*; from its colour and resemblance to a sceptre). See ASPALATHUS.

ERYTHE'MA, (from *ἐρυθος*, *red*). See INFLAMMATIO.

ERYTHE'MA A FRI'GORE. See PERNIO.

ERYTHE'MA AMBU'STIO; the inflammation caused by burns or scalds. See COMBUSTURA.

ERYTHE'MA GANGRÆNO'SUM. See CARBUNCULUS.

ERY'THRION, (from *ἐρυθρος*, *red*). The name of an amalgama in P. Ægineta.

ERYTHRO'DANUM, (the same, from the colour of its juice). See RUBIA TINCTORUM.

ERITHROEI'DES, (the same, and *εἶδος*, *form*; from its red colour). See TESTES.

ERYTHRO'XYLON, (the same, and *ξυλον*, *wood*). See CAMPECHENSE LIGNUM.

E'SAPHE, (from *ἐσαφαω*, *to feel with the fingers*). The touch or feeling the mouth of the womb, to ascertain its state.

ESCAPA'TLI. A species of senna.

E'SCHARA, vel E'SCURA. An ESCHAR or CRUST. In surgery it is a hard crust, or a scab upon the flesh, formed by the application of a red-hot iron, a caustic, or some sharp humour. Also a slough, formed on a wound or ulcer, and is a symptom of mortification. Likewise the name of a sub-marine plant which resembles a net or cobweb, called *frondifiora*; *porus reticulatus*; the habitation of a polypus, dilated in membranous expansions, porous internally, and each surface furnished with pores disposed in a quincunx. Linnæus has united it with the millepores, and with reason, for the animals appear to be similar. Ellis has confounded the escharæ by uniting with them the flustra. Their virtues are similar to those of coral, but it is not known in practice.

ESCHAROPE'PA. In Hippocrates it is a term for roasted barley meal.

ESCHARO'TICA, (from *ἐσχαροω*, *to bring on crusts by burning*, ultimately from *χαιω*, *uro*). ESCHAROTICS, called also *erodentia*, *caustica*, *cauteria*. Substances which dissolve the solid matter of the human body, or attract its moisture. They are used where either a portion of the solid matter is to be taken away, or its texture to be so destroyed that it may fall off, or be easily separated from the other parts.

CAU'STICA, (from *καιω*, *uro*, *to burn*,) *caustics*, and *escharotics* differ only in degree, for both destroy the part to which they are applied. Van Helmont first asserted their inefficacy on dead bodies: and Dr. Petit of Paris confirmed it. These kind of applications deprive the part of life, either by their attraction for moisture, which destroys the organization, or by excess of excitement. The dead portion is then separated by the vital power; and what surgeons call the *slough*, or *eschar*, is separated.

Caustics, or cauteries—for they do not differ—are distinguished into actual and potential. The actual is real fire, or a red-hot iron; but these, on account of the terror and pain they occasion, are laid aside. The potential are those which act in the manner already explained. The chief of these are what were called *causticum lunare*; *commune fortius*, or *lapis infernalis*; *antimoniale*: now named *argentum nitratum*; *calx è kali puro*; *antimonium muriatum*.

Their use, besides that of destroying excrescences, or morbid parts, is to open large abscesses where there is danger of cutting some adjacent vessel, or when the knife terrifies the patient. In this case the common milder caustic is generally sufficient, and may be thus applied: lay a piece of sticking plaster on the soft part of the abscess, having previously cut a hole in it, nearly as big as the eschar is to be made; on the hole of the plaster lay the caustic, which must be secured by another piece of sticking plaster. When the skin is not inflamed, the caustic very often occasions little or no pain; and when the eschar separates, or is so loose as to be easily removed, the purulent matter is discharged. When issues are made by caustics, or bones laid bare by them, the eschar must be cut out immediately, or very soon, lest new flesh should fill up the part which is opened. To lay a bone bare, or to make an issue, let the caustic continue on the part about four hours; to destroy a large gland, six; but to open an abscess it may remain two or three hours, according to the thickness of the skin; though generally, when the effect of the caustic is completed, the part on which it is applied ceases to be uneasy.

When a large fungus is to be destroyed by a caustic, the method described by Dr. Barry in the Edinburgh

Medical Essays seems most eligible. The lapis infernalis was applied to a tumour on the coats of the testis; after the separation of the eschar, the lapis infernalis and oleum vitrioli were alternately rubbed on the part; the one instantly removing the pain occasioned by the other: at each dressing, this alternate application was repeated, till the intended effect was produced: the moisture was then absorbed by an armed probe, and a digestive applied. This method prevents the continuance of pain, and is not productive of any degree of inflammation; it is also recommended for the removal of scirrhus, or any other tumour that admits of a caustic; but it very often fails.

Mr. John Hunter recommends a mixture of opium with caustics, in order to lessen the pain which they occasion: this plan generally succeeds, though a much longer time is necessary. See CAUSTICUM OPIATUM.

A great inconvenience in the application of caustics is their spreading, when applied, beyond their limits. The solid form of the argentum nitratum is in this way very convenient. Applications which destroy tender fungous flesh are of this kind, as the vitriolated copper, the red oxides of mercury, and alum, so far calcined as to separate its water and concentrate its acid. All the mineral acids are caustics; but seldom used on account of their great fluidity. See White's Surgery, p. 188.

E'SCARPE. See FASCIA.

E'SCHEL; an imperfect zaffer. See COBALTUM.

ESCULENT, (from *εσκω*, *eatable*,) an epithet applied to plants and roots.

E'SCULUS, (from *εσκω*, *to eat;* because its acorn is eatable). A species of oak. *Quercus esculus* Lin. Sp. Pl. 1414.

E'SDRÆ ANTI'DOTUS. An antidote described by P. Ægineta.

E'SEBON. See MARINUM SAL.

ESO'CHE, (from *εσω*, *within*, and *εχω*, *to have*). A tubercle within the anus.

ESOX LUCIUS. The PIKE. From the liver of this fish an acrid oil spontaneously separates; used in Germany to take spots from the transparent cornea, or as a stimulating application in rheumatism.

E'SPHLASIS, (from *εσφλαω μαι*, *to recede inwards*). A recession of a part inwards from some violent outward impression.

ESSA'TUM, (from *esse*, *to be*). The power or principle which is inseparable from any substance.

ESSA'TUM POTENTIA'LE. The medicinal power or virtue which resides in vegetables and minerals.

ESSA'TUM VI'NUM. Spirit of wine impregnated with the medicinal virtues of vegetables.

ESSE'NTIA, (from *esse*, *to be*). ESSENCE. From philosophy this word has been transferred to chemistry, where it seems strictly to import the distinguishing part of vegetables or minerals. In the former it consists generally of the essential oil; but no peculiar principle in the latter merits this title.

ESSE'NTIA ABIE'TIS. See ABIES.

ESSE'NTIA NERO'LI. See AURANTIUM.

ESSENTIA'LE SAL. See DIURETICUS SAL.

ESSENTIA'LIS, (from *esse*, *to be*). ESSENTIAL. It is an epithet for salts procured from vegetable juices, by crystallization. For the process, see ACETOSA. When the viscous juices of vegetables are used in this process, the salt cannot be obtained without a previous fermentation to dissolve their tenacity. Juices that contain an oil or a balsam will not easily yield their salt, for oils and balsams prevent its crystallization. These salts are not alkaline; but become such by burning.

The oils peculiar to different vegetables are also called *essential;* and are generally the volatile, containing the peculiar smell and taste of the plant.

Some fevers are called *essential* or *idiopathic*, to distinguish them from the symptomatic.

ESSENTIA'LIS SAL. ESSENTIAL SALT. This name is given to all concrete saline substances, which preserve the principal qualities of the vegetable and animal bodies from which they were obtained. The usual method of preparing is by evaporating, to nearly the consistency of a syrup, the liquors containing them. The crystals which shoot from these liquors may be depurated by dissolving them in water, filtrating, evaporating, and crystallizing.

Very often the salts thus obtained from animal and vegetable matters are only vitriolated tartar, vitriolated natron, nitre, common salt, and similar neutral salts, which only merit the name of essential salts when intimately combined with the peculiar oil of the plant.

E'SSERA, (from the Arabic *sorah*). The CHRONIC NETTLE RASH. It is called *essere*, *sora*, and *sara*, by the Arabians; by Sydenham, a BASTARD OR SCORBUTIC ERYSIPELAS, with or without ulcerations; the NETTLE SPRING, from its resemblance to the eruptions excited by the stinging of nettles. This appears to be a disease which Pliny calls *zoster*, and some others *zona*. Dr. Cullen observes, that the nettle rash of the English is considered as the urticaria; but the disease described by Dr. Heberden in the London Medical Transactions, which Cullen hath often seen, is totally different from the urticaria of nosologists, as it is chronical without fever, and may be associated with the impetigines. The chief distinction consists in the hardness felt in the skin.

The essera is a species of tumour not mentioned by the Greeks nor Latins. It is truly a chronical disorder, and is seated in the cutis. Some persons are affected with it only when the weather is frosty, others chiefly in the hottest months. Persons of all ages and of both sexes are subject to it. Sennertus attributes the disease to the serum; Dr. Heberden to an acrimony not unlike the fish poison, as the diseases are nearly the same.

This disorder appears in the skin in the form of small white hard tubercles, generally with a dark irritable point; sometimes these are broad and long, such as appear after being lashed with a whip; an intolerable itching attends; and generally the skin is inflamed in the spaces between the eruptions. The elevations appear suddenly: they seldom continue long; but disappear and appear again in another part. When many of the tubercles appear together, the part seems swelled. In some instances this disorder totally disappears in a few days, in others it hath continued some months, and even years, disappearing at times, but returning after very short intervals. For the most part the itching is the only inconvenience; and this indeed is sometimes so great as to deprive the patient of sleep; but sickness, headach, or other troublesome symptoms

sometimes come on during the presence of the eruptions; at others on their suddenly sinking in. We have found headach, &c. supervene on bathing them with cold water, when they were very numerous and highly inflamed. They have been attributed to the bites of insects; and we think we have found, that those who wear boots are less subject to them in the legs.

Serapion says, there are two species of essera; but his distinctions do not seem well grounded.

The essera should be distinguished from that species of itch which appears in the form of dry pimples at the first; but these soon after have a thin serum lodged on their apex, like a small vesicle. Some authors confound the essera with the epinyctides; but the latter have also a thin humour which oozes from them. No danger attends this complaint.

The only indication is to allay the itching; but this object is with difficulty attained. Rubbing them with parsley juice has been said to take off this chief inconvenience; but the saliva is still more effectually employed in the same way. When it has been of some continuance, diuretics have been of service; interposing purgatives of the saline kind, to succeed a dose of calomel given at bedtime. See Sennertus, Sydenham, and Dr. W. Heberden's Remarks on the Nettle Rash, in the second volume of the London Medical Transactions.

ESTHIO'MENOS, (from *εσθιω, to eat*). EATING, CORRODING. An inflammation in the skin, attended with a sharp humour, more properly the herpes exedens; or indeed any inveterate ulcer.

E'SULA, vel E'ZULA. SPURGE. There are many species of plants which bear this name, some of which rank under the article TITHYMALUS.

ES'ULA I'NDICA, *tithymalus orientalis arborescens, triquetrus, spinosus*, and *talukghaha*. The plant that produces the bogia gum differs not from this species of esula: but, as Sydenham observes, there are two species of gamboge; one collected from a plant called *cambodia*, and the best sort from the *codampulli*. *Euphorbia antiquorum* Lin. Sp. Pl. 646, though the latter plant is found not to furnish it.

The spurges generally agree in their containing a milky juice, which is violently emetic and cathartic; and, if applied to the skin, corrosive.

E'SULA MA'JOR, *tithymalus palustris fruticosus, tithymalus magnus multicaulis*, GREAT MARSH SPURGE, and GERMAN SPURGE; also the GARDEN SPURGE. *Euphorbia palustris* Lin. Sp. Pl. 662.

E'SULA MARI'NA. See TITHYMALUS MARITIMUS.

E'SULA MI'NOR, also called *pityusa, tithymalus foliis pini tithymalo cyparissæ similis*, and PINE SPURGE, or the COUNTRYMAN'S RHUBARB. *Euphorbia cyparissias* Lin. Sp. Pl. 661.

E'SULA SOLISE'QUA. The SUN SPURGE. See TITHYMALUS HELIOSCOPUS.

ETE'SIÆ, (from *ετος, annus*). North-eastern annual winds. Pliny observes, that the etesian winds set in two days after the dog star rises, and continue forty days. Prosper Alpinus informs us, that the etesian winds blow in Egypt when the sun enters Cancer, and continue almost the whole of June, July, and August; and that at the rising of these winds the Nile rises, and the pestilence ceases. The south wind brings the pestilence; and this wind they call *Campsin*, from Campsis, a general, who, with his whole army, was suffocated in the sand which was driven upon them by this wind. It is a kind of sirocco, or rather a blast of hydrogenous gas, and not the sand which destroyed the general and his army. It is the simoon of the desert.

E'THEL. It imports both fire and blackness. In the old alchemy, the words ethel, terra alba, sulphur album, fumus albus, almagra, auripigmentum, and magnesia, all mean the same thing.

E'THER. See ÆTHER.

E'THICA. See HECTICA.

ETHMOI'DES, os, (from *εθμος, a sieve*, and *ειδος, a form*). *Cribriforme, cribrosum*, and *coliforme os; foraminulentum; spongiosum os*. This bone is placed between the two orbits of the eyes, where a notch is left for its insertion. The cribriform lamella is the internal plain, thin, horizontal plate, which hath a middle eminence called *crista galli*, to which the beginning of the falciform process is attached: round the crista galli, except at the hind part, this lamella is pierced obliquely by many small foramina, through which the filaments of the olfactory nerves pass. From the middle of the cribriform lamella, the nasal lamella rises extremely thin, but at its anterior extremity it becomes thicker. At a little distance from each side of this lamella, a cellular bony substance is observable: the figure of the cells is uncertain; they communicate with the frontal sinuses, and with the cavity of the nose, and are the external lateral portion of the ethmoid bone: their outward posterior surface is smooth, called *os planum*; and it makes a part of the orbit. The ossa spongiosa, or turbinata superiora, are situated at the inferior parts of the cellules; their figure is oblong, and they are sharp at their extremities.

The cribriform lamella is the body, as it were, of the ethmoid bone; and it is so thin, that it may easily be penetrated by a probe: when hurt, the accident is usually fatal.

E'TRON, (from *εδω, to eat;* as containing the receptacle of the food). See HYPOGASTRIUM.

ETYTHO'XYLUM BRASILIA'NUM. See BRASILIUM LIGNUM.

EUANASPHA'LTOS, (from *ευ, ease*, and *ανασφαλλω, to recover strength*). One who soon recovers.

EUA'NTHEMON, (from *ευ, well*, and *ανθεμος, a flower*,) from the beauty of its flower. See CHAMÆMELUM.

EUA'PHION, (from *ευ, ease*, and *αφη, the touch*). A medicine for the hæmorrhoids; named from its gentleness. Galen.

EUCARI'STOS. An epithet for an antidote in N. Myrepsus.

EUCHRO'ON. A plaster mentioned by Scribonius Largus.

EUCOI'LIA, (from *ευ, bene*, and *κοιλια, the bowels;* because they gently open the belly). See CERASUS.

EUDIOMETER. An instrument employed to ascertain the proportion of oxygen in any given quantity of atmospheric air. We had designed to give a particular account of the various contrivances for this purpose; but they have been found so little applicable to the purposes of medicine, that the detail would not be interesting in a work of this kind. Air obtained from

crowded rooms, from apartments where patients affected with the worst fevers have breathed, from the highest mountains, or the lowest valleys, scarcely differs. The principle on which this instrument acts is introducing a substance to common air, which has a powerful attraction for its oxygen.

EUELPIDI'UM. A liquid collyrium. See DIASMYRNON.

EUELPI'STI. A plaster described by Scribonius Largus.

EUE'MBOLOS, (from *ευ*, *well*, *εν*, *in*, and *βαλλω*, *to cast*). A practitioner expert at setting of bones.

EUE'METI, (from *ευ*, and *εμεω*, *to vomit*). Those who vomit with ease.

EUE'RES, (from *ευ*, and *ερετμος*, *an oar*). Easy to be rowed. But Hippocrates uses naval terms, and applies them to instruments: in his works it sometimes signifies *ready* or *handy*.

EUE'XIA, (from *ευ*, and *εξις*, *a habit*). A good habit of body.

EUGE'OS, (from *ευ*, and *γη*, *the earth*). See UTERUS, and HYMEN.

EU'LE, (from *ευλαζω*, *to putrefy*). A WORM; properly one bred in ulcers.

EULO'GIUM. In Forestus, from Rhases, it signifies the small pox, or measles.

EUNU'CHION. IMPOTENT. (See LACTUCA.) Venus, it is said, lay upon a bed of lettuces after the death of Adonis, to restrain her venereal inclinations.

EUO'NYMO AFFI'NIS OCCIDENTA'LIS. See GUAIACUM.

EUO'NYMUS, (from *ευ*, and *ονομα*, *nomen;* i. e. having a good name,) *tetragonia*, *fusanus*, *fusaria*, PRICKWOOD, and the SPINDLE OR DISTAFF TREE; *euonymus Europæus* Lin. Sp. Pl. 286. In France and Germany the wood is made into spindles. The fruit is emetic and cathartic; and if powdered, and sprinkled in the hair, it is said to kill lice. Raii Historia. See SIMAROUBA.

EUPATO'RIUM, (from *ηπαρ*, *the liver*, because it is useful in disorders of that organ,) *hepatorium cannabinum*, WATER HEMP, WATER, DUTCH, and COMMON HEMP AGRIMONY. (See AGRIMONIA.) *Eupatorium cannabinum* Lin. Sp. Pl. 1173. It is a plant much used in Holland; found on the sides of ditches and rivers; acrid and bitter to the taste; but the leaves strengthening and aperient. Boerhaave informs us, that the turf diggers use them against foul ulcers, the scurvy, and swelling of the feet, to which they are very subject. The root is a cathartic and emetic; employed in cachexies and dropsies. Two ounces of the fresh juice, or a drachm of the extract, is a proper dose. Raii Hist. Also the name for a species of baccharis.

EUPATO'RIUM A'RABUM. See BIDENS.

EUPATO'RIUM GRÆCO'RUM; EUPATO'RIUM VE'RUM et VE'TERUM. See AGRIMONIA.

EUPATO'RIUM ME'SUE. See AGERATUM.

EUPE'PSIA, (from *ευ*, and *πεπτω*, *to digest*). GOOD DIGESTION.

EUPE'TALON, (from *ευ*, and *πεταλον*, *a leaf*, so named from the beauty of its leaves). See LAUREOLA MAS.

EUPHO'RBIA PALU'STRIS. See TITHYMALUS.

EUPHO'RBIA. So named by Juba, in honour of Euphorbus his physician; *schadida-calli*, *tithymalus*, *aizoides fruticosus*, &c. The EUPHORBIUM PLANT, BURN, THORNY PLANT, SPURGE. *Euphorbia officinarum* Lin. Sp. Pl. 647. It is a prickly lactescent shrub; from which the gummy, resinous, concrete juice, called *gum euphorbium*, exudes. It is brought from Barbary in drops, or tears, of an irregular form, some of which, when broken, contain little twigs, and other vegetable substances. The tears are brittle; of a gold colour outwardly, and white within: they consist of equal parts of resin and gum; but their acrimony resides in the resin.

The spirituous tinctures are very pungent, and when inspissated more so. The watery infusion and extract are bitterish, with a slight, though durable, acrimony. Neither spirit nor water carries over any portion of this gum in distillation.

Euphorbium is too acrid for internal use; but is an ingredient in some stimulating plasters used in palsies and other disorders. The two compositions of this kind are formed in the following manner:

EMPLASTRUM EUPHORBII. R. Picis burgundicæ ℥ iv. euphorbii ʒ ss. terebinthinæ vulgaris q. s. pici burgundicæ liquefactæ adjiciantur euphorbium bene in pulverem redactum, et terebinthinæ portio, adeo ut in spissitudinem propriam abeant. This is a powerful stimulant, well calculated to relieve diseases of the hip joint in their early stage.

EMPLASTRUM EX EUPHORBIO. R. Emplastri lithargyri ℔ ij. ss. euphorbii bene pulverizati ℥ iij. picis burgundicæ ℥ ss. euphorbium cum olei paululo in mortario teratur, postea, alia, prius liquefacta, adjiciantur. This is highly recommended for promoting the suppuration of sluggish ulcers.

Some have used euphorbium as an errhine; but it is too active for this purpose, since in very small quantities it is liable to act with violence; the fine dust which rises in powdering affects the operator's head and throat very powerfully. Cullen's Mat. Medica.

In the 2d vol. of the Medical Museum is an instance of a person, who, through mistake, swallowed some tincture of euphorbium, and was relieved by frequent draughts of water and olive oil, with a small quantity of camphor. The symptoms produced by the euphorbium were a burning pain in the mouth, throat, and stomach, with a violent suffocation.

EUPHO'RBIA PARVIFLORA, Lin. Sp. Pl. 653. An Indian herb recommended for syphilis.

EUPHO'RIA, (from *ευ*, and *φερω*, *to bear*). Bearing a disorder, or the operation of a medicine, easily.

EUPHRA'GIA, EUPHRA'SIA, (from *ευφρων*, *joyful;* because it exhilarates the spirits,) *ocularia*, EYE BRIGHT; *euphrasia officinalis* Lin. Sp. Pl. 841. It is a herb with small, oval, serrated leaves, set in pairs without pedicles: the flowers appear on the top of the stalks; are white outwardly, but inwardly streaked with purple and yellow. It is annual, grows wild in uncultivated grounds, and flowers from July to September.

It is a very mild astringent, and hath been much extolled in disorders of the eyes. Both spirit and water extract its virtues. An infusion, and sometimes the powder in the manner of snuff, are taken in cases of weak sight. The following preparation, called *pulv.*

helidæi, hath been held in great repute. R. Euphrasiæ ℥ij. macis ʒss. m. f. pulv. cap. ʒi. ad ʒiij. Euphrasia is an ingredient in the British herb tobacco.

EUPHRA'SIÆ AFFI'NIS. Brasiliensis-siliquo'sæ. See Caa-ataya Brasiliensis.

EUPORI'STA, and EUPORI'STON, (from *ευ*, *easy*, and *ποριω*, *to afford*). Medicines easily prepared.

EURY'THMIA, (from *ευ*, and *ρυθμος*, *order*). It imports dexterity in handling instruments. *Eurythmus* means the proper order of the pulse. See Arythmus.

EUROPE'E. See Veronica.

EUSA'RCHUS, (from *ευ*, and *σαρξ*, *caro*). Plump.

EUTHE'SIA, (from *ευ*, and *τιθημι*, *put together*). An innate strong habit of body. Galen.

EUTHYPO'ROS, (from *ευθυς*, *straight*, and *ποριζω*, *to pass into*). Extension in a straight line, made with a view to reduce a broken limb.

EUZO'MON, (from *ευ*, and *ζωμος*, *broth*; from giving a flavour to broth). See Eruca.

EVACUA'NTIA, (from *evacuo*, *to evacuate*). Medicines suited to promote the discharge of fluids either by the secretories, or in more artificial ways, as bleeding or blistering. The former produce their effects by a stimulus, adapted only to the organ by which the discharge is excited; a subject of future consideration. The latter discharge the fluids, or at least their proper portion, indiscriminately. The evacuants are errhines, sialagogues, expectorants, emetics, cathartics, diuretics, diaphoretics, and emmenagogues, q. v.

These produce their effects on general principles, which occasion other changes, according to the skill of the administrator, and not by a particular power of selecting diseased humours from the healthy. The good and the bad are mixed in the body, and are evacuated in the same proportions.

EVACUA'TIO. See Excreta, and Retenta.

EVACUATO'RII. Diseases attended with increased discharges.

EVAPORA'TIO, (from *evaporo*, *to evaporate*). Evaporation, *anathymiasis*. The conversion of fluids, and sometimes even solids, into gaseous invisible fluid, probably into air. This process has been attributed to a solution of the fluid in air; but evaporation takes place in vacuo: even mercury exhales in the Toricellian vacuum, and ice in the open air. Water by evaporation seems to be decomposed; but the other phenomena have not yet been explained.

In pharmacy, some solid bodies are recovered from their state of solution by evaporation, by means of heat. This process is applicable to all those substances which are less volatile than the menstruum; as, solutions of alkaline salts, and the inodorous parts of vegetables and animals from water; resinous and odorous bodies from spirits of wine. The tincture of mint, for instance, made with spirit of wine, leaves a resin rich with the properties of the herb on the evaporation of the spirit.

EVERRI'CULUM, (from *everro*, to *sweep away*). An instrument resembling a spoon used to clear the bladder from gravel after lithotomy. Parè.

EVE'RSIO, (from *everto*, *to turn aside*). See Ectropium.

EXACERBA'NTES. Remitting fevers.

EXACERBA'TIO, (from *exacerbesco*, *to become violent*). Exorescentia. See Paroxysmus.

EXACINA'TA, (from *exacino*, *to take out the kernels*). Fruits which have their stones taken out. See Acinus.

EXÆ'MA, (from *εξ*, *ex*, and *αιμα*, *sanguis*; *exanguis*). A privation of blood in a considerable degree. Hence *exæmos* differs from those called *leiphaimoi*.

EXÆ'RESIS, (from *εξ*, *out of*, or *away*, and *αιρω*, *to remove*). It is that part of surgery which consists of removing superfluities.

EXA'LMA, (from *εξαλλω*, *to leap out*). The starting of the vertebræ from their places. Hippocrates.

EXALTA'TIO, (from *exalto*, *to lift up*). Exaltation. In chemistry it signifies an operation by which a substance is raised to a greater degree of virtue. Of exaltation there are two kinds: first, *maturation*; which is effected by digestion, fermentation, and projection: secondly, gradation. See Gradatio.

EXAMBLO'MA, or EXAMBLO'SIS, (from *εξαμβλισκω*, *to miscarry*). See Abortus.

EXANASTOMO'SIS, (from *εξαναστομοω*, *to relax* or *open*). See Anastomosis.

EXANG. The abbreviation of *exanguis*. (See Exæma.) The bones and cartilages which are nourished with a white fluid are also called *exangues*.

EXA'NIA, (from *ex*, *out of*, and *anus*). The bearing down of the anus. See Procidentia.

EXANIMA'TIO, (from *ex*, *without*, and *anima*, *the mind*). Lipothymia, or death.

EXANTHE'MA, (from *εξανθιω*, *to spring forth like a flower*). Rash. *Efflorescentia*, *efflorescentia*, and *epanthesma*. Red patches on the skin, variously figured, in general confluent, or diffused irregularly over the body, leaving interstices of a natural colour. Portions of the cuticle are often elevated in a rash; but the elevations are not acuminated. The eruption is usually accompanied with a general disorder of the constitution, and terminates in a few days. Fevers attended with these appearances are called *exanthematous*.

Exanthemata form the third order of Dr. Cullen's first class, *pyrexiæ*; and the propriety of establishing such an association will be obvious on the slightest consideration. It is so truly natural, that the doubt will only be whether it is not more properly a genus. The limits, however, of such an order are not easily fixed. If we look at some of the genera, the small pox and measles for instance, the limits will appear to be cutaneous eruptions from a specific virus, which produce the disease once only in the individual's life. This future immunity, however, is not constant to all the genera; and it is found in diseases not included in the order. Thus erysipelas, probably urticaria, more certainly pestis, recur in the same individual, while pertussis only attacks once in the life. We might refer to what we have said on cutaneous diseases, and endeavour to establish, on the same foundation, all the affections of the ephelion, but that the epidemic catarrh would stand in the way of the conclusion.

In the definition therefore of the exanthemata, the circumstance of the diseases affecting the person only once in their lives must be abandoned, or the erysipelas, and probably some others, must be expunged. In other respects the order is perfectly natural, if we exclude the plague, which, as we shall hereafter point out, connects the exanthemata with the fevers; and such connections as, in the natural method of botany, will be probably found important. In other respects the theory

of the exanthemata has been already explained under the CUTANEI MORBI, and require no further elucidation than they will receive under the article FEBRIS, q. v.

EXANTHE'MATA SERO'SA. SEROUS ERUPTIONS. See PEMPHIGUS.

EXANTHRO'PIA, (from ἐξ, and ἀνθρωπος, *having lost the faculties of man*). According to Wedelius, the third degree of melancholy.

EXA'RMA, (from ἐξαιρομαι, *to be elevated*). An elevated tumour.

EXAR'SIO, (from *exardeo*, *to burn violently*). A great degree of heat. *Increase of temperature*, such as happens in hectic fevers.

EXARTHRE'MA, (from ἐξ, *out of*, and ἀρθρον, *a joint*). See LUXATIO.

EXA'RTHROS, (from the same). An epithet for a person whose joints are large and prominent, as if out of joint.

EXASPERA'TIO, (from *exaspero*, *to whet*). EXASPERATION. The increase of a disorder; also a rendering the skin rough.

EXCATHI'SMA, (from ἐξ, and καθιζω, *to sit in*). See SEMICUPIUM.

EXCE'DENS, (from *excedo*, *to surpass*). In botany it means exceeding in length, comparatively long.

EXCITABI'LITY, and EXCITEMENT. The former of these is the *capacity* of the body to admit of increased action; and the latter the *state* of increased action. In Brown's system, excitability is the distinction of life, and the excitement of heat and other stimuli alone necessary (if we understand him) to produce life. When these are present, the body lives; when absent, it dies; and life is thus a flame kept up by constantly blowing.

EXCITING CAUSES. Those causes which excite the action of the predisponent ones. In the language of some pathologists they are external causes. See CAUSA.

EXCI'PIENS, (from *excipio*, *to receive*). In prescriptions, that is called the excipient which receives the other ingredients, and gives them a proper form; as officinal electuaries, conserves, robs, &c.

EXCI'PULUM, (from the same). In chemistry it is a receiver. See AMPULLA.

EXCI'SIO, (from *excindo*, *to cut off*). See AMPUTATIO.

EXCLUSO'RIUM, (from *excludo*, *to eject*). A medicine supposed to cause abortion. Fortunately, there are few such; and those little known.

EXCORIA'TIS, EXCORIA'TIO, (from *excorio*, *to take off the skin*). EXCORIATION, or ABRASION OF THE SKIN; *ecdora*.

EXCREME'NTUM, (from *excerno*, *to separate*). EXCREMENT; or whatever requires to be discharged out of the body.

EXCRESCE'NTIA, (from *ex*, and *cresco*). An EXCRESCENCE; *ecphyas*, *ecphysis*. A preternatural protuberance on any part of the body.

EXCRETA et RETE'NTA, (from *excerno*, *to separate*, and *retineo*, *to retain*). Fluids thrown out of the body, and those that are retained. These formed considerable objects of attention in the hygieine, during the reign of the humoral pathology; and while the importance of duly attending to the excretions, and their proportion to the ingesta and retenta, is still felt, and their regulation considered as equally necessary, the absolute quantity is less regarded. It is now admitted that the system forms its own fluids, and regulates the quantities retained in general, as well as those thrown out. In diseases only it is necessary for art to interfere, and then to remove local accumulations rather than to lessen the absolute quantities.

EXCU'TIA VENTRI'CULI, (from *excutio*, *to rub off*, and *ventriculus*, *the stomach*). A brush made of soft bristles, fixed in a flexible brass wire, with silk or flaxen thread wrapped round it. When used, the patient drinks a quantity of warm water; and the excutia, being dipped in some proper liquor, is passed down into the stomach, where it is moved around. The absurdity of this plan cannot be better exposed than by explaining it.

EXECHEBRO'NCHOS, (from ἐξεχω, *to abound*, and βρογχος, *a throat*). A prominent throat. See BRONCHOCELE.

EXECHEGLU'TOS, (from ἐξεχω, and γλουτος, *the buttocks*). Prominent buttocks.

EXELCO'SIS, (from ἑλκος, *an ulcer*). See EXULCERATIO.

EXE'RMA, (from ἐξειρω, *to vomit up*). The matter ejected by vomiting.

EXERCITA'TIO, (from *exercito*, *to exercise*). EXERCISE. (See ÆORA.) The exercise of the body for the benefit of health is called gymnastic. (See GYMNASTICA). The military exercises, gardening, husbandry, or other employments in the open air, conduce greatly to health; and moderate exercise in the open air, an hour or two before breakfast, improves the appetite and cheers the spirits: glandular obstructions are best prevented and cured by moderate exercise.

On the other hand, when exercise is too freely used, it occasions loss of appetite, loathing of food, costiveness, rigors, and fainting. In this case a moderate use of wine, warm bathing, quiet sleep, and a moist nourishing diet, afford the best relief. See Fordyce's Elements, part i. Mackenzie on Health.

EXERRHE'SIS, EXERRHO'SIS, EXERRHY'SIS, (from ἐξερρεω, *to flow from*). See ECROE.

EXFOLIA'TIO, (from *exfolio*, *to cast the leaf*). DESQUAMATIO. EXFOLIATION. The process by which the dead part of the bone separates from the sound. One principal cause of an exfoliation of a bone is an interruption of the continuity of the vessels which nourish it. The coldness of the air, by contracting and drying up the extremities of the small vessels of the bone, also checks the circulation of the nutritious matter through them. Mr. John Hunter observes, "that one part of a bone is never separated from another by the rotting of the dead part, for that which comes away is as sound as it ever was. Exfoliation takes place soonest in bones wherein are the fewest cells, and whose texture is the closest. Before any part of a bone can be thrown off by exfoliation it must be dead. But even then, till the process of exfoliation begins, the bone adheres as strongly as ever, and would remain for years before it could be separated by putrefaction alone. Bones are composed of two substances, viz. a true animal matter, and an earthy one, which are only intermixed with each other. A dead bone acts on the system in the same manner as any other extraneous body. It stimulates the adjacent living parts; in consequence of which, such a process is begun that must terminate

in its being thrown off. The effects of this stimulus are, first, that the living adjacent bone becomes more vascular; a circumstance which always takes place when a part hath more to do than is just sufficient for the support of life. Secondly, that the earth of the living part, when it is in contact with the dead bone, is absorbed; hence the bone becomes softer, and adheres by its animal matter only. Thirdly, that the living animal part is at last absorbed along the surfaces of contact: this part of the process commences long before the last is finished. Both of them begin first at the surface, though in their course they do not every where take place in an equal degree at the same time. Fourthly, in proportion to the waste made by the last part of the process, a fungus arises from the living surface, and fills up the intermediate space, so that there may be no vacuum. These different stages, taken together, constitute ulceration. When any part of a bone is once loose, it will be pushed to the surface in the same manner as most other inanimate bodies would be; and this stage is partly mechanical, partly a continuation of ulceration. A proof of the third stage above mentioned may be derived from those cases where people die while exfoliation is going on. A small groove or worm-eaten canal can then be discovered, which becomes gradually deeper, and follows the irregularities of the living and dead surfaces. After the application of the trepan, a circular piece of bone is frequently thrown off, which is always less than the space from whence it came. This, however, would never be the case, were there not a loss of substance."

When a bone is laid bare by any accident, and an exfoliation is feared, if several perforations are made in the bone, the exfoliation will be prevented: in such cases the wound should be kept clean, and defended from unctuous and watery applications: pledgets of lint are very proper; or they may be dipped in the mixture of the oleum terebinthinæ and tincture myrrhæ. Neither caustics nor the actual cautery, in Mr. Hunter's opinion, hasten exfoliation: they produce death only in part of the bone, which is the first step towards exfoliation. "If caustics ever hasten exfoliation where the bone is already dead, it must be by producing inflammation in the adjacent living bone; this brings about a change in it, and makes it exert a power which it was incapable of before." See Caries.

EXFOLIATI'VUM, (from *exfolio, to shed a leaf*). See Desquamatorium.

EXIPO'TICOS, (from ἐξιπόω, *to press out* or *filter*). An epithet for digesting or deterging medicines: in Galen synonymous with attrahents.

EXITU'RA, (from *exeo, to come from*). A running abscess: applied by Paracelsus to putrid excrements.

E'XITUS A'NI. See Procidentia ani.

EXO'CHAS, or EXO'CHE, (from ἐξω, *without*, and ἐχω, *to have*). A tubercle on the outside of the anus.

EXOCY'STE, and EXOCY'STIS, (from ἐξω, *without*, and κυστις, *the bladder*). A prolapsus of the inner membrane of the bladder.

EXO'MPHALOS, (from ἐξ, *out*, and ομφαλος, *a navel*). Any protuberance of the navel. See Hernia umbilicalis, and Hydrops umbilicalis.

EXONCHO'MA, (from ἐξ, *out*, and ογκος, *a tumour*). Any large prominent tumour.

EXONEIRO'SIS, (from ἐξ, *out*, and ονειρος, *sleep*). Nocturnal pollution, when in sleep the semen is ejected. This, if rare, may be from redundant vigour; if frequent, from weakness of the seminal vessels, or the indulgence of lascivious thoughts. It is seldom relieved by astringents. Cold bathing is its chief remedy; but it is generally necessary to lessen the too great action of the spermatic vessels by sedatives. Camphor and nitre sometimes with opium are the most effectual. The latter causes are the most frequent.

EXOPHTHA'LMIA, (from ἐξ, *out*, and οφθαλμος, *the eye,*) *buphthalmus, ecphiesmos, melon*; a dislocation of the eye. In this disease the globe, more or less distended, rises from its orbit, either from its own increase of size, or the enlargement of some part below; nor can it be covered by the palpebræ. The cure must depend on the nature of the cause.

EXORESCE'NTIA. See Exacerbatio.

E'XOS, (from *ex, without*, and *os, a bone*). A leech. See Hirudo.

EXOSTO'SES. See Gumma.

EXOSTO'SIS, (from ἐξ, *out of*, and οστεον, *a bone*). *Hyperostosis*, a tumour on a bone. Mr. Pott calls it an enlargement of the bone. Its hardness equals, or rather exceeds, that of the bone from which it proceeds. Mons. Petit calls the *spina ventosa* by the name of *exostosis*, but the disorders are very different. Dr. Cullen places this disease in the class *locales*, and order *tumores*, which he defines a hard tumour forming in the bone.

The exostosis is caused by a discharge of a superfluous quantity of ossific matter upon the part where it is seated, or from a separation of the bony lamellæ. The cause of each is an irritation arising from some degree of inflammation, often the effect of syphilitic virus. If from disease, the chief cause must be removed. Whatever, however, is called a venereal exostosis, is only an enlargement, or rather a thickening, of the periosteum. It is sometimes very painful, and should be distinguished from the rickets, which affect the ends of the bones chiefly; while an exostosis is rather in the middle of the long bones. The rickets are also sufficiently distinguished by the generally diseased habit. If no general disease exists, the patient may live to advanced age without any considerable inconvenience.

When the nature of the cause is understood, and we have reason to hope for success, the bone should be laid bare, and the diseased part taken away with a chisel. This will succeed if the habit is not much diseased; but if the constitution is also faulty, and the exostosis proceeds from the exuberance of bony matter, amputation is the only method of relief; though generally the case is most safely left to nature.

Sometimes a preternatural hardness of the ligament is called an exostosis; this spurious sort, as well as the venereal nodes, is relieved by mercurials.

Exostosis happening in the middle of hard bones are generally hard in all their parts; but those near the ends, or about the joints, have often only a hard external lamina. When this disorder happens on the bones within the skull, the consequence may be an apoplexy, epilepsy, or a palsy. See Petit's Diseases of the Bones, part ii. chap. xvi. Bell's Surgery, vol. v. p. 541.

EXO'TICUS. Exotic, (from ἐξω, *without*). Any thing brought from foreign countries.

EXPECTORA'NTIA, (from *expectoro, to discharge from the breast*). Expectorants, *bechita*, and *bechica*. Medicines suited to promote the excretion or rejection of mucus from the bronchial glands. Some expectorants operate by attenuating the mucus; others stimulate the excretories to promote the discharge. We employ expectorants when the mucus is too thin and acrid, when too viscid, or when the excretories are not sufficiently irritable to propel their contents. The former scarcely, perhaps, deserve the title; for they are principally mucilaginous substances; and where the mucus is thin and acrid, inflammation generally exists, not confined to the bronchial glands, but extending to the epiglottis and throat. Mucilages then sheath the inflamed organs, and relief, like the disease, is communicated to the parts below. For this purpose the gums, the mucilaginous seeds, liquorice, honey, extract of malt, starch, sugar, isinglass, glue, &c. are employed. Sometimes they are slightly acid, as the dried fruits of warmer climates, the hips, jelly of currants, sorrel, vinegar softened with the more sweet fruits, as raspberries and sloes. The latter are chiefly employed where there is also a relaxation of the throat and parts adjacent. Oils differently prepared are equally useful, and the coltsfoot, the butterbur, and the groundivy, supposed to possess a slight stimulus, are perhaps chiefly useful as mucilaginous. Independent of inflammation, the mucus is sometimes too thin and acrid, from too great irritability of the vessels of the bronchial glands, and we then employ opiates; the siliquosæ, as mustard, horse radish, and different species of erysimum; the alliaceæ; elecampane, and orris-root, the seneka, and colchicum. When the expectoration is too viscid, or the vessels not sufficiently irritable to assist the excretion, expectorants, strictly so called, are useful. These are the more stimulating medicines just mentioned; to which may be added all the variety of fetid gums, the turpentines, including the balsams, the tobacco, and the squill. Steams of warm water, impregnated with vinegar, aromatic herbs, ether, oil of wine, and carbonic acid, are adapted to the same purpose; and nauseating medicines, as well as emetics, are powerful expectorants; the antimonials and ipecacuanha, perhaps, when inflammation exists; but the squill, the colchicum, and the seneka, in the other cases. The digitalis seems only to act as an expectorant when it nauseates.

Dr. Cullen has found it difficult to explain the action of expectorants; but we have as much reason to suppose that the stimulus of some medicines may be conveyed to the lungs, as of others to the kidneys, or the extreme vessels. We evidently find them conveyed to these organs by the smell imparted to the breath, and the difficulty of explaining the action of specific stimuli will always recur. On this subject the difficulty is perhaps less than on some others, since the vessels of the lungs alternate so regularly in their discharges with those of the skin, and, unlike all other glands, are occasionally excited by increased temperature alone. Their action alternates also with the mucous glands of the intestines; for we find in the pneumonia a supervening diarrhœa constantly checks the expectoration.

EXPECTORA'TIO. Expectoration, (from *ex*, and *pectus*; or from *expectoro, to throw out of the breast*). See Expectorantia and Anacathartica.

EXPELLE'NTIA, (from *expello, to drive out*). Medicines supposed to drive out morbid humours from the body.

EXPIRA'TIO, (from *expiro, to breathe forth*). *Ecpneumatosis*, *ecpnæa*. The expulsion of air from the lungs. See Respiratio.

EXPLORA'TIO, (from *exploro, to search out*). Exploration. Probing a wound or ulcer.

EXPLORA'TRIX. See Cupella.

EXPLO'SIO, (from *explodo, to drive off*). Explosion; in chemistry, detonation, or fulmination.

EXPRE'SSIO, (from *exprimo, to press out*). Expression is a mechanical operation by which the juices of many plants are obtained, and sweet oil extracted, from olives, almonds, or lintseed.

This operation is effected by first bruising the substance, and then forcibly squeezing it in the press. The more succulent bodies may be bruised and wrapped in a linen cloth before they are committed to the press; but more viscid subjects require that a little water be previously added.

When an oil is to be obtained from seeds, the cheeks of the press should be gently heated, that the product may be increased: but when oils are to be taken internally, cold expression is the most proper, as heat disposes the oil to become soon rancid. Some of the aromatics yield a pungent oil; but that from mustard seed is insipid, and from poppy seed wholly free from any narcotic power.

EXSE'RTUS, (from *exsero, to thrust out*). In botany it is applied to the stamen, and means appearing above the corolla.

EXSICC'ATIO, (from *exsicco, to dry up*). Drying. This pharmaceutic operation is effected by exhaling the moisture from the body, to be dried over a gentle fire, or by absorbing it, as when such subjects are laid on chalk stones for this end. Plants or their leaves should be dried in a free air without sun, and frequently turned. Tender flowers, which may lose their colour or aroma by long exposure to the air, may be dried by a gentle heat.

When great heat is employed, the operation is styled *coction*, *insolation*, or *torrefaction*; the first relates to fluids, the second to fluids and solids, and the third to solids only. Decantation and filtration are subservient to the process of exsiccation.

EXSTIPULA'TUS, (from *ex* priv. and *stipula, straw* or *stubble*). In botany it means without the haulm, or stubble.

E'XSTASIS. See Ecstasis.

EXSUCCA'TIO, (from *ex*, *out of*, and *succus*, *juice*). See Ecchymoma.

EXTE'NSOR, (from *extendo, to stretch out*). An extender. This name is given to several muscles.

Exte'nsor car'pi radia'lis. This muscle takes its origin from the rising line of the os humeri, that runs towards the outer condyle, and from the same condyle it runs close to the radius; and passing through a groove where it is bound down, it divides into two tendons: the muscle in this part is sometimes called *bicornis*. One of these tendons is inserted into the basis of the first, and the other into that of the second, metacarpal bone. This muscle is occasionally called the *radiæus externus*; sometimes *extensor carpi exterior*, and *geminus*; by Winslow *ulnaris externus*.

Exte'nsor ca'rpi ulnaris, is sometimes called

extensor carpi interior. It rises from the outer condyle of the os humeri, and then originates from the edge of the ulna; its tendon passes in a groove behind the styloid process of the ulna; it proceeds and is inserted into the inside of the basis of the metacarpal bone of the little finger.

The extensors, whether belonging to the fingers or carpus, arise from the outward extuberance of the os humeri: and their antagonists, the flexors, from the internal protuberance of the same bone, as well as from the upper and external part of the ulna next to the anconæus.

EXTE'NSOR DIGITO'RUM COMMU'NIS is also called *digitorum tensor*. It partly rises from the outer condyle of the os humeri, and partly from the outer edge of the ulna; passes behind the lower extremity of the radius, where there is a groove for its lodgement, and forms four tendons: that for the little finger differs in its passage from the others; the three last communicate, and are inserted into the second bone, and partly into the last of the respective fingers, that is, the third, middle, and fore fingers.

EXTE'NSOR DIGITO'RUM BRE'VIS is also called *pedicus*. It rises from the anterior part of the os calcis, runs across the instep, and divides commonly into four tendons, sometimes only into three, which are inserted into the three toes next to the greater one, or into all the four.

EXTE'NSOR DIGITO'RUM LO'NGUS; *enemodactylæus*; by Dr. Hunter *extensor longus digitorum pedis*. It rises from the upper part of the tibia and fibula, and the interosseous ligament; its tendon passes under the annular ligament, and then divides into five, four of which are inserted into the second and third phalanges of the toes, and the fifth goes to the basis of the metatarsal bone. The last Winslow reckons a distinct muscle, calling it *peronæus brevis*.

EXTE'NSOR I'NDICIS is also called *indicator*, and *extensor indicis proprius*. It rises with the extensor digitorum communis, lies between the ulna and radius, runs close to the interosseous ligament, passes over the back of the hand, and is inserted into the posterior part of the index.

EXTE'NSOR LO'NGUS rises from the inferior costa of the scapula; and the

EXTE'NSOR BRE'VIS rises from the outer spine of the humerus; they then make one tendon with the brachiæus internus.

EXTE'RNUS MI'NIMI DIGITI, is also called *auricularis*. It rises partly tendinous at the extremity of the external apophysis of the os humeri, and partly fleshy from the superior part of the ulna, and becomes tendinous as it passes under the annular ligament at the carpus, where it is divided into two, and sometimes into three, tendons, which are united into one at its insertion into the superior part of the third bone of the little finger.

EXTE'NSOR PRI'MI INTERNO'DII PO'LLICIS rises high up from the radius, ulna, and interosseous ligament: it turns round the radius, runs across the carpus, and is inserted into the trapezium, and the first bone of the thumb.

EXTE'NSOR SECU'NDI INTERNO'DII PO'LLICIS rises from the radius, and the interosseous ligament describes the same course as the preceding, and is inserted into the second bone of the thumb.

EXTE'NSOR TE'RTII INTERNO'DII PO'LLICIS rises from the back part of the ulna, near the middle, and from the interrosseous ligament; then goes obliquely across the carpus to the third bone of the thumb. Its action not only extends, but also brings the thumb backward, so that the end of the thumb can sometimes be brought to the wrist.

EXTE'NSOR POLLI'CIS LO'NGUS rises from the middle and fore part of the fibula, and the interrosseous ligament, and passes over the instep to be inserted into the last bone of the great toe.

EXTE'NSOR PO'LLICIS BRE'VIS is only a slip from the extensors of the toes, inserted into the first bone,

EXTE'NUATIO, (from *extenuo*, *to diminish*). LEANNESS. This may arise in two ways: one from the increased evacuation of the nutritious particles; the other from cacochymia, or a depravation of the fluids. Prosper Alpinus observes, in his Presages of Life and Death, that if, after being extenuated by a disease, the body continues lean, though the nutriment be duly received, it denotes a relapse. Again, leanness from a spitting of blood, attended with a slow fever, is highly dangerous; and it is equally a bad sign in an ardent fever for the body not to become speedily lean, or to waste rapidly: the first prognosticates a tedious disease; the latter, death.

In general, leanness is not a disease; and, whatever are the evacuations, or the degree of extenuation, if without fever, and the appetite keeps up, there is little danger. Extenuation alone is not a disease, nor a predisponent cause: the same cannot be said of its opposite, obesity. An acrimony in the fluids rather than increased discharges occasions it; but the source of the greatest emaciation is the effusions of dropsy. The body is never so thoroughly extenuated as in dropsy, though greatly so in hectics, from absorbed purulent matter, and cancer. Some recent remarks, by Dr. Pemberton, in his Practical Treatise on various Diseases of the Abdominal Viscera, are so truly ingenious and comprehensive, that we shall select them in his own words. We cannot compress or give them in language more scientific and elegant.

"A proneness in the body to waste or not, as the same disease shall happen to be situated in this or that part, is in itself a circumstance very remarkable; and as an attention to this proneness may help to lead us through the obscurities which too often attend internal complaints, it is a subject well worthy of further consideration.

"To assist us in this inquiry it may be right to specify a few examples, where the difference of the effect of disease on the bulk is most striking. Let us take the two cases, of a diseased state of the mesenteric glands, and a diseased or scrofulous affection of the breast. In the former we shall find there is a great emaciation; in the latter, none at all.—In an ulceration of the small intestines, great emaciation takes place; in scirrhus of the rectum, none.—In a disease of the gall bladder, which is subservient to the liver, the bulk of the body is rapidly diminished; but in a disease of the urinary bladder, which is subservient to the kidneys, scarcely any diminution of bulk is to be perceived.—In

an abscess of the liver the body becomes much emaciated; but in an abscess of the kidneys the bulk is not diminished.

"If we examine into the functions of those parts, the diseases of which do or do not occasion emaciation, we may perhaps be led to the true cause of this difference of their effect on the bulk. In order, however, to understand more clearly how the functions of these parts bear relation to each other, it may be necessary to premise, that the glands of the body are divided into those which secrete a fluid from the blood for the use of the system, and those which secrete a fluid to be discharged from it. The former may be termed glands of supply; the latter glands of waste.

"The small intestines, in consideration of the great number of absorbents with which they are provided for the repair of the system, may be considered as performing the office of glands of supply.

"The large intestines, on the contrary, may be considered as performing the office of glands of waste; inasmuch as they are furnished very scantily with absorbents; and abundantly with a set of glands which secrete or withdraw from the system a fluid, which serves to lubricate the canal for the passages of the fæces, and which itself, together with these fæces, is destined to be discharged from the system.

"I have often imagined that this mode of considering the subject might, in many cases, assist us in approaching to the seat of a chronic disorder, by deciding where the disorder is *not* situated, and consequently by contracting within narrower limits the difficulties of our researches.

"Thus the symptom exhibited by the patient either in retaining his bulk, or in being emaciated, might serve as a diagnostic, according to my conception, for the purpose of deciding whether the disorder is seated in the glands of supply, or in the glands of waste.

"The glands which secrete a fluid to be employed in the system, as well as the glands of direct supply, may be considered the liver, the pancreas, the mesenteric glands, perhaps the stomach, and the small intestines: and the glands of waste are the kidneys, breasts, exhalant arteries, and the large intestines.

"In an abscess of the liver, and an abscess of the kidneys, both of which glands frequently run into suppuration, without exhibiting any pain in the part affected, it seems impossible to decide in what part of the system the derangement manifested in both these cases by the hectic fever is situated.

"According to the foregoing idea, if emaciation takes place, we might then determine that the disorder must be situated in a gland of supply; and thus we should be led to decide, that the disorder was certainly not in the kidneys, consequently we should be secured from the danger of misapplying our remedies upon a part which was not affected.

"The same hectic attends a chronic disease of the mesenteric glands, and of the small intestines: and here likewise, if emaciation does not take place, we should decide that the disorder was not situated in these parts, or in the liver.

"Now it is surely of considerable importance to determine where the disorder is not found, that our enquiries may be solely directed to those parts in which it is to be found.

"If this position respecting the bulk of the body, under disease, should be admitted as true, will it not afford a probability that the spleen, whose diseases produce great emaciation, is a gland of supply?

"What has been here advanced must be considered as applying to local diseases unattended by pain, as pain will itself sometimes waste the body, though sometimes it will not. Here, too, the wasting from pain seems to vary according to the part from which it proceeds. A stone in the bladder of urine, or in the kidneys, nearly stopping the discharge of urine, and occasioning the greatest pain, will not in the least affect the bulk; but a biliary stone, under similar circumstances, will occasion great and rapid emaciation."

EXTENUA'TIO TY'MPANI AU'RIS. See LAXATOR EXTERNUS.

EXTI'NCTIO, (from *extinguo*, *to put out*). See COMMINUTIO.

EXTIRPA'TIO, (from *extirpo*, *to eradicate*). AMPUTATION.

EXTRA'CTIO, (from *extraho*, *to draw from*). EXTRACTION. The liquors which dissolve bodies in their pure state, separate them from impurities, or rather extraneous bodies with which they are mixed. Extraction is performed by macerating the subject in its appropriated menstruum in the cold; by digesing or circulating it in a moderate warmth; by infusing it in a boiling fluid, and suffering them to stand until they are cold; or by actually boiling it for some time. Heat greatly expedites extraction; but it is injurious to some substances, by occasioning the menstruum to take up their more gross and disagreeable parts: yet others impart but little to a heat below that of boiling water. As heat promotes, so cold prevents, extraction, and occasions a deposition of what heat had enabled the menstruum to take up.

Vegetable juices obtained by expression, exposed to a heat, are gradually inspissated; and the mass is now styled, instead of an extract, an *inspissated juice*. The term extract is still retained, when a watery decoction or infusion is evaporated; but if a spirituous tincture be thus treated, it is called a *resin* or *essential extract*. Dr. A. Duncan proposes to call extracts *extractives*; but the latter is a component part of vegetables of a peculiar nature, and the former any thing separated.

Inspissated juices, when evaporated only to the consistence of honey or oil, are called *rob*, or *sapa*. Spirituous tinctures reduced to a like consistence are called *balsam*. See the New Edinburgh Dispensatory, by Andrew Duncan, jun. M. D.

Extraction, in surgery, is the drawing from or out of the body any thing fixed in it, as a thorn or a bullet in the flesh, a tooth from the jaw, or hairs from the skin.

EXTRA'CTUM, (from the same). An EXTRACT, *ecchyloma*. (See EXTRACTIO.) The name is taken from the substance which affords this extract, as EXTRACTUM CHAMÆMELI, CORTICIS PERUVIANI, &c.

EXTRA'CTUM PURGA'NS. See HEDERA ARBOREA.

EXTRAVASA'TIO, (from *extra*, and *vasa*, *out of the vessels*). EXTRAVASATION; applied to any part of the fluids of the body out of their proper vessels: thus an ecchymosis. sugillation, or aneurism, may be called *extravasation*. Extravasated blood, if the air has no access, will not putrefy.

An extravasation on the brain produces apalsy of one leg or arm, or both; dizziness; sleepiness; impaired sight; ravings; bleeding at the nose or ears; vomiting; loss of sense, or stupor. See CEREBRI COMPRESSIO, and CONCUSSIO.

Wounds on the head with extravasations are very fallacious, because the extravasation may be between the skull and the dura mater, and under it at the same time; under the pia mater, or in several other parts of the brain: but when these happen, the symptoms immediately portend danger.

Whenever the dura mater, either by depression, fissure or fracture, loses its adhesion, there will be, from its broken blood vessels, an extravasation immediately under the bone. An extravasation is less considerable when a fracture of the skull happens, that when there is a fissure. An extravasation is also more or less dangerous, according to the part of the brain injured. Extravasations from a blow are most commonly found between the skull and the dura mater; in this case a lethargy or other symptom will continue, until the extravasation be removed.

The practice recommended by Mr Bromfield in fractures and concussions of the brain (see CONCUSSIO) may be useful in some degrees of extravasation; but he adds, that when violent accidents have happened to the head, an issue in the opening, formed by the separation of the additamentum of the temporal bone, is of singular advantage. See his Chirurgical Observations, vol. i.

EXTRAVE'RSIO, (from *extraverto, to turn out*). EXTRAVERSION. In chemistry it is the discovery of any thing saline, alkaline, or acid, concealed in mixed bodies, the reverse of one species of concentration.

EXTRI'NSECI, (from *extra, without, in*, and *secus, toward*). The external parts, particularly the limbs, and the painful disorders which affect them.

EXTUBERA'NTIA, (from *extubero, to swell out*). Tumours seated under the skin.

EXU'BERES, (from *ex, without*, and *uber, a dug*). Children who are weaned.

EXULCERA'TIO, (from *exulcero, to cause ulcers,) ulcus*, and *exelcosis*; but generally applied to those early erosions which destroy the substance, and form an ulcer, or to an excoriation beginning to suppurate.

EXULCERA'TIO O'SSIS. See CARIES.

EXULCERA'TUS. See APERTUS.

EXUMBILICA'TIO, (from *ex, out of*, and *umbilicus, the navel*). A protuberance of the navel.

EXUNGULA'TIO, (from *exungulo, to pare the hoofs or nails*). EXUNGULATION; the cutting off the ungues, or white part of the petals of roses.

EXU'VIÆ, (from *exuo, to strip off*). See ANGUIUM SENECTÆ.

EXYDA'TOO, ἐξυδατόω, *in aquam resolvo*, unde ἐξυδάτωσις. When, instead of blood, a watery humour is generated and collected; whence water readily appears within the skin. Castelli.

EZQUAHDU'ITL. The DRAGON BLOOD TREE.

F.

FAB FÆC

F. or F^{t}. are abbreviations of fiat, or fiant, in prescriptions, viz. f. or f^{t}. haustus, *let a draught be made.*

FA'BA, quasi *faga*, (from *φαγω*, *to eat*, it being originally the food of man). The BEAN, *cyamus*, *phaseolus*. This plant hath a long unicapsular pod, full of kidney shaped seeds; the stalks firm; the leaves in pairs, and, as it were, conjugated to a rib which ends in a point.

By the Falisci, a people of Hetruria, the bean was called *haba*; and from thence, perhaps, *faba*. Martinus derives it from *παω*, *to feed*. Bean seems to be from the Italian word *baiana*.

FA'BA BENGALE'NSIS, FA'BA CAMBA'IA, FA'BA MALA'BARICA. See MYROBALANI.

FA'BA CRA'SSA. See CRASSULA.

FA'BA ÆGYPTI'ACA; *cyamos Ægyptiacus*, *nymphæa Indica*, *glandifera*, *Madarasphatana*, *bem tamara*, *nelumbo*, *lien Sinarum*, *colocasia*, *ciborum*, and *cibotium*, from the manner of planting it. The PONTIC or ÆGYPTIAN BEAN. *Nymphæa nelumbo* Lin. Sp. Pl. 730, though, by later botanists, it is referred to a new genus, *nelumbium*. It grows on marshy grounds in Ægypt, and some of the neighbouring countries. When the flower falls, a small pod appears, in which the bean is lodged. It is eaten either raw or boiled, and is a tonic and astringent. See Dale.

FA'BA FEBRI'FUGA. See NUX VOMICA.

FA'BA GRÆ'CA LATIFO'LIA. See GUAJACANA.

FA'BA I'NDICA, and SA'NCTI IGNA'TII. See NUX VOMICA SERAPIONIS.

FA'BA INVE'RSA, CRA'SSA, and TELEPHII. See CRASSULA.

FA'BA MA'JOR, and CY'AMUS LEGUMINO'SA; *phaseolus major*, TURKEY BEANS, and GARDEN BEANS.

They are a strong flatulent food, nutritious, but indigestible, especially when old. The flowers afford an agreeable fragrance, which they impart to water by distillation. The fresh leaves beat into a poultice with cream are cooling and repellent. The ancients call the flour of beans *faba fresa*, and *lomentum fabæ*; because it is prepared without the skin, in which lies the astringency, generally attributed to the flour. Raii Historia.

FA'BA MINOR, also called *equina fresa*, HORSE BEANS. These differ no other way from the garden species than in being less.

FA'BA PECNU'RIM. Probably from a species of laurel. The fruit is oily, and a warm aromatic. The bean possesses these qualities in a less degree; but has been employed in Sweden in stomach complaints, in colic, and diarrhœa. The infusion prepared in a close vessel is highly aromatic; but the aroma is lost by exposure to air, and by boiling. The smell of the bean resembles sassafras. The taste is aromatic, and it dissolves in the mouth.

FA'BA PURGA'TRIX. See CATAPUTIA MINOR.

FA'BA SUI'LLA. See HYOSCYAMUS NIGER.

FABAGI'NEA, and FABA'GO, (from *faba*, *a bean.*) *Capparis portulaca*, *peplios Lutetianorum*, *telephium*, and *capparis fabago*; *zygophyllum fabago* Lin. Sp. Pl. 551. A bitter plant, which the Syrians use for killing worms.

FABA'RIA (from *faba*, *a bean*). See CRASSULA.

FABRO'RUM A'QUA, (from *faber*, *a smith*). Water in which hot iron is quenched.

FACIA'LIS NE'RVUS. The portio dura of the auditory nerve. These nerves are styled the seventh, but by late authors the eighth, pair. They arise from the fourth ventricle of the brain, and passing through the petrous portion of the os temporis, are dispersed on the face.

FA'CIES, (from *φαω*, *to appear*). The FACE. It comprehends the fore head, eye brows, eye lids, eyes, nose, mouth, chin, cheeks, and ears. Its bones are those of the upper and lower jaws.

FA'CIES HIPPOCRA'TICA. The HIPPOCRATIC or CADAVEROUS FACE. The nose is sharp, the eyes hollow, temples sunk, the ears cold and contracted, and their lobes inverted; the skin about the forehead hard, tense, and dry; the countenance pale, greenish, or dark. If it appears within three days after the attack of an acute disease, it is a fatal symptom. See DEATH.

FA'CIES RU'BRA. See GUTTA ROSACEA.

FACU'LTAS, (from *facio*, *to do*). A FACULTY; or the power of performing any action. The animal faculty is the power of exercising sense, motion, and the principal functions of the body. The mental faculties may be reduced to imagination, reasoning, and memory. See ACTIO.

FÆ'CES. See FÆX.

FÆ'CULA, (dim. of *fæx*). A component part of vegetables, nearly resembling mucilage, differing only from it by being soluble in cold water: in hot it becomes mucilaginous.

FÆ'CULA BRYO'NIÆ. The FÆCULA OF BRYONY. Take of the roots of white bryony any quantity; scrape them, and squeeze out their juice; which, after standing a little while, deposits a sediment, from which the thinner part may be separated by decantation, and the rest dried for use. Other fæculæ are extracted in the same way. Sago, potato flour, cassada, and indigo, are fæculæ, and by nitric converted into the malic or oxalic acid. In making starch, which is also a fæcula, the extractive and glutinous parts are destroyed by fermentation.

FÆX, quasi *fax*, (rom πηξις, from πηγω, *to sink to the bottom,) chersa.* It is properly the sediment, or lees, or grounds, of any fermented liquor; but in medicine it is generally understood of wine. The alvine excretions are thus called.

FAGA'RA MA'JOR, (from *fagus*, *the beech*, which it resembles). *Cayutana Luzonis*, *cubebis*. *Fagara pterota* Lin. Sp. Pl. 172.

It is a plant found in the Philippine islands. The berries are aromatic, and, according to Avicenna, heating, drying, good for cold weak stomachs, and astringent to the bowels: the outer rind was not used. Jacquin refers to this genus a plant with the trivial name of *octandra*, used as a perfume.

FAGA'RA OCTA'NDRA. See TACAMAHACA.

FAGOPY'RUM, et FAGOTRI'TICUM, (from φαγος, *the beech*, and πυρος, *wheat*, because its seed resembles the mast of beech). *Frumentum Saracenicum*, *erysimum Theophrasti*, *tragopyron*, BRANK, BUCK WHEAT. *Polygonum fagopyrum* Lin. Sp. Pl. 522.

Though originally from Africa, it thrives every where; delights in a wet soil; is sown in fields; flowers in July; is less nutritive than barley and rye, but more so than millet or panic. Raii Hist.

FA'GUS, called *oxya; balanda; valanida.* The BEECH TREE. *Fagus sylvatica* Lin. Sp. Pl. 1416. Its leaves resemble those of the horn-beam: the fruit is produced at a remote distance from the flower, but on the same tree, and is a callous substance, acuminated, inclosing two triangular seeds or nuts. It grows in woods and in hedges. The mast (i. e. fruit) agrees in its properties with those of the chesnut. The oil expressed from beech nuts is supposed to destroy worms: a child may take two drachms of it night and morning; an adult an ounce. The poor people in Silesia use this oil instead of butter. Raii Hist.

FAIRBURN WATER. Fairburn is in the county of Ross, in Scotland, about two miles from the Castle-Leod well. It is a strong sulphureous water, of the same nature, but not so active: a gallon, on evaporation, yielded, of absorbent, dark coloured, light earth, two grains; of white calcareous earth, fifteen; of Glauber salt, mixed with yellow matter, &c. twenty-four grains; without any selenites. It is used for the same purposes as Castle-Leod waters, but not so much frequented. Monro's Medical and Pharmaceutical Chemistry, vol. ii.

FALCIFO'RMIS PROCE'SSUS, (from *falx*, *a scythe*, and *forma*, *likeness*). See DURA MATER.

FALDE'LLA. Contorted lint used for compresses.

FALX. A SCYTHE, (from the Hebrew term *phalah*, *to cut*). See DURA MATER.

FA'MES, (from φαγω, *to eat;* because it is the stimulus to eat). HUNGER; that peculiar sensation of the stomach which excites a desire for food, according to Willis, arising from acid effluvia, and vapours, affecting the animal spirits in the left orifice of the stomach, and its nerves; and by consent of continuity, the internal coat of the stomach itself and throat; an impression communicated to the brain, by which the animal spirits are in like manner affected. Thus, when the stomach is empty, or when we fast longer than ordinary, it is common to say that the stomach pinches us. But as the liver is not at that time sustained by the stomach and intestines, it descends by its own weight; and, principally by means of its middle ligament, pulls the diaphragm along with it: it is in that place, therefore, that we have this uneasy sensation, and not at the superior orifice of the stomach, as is generally thought. See Haller's Physiology.

Some physiologists have attributed hunger to the stimulus of the gastric juice; yet all these opinions have little foundation. The theory of Willis is purely hypothetical, and the second rests on an erroneous idea of the anatomy of the parts. The third is the most plausible; but we have had reason to think, that this supposed powerful agent is only the remains of former meals. Dr. Cullen, with more reason, attributes hunger to the uneasy contraction of this viscus, when no longer distended. It is evidently a sensation peculiarly nervous, since the greatest desire of food at once vanishes, if any cause of grief or of the other depressing passions should supervene. The first effect of fever, which we shall find to proceed from a sudden debility of the sensorial power, has a similar effect. Van Helmont relates an accident that happened to himself, which will illustrate this opinion. He was going abroad to dinner, when, from accident, he dislocated his ancle. His appetite immediately left him; but was restored when his joint was replaced, though the pain continued for some time with little alteration.

When animals die for want of food, their death is not directly the consequence of hunger, but a putrid fever, which is excited by the blood's losing its bland gelatinous consistence, for want of the usual necessary supplies.

FA'MES CANI'NA. See BOULIMUS.

FAMIGERATI'SSIMUM EMPLASTRUM, (from *famigeratus*, *renowned*, from *fama*, *fame*, and *gero*, *to bear*). A plaster used in intermittent fevers, made of aromatic irritating substances, and applied to the wrists. It is thus named for its excellence.

FAR, (from the Hebrew word *var*, *frumentum*). GRAIN. It not only means a particular kind of grain, between wheat and barley, less nourishing than the former, but more so than the latter, according to Vossius; but it means bread corn, grain of any kind. Ætius gives this application to any kind of frumentaceous grain, decorticated, cleansed from the husks, and afterwards bruised and dried.

FARCIMINA'LIS, (from *farcimen*, *stuffing sausage*, or *hog's pudding*). See ALEANTOIS.

FARCTU'RA, (from *farcio*, *to stuff,*) in pharmacy, the stuffing of any exenterated animal, or excavated fruit, with medicinal ingredients.

FA'RCTUS, (from the same,) crammed, or full: thus in botany *folium farctum* is a leaf full of pith or pulp; in opposition to *tubulosum* and *fistulosum*, tubular, like a pipe. It is applied also to the stem and pericarpium.

FA'RFARA, FARFARE'LLA, (from *farfarus, the white poplar;* so called because its leaves resemble those of that tree). See Tussilago.

FA'RFARUS, (from a river of the Sabines on whose banks it grew plentifully). See Populus alba.

FA'RINA, (from *far, corn*, from which it is made). Meal or flour.

Fa'rina fœcundans. Impregnating dust. It is placed on the apices of flowers, and falls on the head of the pistil or female part of the flower, and is thence conveyed to the matrix, in order to impregnate the seed.

FARINA'CEA, (from *farina, flower*). Under this title are included those substances employed as aliment, called *cerealia, legumina*, and *nuces oleosæ*, generally distinguished as they contain more or less saccharine and oily matter. Under the title cerealia we commonly find the seeds of several gramineous and culmiferous plants employed as food for men, viz. barley, rye, millet, rice, oats, maize, wheat, buckwheat, salep, chestnut, and potato. The legumina, or pulses, are the pea, bean, and kidney bean: which last are in this country only employed in their young, green state. The nuces oleosæ are the nut, almonds, walnut, pistachio nut; and some products of others, as chocolate. See Cerealia and Aliment. Cullen's Mat. Med.

FARINA'CEUS PA'NIS. See Panis.

FARINA'RIUM, (from *farina, flower*). See Alica.

FA'RINHA FRE'SCA, and RE'LADA. See Cassada.

FARNESIA'NUS FLOS. See Battatas Canadensis.

FARRA'GO, corrupted from Favago, q. v.

FA'RREA NU'BES, (from *far, bran*, and *nubes, a cloud*). See Furfurosi.

FA'SCIA, *ligatio, ligatura, alligatura.* A bandage, fillet, roller, or ligature. Of bandages, in general, we have spoken in the article Deligatio; and it now only remains to consider the different forms of bandages applied to particular purposes. The first of these is,

The sling, echarpe. This appellation is given to several sorts of bandages.

The sling with four heads should be four feet in length: the breadth that of six or eight fingers. Its use is to retain the dressing on the wounded head. It must be divided longitudinally, from each end, into two heads, so as to leave about two hands' breadth entire in the middle, and the four ends must be rolled up to where the division ends. Apply the middle of the undivided part upon the dressings; then tying the two posterior heads forward, and having secured their ends, the two anterior ends must be carried backward, and secured behind the head. This is sometimes called Galen's bandage.

The sling with six heads, periscelastrum, is about three feet in length, its breadth about twelve or fourteen inches. It must be divided from each end to within a hand's breadth of the middle, into three parts. Apply the middle undivided part to the vertex, and tie the two anterior tails behind the head, the two middle under the chin, and the two posterior upon the forehead.

The sling for the nose hath four heads, is eight feet long, and two or three inches broad. In the middle it is left entire, but from thence, each way, it is slit to the ends. In the middle, where it is entire, an opening is made for the apex of the nose, that the bandage may be firm. The middle is applied upon the nose, the two upper heads to the neck, and then to the forehead; the lower ones behind the neck, but a little higher than the first, and to the forehead also.

The sling for the breasts is four feet long, six inches broad, and slit like the sling with four heads; about a foot in the middle being left entire. The middle is to be applied upon the dressings on the affected breast; then the two upper heads must be carried over the opposite shoulder, and the two lower under the arm of the affected side, towards the scapula of the other side: they must there be fastened to the upper ends which are over the shoulder.

The single bridle, capistry, is a single headed roller, fourteen or sixteen feet long, and two or three fingers broad, for securing the jaw when fractured or luxated. It is applied under the chin, and over the head; called by Galen *geneias.*

The double bridle is the same as the single, but rolled up with two heads: the single may, however, always be used instead of it. See Chevastre.

Bandages for the lips, of a proper length and breadth, are formed as the sling with four heads.

Bandages for the eyes or eye lids. See Monoculus.

The divider for the neck is twenty-four feet long, two or three fingers' breadth broad, and is rolled into two heads. Its middle is placed on the forehead, and thence passes round the head two or three times. When secured with pins, the rollers are carried under each armpit, and brought back over the shoulders, and cross the neck in the form of an X. It is then passed on to the forehead, &c. until the whole is taken up.

The retentive bandage for the neck. Two distinct ones are usually directed, but one circular roller answers every useful purpose. When two bandages are employed, one is a fillet about two feet in length, laid across the head so as to hang down on the shoulders. Over these ends another fillet, five or six feet in length, and nearly three fingers broad, is rolled circularly round the neck. The ends of the first fillet are then doubled back, and secured to the circular turns by pins.

Divisive bandage, to support the head, consists of a fillet laid over the head, so as to fall on the forehead and low on the neck. Another fillet, eighteen feet long, and about the breadth of three fingers, is rolled on two heads. The middle part of this bandage is applied over the fillet on the forehead, carried over the ears, round the head to the back of the neck. Its heads are then crossed, brought under both axillæ, carried backward over the shoulders; crossed again, and carried under the axillæ over the breast. The heads are again shifted, and the remainder rolled with circular turns. The hanging ends of the first small fillet are then turned back over the head, and fastened by pins to the turns of the bandage.

The uniting neck bandage consists of a napkin under the axillæ, to which fillets, fastened to the nightcap, are pinned, to keep the head steady, when placed in the proper position. It is used in wounds of the neck or trachea.

The inguinal bandage, for luxations of the thigh, is only the common roller, eight or nine yards in length, and about four fingers broad.

The napkin and scapulary are used when a bandage is required on the breast, belly, or back. It consists of a napkin pinned round the body, where the disorder renders it necessary; and, to prevent its falling, the *scapulary* is applied, viz. a piece of linen, four or six inches broad, with a slit in the middle for the head to pass through; its length sufficient for one end to be pinned to the napkin behind, and the other end to the napkin before. The scapulary is sometimes fastened behind, and the other end slit far enough to bring each part over the shoulders to be fastened before.

FA'SCIA. See APONEUROSIS.

FA'SCIA LATA is a large, membranous, tendinous, or ligamentary covering. Winslow describes it as a muscular ligament, fixed about the edge of the crista of the os ilium, from the large tuberosity, to the anterior superior spine, to the ligamentum Fallopii, and to the aponeurosis of the oblique external muscle of the belly. It is also fixed to the lateral inferior part of the os sacrum, and to the neighbouring part of the ligaments by which that bone is connected to the bones of the ilium and ischium. From thence it advances over the glutæi and thigh, between the membrana adiposa and muscles, to the interior and outer part of the knee; over the external anterior part of the tibia, and is strongly inserted into the head of the tibia and of the fibula. It is inserted also firmly into the linea aspera femoris, between the vastus externus and biceps, forming a sort of septum between these muscles. See APONEUROSIS.

FA'SCIÆ LA'TÆ MU'SCULUS rises from the outside of the ilium, runs downwards and outwards; and, below the trochanter major, joins with the tendons of the glutæus maximus, and runs down laterally to the leg. This muscle stretches the fascia lata above described, and on this account Albinus calls it *tensor fasciæ femoris*.

FA'SCIA LA'TA LUMBO'RUM is a strong tendon fixed to the lateral part of the os sacrum, from the spines of the sacrum, from the spine of the ilium, and the spines of the lumbar vertebræ.

FASCIA'LIS, (from *fascia, a ligament*). See SARTORIUS.

FASCICULA'RIS, (from *fasciculus, a little bundle*). In botany it means tuberous, or having the knobs of the roots collected in bundles, as in the pæony.

FASCICULA'TUS, (from the same,) in botany, leaves growing in bunches, as in the larch tree.

FASCI'CULUS, (from *fascis, a bundle*). A kind of inflorescence, in which the flowers grow close to each other, forming a flat surface, as in the sweet-william. See MANIPULUS.

FASCIO'LA. A flattish round worm, called the *gourd worm*, from its resemblance to a gourd seed; and the *fluke*, from its resemblance to a worm found in ditches, is distinguished chiefly by a vent hole at the extremity and on the belly. A worm of this kind is found in the liver, sometimes nearly an inch in its longest diameter, and about two thirds of an inch in the shortest. It is rounded on the back, and has eight deep longitudinal furrows in two series. The skin is soft, and in colour of a light brown. It is most commonly found in the livers of sheep which have the disease called the rot, and sometimes in the human liver. Another species is found in the intestines of the bream, and some other fresh water fish. It is of an oval form; but may be extended to some length. One other, the *barbata*, is white, and found in the intestines of the cuttle fish.

FASTI'DIUM CIBO'RUM, (from *fastidio, to loath*). LOATHING OF FOOD. Some barbarous writers, for this term, use *abominatio*. See APEPSIA.

FASTIGIA'TUS, (from *fastigium, the top* or *roof of a house*). In botany it is applied to the stalks when they grow so as to form the appearance of the ridge of a house.

FATI'GUE. See COPOS.

FATUI'TAS, (from *fatuus, foolish, insipid*). Insipid aliments were called by the Latins *fatui*, whence the term is applied both to foolishness and unsavouriness. In Cullen's Nosology it is synonymous with *amentia*. See also MOROSIS.

FAU'CES, (the plural of *faux, the top of the throat,*) *isthmion, amphibranchia*. The top of the throat; the space about the openings into the larynx and pharynx, which can be seen when the mouth is open and the tongue depressed. Upon looking into a person's mouth when wide open, we see a soft curtain hanging from the palate bones, named *velum pendulum palati*; in the middle of which a papilla projects from the velum, named *uvula*, or pap of the throat. From each side of the uvula, at its root, two arches or columns pass down, the anterior to the root of the tongue, the posterior to the entrance of the gullet. Between the arches, on each side, the cellular glands, called *amygdalæ*, or almonds of the ears, are situated. The common opening behind the anterior arch may be named *fauces*, from which there are six passages, viz. two upwards, one to each nostril; two at the sides, or one to each ear, called the *Eustachian tubes;* two downwards: the anterior is the passage through the glottis and larynx into the trachea, which terminates in the lungs; the posterior is the largest, named *pharynx*, or the top of the œsophagus, which leads to the stomach. Innes on the Muscles.

FAU'FEL. See ARECA; also TERRA JAPONICA.

FAUX. In botany it means the hiatus of the tube of the corolla. See FAUCES.

FAVA'GO AUSTRA'LUS, (from *favus, a honeycomb*). A species of BASTARD SPONGE, like a honeycomb. See ALCYONUM FARRAGO.

FA'VUS. A HONEYCOMB. See ACHOR.

FEBRI'FUGA. FEVERFEW, (from *februm fugare, to drive away a fever*). See MATRICARIA. Such medicines also as mitigate or remove fevers.

FEBRI'FUGUM OLEUM. FEBRIFUGE OIL. The flowers of antimony, made with sal ammoniac and antimony sublimed together, and exposed to the air, when they deliquesce.

FEBRI'FUGUS PU'LVIS CRÆ'NII. See ANTIMONIUM.

FEBRI'FUGUS PU'LVIS. FEBRIFUGE POWDER. The Germans give this name to the stypticus pulvis Helvetii. In England a mixture of oculi cancrorum and emetic tartar, in proportions of half a drachm and two grains, hath obtained the same appellation; in fevers it is given in doses of gr. iii. to iv.

FEBRI'FUGUS SAL, i. e. SAL MARINUS REGENERATUS. See MARINUM SAL.

FEBRI'FUGUS SPI'RITUS DO'MINI CLU'TTON. Mr. CLUTTON'S FEBRIFUGE SPIRIT.

Take the oil of sulphur, by the bell, and rightly prepared, rectified oil of vitriol, and spirit of salt, of each

equal parts; and of rectified spirit of wine, triple the quantity of the whole. Digest them together for a month, then distil to dryness.

In some receipts, common salt is inserted instead of spirit of salt, which will make little difference in the result. The whole, however, is an imperfect ether, and may be imitated by adding any proportion of the muriatic acid to the sweet spirit of vitriol.

As much of this spirit as renders pure water agreeably acid is sometimes given in every draught of common drink in ardent and inflammatory fevers; and in those of the nervous and putrid kind it is administered in cordial and antiseptic liquors. We have sometimes employed it, though without any marked advantages. See the Certain Method of curing all continued Fevers, by Jo. Clutton.

FE'BRIS, (from *febreo*, pro *ferveo*, *to be hot*). Since the complaints of mankind have attracted the attention of practitioners, the cause of fevers has been a problem that they have in vain attempted to solve; and even the disease itself they have not been able to discriminate by any constant pathognomonic symptom. From the etymology of the term, its essence is supposed to consist in heat; but the skin is sometimes cold: in quick pulse; but the pulse is occasionally slow: in preceding horror; but such a symptom is often unobserved or absent. Critical pathologists have filled pages with such (we think idle) disquisitions; but every physician has been able to distinguish fever by at least some of these symptoms, or a comparison of the different ones; and, among the innumerable mistakes and blunders that we have witnessed, we believe in no one instance has error been found to arise from mistaking fever. Within this fortnight we saw a woman of 82, generally allowed to be in a fever; but the pulse was only 70, the skin cool, the countenance apparently unchanged: it was, however, easy to perceive, from the peculiar feel of the pulse, that it was in a morbid state, and the skin of the palms was tense. She recovered rapidly, the pulse sunk to less than 60, the skin became more genially soft, and the appetite returned.

Dr. Cullen establishes a class of febrile diseases which he styles *pyrexiæ*. The symptoms assigned are, "after chilliness, a frequent pulse, increased heat, several of the functions of the body injured; the strength of the limbs particularly diminished." Fever, more strictly, is "pyrexia, with preceding languor, lassitude, and other signs of debility, without any local disease." Dr. Fordyce, though he has refined too much, and raised imaginary difficulties in the application of every definition of fever, has, however, shown that these symptoms will not entirely and completely distinguish febrile diseases. One almost constant symptom may be added, a tension of the tendons of the wrist; and we are fully of opinion, with Dr. Fordyce, that in every fever there is some mental alienation. If these two symptoms are added, the definition will be as complete as the most minute pathologist would require. The distinction will be, however, assisted by a more full description of the symptoms.

Previous to the attack of every fever, if it do not come on during sleep, or the attention is not directed very strongly to some interesting object or occupation, languor and debility are felt, with a sluggishness in motion, and some uneasiness in attempting it. The face and extremities become pale; the features sunk: the bulk diminished; and the skin appears as if constricted by cold. Cold now comes on in the back, as if cold water was running down it, and soon extends over the whole body; though, in some instances, the patient will feel to another person warm. The cold increases to tremor; and this to rigors and shiverings, almost convulsive. Even at this period, the mind is unsteady and confused; attention and recollection are difficult; and stupor is sometimes an early symptom. The pulse becomes weaker, and even sometimes slower, than before; but as the cold increases, it is *always* smaller, and *almost constantly* quicker. The respiration is, at this period, small, frequent, and laborious; appetite ceases; a nausea, sickness, and vomiting, come on; and, at last, the matter discharged is highly bilious. The secretions are, in general, checked; the urine is watery; the mouth dry and clammy; ulcers no longer discharge; and tumours diminish or disappear. In the cold stage, frequently, though more often in the hot, headach comes on; but a constant symptom, though not sufficiently noticed by pathologists, is wandering pains over the whole body. Pain in the back is generally mentioned; but pains are felt in every joint, seldom continuing in any one part, but disappearing and returning. They are not sharp and pungent, but tensive and dull; evidently connected with the tension of the tendons, chiefly distinguished at the wrist. A striking change takes place in the features. In general they appear to be sunk; but this description is by no means sufficiently precise. It has not been with accuracy noticed how greatly the appearance of the features depends on the state of the mind: it is the latter which gives character, and a different effect to features otherwise similar. It is sufficient in this place to remark, that the change in the countenance is the absence of all characteristic impression, a vacant stare, accompanied with a kind of insensibility. This attends fever so often, or rather so universally, in every stage, that the existence of the disease may be thus known in a moment by a practitioner of even slight experience.

The continuance of the cold stage is uncertain. The coldness previous to the shivering is, in the worst fevers, of long duration, and the shivering slight. In general the shivering soon comes on; and after a time, different in almost every case, it seems to remit or alternate with slight flushings. In this interval we have thought, by our own feelings, that the disease had disappeared; and we have even remarked that the powers of the mind have, for a short period, returned. The scene, however, soon changes. The alternate flushings become violent heat; the skin again fills; the face becomes turgid; the mind again confused, and this confusion often increases to delirium; the pulse becomes more regular, hard, and full; the respiration more free, but still frequent and anxious; the thirst increases; the vomiting abates; the urine becomes of a deep red, and gives pain in the discharge; tumours again enlarge; and pus flows from ulcers. The sensibility is recovered, and often increased; the headach becomes excruciatingly violent.

After an uncertain period these symptoms abate. Sweat gradually breaks out, and soon becomes profuse. The urine deposits a copious sediment, all the painful symptoms disappear, and health is apparently

restored, with the exception only of some remaining debility.

These are the phenomena of fevers in their acute, regular, and distinct form. In intermittents they appear regularly, nearly as described; and the most perfect undisguised form of fever is the tertian. In remittents these various changes are less distinct; but the chief difference consists in the termination: the sweat is inconsiderable, and the relief imperfect, though the exacerbation is generally distinctly marked. In hectics the whole stage is often regular, and the intermission tolerably perfect; but the remaining state of debility very considerable. In continued fevers the exacerbations and remissions are indistinct; but an attentive practitioner will generally, we believe always, discover them. Like critical days, they require a minute examination for their detection; a minuteness of discrimination which some do not possess; an acuteness which others will not exert.

These three stages are evidently connected; and Dr. Cullen thinks, with great reason, that they are the causes of each other. In every fever each is probably present, though not always observed. The immediate cause of these very singular appearances, physicians in every period have been anxious to discover; but to collect all the theories, all the absurdities, which the imagination has suggested, would extend our article very far. In justice, however, to some of the ablest of our predecessors, we shall notice a few of the principal opinions.

When a violent commotion was observed in the system, followed by an evacuation from the skin and the kidneys, it was an obvious conclusion that something noxious had been introduced, which, at the conclusion of the paroxysm, was discharged. The opinion was at least innocent, if not ingenious; but when to this first idea was added, that the morbid matter was prepared for expulsion by the febrile commotion, and particularly the hot fit, the opinion produced the most fatal consequences, as it led to every means of increasing the heat, in order to assist this unknown process which the morbid matter was to undergo. The simplest observations were couched in the language of this theory; and when, for instance, the authors had observed that, during the violence of the heat, it was injurious to attempt forcing any evacuation, they told us, that *cocta non cruda sunt evacuanda*. Many of the aphorisms of Hippocrates, which have thus a profound scientific appearance, are only the commonest remarks in the jargon of a system.

As it could not escape the most superficial observers that, after an apparently complete solution, the disease returned, this morbid matter was supposed not to be wholly discharged; but the little remains possessing an assimilating power, was augmented in quantity, till it was again sufficiently powerful to reproduce the paroxysm. At last, either by superior exertion, or some unknown cause, it was wholly evacuated, and health restored. In support of this, they usually found, what is indeed true, that the last paroxysm was the most violent.

The theory was certainly highly probable; but, as if impregnable, succeeding authors attempted only to proceed another step, and the morbid matter was acid, alkaline, earthy, inflammable; for a time any thing which the predisposing causes could in the slightest degree support. At last Boerhaave supposed it no foreign substance introduced, but a lentor or viscidity in the blood itself; and it was no little triumph that the inflammatory crust on the blood was found peculiarly dense. In the latter period of his life, he wished to introduce a similar density, or rather inactivity, into the nervous fluid.

The various theories respecting the nature of this matter, each of which is supported with equal plausibility, would immediately lead us to conclude that no such exists; for, after the lapse of near three thousand years, it would be singular if some lucky conjecture had not supplied what investigation was inadequate to, and revealed the secret. In reality, however, there is no real evidence of any such morbid cause. The discharges are the usual ones; the pus of abscesses, when such is the termination of fever, displays no peculiar qualities; the blood, which in other cases apparently relieves the fever by flowing from the nose, is equally pure with that taken from the arm. That it is concocted or meliorated by the hot fit is less probable; for if from the hot fit of fevers any change is produced on the fluids, it is of a kind perfectly different; nor is there any similar process in any part of the animal economy. We find that fevers may be often checked in their attack, without waiting for this process; and by mitigating the heat, the supposed great agent in producing this change, we cure the fever more quickly and more safely.

Any change in the physical qualities of the blood is wholly gratuitous. It has been examined by every test, and all its properties are found with scarcely any alteration. The buffy coat is now known to be owing chiefly to a more perfect state of mixture of the incongruous portions of the blood rather than viscidity.

Allied to these systems is an equally dangerous error, that fever is a cure of other disorders. Intermittents have been considered as such; and a practitioner of the Boerhaavian school is said to have asserted, that if he could produce a fever as easily as he could cure it, he should be well satisfied with his own skill. Luckily for his patients, this power was denied him; for we know no disease, which, if at all within the reach of art, may not be at least as soon and as perfectly relieved without its assistance.

A later opinion has been, that fever is heat only; and to be cured by its opposite, cold. Cold undoubtedly mitigates the increased action of the sanguiferous system, and if it does not cure, greatly relieves fever. Like the best of our remedies, it contributes to conduct fever safely to its termination; but we receive no information from this system respecting the cause of the heat, or its connection with the other symptoms.

While the system of Boerhaave prevailed in the south of Germany, different views arose in the north. The patient and industrious Hoffman thought he saw in fevers a change in the state of motion, and an inaction, which he styled a spasm (spasmus periphericus), in the extreme vessels. His colleague and rival, rather than his enemy, Stahl, carried the idea further; and gave some sufficiently distinct views of altered determination as the cause of many disorders. The former, however, deeply immersed in the chemical pathology, though he decidedly referred all diseases to altered motions and the state of the nerves, gave no fixed determinate system of pathology on this foundation, but intermixed these ideas with the different kinds of chemical acri-

mony; and the latter involved it so deeply in a logical form, and mixed it so intimately with his peculiar metaphysical doctrines, that they have hitherto escaped notice, and will not probably again engage the pathologist's attention.

As the symptoms of fever are so exclusively nervous, and as the vital power is so particularly affected, it is singular that they should not have been at once referred to the nervous system, and its peculiar animating principle. Dr. Cullen, taking the hint certainly from Hoffman, started, as usual, into a track at once bold, comprehensive, and original. The cold stage he considers as the source of the subsequent phenomena; and this he supposes owing to debility. A state of debility is evident, he thinks, from the previous symptoms of languor and lassitude; and occasioned by some sedative powers, which are the more remote causes of fevers. These diminish the energy of the brain and the whole system, particularly of the extreme vessels in every part, inducing the symptoms of the cold fit, and a spasm on these vessels. This spasm excites the action of the sanguiferous system by the intervention of the vires medicatrices naturæ, thus restoring the energy of the brain, and overcoming its cause. The discharge of sweat, and the relaxation of all the excretory vessels, are the consequence.

One great defect in this system, which we shall first notice, is, that the return of the paroxysms is not accounted for. Debility confessedly precedes; but, according to this doctrine, the debility is conquered. The return can only be explained then by the cause continuing to act. When this is a material one, as marsh miasmata or contagion, the reason may be admitted; though it militates against a succeeding opinion of Dr. Cullen, that, when once the disease is produced, the influence of the remote cause ceases. When, however, the cause is not material, when the fever is excited by emotions or passions, the explanation will not avail; but this subject we shall resume.

In this system the production of spasm by debility is an isolated fact, without a support; and the introduction of the vires medicatrices naturæ is the interposition of a divinity in an epic, when no probable resource is at hand. Yet each may be perhaps easily reconciled by a little change.

Dr. Darwin's explanation of fever is less distinct. He considers the causes as producing a quiescence of the arteries, and the subsequent heat as an exertion of the sensorial power, in consequence of accumulated irritability. We have admitted this author's principle of accumulated irritability; but have some doubts whether it is applicable to this purpose. From the language and the illustrations we can expect no further increase than we have found of previous diminution; no more can be collected than has been lost: but what proportion does the very few hours shivering bear to the burning heat of seven days, during which the shortest inflammatory fever continues? Added to this, at the end of fever we find every symptom of exhausted irritability, as if not only the accumulation was expended, but the former stock diminished. Again, in every case of accumulated irritability, some time is required for the temporary repression. In the human body it is accumulated, but in no extraordinary degree, after some hours sleep; in some animals after the torpor of a whole winter; on captain Bligh's crew, after weeks of abstinence and confinement. These facts bear no proportion to the shortness of the cold fit, compared with the continuation of the heat; and, though it be admitted in a certain degree, it must be with some modifications and explanations.

We have often hinted that we differed in some respects from Dr. Cullen, and shall now state what we think a more probable view of the subject, connecting, in some measure, both the opinions just stated. Not the slightest doubt can exist but that the first symptoms of fever are those of debility—of a debility of the sensorial power, in other words, of the energy of the brain. This may arise from actual or from partial debility, occasioning an unequal excitement in different parts of the brain, which seems to produce the same effects. Under the article Convulsions, and other places, we have endeavoured to show that either real debility or unequal excitement is the cause of irregular action of the muscles; and this appears in the tremors and rigors, and in the spasm of the capillaries, not only of the surface and glands, but of every other organ. The irritability thus accumulated may occasion the exertion of the sensorial power; but the heat, for the reasons assigned, is not wholly owing to this exertion. In fact, the greater activity of this power, or of the vires medicatrices, implies increased energy; but through the whole course of fever we see only debility, and its consequence, irregular action. Even the boasted sensorial power is weakened, or irregularly exerted; and while the sanguiferous system acts with vigour, the voluntary muscles and the brain show every mark of diminished energy. There is then no contest between these rivals, the spasm and the vires medicatrices; but the debility continues, though varied in its form.

Obstruction to the circulation increases its activity; for the vessels are excited by distention, and, when the extent of the circuit is curtailed, those behind act with greater energy. Thus tying up the finger will bring on inflammation in the whole hand. While, then, the accumulated irritability first excites the sensorial power, the spasm contributes to accelerate the circulation; and, in the weakened state of the brain, this increased action diminishes the nervous power in other parts of the body. The paroxysm is closed by the spasm relaxing, since there is no instance of continued spasm, except by continued irritation; and the spasm relaxes at different periods by the laws established in the system, which we explained under the article Diæta. It is a fact, that fevers attack at the periods of the regular exacerbation, and yield at the times these constantly regular paroxysms are resolved. Every paroxysm is either resolved or remits at the end of twenty-four hours; the diurnal revolution, established by the regularly returning periods of sleep and watching; the discharge of the alvine excretions, of appetite, &c. It is not so easy to assign a reason why, in a fever consisting of successive paroxysms, the disease should yield only at a given time; except that a septenary period prevails, at the end of which the solutions of the usual exacerbations are more perfect. Of this, however, we have no certain evidence.

It appears singular that increased action should ever have formed a part of the theory of fevers. It is obvious in the sanguiferous system; but the opposite state is singularly conspicuous in every other part. Even when in delirium, the voluntary muscles are, for a time,

violently exerted; it is the energy of a moment, generally accompanied with tremor, and succeeded by the most considerable debility. A tone, an apparent temporary strength, is seemingly kept up by fever, as greater weakness is felt at its solution than during its course. But it can only be said, that, if the debility is in excess afterwards, it is considerable while the disease continues; and this apparent tone is evidently kept up by the increased action of the vessels in the brain, from which also the delirium proceeds. In short, after watching fevers with attention for thirty-five years, we have never seen any appearance of increased action, except in the sanguiferous system, and even in these vessels the circulation is not apparently free.

It has been objected to the doctrine of spasm, that sweats are sometimes copious. Undoubtedly, at the first view, the argument seems invincible. Yet, if we examine fevers, we shall usually find the skin dry and hot. If we press the palms of the hand, though the hand appear otherwise cool, a heat will be felt there: and the impression communicated to the fingers is not the soft unctuous feel of the healthy skin, but the harshness of dry parchment somewhat warmed. In the profusest sweat, excited by stimulants, the same sensation is perceptible; and as we find this so constantly in fevers; as we find, too, that such sweats not only do not relieve, but add to the oppression, while the soft healthy perspiration is attended with freedom and cheerfulness; we have been led to think these cutaneous evacuations arise from different sources. We have pointed out the distinction under the article DIAPHORETICA; but whatever be the opinion formed of it, the proper perspiration certainly does not come on till the solution of fever, and it is equally certain that sweating does not supply its place.

The objection that debility is not a cause, since great debility often occurs without fever following, is of still less importance. In this case the sensorial power is affected; the energy of the brain is lessened. In hectics, in dropsy, and in the various nervous diseases where the debility is very considerable, the vital and animal functions only suffer: the mind remains free and unaffected. In fever, the alienation of mind occurs in the first attack; and it is remarkable that in hectics the mind only suffers during the paroxysm.

The principal effect of this state of debility, independent of the irregular action, which is its most constant consequence, appears to be the altered determination. The fluids are confined to the larger vessels; and as the veins, which, by their union, form the vena portæ, have no power of impelling the increased load, it is chiefly felt in the liver. We pointed out also the apparent anxiety of nature to keep the vessels of the brain in a state of sufficient tension, and the structure of the sinuses adapted for this purpose. It will be obvious, from these considerations, that the head also should largely share in this accumulation. These circumstances should be kept fully in view, as they are of the greatest importance in practice. From debility, then, and an altered determination, or, in other words, from a change in the balance of the circulation, all the appearances in fevers may be deduced. When, at the conclusion, an apparently putrid dissolution of the blood takes place, it is owing to a diminution of the principle of life, which alone prevents the usual changes of dead animal matter taking place in the living system.

When fevers were supposed to consist in increased action, the REMOTE CAUSES were sought in stimuli of every kind; but if stimulus would alone produce fever, exercise and heat would be its most frequent causes, and common language might be safely transferred to science. But if the effects of exercise and heat are fevers, fever is not a disease; for the warmth and accelerated circulation produce no inconvenience, no function is injured, and, with common precautions, they disappear without the slightest inconvenience. More attentive observation has shown the remote causes to be *contagion*, and the *effluvia from marshes;* nor do we distinctly see the exclusive operation of any other, at least of very few others.

Contagion, in this place, has a very extensive meaning. If many men are confined in a comparatively small place, their health is gradually undermined; their complexions become sallow; their appetite and spirits fail. No real disease may be observable in them; yet, to others, they will sometimes in this state communicate fever, and fever will appear to arise spontaneously among themselves. We see that this poison undermines the springs of life; and though its gradual increase accustoms its action, yet in another it will produce the disease. When the fever is actually formed, it is well known that it may be communicated by its effluvia. Another kind of contagion produced in the body, is that of purulent matter absorbed from an abscess. This we know from its effects to be of an highly sedative nature; and we have much reason to think that it may, in some cases, be communicated to others by effluvia.

There are various peculiar and distinct contagions, which excite fevers of a particular form, attended with cutaneous affections. The jail and hospital fever may be considered as the consequence of a peculiar contagion; but no cutaneous inflammation is the consequence. The plague connects this with the other exanthemata; but in each the prior appearance of fever, often with peculiar marks of debility, shows that the virus is of a sedative nature. The profluvia of Dr. Cullen also arise from contagious effluvia peculiarly their own.

The *effluvia from marshes* is now fully ascertained to be a remote cause of epidemics, and of some of the most destructive debilitating kinds. Their sedative tendency is, therefore, sufficiently obvious; and, as they probably consist of hydrogenous gas, which destroys the irritability of the fibres, its real nature may be easily understood. Marshes covered with water are not injurious; but when the earth begins to appear above the water the epidemics commence.

Bile has been enumerated among the remote causes; but its appearance may be easily accounted for from the explanations already given. When we know it to be diseased, either in quantity or quality, symptoms very different from fever arise.

Putrid vegetable substances have been supposed to exhale effluvia injurious to life, and to be particularly active in producing the worst fevers. This we believe to be sometimes the case; but they more frequently give some peculiarity to the nature of the fever, rendering it more asthenic or putrefactive.

Cold is undoubtedly also a remote cause; but in producing fever it must be actively applied while the body is heated, and the effects can only be considered at length when we treat of inflammation. It is, however, especially when united with moisture, an exciting cause. See CAUSA, COLD, and CONTAGION.

Fevers, from a variety of circumstances often not easily explained, assume many different forms. Every fever seems to consist of distinct paroxysms, almost universally concluded within twenty-four hours; and the existence of a *continent fever*, one which proceeds without any changes, is not at present admitted. To the termination of each paroxysm within twenty-four hours there have been some objections; but the fallacy arises from the existence of double tertians, or the combination of two kinds of intermittents. In these cases the cold fit of the second disease sometimes attacks in the middle of the hot fit of the former, and thus in appearance protracts the paroxysm. Many such instances are recorded by Torti and Senac.

Fevers, then, may be *divided* into those which have distinct paroxysms, and those in which the accessions and terminations are less distinct. The first include the INTERMITTENTS and REMITTENTS; the second the CONTINUED FEVERS.

The symptoms of intermittents are the regular paroxysms, which we have described. When these degenerate into remittents, the cold fit becomes shorter, and is less distinctly marked; the heat is less considerable, and longer protracted; the sweat comes on; but before the complete termination another attack supervenes. In the more continued forms we lose the attack, and in some degree the solution, by sweat. We find only occasional exacerbations of heat, and remissions in which the pulse is more soft and full; the hands cooler and more moist.

In every attack of a continued fever we find, in the commencement, apparent remissions, particularly in the morning. The day passes with tolerable ease; the patient thinks his disease at an end, and the physician flatters himself that he has been too soon alarmed. The succeeding evening, however, ends the delusion, and each following morning the remission is less distinct; though on every morning there is usually a visible amendment.

In the early state of a continued fever there are often wandering pains, which have been considered as rheumatic; and we suspect have occasioned the nosologists to introduce the genus *synochus*. These pains are apparently often the tensive ones, which we have attributed to irregular action; but they are undoubtedly sometimes rheumatic, and have occasionally, as in one of the epidemic nervous fevers described by Sydenham, attacked the chest, with pleuritic or peripneumonic symptoms. Much inconvenience has arisen from this symptom, since it has led to bleeding in fevers of the worst tendency. We recollect, indeed, but one epidemic in which similar pains were wholly absent, and this was a malignant remittent at Breslaw, described by De Haen, on the attack of which, even previous rheumatic pains disappeared.

When these symptoms no longer occur, continued fevers proceed many days, with little change. Symptoms of debility, to be described by the prognosis, increase; the head becomes more loaded; the patient more insensible, or more delirious; the character of the features is lost, or they are enlarged so as to disguise every former appearance. The pulse becomes more quick; the abdomen more distended; stools at times less frequent, but occasionally numerous, watery, and involuntary; the tendons of the wrist more tense, and sometimes starting with a convulsive motion. The tongue, at first brown only in the middle, is dry, furred, and of a dark red or a livid colour. Its action is lost, and the patient can either not put it out, or it is pushed forward with an unequal, tremulous exertion. The edges, which for some time continue moist, are at last equally dry with the rest; and, for examination, it must be drawn by the fingers beyond the teeth, and replaced. The inability to swallow keeps pace with the changes in the tongue, and at last the power of deglutition is wholly lost. The insensibility increases; the starting of the tendons is followed by convulsive catchings; the patient attempts to pick off some objects from the bedclothes, then sinks into insensibility, from which he is only roused by the last convulsive struggles.

This is a faithful picture of the general progress of continued fever, either fatal from its violence, from neglect, or from improper treatment. In more favourable circumstances, or with proper management, the head is less loaded; the tension of the epigastrium is inconsiderable; the tongue continues clean at the edges; some refreshing sleep is obtained every day; and, about the fourteenth, after an unusually restless night, sleep more sound and natural occurs; the pulse becomes softer and slower; the edges of the tongue appear of a more healthy redness; the palms of the hands more moist; the recollection clearer. Sometimes these changes are very gradual, and the experienced practitioner perceives them two or three days before they are conspicuous to the attendants. It is not uncommon to find the first appearances of returning health in a whimsical capricious appetite. The patient wishes for something savoury. If brought, it is rejected with disgust. The next object may be more singular, and this may be tasted; a small portion of the next is perhaps swallowed. In other instances, some particular food, very frequently that least pleasing when in health, is eagerly longed for, and as voraciously devoured, without injury. In general, to long for a particular food is a favourable symptom, and a certain proof of returning health.

Intermittents and *remittents* arise from the same causes, are relieved by the same remedies, and pass into each other. In the former the intermissions are distinct, and no inconsiderable period intervenes in which the patient is free from fever; but on some occasions, from different causes, this period is considerably restricted. Double intermittents, in the circumstances just assigned, often assume the form of remittents; but the error which this confusion would occasion will produce no practical mischief.

It is a general fact, that the longer the paroxysms are protracted, they are sooner repeated; as well as that the access and the fever are violent, in proportion to the shortness of their duration. From this universal law, it is easy to see how intermittents, particularly quotidians, become remittents, and, in their progress, continued fevers. Dr. Cullen explains the variety by the proportional

strength of the opponents, spasm and reaction, in different circumstances. It seems to us to depend rather on the weakness of the cause. The fever comes on with the usual diurnal period of febrile exacerbation, remits with its decline, and disappears on its solution. There is, however, a regularity which is not easily explicable. The quotidian attacks with the morning exacerbation, the tertian with the noon, and the quartan with the evening. Are these diseases of different violence in the same order? There is no other evidence of such an opinion than this, that the quotidian is in general the milder, and the quartan the more obstinate disease; but the appearance of each, in distinct epidemics, is so striking, that there is little dependance on such reasoning, and we must leave it with the numerous arcana of the medical science.

Remittents, we have said, are diseases in every respect similar to intermittents, except that fever is never wholly absent; yet there is one remittent which nosologists have reluctantly admitted, and one which, in a natural system, imperiously demands admission: the first is the irregular intermittent or remittent, the erratica, and the second the hectic. So far as we have been able to investigate the former, it is only an irregular hectic, either from visceral obstructions, or from absorbed matter; and the latter is well known to proceed from the absorption of pus.

The continued fevers are probably quotidians only, with protracted paroxysms. In these what is styled reaction is not considerable, and this certainly proves an increased action of a debilitating power; in other words, the introduction of a more deleterious poison. The worst fevers are introduced by the longest cold, and the mildest by the most violent rigors: a circumstance which leads Dr. Cullen to conclude, with great apparent reason, that the rigor is an effect, probably a measure, of the reaction. Perhaps the explanation is nearer the surface: the reaction is in proportion to the irritability; and a powerful debilitating cause will not only weaken the sensorial power, but impair the irritability also. We have decisive evidence of the truth of this explanation, since those who die rapidly from fevers have the irritability of the muscles destroyed as completely as those who are struck by lightning. On the opposite side, it does not appear that the diathesis phlogistica greatly increases the spasm, since the true inflammatory fevers are the shortest. Irritability, we know, is not in proportion to the inflammatory diathesis; and we should not, from our views, suppose such fevers peculiarly obstinate.

We are unwilling to admit any other variations of simple fever, since those introduced by medical authors seem to be only accidental varieties. Indeed we consider fever as a more simple disease than it is usually represented; and shall endeavour to show, that what are termed genera are only, in a strict systematic view, species, and the reputed species, varieties. But these considerations must not now interrupt us. The principal distinctions, in the best works, have been into *bilious* and *putrid fevers;* the former comprehending the yellow fevers in all the variety of denomination; the latter the malignant, the petechial, &c. &c. The bilious fevers are, however, those of the tertian type, distinguished by evacuations of bile, from the causes formerly explained; and the autumnal remittents of warm climates. The putrid fevers are the worst kinds of the jail and hospital fevers, where the deficiency of the vis vitæ no longer checks the tendency of animal substances to putrefaction; and where, in some instances, even a septic ferment may be suspected.

The PROGNOSIS of fevers has occupied many volumes. We can give only the outline. Consistently with the views offered, our prognostics must be taken from the signs and degree of debility, or the diminution of irritability. When Dr. Cullen endeavours to anticipate the event by the degree of reaction, he betrays the weakness of his system, as this state affords few prognostics, and those rather to be attributed to debility. When congestions in the head or in the lungs, for instance, occasion effusion or rupture, these only occur in the last stage of a protracted disease, though attributed by him to the violence of reaction.

Our prognostic must then be taken from the degree of debility. This is obvious often to the sight: and the young practitioner should exercise his acuteness by careful and attentive observation at the bedside. Every circumstance which regards a patient in a fever will give him information. The situation of the patient is dangerous, if the character of the countenance is soon lost; if the eyes apparently glare on vacancy; if the answers are rambling and incoherent; if slight, partial, involuntary contractions occur in the features; if the tongue trembles, or is soon dry and dark; if he soon declines turning on his sides, lies on his back, and sinks down on his bed; if the extremities are cold and benumbed; if the tendons are particularly tense, and occasionally start; and if he appears to pick off or remove any dark spots on the bedclothes, or wishes some supposed dark object to be removed. Each of these symptoms is a mark of debility; and the earlier they occur in fever, the danger is greater.

In the vital functions there are many marks of considerable debility, which prognosticate a dangerous disease. These are a very quick, low, intermitting pulse; frequent faintings, particularly on being raised to an erect position; short and inefficient respiration. The frequency of the pulse is relative, and the degree which denotes danger uncertain. An irritable female will often, from the beginning, have a pulse from 108 to 120; and the pulse of a very old person, in a dangerous state, may not exceed 80. If, however, in the first eight or ten days of a fever, the pulse exceed 112, there is danger, unless the constitution be otherwise irritable. If, at any period, it exceed 120, serious apprehensions of the event may be entertained. If it strike the finger weakly, and can be stopped by a slight pressure, it is a mark of great debility. On the contrary, a weak pulse will be sometimes apparently strong. It seems to throb, or the artery, on its dilatation, hangs reluctantly on the finger, as if unwilling to leave it; and the apparent strength of the impression appears to be caused by irritation. This is a state, however, only to be learned by experience; and we would recommend the most careful attention to the state of the pulse in every period of fever, not the mere number counted by the stop watch. This is a little parade of which young physicians are fond; but the experienced practitioner discovers more in the peculiar beat of the artery than any watch will convey.

In the natural functions, the symptoms which show considerable debility are sickness and vomiting; a dif-

ficulty of deglutition; and involuntary discharges. Of these the vomiting is least dangerous; and difficult deglutition most so. Involuntary discharges we have known to continue for more than a week, and the patients have recovered. Sometimes deglutition is difficult, merely from the state of the tongue, which is occasionally hard, shrunk, and immoveable. Formidable as this symptom may appear, we have not found it dangerous. At this moment a man is recovering, whose tongue was not only as just described, but of the most livid blackness.

We have mentioned, among the symptoms of debility, a partial palsy in the retina; for to this is owing the appearance of small black bodies which the patient wishes to pluck off. An equally, perhaps a more, dangerous symptom is double vision. Deafness has been esteemed a favourable sign: we can at least observe that we have not found it unfavourable. Depraved taste is very common, and offers no particular prognostic.

We have said that a putrid state of the fluids is a sign of considerable debility. This is ascertained by effusions of blood from the different organs, without any peculiar commotion in the system; dark spots on the skin, of different sizes; sometimes dark or livid stripes, like weals from the lash of a whip; effusions of yellow serum; but, above all, by a cadaverous offensiveness of the breath, sweat, urine, and the other excretions.

If, however, in a fever, the pulse, during the first ten days, does not exceed 108; if the expression of the countenance is unchanged; if the subsultus of the tendons do not come on; if the mind is steady and unruffled; the sleep, though short and interrupted, refreshing, and the patient is sensible of having slept; if the tongue is clean at the edges; the epigastric region neither tense nor painful; if the patient lies on either side, and awakes without hurry or confusion; we may prognosticate a safe termination. But every prognosis in fevers should be made with much hesitation and reserve. Many accidents occur in the progress, which the greatest acuteness cannot foresee, nor the most guarded caution prevent.

We have said "during the first ten days," because we are convinced that fevers proceed in a regular course, and that the changes happen on the days usually styled critical, as already explained (see Crises). In the more usual cases of fevers that we observe, if the disease is properly managed in its earlier period, and the circumstances are on the whole favourable, there are few instances in which a salutary change does not take place on the fourteenth day. Where this is not observable, a gradual amendment takes place, which is clearly conspicuous on the seventeenth, and the fever has disappeared before the twentieth. In common fevers we have not found the disease grow worse after the tenth day; and if no aphthæ or any unexpected accident occur from that period, we have usually led the friends to expect a favourable termination.

Prognostics are also occasionally derived from the pulse, the urine, and the tongue. We have already mentioned the judgment which we may form from the number of pulsations; but numerous other changes occasionally occur, scarcely to be conveyed by description, and which have been pointed out by the ancients as indicating particular critical discharges. Galen, it is said, on feeling the pulse, called immediately for a basin, which was scarcely brought when the blood gushed from the nose. Critical discharges are, in this climate, less common; nor can we easily distinguish the variety of pulses which authors have described. In general, the favourable signs are, a pulse more soft, somewhat fuller, and in a slight degree more slow: they seldom, at the first change, sink considerably in number. The unfavourable signs are, a more thready pulse, as if the artery was smaller, pulsations quick, weak, and irregular. The redoubled pulse, which strikes the finger twice during the space of one diastole, we have seen in two instances, without its being followed by any particular change.

The state of the *urine* has also afforded numerous prognostics, and the discrimination of its clouds, its sediment, &c. have been peculiarly minute. The greater number of these appearances may be disregarded. In general, a scum on the top, in the early period of fevers, seems to show considerable debility; and we have usually found such fevers slow and tedious. A cloud, suspended at first near the top, and afterwards falling lower till it in succession reaches the bottom, of the glass, are favourable signs; and a suspended cloud, previous to the fourteenth day, shows that the disease will terminate at that period. If it appear after the fourteenth day, the disease terminates at the twenty-first, gradually lessening on the intervening days. The red sediment is almost peculiar to intermittents and gouty habits; but a salutary sediment is usually of a reddish cast, though it is sometimes white, and of the consistence of mucus.

The appearances on the tongue are more obvious. The fur on the tongue, in fevers, is a change which takes place in its papillæ: it is by no means, as has been represented, inspissated mucus; nor will any rubbing take it away. The fur first appears in the back part of the tongue, and extends from thence in a long stripe through the middle. For many days the top and the edges are clean, the fur white, or of a light brown. After some time the colour becomes dark, and often, at last, the whole tongue dry, hard, insensible, and incapable of motion. The first favourable change is a little softness at its edge, or tip, which gradually extends in a direction opposite to that in which the tongue was covered. Every softness is not, however, equally favourable. About the eighth or tenth day the tongue will sometimes grow soft, and apparently clean; but instead of the healthy speckled appearance, it is uniformly red and shining. In these circumstances it again grows dry, but not furred; and this usually happens when the fever is protracted to the twentieth day. A blackness of the tongue is considered as a fatal symptom; but we have seen in such circumstances as many recoveries as deaths.

The *cure of fever* is a subject of peculiar difficulty, and to examine it in all its details would extend this article very far beyond its due proportion. We shall prefer giving a comprehensive outline; and will admit that we have unreasonably misspent the reader's time, if the whole that has been said on this subject does not shorten and elucidate our present inquiry.

The first question which arises is, whether fever is a disease or a remedy? Had not this been started by authors of credit, it would have appeared too ridiculous to have merited a moment's notice. In fact there is but one case in which increased heat has been suspected

of a salutary tendency; viz. in cases of obstruction. The old opinion was, that obstructions in the liver, or other viscera, arising from agues improperly or prematurely stopped, might be removed by a return of the fever. They might be, perhaps, removed by a more judicious treatment of the disease; but the fever itself would rather tend to increase them. Another case in which increased action of the sanguiferous system seems of service is palsy; and it was the former practice to increase the heat, which after a few hours from the attack supervenes, by stimulants of every kind. Modern refinement has anxiously endeavoured to remove plethora, or congestion, previous to the stimulating plan; but their success has not, we think, kept pace with the plausibility of the idea; and the former practice, except in the young and the strong, who are very rarely victims of such a complaint, seems more advantageous.

As we have stated that fevers consist in debility, it may be supposed that our cure is simple; and that the modern practice of "throwing in" the bark will be at once enforced. Tonics, however, act chiefly on the moving fibres, and remotely, as well as weakly, on the nervous system; but the debility of fevers is that of the sensorial power, which, from the views stated (see CEREBRUM), we cannot separate from the medullary system of the brain. If, however, our tonics were effectual in restoring activity to this part of the body, they would be inadmissible in these diseases.

The first effect of the debility is, we have said, to confine the fluids to the larger vessels, particularly, for the reasons assigned, to the liver and brain. No axiom in medicine is, however, more certain, than that to constringe over distended vessels is to add to their debility. For such reasons, in all cases of plethora, particularly where it is connected with an inflammatory disposition; in all cases of obstruction, the bark is injurious. (See CORTEX PERUVIANUS.) It is necessary therefore; in all fevers, to overlook for a time their cause, and attend to its effects. Even the remote causes, when they have once produced the disease, seem neither to add to nor modify it, and may be equally neglected.

Two methods of extinguishing fever at once have been employed; the one consists in evacuations, and the other in the application of cold. We are confident if, on the first shiver, an emetic be given, followed by a warm sudorific, and within three or four hours an active laxative, so that the operation of the whole shall have been completely effected within the limits of the first period, the fever will, in almost every instance, be stopped or disarmed of its severity, and be no longer a disease. If the second period has commenced, the chance of success is less; but we *have* succeeded. Beyond that time we can only regulate the progress of the disease, and conduct it safely to its termination. Cold, it has been said, by Dr. Kirkland and our predecessors, will have the same effect of at once checking fevers. It is not true. Cold is a remedy of singular importance; it will greatly mitigate the symptoms; it will render the solution of a paroxysm more complete; and in remittents or eruptive fever, so far lessen the complaint as to be no longer dangerous; but it will do no more.

Our chief indications in fever are to lessen the heat; to restore, as far as we can, the balance of the circulation; and to support the strength.

1. *To lessen the heat.*—We have considered the heat as the first change in the series of causes and effects, arising from the "quiescence of the capillaries:" it must of course be the first object of our attention; and the numerous advantages arising from cool air and cool drinks evidently show that the increased action cannot be a salutary exertion. This subject includes the whole that we have to remark regarding the general management of fever, with respect to diet, air, &c.

The chamber should be high and airy: the bed, if possible, neither between the door and the window, or the latter and the fire, so that the patient is never exposed to a current of air. No pictures, or other objects, should be on the walls, to fix their attention, or suggest incoherent images. It should be quiet and unconnected, if possible, with the house. The bed should have curtains, but they should not be drawn, except where the patient is exposed to the light. The window should be shaded rather than darkened. The bed clothes may be regulated according to the weather, and former habits; but should be cooler than usual, and still further diminished if the heat is considerable. Except in very severe weather, the sash should be a little open; nor need the door be solicitously closed. When fires are otherwise wanted, some may be kept up for the sake of the nurses rather than the patient. In general, when a person enters the room from the open air, he should neither feel it warm nor more close. In a long fever, the room may be occasionally mopped; but, on the whole, we disapprove of sprinkling it with vinegar. The professed object is to prevent infection; but we fear it is sometimes employed to conceal the bad smells of what ought to be removed. These should be counteracted by the most unremitting cleanliness in the bed and body linen; the former of which should be changed every two or three days, and the latter every day; in case of involuntary discharges, as often as may be necessary. It is not unusual for patients to throw aside the clothes, or to be anxious to come out of bed; and they are greatly irritated at being prevented from doing either. We have never found such indulgences injurious; and when they are no longer opposed, they seldom persist in their wish. If their clothes are immediately brought they will again lie down.

It has not been uncommon, in the early periods of fever, to carry persons into the air. If this can be done without any, or with very slight, bodily exertion on their side, it is generally useful; but to walk any distance, or to travel many miles, has been frequently injurious; and even fevers, apparently slight in their commencement, have ended fatally when considerable fatigue has been experienced in the early stages. The surgeons of the army have given an opposite opinion, which we can only reconcile by reflecting, that we have very different constitutions as the objects of our practice. Generally, on the first attack of fever, patients should preserve the greatest tranquillity of mind and body. They should either keep in bed or on the sopha, with free air and in a moderate temperature. Few visitors should be admitted and no strangers; conversation should be general and easy; and those who come should be cautioned to stay only a short time. If, by the means lately stated, the fever should be crushed in the bud, the same precautions will be useful during, at least, the first septenary period.

The diet should be equally calculated to avoid exciting heat. The appetite is lost, and solids cannot be swallowed. The liquids taken should be cool, and not highly nutritious: barley water, tea, toast and water, bread jelly, or weak broths, are sufficient for the early periods of fever; and this very light diet should be kept up during the first six days. If the debility is considerable, a diet somewhat more nourishing may be allowed earlier; but the loss of strength should be indeed very great to admit the use of wine during this period. The patient should be supplied frequently with these liquors; and if he complain of coldness they may be given warm. After about the sixth day the diet should be more nourishing, and good broths, jellies, and occasionally a little wine, may be allowed; but the latter should be in moderate quantities, lest we exhaust the powers of the best cordial that we can at a future period employ. The ancients gave the coldest water freely in the earlier stages of fever; and we have often indulged our patients in this practice, always without injury, and often with the most striking advantages.

Some late trials would suggest the question, whether, in the earlier stages, cold may not be employed more actively than in these plans. We allude to Dr. Currie's recommendation of cold affusions, and particularly their effects in scarlatina. In his practice they are only employed to counteract violent heat; and the heat is greatest in those inflammatory fevers which are generally accompanied with local inflammation, or where we expect hourly local inflammation to take place. We own that we have hesitated in using this remedy with that spirit and decision from which alone we can expect salutary consequences. In a less degree, sponging the body with cold water has been found useful in mitigating the heat. It is also highly refreshing and agreeable to the patient.

2. *To restore the balance of the circulation.*—This is the most important indication in the cure of fevers; and to this object our chief attention must be directed. The natural, and sometimes the bilious, vomiting will point out the necessity of giving *emetics*. These are our chief dependance in the early stage of fever; and from our view of their effects, the force of their benefits will be sufficiently obvious. (See Emetica). The chief advantages are, however, relieving congestions in the liver, and determining to the skin. The former is obtained by active vomiting; but it has been supposed that the latter may be secured by means less violent, and more permanent in their effects. Active vomiting is seldom employed more than once; but if the first emetic should not act completely, it must be repeated. The antimonials are preferred in fevers, but without sufficient reason, as we seem to gain all the benefit of full vomiting from the ipecacuanha. Dr. Fordyce attributes some of this benefit to the medicine; for the vomiting, he remarks, procured by squills, is not equally successful. On this subject we cannot speak from experience. In general, after the operation of vomiting, we should endeavour to secure the determination to the skin by some mild diaphoretic with which opium is combined.

To support the action of the extreme vessels by nauseating doses of emetics, is a practice introduced from the theory of Dr. Cullen. There are no doubts of the utility of this practice; but we are confident that it has been carried too far in the Cullenian school. To explain the action of the nauseating doses of antimonials—for to these we would confine, with Dr. Fordyce, the advantages we derive from such medicines in fevers—is not easy, when have found that their relaxation is the effect of a sedative power, and that the spasm, if we may still use the expression, arises from debility. It must be, however, recollected, that when we spoke of the quiescence of the capillaries, we did not object to the spasmodic state of these vessels if considered as the effect of irregular action. From all the phenomena, from the effect of every remedy, it is not mere inactivity. Whatever becomes of theory, medicines exciting nausea really promote perspiration, often of a most salutary kind; and whatever fills the extreme vessels, and, more particularly, whatever promotes any discharge from them, relieves internal congestions. Experience, however, limits their use, and perhaps they should not be continued beyond the third or fourth day. They undoubtedly produce, after some time, debilitating effects; and in the long protracted fevers have been injurious when too far pursued.

When we spoke of Cathartics, we explained at some length their advantages in relieving congestions of the viscera and the head. In this way they are well adapted for the relief of fever; and that article, as well as its application, was formed long before the appearance of Dr. Hamilton's work. In fact, for more than twenty years we have given cathartics freely in fevers, with the most salutary effects; and we consider them as medicines of the greatest importance. In the larger number of epidemics, though active in their operation, they do not weaken the patient, for they take away the cause of, at least apparent, weakness; and we have often found patients in fevers taking bark and wine in profusion, to support them under this apparent debility, who, after the operation of an active laxative, required neither. Let not the young practitioner be terrified by the number of evacuations, but attend to the effects, and to his patient's feelings. If he is relieved after each stool, if the pulse becomes softer, the hand more moist, and the head less loaded, he need not be apprehensive, however violent the discharge. On the contrary, if the pulse becomes smaller and more frequent, if the face sinks, and faintness comes on, however little the discharge, it has been too much. We trust, that when we have laid down this obvious criterion, we shall not be acccused of pushing a theory too far: we have at least given an antidote, should we have administered a poison.

It is necessary, however, in the employment of this remedy, to attend to the discharges. The nurses will often report frequent, numerous evacuations; and if examined, these may be found mucous and inefficient, or a watery fluid, scarcely coloured. It is necessary that the stools should be truly fæculent; and these should be continued while any tension can be felt in the epigastrium and abdomen, or while the discharges continue to be dark and offensive. Such they always are in the early stages of fever.

The use of cathartics in fever was the practice of the most ancient physicians; and they were apparently disused, in consequence of the idea that they prevented the discharge by sweating. Hippocrates and his followers depended more on clysters and suppositories. In

fact, they had only the more violent cathartics, as the milder ones were introduced by the Arabians; and these very active medicines were injurious by the debility they occasioned. Hippocrates, Galen, Aretæus, and their followers, employed purgatives early; and their chief reason was to prevent the diarrhœa, which would, they supposed, supervene on the fourteenth day, when the patient would be too weak to bear the discharge. The methodic sect only discouraged their use; but they apparently supplied the defect by enjoining strict abstinence for the first three days. In more modern times, Borelli, Baglivi, Donckers, Sydenham, &c. &c. employed them, though we suspect not to the extent which we have found salutary. Fevers, however, in different situations may greatly differ; and we would anxiously deprecate the application of the practical rules suggested in one situation to diseases of a different country, without exact attention and a due discrimination of the circumstances. We suspect, however, that this class of remedies will always be found very important auxiliaries in fevers of almost every climate.

The choice of the purgative is of some importance. The more violent drastics debilitate too powerfully; and, on the other hand, the salts, the castor oil, the tamarinds, and manna, appear not to excite the action of the moving fibres of the intestines sufficiently to evacuate the more hardened contents. The purgatives which we have found most effectual are, the senna, with a small proportion of the scammony; or the jalap, generally united with the cream of tartar, sometimes with calomel. Nearly similar in effects is a mixture of rhubarb, with some neutral, in equal quantities.

It has been too common to depend on clysters; and in those fevers where Dr. Hamilton has with so much success procured numerous motions, we have known practitioners of eminence content with daily clysters, if stools did not otherwise occur. In general, clysters evacuate only the contents of the rectum, unless they are of a highly stimulating nature, where their peculiar irritation is communicated to the superior portion of the canal; and clysters of warm water, and the usual preparations for this purpose, are inert and inefficient remedies. They certainly give some relief; but this is temporary only, and far inferior to that procured by the operation of an active cathartic. In cases of great debility, where we are apprehensive of the effects of a too copious evacuation, clysters only can be employed.

Diaphoretics are remedies of equal utility; but unfortunately they have been improperly chosen, and the process has been most erroneously conducted. The only salutary discharge from the skin, as we have already explained, is the halitus in the form of gas, or rather of a thin, probably of a vesicular, vapour. When in a fluid state, it increases the oppression it was intended to relieve. This salutary diaphoresis is inconsistent with increased heat; and to promote it in fevers, the heat must be diminished as near as possible to the standard of health. *Cooling medicines* are consequently the most effectual diaphoretics; and cold water one of the most powerful. *Nitre* and the other *neutrals* act chiefly in this way; and the citras potassæ, the common saline draught, which it is usual to ridicule, certainly refreshes the feverish patient by the coolness which it imparts to the stomach. *Vegetable acids* produce a similar effect; and of these vinegar is preferred, as more powerful in its action on the skin. The native acids (the acid fruits) are, from their coolness, salutary and refreshing, and moderate the heat to the proper degree for this discharge. The mineral acids act, we think, differently; and, if the febrifuge spirit of Clutton is useful, it probably is so in an advanced period of fevers of the lowest kind: the spirit of salt, recommended so warmly by Recht, is certainly not referrible to this head.

Nauseating doses of antimonials operate powerfully and safely as diaphoretics. Dr. Fordyce supposes this effect to be owing to the medicine, and not to the action on the stomach. For this reason, perhaps, antimonials are continued in the early stages of fever, with little anxiety respecting the nausea they produce; and if not persisted in too far, they are undoubtedly useful. They sometimes appear inconvenient from their purgative effects; for we think we have found that the purging produced by antimonials is not equally beneficial with the discharge produced by other medicines. The union of the nauseating doses with calomel, lately fashionable, has not in our hands succeeded so fully as, from the warmth with which they were recommended, we had reason to expect. The more active and heating sudorifics are inadmissible in the greater number of fevers; and wine, which sometimes acts in this way, will be more fully considered under another head. We chiefly want these last medicines when it is our object to prevent the accession of the paroxysms of an intermittent, or to relieve the pains of rheumatism. The semicupium pediluvium or warm fomentations to the lower extremities are often safe, and highly useful, diaphoretics. See Bathing.

Blisters very powerfully restore the balance of the circulation, and diminish morbid congestions in the head and the liver; but, except the latter organ is inflamed, they are applied only to the head and neck. We have under this title fully explained their operation, so far as it is understood. In all cases of fever there is, as has been observed, fulness of the vessels; and we find the vessels of the eyes red, the face flushed, and the eye ball itself apparently enlarged; but this congestion produces also irritation, and often a less degree of phrenitis. The usual wanderings of the mind are more rapid, the voice quick, the temper irritable, unreasonable, and occasionally violent. In each state blisters are indicated, and often produce the happiest effects: sleep frequently coming on, as soon as the plaster begins to stimulate. The milder symptoms of congestion, first described, yield frequently to purgatives; and when these have been freely used, blisters are often necessary.

Sedatives.—Congestions in the brain, as we have just remarked, produce considerable irritation; and the state of irritability thus occasioned requires often the most active sedatives and antispasmodics. In other views, remedies of this kind are highly useful. They check often the too impetuous current of the blood to the head; they produce a calmness and serenity, which greatly assist the action of medicines that determine to the surface; and they remove a very troublesome symptom, flatulence in the stomach and intestines. The chief of these are camphor and opium. *Camphor* is a medicine of considerable utility in fevers, as already shown. The calmness which it often seems to inspire;

the serenity, and even the temporary ease, which are among its first effects, render it peculiarly valuable. As it sometimes appears to increase the heat of the body in the earlier stages, a little nitre may be added, with an antimonial; in the latter, the sal c. c. the aromatics, or the bark. There is, however, apparently no period of the disease to which it is not adapted, and no species of fever in which it is not beneficial.

Opium is a medicine of more doubtful efficacy: it often irritates instead of calming, and produces agitation instead of a serene freedom of spirits. With those in whom it produces its mild sedative effects, it is a very valuable remedy, and, united with camphor, it seldom disagrees. In the later periods of fever, when subsultus and convulsions come on, opium and camphor are the best remedies. Some practitioners have been violently averse to the use of this medicine. They observe that it debilitates; but the true reason of their dislike, we suspect, is the probability of its suppressing critical discharges. They have contended that the most restless night is less injurious than the stupor produced by opiates; and that even the chance of their hurrying the spirits, is more to be dreaded than any advantage to be derived from them can compensate. While we own our predilection for this remedy, the accusations are not wholly groundless. Opiates check all the evacuations, except those by the skin; and we certainly neither gain so much by the tranquillity they procure, nor lose so much by a sleepless restlessness, as may be at first supposed. Yet we think if the patient's strength is preserved by their use; the hours pass away more comfortably; time insensibly wastes; and if we can annihilate one fourth of the patient's suffering by procuring six hours in the twenty-four, if it be no more, of torpor and insensibility, we amply compensate for the risk. The necessary evacuations we must be careful to restore.

Other sedatives have been employed to procure sleep; and Hoffman is profuse in his commendations of his *anodyne mineral spirit*, which we now know to be ether only, with a somewhat larger proportion of the *oil of wine*. We are surprised that this last medicine has not been tried alone, or in union with opium. The anodyne spirit generally fails in other hands; and though it is still given in fevers, no one seems to have found it strikingly advantageous. Among the soporifics we must not forget the *the pillow of hops*; nor breathing *hydrocarbonate gas*. Some hectic patients who have been confined to a stable, or whose room has been covered, for a similar purpose, with dung, have informed us, that they think they have slept more quietly in such situations. These effusions of quackery have not been, we believe, often employed by any scientific physician; and the interested reports of unprincipled pretenders we need not enlarge on.

The chief of the other antispasmodics are ether, musk, castor, and asafœtida. *Ether* is very active in this view, and at the later periods, when subsultus comes on, and convulsions threaten, is often of considerable service. *Musk*, if in perfection, is an active antispasmodic, but it is seldom genuine; and, as a medicine peculiarly dear, is reserved for the last desperate stages: it here sometimes obtains the credit due to the operations of nature. *Castor* is less powerful; but seems occasionally to correct the injurious effects of opium; and *asafœtida* still less so. The effects of the latter are chiefly confined to the stomach; though it sometimes appears useful as a general sedative, and occasionally as an expectorant.

It may appear singular, that among the means of lessening heat, or removing topical congestion, we have omitted *bleeding* in all its forms. The consideration was postponed to introduce it in this place, where the whole subject may be more advantageously considered in one view.

Bleeding has been a general remedy for fevers of every kind; and when the increased action is so violent as to threaten the rupture of a vessel, this evacuation is essentially necessary: it is equally so, when with, or soon after the attack of a fever, with inflammatory symptoms, local inflammation appears. Here then we would stop, did not the conduct of some practitioners in every fever, and of some respectable ones, in fevers highly asthenic, suggest to us that our limits are too narrowly restricted. Sydenham recommended bleeding in the early stages of every fever; and we are told by almost every practical author first to take off some blood; occasionally limited to patients in the prime of life, to robust constitutions, or to fevers from cold. Yet we find Dr. Dover bleeding in a highly putrid fever, not only in the commencement, but in the progress: the older surgeons have employed this remedy with little apprehension in a highly asthenic fever, the puerperal; Dr. Rush bleeds repeatedly in the yellow fever; Dr. Moseley and Dr. Jackson in similar fevers, in the West Indies, employed the same remedy. Must we condemn the practice of physicians so respectable, or must we resign all the pathological views we have attempted to inculcate? We will do neither; but may, by the way, inculcate an useful lesson: that empiricism—for such we will venture to style it—with a happy boldness will sometimes succeed, by means which the timid dogmatist will scarcely dare to follow.

Modern practitioners have taken blood to moderate the increased action, and to prevent accidents from its violence when the vessels are weak. In this way, by ineffectually employing an active remedy, they have injured by debilitating, while they have only imperfectly moderated the stimulus which they attempted to oppose. The physicians mentioned, if they had any views, employed it with different ones. If the practice of each author be examined, it will be found that they bled when the system was over loaded with the accumulated fluids from the surface; and they bled boldly, because it was necessary to relieve each part: and the quantity drawn from the arm can affect each according only to the proportion of the whole mass which it receives. We have stated, in many parts of this work, with a view to this subject, and particularly in the article of Blisters, q. v. the effects of only a slight evacuation in relieving distended vessels; effects not only derived from the diminished quantity, but from the spring this relief imparts to the muscular fibres. Whoever reads Dr. Dover's animated, but somewhat quaint, description of the case, in which he succeded so completely, will at once see that bleeding could have relieved only in the way we have explained; and Dr. Rush's descriptions strongly elucidate the same ideas. Mr. Coleman, in his work on suspended animation, has recorded a fact which illustrates our explanation; as he found, that taking blood from the jugulars restored the action of the right side of the heart, which was suspended from distention.

If general bleeding then be useful, it must be in cases where the internal congestion is considerable, and where, from distention, the irritability of the muscular fibres of the internal vessels is for a time suspended. It will not be difficult for the experienced practitioners to distinguish this situation; and we would recommend extreme caution in this respect to the less experienced, who are, in general, too fond of the lancet.

Whatever may be the opinion of general bleeding, topical evacuations of blood have been employed to remove internal congestions. Blisters and purgatives best relieve those which occur in the abdominal viscera; but to the head, besides blisters, leeches are applied: and cupping glasses, with previous scarifications, to the neck. These are remedies which many are fond of: but, except in sudden attacks of phrenitic delirium, which sometimes come on in the progress of fever, we have found little room for evacuations of blood.

To sum up the whole of this intricate subject, the general practice of bleeding at the commencement of every fever appears highly improper. If not certainly from cold, if the patient is not in the prime of life, and if no topical inflammation apparently impends, it should certainly be avoided. In some of the worst fevers, pains in the limbs, we have said, occasionally appear on the attack, and sometimes in the progress. These should be carefully distinguished from true inflammatory ones. The reigning epidemic, the symptoms of general debility, the period of life, and the apparent cause, will assist the distinction. The features afford an excellent criterion. If these are sunk, and the character of the countenance lost in a greater degree than can be expected from the duration of the disease, general bleeding should be avoided. Even topical bleeding we would not particularly recommend, unless the congestion appear inflammatory. Blisters will supply its place more safely.

3. *To support the strength.*—This indication, apparently the most obvious and necessary, is not easily followed. Bark is a tonic; and bark has been given in profusion, with little discrimination, and with most decided injury. If, by the prudent and judicious use of the medicines already described, we can lessen the congestions in the liver and the head; if we can preserve the strength by the due regulation of temperature, and support it, after the first days, by more nourishing broths and jellies; we shall find little opportunity for administering tonics. Let us repeat, that the largest doses of bark and wine will not so effectually give strength and spirits as two or three loose motions; and no cordial will be so refreshing as free cool air. If at the conclusion bark must be given, it should be in the inefficient forms of the decoction and tincture.

We mean not, however, in every instance to discourage the use of tonics; but merely to allege that they are not alone adapted for the cure of fever, and often injurious before the infarction of the viscera is completely removed. In general, we think the simple bitters more useful than those medicines which, like the bark, unite an astringent principle. The gentian, the quassia, the camomile flowers, and even the cascarilla, if debility appears early, may be early employed; and with a neutral salt, so as to prove purgative, or sometimes with the kali only, they have appeared to be febrifuges. Though they are chiefly adapted to the slow fevers, apparently of the hectic kind, we have thought that, in many cases, they act with sufficient energy as tonics, even in typhus, except in the desperate cases to be soon mentioned. The metallic tonics have not been fairly tried, and the most powerful, the arsenic, seems to require for its success a complete apyrexia.

Cordials are, however, often necessary; and we repeat only the opinion of the ablest practitioners, that the most efficacious cordial is wine. Unless called for by early debility, we seldom wish to give it till the eighth day, and very moderately till the tenth. Even between this and the fourteenth, unless in emergencies, we rarely order a pint in twenty-four hours. If the fever proceeds, it may be increased. Other cordials are the aromatics and ether; the former, in the usual preparation, the confectio cardiaca; the latter, except in cases of convulsons, in an occasional cordial mixture.

The strength is also for a time supported by the more simple stimulants. The contrayerva and the serpentaria, with ammonia, were the preparations formerly used, with a view of concocting the matter; and we once thought that we could support the strength for a day or two by their means, when a crisis was expected: but we have long learnt to "pull in resolution, and doubt the equivocation that palters with us in a double shape." These stimulants only contribute to destroy the excitability, and we fear to hasten the last fatal termination. They may be employed in cases of temporary debility; but should be carried no further than to bring back the previous state. The great errors in the management of fevers have been the ideas that tonics, which restore muscular energy, will equally restore the sensorial power; and that which confounds temporary heat and more rapid circulation with increased strength. Each is a fatal misapprehension. It has been an error equally dangerous, when debility comes on, to rouse the patient by light and noise. Life is a forced state, says the ignorant and mistaken Brown, and the lamp must be excited by additional powers: it will be excited only to exhaust more rapidly the pabulum which supplies its existence.

Among the more unexceptionable tonics we may mention the mineral acids. These are of importance when considerable debility comes on; and a German physician, M. Recht, has endeavoured to raise their value by representing the muriatic acid as a general remedy in fevers. The secret was magnified by interest or collusion till it became a national object, and it was purchased by the king of Prussia. The muriatic and vitriolic acids had been long used in this kingdom in low, nervous, or putrid fevers, and considered as useful, but by no means infallible, medicines.

There are cases, however, where the strength is greatly lessened, and where a putrid dissolution of the blood becomes a most dangerous symptom. The mineral acids are, in such cases, remedies of considerable importance; and the bark becomes an indispensable medicine in the largest doses. These circumstances, however, seldom occur in general fevers; and, indeed, within a few years, we have scarcely seen an instance of this kind, except when a topical gangrene, as in the ulcerated throat, has concurred. We cannot then be

too active in the employment of cordials and tonics, among which the mineral acid must be ranked; for if we do not gain some ground within a few hours after the appearance of these symptoms, the patient is lost. The other tonics formerly mentioned are not of sufficient power for such emergencies.

We cannot leave this subject without noticing the necessity and the means of obviating some of the more troublesome symptoms. The chief of these, the want of sleep, has already been the subject of our notice. The state of the stomach is also the source of considerable inconvenience. Acid eructations and heart-burn are relieved by absorbents, as magnesia, chalk, or kali; but we must recollect that we have already distinguished a species of heart-burn arising from oily substances, not mixed with the contents of the stomach, relieved only by mucilages. Nidorous eructations show the stomach to be in a putrid state, and this is corrected generally by vegetable, but more effectually by mineral, acids. Flatulent distention will seldom be troublesome, if the discharge of the bowels be kept up. Should it be so, asafœtida and galbanum, or their tinctures, with peppermint water, will relieve. Hiccough, at the latter end of fever, is sometimes highly distressing; and for this we have no certain remedy. Oil of cinnamon, camphor, musk, and opium, are given by turns; and one or other of these occasionally succeeds, though often all fail. Applications of opium, or of a blistering plaster to the stomach, will, like the others, in turn succeed and fail. But though a distressing symptom, hiccough is not, as has been represented, a fatal one. Did it not fatigue and weaken the patient, we should scarcely think it dangerous.

Palpitation of the heart is sometimes troublesome, but not always dangerous in fevers. It sometimes proceeds from the state of the stomach and bowels, and may then be relieved: but it arises also, in many cases, from a diminution, or an irregular distribution, of the nervous power; and shows that the degree of debility is considerable. The low, muttering, wandering delirium, is a symptom of the same kind; but this is so strictly connected with the state and progress of fever, that it scarcely merits our notice in this place.

Strangury, though often the effects of blisters, sometimes occurs in fevers without their application, and arises from a spasmodic irritation of the neck of the bladder. In this case opium, particularly in clysters, is the most effectual remedy.

Hæmorrhages sometimes occur in fevers, which occasion no little difficulty. If the pulse be full and hard; if much headach has preceded; if faintness does not follow the evacuation; but, on the contrary, the pulse becomes softer and slower; the bleeding may go on. If it happen at the conclusion of fever, and be attended with faintness, it is highly dangerous. Cold, bark, and the mineral acids, have been accounted the best remedies; but even in this low state we have found nitre successful in repeated doses. It is indeed one form of employing cold. See Hæmorrhagiæ.

Longings for particular foods are sometimes troublesome. These must be distingulshed from the caprice of the moment; and if the patient continue to desire, with much anxiety, any particular food, we have found that he may be more safely indulged than contradicted, even should the desired food appear highly injurious. We have known wine anxiously longed for; and a very large quantity drunk in a short time, not only with impunity, but advantage.

Among the sequelæ of fever are cough, night sweats, an irritable and irregular state of mind, a capricious and often an inordinate appetite. These are, in general, marks of debility only, and disappear with returning strength. Bark and tonics are usually employed for a time with little effect. The constitutional powers are at last exerted, and the patient gains in hours the strength which, with the most powerful tonics, it did not attain in days. The powers of digestion, however, do not return in the same proportion as the appetite, and relapses are not uncommon from unlimited indulgence.

See Sydenham; Grant's Observation on the Nature and Cure of Fevers; Kirkland's Essays towards an Improvement in the Cure of those Diseases which are the Causes of Fevers; Fordyce on Simple Fever; Cullen's First Lines, vol. i.

The great varieties of fevers we shall in a future part of this work endeavour to bring within more strict limits. It would be to anticipate what can only be then detailed with advantage to add any thing at present on the subject, and we shall of course preserve the various references in the former edition with little change.

Fe'bris acu'ta sangui'nea. See Inflammatoria febris.

Fe'bris a'lba. See Chlorosis.

Fe'bris amato'ria. See Chlorosis.

Fe'bris angino'sa. See Scarlatina anginosa.

Fe'bris ca'rcerum. The jail fever; a severer kind of typhus, called *typhus carcerum*. See Amphemerina Hungarica, and Typhus.

Fe'bris castre'nsis. The camp fever; a remittent tertian, called *typhus castrensis*, from its resemblance to typhus. See Typhus.

Fe'bris conti'nua pu'trida. See Putrida febris.

Fe'bris non pu'tris. See Inflammatoria febris.

Fe'bris depurato'ria Sydenha'mi. A variety of synochus.

Fe'bris epide'mica contagio'sa. Epidemic fever of the West Indies and Philadelphia; malignant pestilential fever of Chisholm; bilious remittent yellow fever of Rush; synochus icteroides, or yellow fever of Currie. See Biliosa febris.

Fe'bris erra'tica. Erratic fevers, irregular tertians or the quartans.

Fe'bris fla'va. See Biliosa febris.

Fe'bris Hunga'rica. See Amphemerina Hungarica.

Fe'bris intermittens. See Intermittens.

Fe'bris lenticula'ris, also petechialis. A typhus, or synochus, attended with spots in the skin, about the size of lentils, called from these appearances *spotted fevers*. See Petechialis febris.

Fe'bris hydrocepha'lica. See Hydrocephalus.

Fe'bris mali'gna Barbade'nsis. See Biliosa febris.

FE'BRIS MALI'GNA HE'CTICA: a mild kind of typhus.

FE'BRIS NAU'TICA PESTILENTIA'LIS. See MILIARIS NAUTICA.

FE'BRIS PUERPERALIS. See PUERPERALIS FEBRIS.

FE'BRIS REMITTENTS. See REMITTENS.

FE'BRIS URTICA'TA. See URTICARIA.

FE'CULA. See FÆX.

FEL, (quasi *follis, a bag*). See BILIS.

FEL NATU'RÆ. See ALOE.

FELLI'FLUA PASSIO, (from *fel, bile*, and *fluo, to flow*, and *passio, affection*). See CHOLERA MORBUS.

FE'MEN, (quasi *ferimen*, from *fero, to bear*). See FEMUR.

FEMINUS, (from *fœmina, a woman*). In botany it means producing female flowers only on the same root.

FEMORA'LIS ARTE'RIA, (from *femur, the thigh*). The FEMORAL ARTERY is the external iliac after it has passed from under Poupart's ligament, and is continued along the thigh into the popliteal. Besides ossification and wounds, this artery may be the seat of an aneurism; a disease distinguished in its early stage by its being circumscribed and small, though the pulsation is sufficiently remarkable; but as the tumour enlarges, the pulsations are more obscure, and at last no longer perceived. When the aneurism is arrived at this stage, the lower part of the leg becomes œdematous; the limb is gradually more useless; and, if relief is not afforded, a mortification will follow. The operation for the aneurism will rarely succeed in this case, for in general the artery is also diseased above the dilatation; and the want of collateral branches to carry on a due circulation is another impediment to the attempt. Amputation, in this instance, as well as when this vessel is wounded near the belly, or near the ham, is the only relief. In case of an aneurism, if, on performing the operation and tying the artery, pain follows, with fever and tension, the issue will be fatal if amputation is not performed. If the aneurismal tumour is about the middle of the thigh, and but small, it may be laid bare, and the artery tied above and below; but if the tumour is large, the artery is diseased above, and the ligature will fail. If the tumour is near the groin, amputation itself will scarcely save the patient's life; if low, near the ham, or in it, amputation is the only means of preventing a fatal mortification. See Mr. Pott's Works, and his Necessity, &c. of Amputation in certain Cases.

FE'MORIS OS, (from the same). THIGH BONE; *anchæ os*. In the thigh there is only one bone; it is the largest and strongest of those which are cylindrical. On its outside, near the neck, is a large tuberosity, the trochanter major, rotator major, rotator natis; and a lesser one, on the inside, the trochanter minor, rotator minor. The posterior concave surface of this bone hath a ridge rising in its middle, called the *linea aspera*, divided below into two. The inferior extremity of this bone is formed into two condyles, between which a considerable cavity is found, especially at the posterior part: these are contiguous forwards, but at a distance backwards. The os femoris is articulated to the acetabulum by enarthrosis; to the tibia and the patella by ginglymus. Winslow observes, that all the processes from this bone are cartilaginous in new born children.

Though the thigh bone supports the whole body it is by no means, in appearance, advantageously constructed, since it bends inward towards the knee, and outwards at the top; but the former was necessary to avoid a rotatory motion of the leg, and the latter to form a sufficient space for the organs at the bottom of the abdomen.

As the great trochanter passes off at nearly a right angle to enlarge the cavity just mentioned, any shock of the trunk renders it liable to fracture, and this is often mistaken for luxation; an error with difficulty corrected, as the muscles are so thick and so numerous in this part.

FEMUR, (from *fero, to bear;* as being the support of the body). The THIGH; *femen*, (quasi *ferimen*,) *coxa, agis, ancha, crus, meron*.

FENE'STRA OVA'LIS et ROTU'NDA, (from *fenestra, a window*). See AUDITUS.

FERE'NTIS. See ARBUTUS.

FERI'NA, MANIODES, (from μανια, and *furor*, ειδος, *forma*,) a violent and furious delirium.

FERI'NUS, (from *ferus, wild*). SAVAGE, or BRUTAL; in a medical sense it signifies noxious or malignant; and is applied to coughs, &c.

FERMENTA'TIO, (from *fermento, to ferment*). FERMENTATION, *ecbrasmus, brasmos*, is an intestine motion excited, with the assistance of proper heat and fluidity, between the integrant and constituent parts of farinaceous and saccharine substances, from which result new combinations of their principles. The heat required is about seventy degrees of Fahrenheit's thermometer.

The phenomena of fermentation are, however, now better understood than by the chemists of the old school; and this may, perhaps, excuse our enlarging on a subject not strictly medical, though the term is so common in medical authors; but employed without any scientific discrimination.

The subjects of fermentation, we have said, are farinacea and sugar; but the former are scarcely rich enough in the saccharine principle to ferment without some preparation. This consists in wetting, and in exposing the grain to a degree of warmth to excite the process of vegetation; but no new saccharine principle is added: it is merely more completely developed. Sugar must be employed in every fermentation; but it requires about four times its weight of water. With the sugar, mucilage is also requisite; an ingredient which the coarse sugar usually contains. But it is singular that a vegetable acid must also be previously contained in the substance to be fermented (Annales de Chimie, xxxvi. 23.); and this we shall find to be supplied, in beer, by the barm or yeast, and is contained naturally in all the fruits.

When these ingredients are in due proportion, and the temperature raised to nearly 70°, an intestine motion commences; the liquor becomes thick and muddy; an additional degree of heat is excited in proportion to the rapidity of the process, which sometimes rises so high as 95°, and carbonic acid gas arises. In this process the sugar disappears, and the fluid becomes clear, as well as of a less specific gravity; and, as it is

styled, of a vinous taste, owing to the formation of alcohol. The other ingredients seem merely to have assisted the process, and to remain unchanged; for we still find the mucilage both in wine and beer, and the vegetable acid in the former; though the small portion employed as a ferment in the latter seems to have escaped with the carbonic acid gas. Thus the sugar appears to be in part decomposed, and to have separated in the form of carbonic acid gas; and the other part, with a large excess of hydrogen, forms the alcohol, combined with the colouring matter, and the vegetable acid. The superfluous extractive matter, which the vinous liquor cannot dissolve, rises to the top, or sinks to the bottom, in proportion to the quantity of air entangled with it.

In this process a portion of malic acid is formed, perhaps from the tartarous; and some oxygen is seemingly evolved. It was supposed that the latter was derived from the open air; but Fabroni has informed us that fermentation proceeds with equal rapidity and success in close and in open vessels. Annales de Chimie, xxxi. 302.

After this active process of fermentation is at an end, it still proceeds in a more slow, often in an imperceptible, way. If wine or beer be kept in a heat, from 70 to 90 degrees, it gradually thickens, grows hot with a gently hissing noise, and filaments are observed to move in it, though previously fine. The heat and noise lessen, the filaments subside, and the liquor is again clear; but it is no longer vinous: it is acid. The result of the acetous fermentation seems not to be connected with the alcohol. Yet if the assertions of some of the older chemists, that the strongest wines, when rendered acid, afford the strongest vinegars, be true, alcohol may probably have some effect. These vinegars have not, however, been examined; and we strongly suspect that they would appear to have been impregnated with acetous ether. The extractive matter seems to be the substance which first experiences the change; for when it is carefully separated, wine will not become sour, though found by Chaptal to become acid, when vine leaves were added. (Annales de Chimie, xxxvi. 245.) It is said also, with some truth, that fermented liquors do not become acid, unless they are exposed to the atmosphere, from whence the oxygen, essential to the acidity, is absorbed. There seem, however, to be some cases, in which this exposure to the atmosphere is not necessary; for wine will become sour in well corked bottles. In general, however, no cork is sufficiently tight to prevent, after some time, the escape of alcohol; and the atmospheric air finds access by the same course; in bottles which contain acid wine, some space will always be found empty, and the acidity is in proportion to this space. The flakes are owing to the extractive matter which commenced the process; but some portion of this still remains, and the malic acid is the last to experience the change.

The last stage of this important process is *putrefaction*, in which the extractive matter is still more completely separated, and organisation wholly destroyed.

This is the common and regular process; but it is sometimes varied in almost every step. In many instances, no traces of a vinous spirit are found, but the fluid hastens rapidly to the state of vinegar. At other times putrefaction as quickly comes on; and, in some of the stronger wines and cyders, no art can apparently convert them to vinegar. We have exposed some of the strong Devonshire cyder for a whole summer under a sunny wall without producing vinegar. The appearance of vinegar, though it presupposes the existence of a vinous state, therefore by no means confirms it; for the vegetable acid may be produced in a variety of ways, by distilling gum, sugar, wood, or tartars, by the action of sulphuric acid in a concentrated state on these bodies, or by the spontaneous decomposition of some animal substances, particularly urine.

It has been supposed, that if gluten forms a large portion of the fermenting bodies, ammonia will appear in the product; but this has little foundation. The only varieties in the process are those mentioned, with the greater quantity or perfection of each of the results, which are subjects rather economical than chemical or medical.

We have remarked that a vegetable acid is necessary to excite fermentation; and that in the process of making beer from malt, a ferment of this kind is necessary. In different places, where the wine is of different qualities, the ferments are of course various. Thus on the Rhine, where the grapes are peculiarly acid, they add fresh meal; the Chinese add a decoction of barley and oats; and we sometimes assist the more insensible process, after the active period is at an end, by a little wheat or barley.

The ferment usually employed for beer is barm or yeast, which Mr. Henry has imitated by the union of carbonic acid gas, with some mucilaginous substances capable of entangling the air. Good barm is, however, a very complicated mixture, containing the carbonic, mucous, acetous, and malic acids, alcohol, extractive matter, mucilage, sugar, gluten, and water, besides some lime and potash, with traces of silica and phosphoric acid. Mr. Westrumb, however, in Crell's Annals, has found that the only essential part is the gluten, with a vegetable acid; and it is seemingly indifferent of what kind this acid be, if it is of vegetable origin.

In the human body, by a loose analogy, fermentation has been said to take place, and all its various phenomena have been supposed to produce corresponding effects. We have thought it probable that a similar process takes place in the stomach; but there is not the slightest evidence of any fermentation in the circulating fluids. What former physicians intended by this term is rather an assimilatory process, by which, at least, the poison introduced is increased in quantity; but there is no foundation for supposing that all the fluids are thus changed. In the small pox, for instance, some change occurs; and all the matter which passes through the skin, as well as that which is stopped in its passage, and produces the pustules, will excite the disease in a person liable to it; but the effects soon cease, and all the matter thus changed is at once carried off; for neither in small pox nor measles will the blood convey the disease. In all assimilatory processes, however, there is a strange mystery which we cannot develop; and there is no little probability that the whole depends on the state of the capillaries produced by the fever. We purposely eluded this consideration under the head of Exanthemata, as we had not then matured the ideas that

then occurred to us. We may resume the subject when speaking of the different individual diseases, if we can reduce our suspicions to a probable shape.

FERME'NTUM, (quasi *fervimentum*, from *ferveo*, *to work*, as wine in a vessel). FERMENT, BARM, YEAST, LEAVEN, *corocrum*.

Pliny, in his Nat. Hist. lib. xviii. c. 7. speaks of the barm from malt liquor being used in Spain and Gaul to make bread, which was in consequence lighter than that of other nations. Many other substances excite fermentation, but this ferment is always preferred. Yest has been given in putrid fevers, and has, it is said, produced the most happy effects. The usual dose is a large table spoonful every three or four hours; but the dose and repetition should be adapted to the exigencies. We have had little experience of its virtues, but suspect them not to be considerable. See FERMENTATIO.

FERRÆME'NTA CANDE'NTIA, (from *ferramentum*). HOT IRONS. See ESCHAROTICA.

FE'RRATÆ, A'QUÆ, (from *ferrum*, *iron*). See AQUÆ CHALYBEATÆ.

FERRI RUBI'GO, (from the same.) See FERRUM.

FERRI TI'NCTURA MURIA'TI. See FERRUM.

FE'RRUM, (from *fero*, *to wound*); IRON; *chalybs*, *Mars*, *aquarius*, *biladen*, *hadid*. Its chemical character is ♂.

Iron is a bluish white metal, very hard, admitting of a brilliant polish, styptic to the taste, and emitting a smell when rubbed; the next in specific gravity to copper, between seven and eight times heavier than water; distinguishable from all other bodies in its metallic state by its attracting, or being attracted by, the loadstone, but losing this peculiarity on being reduced by fire to a calx; and retaining it but a short time when perfectly pure. It is the hardest of all metals, not equally malleable with gold, silver, or copper; but more ductile and tenacious. It melts in the heat of 158 of Wedgewood; but our powers of increasing temperature are here limited, and we know not at what degree it boils or evaporates. Its texture is fibrous. By the continuance of a weaker heat it calcines, and more easily, though it melts with more difficulty, than any other metal. If iron is long kept in fusion, it loses its sulphur, becomes more brittle, and at length is converted into a bluish glass; which, if exposed to the heat of a large burning glass, after placing it on a piece of charcoal, becomes iron again. Iron is corroded by a moist air into a reddish yellow rust, occasioned by the oxygen it absorbs, and is soluble in all acids, emitting a garlic odour. Acids precipitate from iron all the common metallic bodies, except zinc, forming with the marine acid a yellow, with the nitrous a dark red, and with the vitriolic a pale green, solution: all salts, except the alkaline, dissolve iron; and this metal by its strong affinity for oxygen decomposes water.

In medicine the distinction betwixt iron and steel, or carbonated iron, is not necessary; but as a medicine, as well as in chemical processes, the softest iron is preferred.

We omitted the chemical properties of iron in the article CHEMIA, because its medical were so intimately connected with them. We shall now previously explain the nature of iron in its different states.

Wrought iron is the metal in its purest form, though it is seldom perfectly pure. The malleability of the wrought iron is the best test of its freedom from any adventitious substance. Steel is carbonated iron. It usually contains about $\frac{1}{80}$ of its weight of carbon; but it seems capable of combining with a larger quantity, and, in the same proportion, it becomes more brittle. A drop of nitric acid on a plate of steel leaves a black spot; but on a plate of iron, the mark left is a whitish green.

Cast iron contains a larger proportion of carbon; sometimes $\frac{1}{8}$, from whence its colour is blacker, and the metal more fusible; but it is always contaminated with oxide and phosphuret of iron, generally also with flint. This kind is reduced to the state of wrought iron, by exposing it with black oxide of iron to an intense heat. The oxygen and carbon escape in combination.

We have already pointed out the very great affinity of iron for oxygen. According to Mr. Proust there are, however, only two oxides of iron, the black or green, and the red or brown. The first, containing twenty seven parts of oxygen, and seventy-three of iron, is the least oxygenated of the two, and affords a white precipitate, with alkaline prussiats. It is the state of the martial ethiops, insoluble in alcohol, not affected by the gallic acid, and approaches so near that of the metal, as to be sometimes attracted by the magnet, and occasionally to crystallize in octoedral crystals.

The red oxide is composed of forty-eight parts of oxygen and fifty-two of iron. It is the common rust of iron, and, in the old pharmaceutical language, saffron of Mars. It is soluble in alcohol, and gives a blue precipitate with alkaline prussiats, and a black one with galls. With iron filings it is converted, as may be expected, into the black oxide. Sulphurated hydrogen gas, and many other substances, will also take away the superabundant oxygen, and reduce it to the state of the former. Hydrogen dissolves iron sparingly; azote refuses to combine with it; but with sulphur, phosphorus, and carbone, it unites readily. The phosphuret is what the workmen call the cold short (brittle when cold) iron; and was, for a time, supposed to be a new metal, to which the name of *siderum* was assigned. The carburet of iron is the plumbago, or black lead; the well known substance inclosed in pencils. A hypercarburet of iron is hard and unmalleable (Pearson, Philosophical Transactions): red short iron, which is brittle when hot, is supposed to owe this quality to arsenic or to carbon; most probably to the former.

Iron is dissolved in vitrolic acid, forming the green vitriol of commerce; and in the oxide, when combined with an acid, some of its properties just mentioned are only discoverable. Though green, it contains the most oxygenated calx. In the extemporaneous preparation the acid must be largely diluted. Nitric acid rather oxidates than dissolves it; and to obtain the nitrat of iron, the acid must be much diluted. Diluted muriatic acid dissolves iron with violence: the muriat forms in flat, deliquescent crystals. Vegetable acids have a considerable affinity with iron. In the acetic acid it is easily dissolved, and, by its means, iron is suspended in wine. With the tartarous, it forms the soluble *martial tartar*, or *aperitive extract of Mars*; and the oxalate of iron may be easily procured in astringent, deliquescent,

effervescing, prismatic crystals of a greenish yellow colour, soluble in water. Soluble phosphats, added to the sulphats of iron, occasion two new compounds. The phosphat of iron, thus formed, becomes a phosphuret by fusion with powdered charcoal. Prussiats of iron are of a deep, beautiful blue colour: but if the oxide predominates, it is yellow; if defective, green. Carbonic acid unites with the metal, and by its means iron is suspended in the chalybeate waters.

Iron filings, with an equal quantity of nitre, thrown into a crucible red hot, are changed to the yellow oxide of iron, called Zwelfer's *saffron of Mars:* sublimed with muriat of ammonia, it becomes the flores martiales, viz. a muriat of ammonia coloured by iron. This metal is oxided by agitation in water, and by being digested with either fixed or volatile alkalis.

Iron combined with acids becomes an astringent substance; and upon its astringent, its tonic powers and medicinal virtues seem to depend; for by increasing the tone of the vessels, it increases their vigour and activity. Melampus cured a man of impotency by the rust of iron; which is the first record of its use as a medicine. Boerhaave thinks iron nearer allied to the human fluids than any other metal, and to be almost wholly soluble in them.

We have already remarked that medical utility and solubility in the fluids were too commonly considered as synonymous, and have pointed out the fallacy of the opinion. Iron is undoubtedly an astringent, and perhaps a tonic; since we have reason to think all metallic bodies, except lead, to be tonics. It possesses, however, apparently a quality found in no other metal, viz. a stimulus, by which many of its effects may be explained. One reason has been assigned for supposing it more friendly to the constitution than other metals, viz. the consideration that it is naturally an ingredient in the animal fluids, and that the red globules, whose proportion and vividness are apparently connected with the strength, seem to owe their colour to iron.

The medical uses of iron are almost confined to chronical disorders; in which its efficacy is considerable. In weak, lax, pale, and leucophlegmatic habits it strengthens the stomach, and chylopoietic organs in particular; and by its continued use the whole system is invigorated, the pulse raised, and every mark of health restored.

By the same corroborating power it promotes deficient, and restrains redundant, discharges, where the suppression and excessive flux equally arise from debility; but it increases fluxes, and confirms obstructions when they proceed from tension, rigidity, or spasmodic strictures of the vessels.

An aperient and astringent virtue has been attributed to different preparations of iron; but each is aperient or astringent, according to the state of the constitution of the patient who takes them, without any such property in themselves. Chalybeate waters are said to have similar effects on the constitution as iron. See AQUÆ MINERALES.

In the chlorosis, iron, with aromatics, bitters, and aloetic purges, is often very useful. In this, as in most other cases, the crude iron filings, when minutely pulverized, excel any preparation; and are peculiarly proper, as they combine with the acids of the stomach. The aloetics to be joined with iron in this disorder are the pillulæ ex aloe cum myrrhâ, or vinum aloes: these may be taken not as purgatives, but as eccoprotics, to evacuate the intestinal contents only.

Iron scarcely in any instance occasions dyspnœa. Its ore has, according to Dioscorides, been injected in clysters to restrain diarrhœas; and the water in which hot iron has been quenched is said to be useful when employed as a bath in gout or palsy. In malignant and obstinate ulcers it has been often used with success; and since the article on CANCERS was printed, we have found the rust of iron strongly recommended both as a medicine and application in this disease. In roughness and chronic diseases of the skin, it has been recommended; and in the broad brown moles which rise slightly above the cuticle we have known the sulphat of iron highly useful.

It was very commonly employed by the ancients in excessive discharges from the bowels, as in diarrhœa, cholera, lientery, dysentery; and is by many authors recommended as a vermifuge, either operating mechanically as filings of tin, or by its tonic power. In various diseases of debility, besides those already mentioned, it has been employed, viz. in intermittents, in hectics, in dropsies, tympanites, vertigo and pain of the head from relaxation, exhausted powers from venereal indulgences, in gleets; and by some respectable practitioners even in internal obstructions, particularly those of the spleen and mesentric glands.

Suppressed or an immoderate discharge of the menses are relieved by this salutary metal (see MENSES); and it is sometimes employed to check hæmorrhoidal discharges. In hypochondriac and hysteric complaints it is highly useful: and many of the true spasms, particularly in epilepsy, it is said to have relieved. We need not repeat what has been said of the tonic power of all the metals; nor what we have remarked respecting the effects of metallic tonics in this last disease. In the rickets it has been recommended; and though in fevers, or where the heat of the body is too great, iron is generally prohibited, yet in some low fevers it hath been administered in conjunction with nitre, it is said, with good effect. In a weak state, when low fever attended, a mixture of sal martis and sal nitri, in equal parts, has been given in doses of ten or twenty grains; but the fever in this case was apparently symptomatic only.

In some instances, iron occasions sickness and perturbation; a mild opiate must then be added, or the medicine taken in bed, half an hour before the hour of rising or of going to rest.

When improperly taken, it sometimes occasions anxiety, head ach, pains in the stomach and bowels, or spasms.

Iron we have said is injurious where the viscera are obstructed, or where an inflammatory tension accompanies it. This medicine should also not be employed when the stomach and bowels are overloaded. It should not be taken a little before or after meals, and be carefully purified from any particles of copper by means of a magnet.

It has been the opinion of some respectable practitioners, and among the rest of Sydenham, that nature affords this remedy in a more useful form than art can supply. We shall therefore first mention the principal

ores of iron employed as remedies. The first of these has had the sounding title of MINERA MARTIS SOLARIS. It is the *pyrites* of authors, the sulphurated iron of Haüy, iv. 65, and an astringent of considerable efficacy, as it contains a portion of alumen.

The next ore is the MAGNET, the amorphous oxidulated iron of Haüy, iv. 13. It would be endless to transcribe the idle stories recorded of the efficacy of this form of iron. When held in the hand it is said to accelerate delivery; and bound on the body, after being moistened with woman's milk, even Hippocrates tells us that it obviates sterility. Among the graver and more modern authors, whose credulity on this subject is conspicuous, we may mention, as an apology for adding a word on the subject, Baldinger in his Collection of Dissertations; Andry and Thouret, in the Memoirs of the Royal Society of Medicine at Paris.

Another ore is the HÆMATITES, hematite oxidated iron, Haüy, iv. 105; red hæmatites of Kirwan. It was supposed to cure hæmorrhages, when taken internally, held in the hand, or placed under the axilla.

The RUBRICA FABRILIS, or RED CHALK, has been also employed; it is the red oxidated iron, Haüy, iv. 106; but even the collectors of wonders speak of it only as a good astringent. The last ore is the ÆTITES, the eagle stone, a variety of the rusty oxidated iron, Haüy, iv. 107, called *geodic*. A geode is a round body with a cavity within, usually full of water or earth. This ore also takes away labour pains and prevents abortions!!

The preparations in general use are the following:

Limaturæ ferri.—FILINGS of IRON, called also *duenez*. Of all the preparations, this alone is said to possess all the virtues of iron. The rust is not so powerful an absorbent of acid in the primæ viæ, nor does it yield so large a share of the gas, separated by the action of acids on pure iron, which some authors have supposed to be useful. If pure iron be reduced into fine filings, it is the least offensive to the taste, and the most extensively advantageous.

A preparation between this, and the rust of iron, which follows, is the black oxide found in scales round a smith's anvil. This was the form recommended by Dr. Black, and on the whole is the most useful. Iron wire, as made of the purest iron, is often preferred; but the hydrogen gas separated from the metal, when not oxidized, often produces inconvenience, so that the scales are preferable.

Ferri rubigo.—The RUST OF IRON. Moisten clean filings of iron with water, and sprinkle them over with a little powdered sal ammoniac; when the whole is dried, powder and pass it through a fine searse. The dose is the same as that of pure filings. The college of physicians of London order one pound of iron filings to be exposed to the air, often moistened with water until they are corroded into rust; then pounded in an iron mortar, and the very fine powder to be washed off with distilled water. The remainder is easily separated by washing, and must undergo the same process: the prepared powder must be dried for use. Pharm. Londin. 1788. In hypochondriac and epileptic complaints, in worm cases, and in weak relaxed habits, it has proved useful. The Dublin college prepare it from iron wire, as the purer form of the metal.

The following electuary is not an inelegant form of administration. ℞. conserv. absinthii maritimi, ℥ i. rubiginis ferri, ℥ ss. cons. ari. ℥ ij. corticis aurant, q. s. During the continuance of taking this medicine the body should be kept open by some gentle aperient medicine.

Flores martiales.—MARTIAL FLOWERS; formerly *ens veneris*, now *ferrum ammoniacale*, are prepared by mixing of iron filings, one pound, with sal ammoniac, two pounds. Sublime them, and what remains mix, by rubbing together with the sublimated matter; and again sublime. Pharm. Lond. 1788.

The success of this process depends chiefly upon the fire's being hastily raised, that the sal ammoniac may not sublime before the heat is become strong enough to enable it to carry up a portion of the iron; hence earthen or iron vessels will be most proper for the purpose. The most convenient vessel is an iron pot, to which may be luted an inverted earthen jar, with a small hole in its bottom to allow the elastic vapours which arise during the operation to pass off.

When these flowers are impure, they are of a dull and pale yellow colour; but they may be purified by sublimation.

The Edinburgh college directs this medicine to be prepared by mixing equal weights of the red oxide and muriat of ammonia. This mixture is sublimed. In this preparation there is only a single decomposition; and the muriat of ammonia is decomposed by the metal, which only takes place in high temperatures. Some unchanged muriat of ammonia comes over, so that the sublimate must be carefully mixed after the operation. In both processes the proportion of iron is too great. It is only required to be $\frac{1}{16}$ of the muriat. A tincture is prepared from these flowers, by digesting four ounces of ammoniacal iron in a pint of proof spirit.

The dose is from gr. vi. to ℈ i. The *flores martiales* are considered as deobstruent and corroborant; and if given in pills must be combined with the fetid gums. They may be substituted for all the other preparations of iron; but are by no means particularly powerful.

From these flowers, dissolved in warm water and precipitated with the aq. kali, is produced the *Mars diaphoreticus*, and by Zwelfer, *sulphur vitrioli anodynum martiale*; dissolved in sp. vini rectificatus, they form the *sedativum archæi*.

4. *Vinum chalybeatum. Vinum ferri.*—Take four ounces of the filings of iron; of cinnamon and mace, of each half an ounce; and of Rhenish wine, four pints. Macerate without heat for a month; then strain off the wine for use. The college of London orders four ounces of the filings of iron to be digested for a month in four pints of Spanish white wine, often shaking the vessel, and then strained. Phar. Lond. 1788. The Dublin college substitutes, for the filings, iron wire, and for Spanish white wine, Rhenish wine. The strength of the preparations are unequal, and a better, as well as a more certain medicine is a solution of tartarized iron.

Solutions of iron in vegetable acids are much more mild, and less ungrateful, both to the palate and stomach, than those made with the mineral acids.

The dose is from a tea spoonful, to a table spoonful, two or three times a day. In chlorotic cases, and in debilitated phlegmatic habits, it is an excellent remedy; but in inflammatory habits should be cautiously administered.

Tinctura martis in spiritu salis.—*Tinctura ferri muriati.* Take of the rust of iron, half a pound; muriatic acid, by weight, three pounds: pour the muriatic acid upon the iron in a glass vessel, and shake the mixture now and then, during three days; set it by, that the fæces may subside, evaporate the liquor poured off to one pound, and add three pints of the rectified spirit of wine. Pharm. Lond. 1788.

The Edinburgh college employs the scales of iron or the black oxide; and the Dublin iron wire. The first and last are therefore nearly the same, and very different from the London formula, in which the red oxide is used. The red muriat is, however, only soluble in spirit of wine; and some of this muriat is formed both in the Edinburgh and Dublin forms.

This was formerly called tinctura martis Mynsichti. Its virtues are the same as of other preparations of iron; but it is generally more speedy and certain in its effects: its dose, from ten to sixty drops, two or three times a day. It has sometimes been given for gleets; and in suppressions of urine, arising from spasmodic affections of the urethra, in a dose, ten drops every ten minutes till some effects are perceptible: it relaxes the spasm by producing nausea. It is very efficacious in destroying venereal warts, either used alone, or diluted with a small proportion of water.

Tinctura florum martialum.—Take of the martial flowers, four ounces; and of proof spirit, one pint. Digest and strain.

All the tinctures of steel are no other than real solutions of iron in acids, combined with vinous spirits; but the first of these two is the strongest. The dose of the first may be from ten to twenty drops three times a day; and of the latter, three times the quantity may be allowed.

Carbonas ferri precipitatus is the name of a preparation introduced into the last edition of the Edinburgh Dispensatory, usually styled the *ferrum precipitatum.* It is prepared by dissolving four ounces of sulphate of iron, in five quarts of water, and adding five ounces of carbonate of soda, dissolved in a sufficient quantity of water. The iron precipitated is, at first, in the form of the black oxide; but it attracts more oxygen in drying, and becomes of a red colour. It is a valuable medicine, and may be given from five grains to fifteen; but the former dose is generally sufficient. The carbonate of soda is employed; as the salt, which results from the double decomposition, is very soluble, and of course easily separated.

Aqua ferri aerati is introduced into the Dublin Dispensatory, and is made as the artificial acidulous water, introducing into the vessel half an ounce of iron wire, and suspending it in the water. This is an elegant chalybeate, and by no means inferior to the Pyrmont water.

Sulphas ferri exciccatus, and *oxidum ferri rubrum*, are preparations introduced into the last Edinburgh Dispensatory. In the first, the water of crystallization only is separated by a gentle heat; and in the last, the sulphat of iron is decomposed by a violent fire. A little red sulphat remains, which must be separated by elutriation.

Tinctura ferri acetati is directed by the Dublin college to be prepared in the following manner. An ounce of acetated vegetable alkali is rubbed with as much vitriolated iron till the mass deliquesces. Alcohol is then added. The process is easily explained; and the tincture is a solution of the black oxide, unless it gain some oxygen in the preparation. The sulphat of potash, formed in the process, is not soluble in alcohol; so that the tincture when filtered has no saline impregnation, except that of the iron. The dose is thirty drops.

Lixivium martis.—Let the substance remaining after subliming the flowers be set in a moist place, and it will deliquesce. It is sometimes called *oleum martis per deliquium*, and *essentia martis.* The dose is from one to three or four drops. It is an astringent, and a very powerful one. In surgery it is used as a styptic, and in cases of hæmorrhage applied to the bleeding vessels on lint.

Mars saccharatus. Candied steel.—Put any quantity of clean filings of iron into a brass kettle, suspended over a gentle fire; add to them, by little and little, twice their weight of white sugar, boiled to the consistence of candy, with which powdered starch hath been previously mixed, in the proportion of one drachm to a pound, agitating the kettle continually, that the filings may be crusted over with the sugar, and taking great care to prevent their running into lumps. The dose is ʒ ss. two or three times a day.

Mars solubilis, chalybs tartarisatus; now *ferrum tartarisatum.*—Take of iron filings, one pound; powdered crystals of tartar, two pounds; mix them with distilled water into a thick paste; expose them to the air in an open earthen vessel for eight days; and then rub the matter, when dried in a sand bath, to the finest powder. Pharm. Lond. 1788. This is said to have succeeded after all other preparations of iron have failed; and is supposed to be more soluble in the animal fluids. The dose is from ten grains to thirty, twice a day. It is in fact a triple salt, as potash is combined, and the filings of iron are oxidized by exposure to the air. A more ready way of preparing it is that proposed by Thenard, viz. to boil the cream of tartar with an oxide of iron. This compound is very soluble, crystallizes in small needles, and has a chalybeate taste. It is decomposed by sulphurated hydrogen and its compounds, as well as by the gallic acid, not by alkalis, or alkaline carbonats.

Sal martis. Salt of steel. *Chalybis sal*, now called *ferrum vitriolatum.* Vitriolated iron.—Take filings of iron, vitriolic acid, by weight, of each eight ounces; distilled water, three pints; mix them in a glass vessel, and when the effervescence has ceased, place the mixture for some time on hot sand; then pour off the liquor; filter it through paper, and after proper evaporation let it crystallize. Pharm. Lond. 1788. It is given from three or four grains to twenty; is supposed to quicken the circulation, give tone and vigour to the system, and destroy worms: ten grains may be dissolved in a pint of water, and given in repeated draughts, with proper exercise, as a chalybeate water.

Extractum martis.—Iron filings are to be dissolved in some vegetable acid, and then evaporated to a due consistence.

For the *crocus martis aperiens*, and *crocus martis astringens*, the college of London substitutes the colcothar vitrioli. They are all the red calx of iron, and the least active of the chalybeates. M. Beaumé observes, that these calces recover their metalline state by digesting in olive oil during an hour or two.

As usual, we shall add a short account of those preparations of iron which have been commended by former authors, and particularly the practitioners on the continent, at present disused in this kingdom. The *croci martis* merit a little further notice in this part of the article. They have been differently prepared, and had many different appellations, according to the fancy or object of the chemist. Sometimes the iron has been calcined by fire, sometimes by acids, and occasionally by moistening it only, when it does not differ from the rubigo ferri. Iron calcined by fire gives the *crocus martis obstructivus;* deflagrated with common salt and nitre, or nitre and sulphur, it is the *pulvis cachecticus* of Boecler. If a piece of sulphur is rubbed on a hot iron, and the drops suffered to fall into cold water, it affords the *crocus martis aperitivus (crocus martis niger*, and *chalybs cum sulphur preparatus)*. The *crocus martis sulphuratus (chalybs* and *Mars sulphuratus)* is made by stratifying filings of steel with sulphur in different proportions, moistening the mixture till it grows hot and swells. It is then powdered and subjected to a violent heat with continual stirring, till it becomes a black powder. When still further heated, to separate the whole of the acid, and further to calcine the iron, it becomes red, and is then the *crocus martis aperiens*. When further heated, it is converted to a mere calx, and is the *crocus martis astringens (adstrictorius* of *Sala)*. It will be obvious that the calces, in all these tedious preparations, are only in the progressive state, from the black to the red oxide, formerly described, and differing little from the common calces of iron.

In various foreign pharmaceutical works, the rust of iron is differently prepared, without seemingly altering its properties. The filings of steel are sometimes moistened with dew, with vinegar, with urine, particularly of boys, solutions of common salt, *(crocus martis emenagogus;)* of borax, or tartarized tartar: sometimes the different mineral acids are employed either in the forms of fluid or vapour, and the rust then acquires other properties. From these it is precipitated by alkalis, particularly caustic ones, or the acid is expelled by heat. By repeating these processes, Schroeder obtained a *crocus chalybis ruber*, which he highly commends. A crocus martis is also obtained by agitating the iron in carbonic acid water, vinegar, or a highly diluted nitric acid, washing the paste which results, and drying the light powder which subsides.

The *Mars solubilis alcalisatus* of the old, and particularly Lewis's Dispensatory, differs little from the tartarised steel already described. The *globuli martiales* differ only in containing a smaller proportion of the acid, and are employed externally in contusions, luxations, and gun-shot wounds.

The *acetas ferri* is directed only by the Dublin college as the basis of a tincture. The substance is ordered by the Wirtemburgh college; and the tincture is sometimes denominated from Radcliffe. It is usually prepared from the filings of steel, or the martial ethiops, united with the vegetable acid; and is highly commended by Boerhaave as a tonic and anthelmintic, particularly as an antirachitic. When inspissated, it is styled *extractum martis*.

Tinctura martis cydoniata is particularly described by Wedelius, and usually exhibited with spirituous cinnamon water. We find it commended in the same diseases as are supposed to be relieved by the other chalybeates, and particularly in puerperal discharges. The *tinctura martis pomata*, a solution of iron in cyder, and the *tinctura martis cum vino malvatico* and *pomis aurantiorum*, are similar medicines of no peculiar qualities. The two first are sometimes inspissated into an extract. The last is a very weak, inert preparation.

Tinctura nervina of Bestuchef; tinctura nervino tonica flava; guttæ aureæ Lamottii, liquor nervinus albus, liquor anodynus martialus, are the appellations of a secret medicine, purchased by the empress of Russia, and published. This tincture is generally of a beautiful golden colour if exposed to the sun's light, which is lost in the shade, and returns again in sunshine: it deposits a blue sediment by the addition of the Prussian alkali; and is, like the other tinctures of steel, a tonic. It is a vitriolic ether, with a portion of spirit of wine, holding in solution muriated iron.

The last preparation which we shall mention is the *serum lactis chalybeatum*, prepared by quenching hot iron in whey. It is commended as a tonic; but we can find no very distinct account of the diseases to which it is peculiarly adopted.

See Lewis's Materia Medica: Neumann's Chemical Works.

FE'RRUM AMMONIA'CALE. See FERRUM.

FE'RRUM EQUI'NUM. HORSE SHOE VETCH. *Hippocrapis uni siliquosa* Lin. Sp. Pl. 1049. Dale adds that all the species are astringent.

FE'RRUM TARTARIZA'TUM. See FERRUM.

FE'RRUM VITRIOLA'TUM. See FERRUM.

FE'RSÆ. MEASLES, *a fervore*, from the heat which accompanies them. See MORBILLI.

FE'RULA, a STAFF, which it resembles. FENNEL GIANT. It hath a large, succulent, milky root; the stalk is fungous, and full of a pitchy matter.

FE'RULA AFRICA'NA GALBANI FERA, FRUTICO'SA, SEMPE'RVIVENS. See GALBANUM.

FE'RULA ASAFŒ'TIDA. See ASAFŒTIDA.

FE'RULA FO'LIO BREVIO'RI. See MEUM LATIFOLIUM ADULTERINUM.

FE'RULA GLAU'CO FO'LIO, &c. called *thapsia ferulacea, libanotis fæniculi folio, panax asclepium; thapsia asclepium* Lin. Sp. Pl. 375. CANDY ALL HEAL. This species grows in Candy; its roots and seeds are diuretic and emmenagogue.

FE'RULA SEU FŒ'MINA; FE'RULA TENUIORE FOLIO; FE'RULA FŒNICULI FOLIO. FENNEL GIANT. *Ferula communis* Lin. Sp. Pl. 355. It is cultivated in gardens, and flowers in July. See SAGAPENUM.

FE'RULA MI'NOR, called also *panax asclepium, ferulæ facie, libanotis ferulæ folio et semine; ferula nodiflora* Lin. Sp. Pl. 356. All-heal of Esculapius.

FESTU'CA AVENA'CEA, (from *fero, to bear;* so called from resembling the young shoot of a tree,) FESTUCA. The GREAT WILD OAT GRASS. See ÆGYLOPS.

FI'BER. See CASTOR.

FI'BRA, (from *fiber, extreme*). A FIBRE. Haller observes, that the least discoverable fibres are of two kinds. The first are lineal; the second are conjoined with a breadth frequently larger than their length; and the latter, he informs us, are those of which the cellular membrane is made up.

On the different proportions of the terrestrial matter,

and the gelatine which forms the simple fibre, depend probably their different degrees of cohesion, and from hence Boerhaave deduces the general source of diseases. See Boerhaave's Aphorisms, and Haller's Physiology, under the title of ANIMAL FIBRE.

Each of these opinions, however, is fallacious; and indeed, when we speak of the cellular substance as a fibre or a membrane, we convey ideas which mislead. The human body seems to be originally fibrous. At the earliest period when the embryo can be subjected to our senses, it seems to resemble the tadpole, with a tail only extended from a rounded head. There appears to be little doubt of this being exclusively the brain and spinal marrow, for the lower extremities are developed at a much later period. If this be true, the fibrous structure of the human body is only the nervous system; on *its fibres* are deposited the nutriment formed in successive eras by the powers of the constitution, and these direct the form and the shape of the different parts of the body. In reality, this is the *moule interieure* of which Buffon so often speaks. This system, which we hope to render more probable in other parts of the work, requires that the productions of this aboriginal nervous germ, viz. the nerves, should be convoluted within a small space, capable of a certain degree of extension, different according to the organs which they are to form or supply. Beyond this power of extension, or, in other words, their length, the organ cannot expand; and the different extent of the nerves, in each part, depends on the individual constitution. This theory involves no contradiction, scarcely any difficulty, except the extreme minuteness of these fibres; but minuteness is only relative, and will disappear, if we reflect that even the mite probably nourishes some parasite animal, and that this last must possess vessels, arteries, and muscular fibres, peculiarly its own.

According to these views the fibrous parts of the human body are the nerves, the muscles, the blood, and absorbent vessels; consequently the great bodies of the glands, as composed of vessels and membranes. The other parts are the cellular substance, which is only a connecting medium, and which, in every instance of adhesive inflammation, is formed before our eyes.

The diseases of the fibres are only those from too great rigidity or laxity; but, if we consider these as nervous, or prolongations of the brain and spinal marrow, we shall reduce them to excessive tone and relaxation. The connection between the state of the simple fibres and the nervous system we have already noticed at sufficient length. See ASTRINGENTIA.

The strength or weakness of a fibre is wholly relative. Soon after conception the cohesion may be destroyed by the slightest touch; but the cohesion increases till the degree is attained which gives perfection to the being. The perfection of cohesion is when a fibre will bear a greater force than what its state and office regularly require. Many, though equally unsatisfactory, are the rules laid down to distinguish betwixt the rigid and lax fibre, in particular constitutions; but with a view to practice, a rigid fibre is a concomitant of strength, and the lax fibre of its deficiency.

FIBRO'SUS, (from *fibra*, *a fibre*). In botany it is applied to the root, and means consisting of small strings.

FI'BULA, (quasi *figilula*, from *figo*, *to fasten*). A BUCKLE, CLASP, OR BUTTON. It is the name also of an ancient mode of bringing the lips of wounds together. Hippocrates sometimes uses the word for the part of the bone that forms the outer ankle, perhaps, because the shoes were buckled in that place. The ancients gave this name to the small bone of the leg, from its joining the tibia and muscles together: it is also called *perone*, *facile minus*, *arunda minor*, *canna minor cruris*, *sura*, and *radius*. On the outside of the leg, and behind the tibia, the fibula is placed: its upper extremity is flattened where it is connected to the former; and its lower extremity hath an oblong head, received by the external cavity of the tibia; below this the head of the fibula is extended in a coronoid process, the malleolus externus contiguous to the outside of the astragalus.

The arteries of all the long bones run obliquely into them, and as they thus resist the action of styptics, their wounds occasion obstinate hæmorrhages. It is remarkable that in this oblique course the arteries of the os humeri, tibia, and fibula, run obliquely downwards; those of the radius and ulna upwards: a structure seemingly designed to facilitate the circulation from gravity, as the arteries confined by the bone cannot contract. The radius and ulna are, it may be remarked, occasionally raised.

FIBULÆ'US, (from *fibula*, *the small bone of the leg*). See PERONÆUS MUSCULUS LONGUS.

FICA'RIA, (from *ficus*, *a fig*). See SCROPHULARIA MAJOR, and CHELIDONIUM MINUS.

FICA'TIO, (from the same). See FICUS.

FICOI'DES, (from *ficus*, and εἶδος, *likeness*). A succulent plant, resembling the fig tree, supposed to be emollient. *Ficoides* is also a name of the *banana*.

FI'CUS, vel FICA'TIO, (from φύω, *to produce*; or *phig*, Hebrew). The name of a tubercle about the anus or pudenda. See CONDYLOMA.

FI'CUS I'NDICA. See BANANA and MUSA.

FI'CUS I'NDICÆ GRA'NA. See COCINILLA.

FI'CUS INFERNA'LIS. See CATAPUTIA.

FI'CUS SATI'VA, ARIDA, COMMUNIS. The FIG TREE. *Ficus carica* Lin. Sp. Pl. 1513. The unripe fig is called *grossus*; the dried, *carica*; its grain or seed *cenchramis*, from its resembling millet seed. This tree is of a middling size, with large leaves cut into five segments; grows spontaneously in the warmer climes, and is cultivated in our gardens.

The best figs are brought from Turkey; many from the south of France, where they dry, after dipping them in hot ley, made of the ashes of the fig tree, by exposing them to the sun. The recent fruit, completely ripe, is soft, succulent, and easily digested, unless eaten in immoderate quantities, when it is apt to occasion flatulency, pain of the stomach, and diarrhœa.

The skin of the fruit is glutinous and salt; and from hence their laxative power has been ridiculously derived. They are very nutritious, as their sugar is united with a large portion of mucilaginous matter; grateful to the stomach, and easier to digest than many other of the sweet fruits. But they are used in medicine as a lubricating emollient, and are an ingredient in pectoral decoctions, as well as suppurating cataplasms. They are sometimes used alone, and applied as warm as they can easily be borne to phlegmons of the gums, and other parts where poultices cannot be confined. See Lewis's and Cullen's Materia Medica.

FIDICINA'LES, (from *fidicen, a harper*). Some muscles of the fingers, particularly used in playing upon the harp, and other stringed instruments. See LUMBRICALES MUSCULI.

FILACE'Æ RA'DICES, (from *filum, a thread*). FILACEOUS ROOTS; such as are furnished with many thread-like filaments.

FILA'GO, (from the thread-like filaments of its leaf). See GNAPHALIUM.

FILA'GO ALPINA. The herb LION'S FOOT. See LEONTOPODIUM.

FILAME'NTUM. A FILAMENT, (from *filum, a thread*, of the diameter of a slender thread). In botany it is that thread-like part of the stamen which connects the anthera with the receptaculum. By some English botanists it is called thread.

FILE'LLUM, (from *filum, a thread*). See PENIS.

FILE'TUM, (from the same). See LINGUA.

FI'LICES, the plural of *filix*, (from *filum, a thread; quasi filatim incisa*). FERNS; one of the natural orders of the vegetable kingdom, having the fructification on the back side of the leaves. They constitute the first order in the class *cryptogamia*, and consist of sixteen genera divided into fructifications spicatæ, frondosæ, and radicales.

FILI'CULA, a dim. of *filix, fern*). A small sort of fern; also the herb MAIDEN HAIR, (from *filum, a thread*, which it resembles). See ADIANTHUM NIGRUM.

FILIPE'NDULA, (from *filum*, and *pendeo, to hang*, because the numerous bulbs of its root hang as it were by small threads). DROPWORT; *saxifraga rubra* and *ænanthe.* It grows wild in fields and chalky grounds, is rough and bitter, and slightly pungent. The species used in medicine is the *spiræa filipendula* Lin. Sp. Pl. 702.

FILIPE'NDULA CICU'TÆ FA'CIE. See ŒNANTHE CHÆROPHYLLI FOLIIS.

FI'LIUS A'NTE PA'TREM. THE SON BEFORE THE FATHER; because the flowers appear before the leaves. TUSSILAGO is one of these plants, q. v.

FI'LIX. See FILICES, its plural. *Pteris.* FERN. *Blancnon Oribasii.*

Fern is divided into the male and female; the male hath no branches, but only one main rib; the female is branched.

FI'LIX ACULEA'TA. See LONCHITIS.

FI'LIX FLO'RIDA, RAMO'SA, *osmunda vulgaris*, and *palustris.* FLOWERING FERN and OSMUND ROYAL. *Osmunda regalis* Lin. Sp. Pl. 1521. It is the largest of the true English ferns, bears no flowers, and its fruit in clusters. Towards their tops are round, slender, seed-bearing, curled heads of a brownish colour, covered with seeds: they appear in June, ripen in July, and are chiefly found in marshes. The roots consist of many small parts, matted together, blackish on the outside, and green within, covered with small fibres: they are equal in power to the roots of the other ferns; but a conserve of the tender buds or heads is preferable.

FI'LIX FŒMI'NEA, RAMO'SA MA'JOR. FEMALE FERN, BRAKES, or BRACKEN. *Pteris aquilina* Lin. Sp. Pl. 1533.

FI'LIX FO'LIIS POLYPO'DII. See POLYPODIUM ANGUSTIFOLIUM.

FI'LIX MAS. MALE FERN, called also *lonchitis; polypodium filix mas* Lin. Sp. Pl. 1551. The root of the male fern resembles that of the osmunda regalis, and is often sold for it. The roots of most of the species, when chewed, are of a sweetish taste, glutinous, but soon become bitterish, subastringent, and nauseous: they are used for destroying the tænia, and given in the following manner: the patient is first prepared by an emollient clyster, and a supper of panada, with butter and salt; in a morning, two or three drachms of the powder of the male fern root are given, washed down with a draught of water; and, two hours afterwards, a strong cathartic, composed of calomel and scammony, proportioned to the strength of the patient. To assist its operation, if necessary, a dose of purging salts may be given; and, if the worm is not expelled in a few hours, this process, at proper intervals, must be repeated. Dr. Cullen thinks it doubtful whether the ferns have any specific power in killing worms; for the stomach bears considerable quantities without uneasiness; and, alone, it has no sensible effects: its apparent benefit may, therefore, be derived from the drastic purge. In Germany, however, the tænia has been expelled by the repeated exhibition of the root, without the aid of any purgative; and it is possible that a medicine may be poisonous to worms, that has no effect on the human body. We have found that portions of tænia, before discharged alive, have, after the exhibition of the fern root, no longer shown signs of animation. The fern root has been used as a deobstruent, and been extolled against the rickets. The male fern, and those that bear flowers, are most powerful as antiseptics and astringents; the female fern is more viscid, saponaceous, and diuretic. Cullen's Materia Medica. Woodville's Medical Botany.

FI'LIX QUE'RNA RE'PENS. See POLYPODIUM TENERUM MINUS.

FILTRA'TIO, (from *filtrum, a strainer*). See DEPURATIO. Generally a paper is folded into the shape of a funnel, and then placed in one; through this the liquor passes, and the feculencies are separated.

FI'LTRUM. (See FILTRATIO.) A stone found in the bay of Mexico, through which liquors are filtered, and particularly turbid or impure water. Flints powdered to different fineness are sometimes introduced into a cylinder for the same purpose; and occasionally the weight of a descending column of the fluid is employed to propel it through the natural or artificial pores of the filtre.

FI'LUM ARSENICA'LE. See MERCURIUS CORROSIVUS ALBUS.

FI'MBRIA, (quasi *finibria*, from *finis, the extremity*). FRINGE. Those leaves are said to be fimbriated that are jagged about the edges. In surgery this word is synonymous with CATABLEMA, q. v.

FIMBRIA'TUS. See FIMBRIA.

FI'MUS, (from *fio, to make*). DUNG. The dung of many animals hath been used; but the present practice excludes them all. That of dogs is an absorbent.

FI'SSILIS LA'PIS HIBE'RNICUS, (from *fissus, cleft*, because it is divided into thin layers). *Fricus.* See HIBERNICUS LAPIS.

FI'SSURA, (from the same). A FISSURE or CRACK. The mouth, or other natural apertures into the body, are called *fissures;* but morbid fissures are cracks in the skull, or in a long bone when the fracture is longitudinal.

A morbid fissure differs from a fracture, because in the latter there is a total solution of continuity. A fracture also is transverse or oblique; a fissure longitudinal.

Fissures most frequently occur in the skull; and of these there is, first, the counter fissure, when the blow is received on one side of the head, and the fissure is on the other; where the internal table is broken, the external remaining sound; or where the stroke is received on one bone, and the fissure is in that adjoining. Many authors doubt the existence of a counter fissure, and it is difficultly accounted for; but the facts are well attested. Hippocrates, Galen, Celsus, Berengarius, Fallopius, and several others, assert their having met with such instances. The most frequent kind is that which is soon discovered by laying the bone bare, and cleaning the part with sponge; but they are occasionally so small, that some art is necessary to discover them. If a black liquor, made of burnt bone or cork, mixed with water, is rubbed on the bare skull, it will sink into the crack, and discover, when washed off, its situation; or, if the head be clean shaved, and the patient bled freely, an œdematous puffiness will appear, in a day or two, over the part affected.

Fissures are often productive of worse consequences than fractures; for there is often, at the same time, a concussion of the brain; and it is consequently necessary to ascertain this circumstance. Instances of the ill effects of fissures have happened many months after the accident. The fissure alone is not dangerous, but the violence which occasioned it, and the consequent rupture of numerous vessels, whose extravasated contents injure the bone. When this happens, an unexpected death is often the consequence.

Trepanning seems to be the properest method of relief; though the plan recommended by Mr. Bromfield, in concussions of the brain, has alone effected a cure.

FI'SSURA CEREBRI MAGNA SYLVII. The sulcus which divides the anterior and middle lobes of the cerebrum on each side: it ascends obliquely backwards from the temporal ala of the os sphenoides to near the middle of the os parietale.

FISSU'RÆ ORBITA'RES INFERIO'RES. See SPHENO MAXILLARES FISSURÆ.

FI'STULA, (quasi *fusula*, from *fundo*, *to pour out*). So the Latins called a *catheter*. See CATHETERUS; and also a *clyster pipe*. See ENEMA.

FI'STULA. A PIPE. In surgery it is a kind of ulcer which resembles a pipe; named also *eligii morbus*. It is narrower than a sinus; generally continues further; hath its internal surface and its orifice usually callous; and is generally the consequence of abscesses. The seat of a fistula is in the cellular membrane. It is known to be present when there is an aperture on the surface of the body from which any matter either flows or may be pressed out: its depth and direction are discovered by a probe; or, if the directions are various, warm water may be injected into it; and, if near the skin, these will be ascertained by the elevation occasioned by the water; if otherwise, the quantity of water retained will determine the size of the cavity. The probe often discovers whether the fistula runs upon an adjacent bone, or whether the bone be carious. The parts in which these ulcers are seated, and their various circumstances, constitute the chief differences betwixt fistulæ. A fistula is more dangerous in proportion to the depth of the cellular membrane, and the thickness of the muscles. While it is simple, and extends no further than it can be reached with a knife, it may be generally cured: when so situated as to open into the neck of the bladder, or when attended with a caries in the adjacent bone, particularly the os sacrum or the coccyx, the cure is difficult, and often impossible.

Mr. Bell includes the fistula in his species of sinous ulcer; by which he means that kind of sore which hath one or more openings running into it from the same or different directions, and generally seated in the cellular membrane. A sinus, as thus described, he says, is the most simple state of the disorder, and is, by long continuance, or by the use of drying astringent applications, liable to become hard and callous in its internal surface, and in such a state, from its supposed resemblance to a pipe, is termed a fistula. The most frequent cause of sinuses in ulcers and abscesses, is the want of vent or a sufficient opening for the discharge, which easily insinuates itself into the yielding substance of the cellular membrane, and proceeds gradually till it finds an opening either externally or into some of the neighbouring cavities. An improper application of bandages on ulcers is often the cause of a sinus.

When fistulas, not yet become callous, are complicated with ulcers, the most expeditious relief is from an incision to the bottom, if it can be done without danger: after which the wound is to be cleaned and healed. Another method is, to compress the fundus of the sinus; for which purpose a narrow compress, or a slip of plaster wrapped up in that form, is to be applied externally over the bottom, and secured, as in other ulcers, with a plaster and bandage, that the peccant matter may be propelled from the bottom to the mouth of the fistula, that the former may be soonest healed. This happens most frequently when the fistula is in the arms or legs, or when its orifice is lower than its fundus. Belloste, and some other surgeons, reject all tents and injections; but when fistulas lie deep, detergent injections must be used. These are a decoction of birthwort, mixed with honey of roses, or with the tincture of myrrh and aloes: they must be injected warm at every dressing, and retained for a short time; the bottom and mouth of the fistula are gently pressed, that the matter may more effectually be washed off. This method must be continued until the bottom of the fistula begins to heal. It may then be dressed with some soft digestive, of which the balsamum Peruv. or balsamum capivi are ingredients. When this method fails, the operation must be attempted; but it is not to be depended on, except when the opening can be carried to the bottom of the ulcer. The incision is made with most ease to the patient with a knife; and whatever instrument be used, the incision must be so deep as will be sufficient to answer the end; for when the bottom is laid open, the matter is not only discharged, but medicines more commodiously applied. If, upon making the incision, a large quantity of blood is discharged, fill the wound with dry lint, and proceed as is usual in recent wounds. Mr. Bell advises almost universally to avoid the practice of laying the different sinuses open from one end to the other, and cutting out all the hardened parts, so as to convert the whole into one common ulcer. This method he owns will frequently effect a cure; but inde-

pendent of the great pain, and very large unseemly cicatrix occasioned, it cannot, in every case, be safely practised. When sinuses, for instance, run far up the rectum, it cannot ever be conveniently done; they penetrate deep, and run below either large blood vessels or nerves: in these cases such treatment cannot be advised. The object in every case of sinus, is to produce a coalescence of its sides, so as to destroy any vacuity that may have occurred; and the most effectual means of accomplishing it is, to make a depending orifice for a free exit to the matter; or by a gentle irritation, to induce, on its internal surface, a slight degree of adhesive inflammation; so that a firm union of the sides of the sinus may be obtained. To answer both these intentions, Mr. Bell thinks that the introduction of a seton is sufficient. The seton must pass from the orifice in the ulcer along the course of the sinus to its other extremity, where an opening, large enough for the discharge, should be made, as in cases of abscess. The cord of cotton, or of silk, should at first be large in proportion to the capacity of the sinus, and diminished gradually as the cure advances. When the discharge is greatly lessened, by the diminution of the vacuity, the seton should be totally withdrawn; a bandage somewhat tight applied over the part, and continued till a complete cure is effected. In this process the first step is, to discover the direction of the sinus, or sinuses; which may commonly be done either by introducing a probe, observing where the matter points, or allowing the matter to collect, and remarking from whence it comes when the parts are pressed: then into every sinus which opens into the ulcer a seton should be introduced. This method of curing sinuses, by the use of a seton, is free from all danger, and may be employed in all cases of this kind; for a seton, by means of a director, may always be used with safety. The sinuses being removed by the setons, the ulcers connected with them are to be cured in the way appropriated to each kind. This practice rarely fails in any case of simple sinus; in general it answers in real fistulæ; and for a fistula in the perinæum this practice is peculiarly advantageous, as it does not produce that troublesome cicatrix which follows the use of the knife. The only objection to the use of the seton in cases of fistula in ano, is the irritation it would occasion in the gut; but of these we must next speak. See Celsus, lib. vi. c. iv. Boerhaave's Aphorisms, the English translation, pp. 102, 103. Pott's Treatise on Fistulas. Bell's Treatise on Ulcers, edit. 3, p. 244, &c.

Fistu'la in a'no. No part of the body is more subject to abscesses than that immediately surrounding the lower part of the rectum: it is much exposed to pressure and other external injuries, which impede the free motion of the blood; and, in parts where the circulation is so languid, obstructions soon occur, and purulent matter is formed with little appearance of active inflammation. We sometimes find also a metastasis to this part; and there are anomalous cases of hectic which seem to originate from an affection of the liver, where this metastasis is not uncommon. As the skin is pretty thick around the rectum, the pus will insinuate itself amongst the soft neighbouring parts, and form sinuses, which degenerate into fistulæ.

This kind of fistula is called complete when there is an opening into the gut, and another externally; incomplete when there is no external aperture.

The symptoms of the incomplete kind are analogous to those of the piles, and are difficultly distinguished from them. The complete kinds have generally callous lips, which, with the discharge, more readily points out the nature of the case.

Abscesses in this part should be opened as soon as we find a fluctuation of matter, and by a large aperture, most effectually to prevent a return. In examining one of these fistulas, if the probe does not readily pass, warm milk may be injected into it, to see if any returns by the rectum, and of course to discover if the gut is perforated. When the probe is used for the examination, let the patient stand on the ground, with his feet pretty far asunder, and lean on the belly over a table: an assistant can then hold his buttocks asunder, that the operator may more readily introduce his finger into the anus before he examines the fistula with a probe. If the fistula runs so deep that the finger introduced into the anus cannot easily reach the orifice, the cure is doubtful, and the attempt dangerous, on account of the hæmorrhage from the vessels, which admit not either of compression or ligature. If a fistula hath been of long standing, in a bad habit, and the discharge is such as to weaken the patient, the operation should not be attempted, at least till the constitution is repaired; but if the patient is of a good habit, if the fistula returns, the operation may be repeated.

We have just remarked also that a fistula is sometimes connected with diseases of the liver or the lungs, and in these cases it appears to be a critical discharge. If any cough or hectic fever has preceded, the operation soon hastens the fatal termination. The hectic recurs with increased violence, the purulent expectoration is more copious, and the strength rapidly fails. The appearances which contraindicate the operation, are those only which are pulmonary; but the true hectic, viz. where the lungs alone are affected, seems seldom, if ever, to be attended with abscesses of this kind. Where an affection of the liver has preceded or accompanied the disease of the lungs, such dispositions are not uncommon, and the event is such as we have described.

Some authors have contended that all fistulæ are critical, and we have sometimes inclined to that opinion; yet, as they may be sometimes safely cured, and the disease is inconvenient and distressing, if not acutely painful, should there be no other apparent disease, the operation may be attempted. If not advisable, country air, milk diet, a mildly tonic course of medicines, with gentle eccoprotics, will often relieve; and nature will sometimes complete the cure, or so far relieve the complaint as to produce no great inconvenience. See St. Andre on Fistula in Ano.

Dr. Monro's instruction we shall add: "Wherever the opening of the fistula is, if it hath any turnings where it reaches the gut, divide them, and make them straight, avoiding the sphincter. After this I attempt to promote incarnation, which might lessen the cavity, and by degrees fill it up, by injecting balsamic softening medicines; though sometimes a patient of a good habit may be cured by applying a poultice of bread and milk, and a digestive. If this fail, I endeavour to render the parts entirely callous and insensible, by injecting a mixture of lime water and brandy, with a little honey of roses, increasing the brandy and diminishing the rest, as the

parts lose their sensibility, until at length I inject pure alcohol, which renders them quite insensible."

When the operation is performed, a probe pointed bistoury is to be passed into the fistula, and the finger into the rectum, to meet it. If the fistula is incomplete, the probe is sometimes passed through the gut, at its upper part, to render it complete; but this, we think, should be avoided. The sharp pointed bistoury is then passed along the other, and the sinus divided. In general, however, the probe is passed through the upper aperture, and bent down by the finger, when the sinus is cut through by the common scalpel. If the sinus goes beyond the reach of the finger, it should be divided only so far as the latter can extend; for beyond it the knife must not be trusted. As the external opening is usually on the outside of the rectum, the sphincter is commonly divided; but this occasions no inconvenience.

When the patient dreads the knife, it has been usual, in the complete fistula, to pass a silver or a leaden wire through the sinus, and to bend it from the upper orifice till it is again brought to the outside. The compression by this means destroys the life of the part; but the pain and irritation are too great to render it an eligible method.

It is styled an *occult fistula* when there is no external opening; and it is then difficult to determine whether the disease be really fistulous near the anus, or whether there be an abscess in the superior part of the intestine. The occult fistula is distinguished by a hardness, a painful swelling, and discoloration near the verge of the anus; while its existence is ascertained by matter being found mixed with the fæces, or following them. In the disease which is our present object, the matter more frequently follows the fæculent discharge. An opening is to be made in this case at the discoloured part, and the disease reduced to a complete fistula.

The disease is sometimes so violent and obstinate, that the parts in the vicinity, and sometimes the rectum itself, are separated from the organs around. Various methods of peculiar severity have been adopted on this occasion. It is, however, sufficient to lay a detached portion of the gut open on the side most affected, as in common fistulæ; and sometimes another portion on the opposite side. If the bones are sound, these operations will usually succeed.

When the matter insinuates itself into the perinæum, or down the hip, the sinuses should be laid completely open. When the matter has been long confined, the parts become hard and apparently scirrhous. In this case the sinus must not only be laid open, but the scirrhosities removed by the knife. It has been common to apply caustics for the latter purpose; but this mode of relief is tedious, and much more severe than the knife.

When the operation is finished, it has been the general practice to stuff the cavities with lint; but this occasions great irritation, and often induces diarrhœa. After cleaning the wound, pledgets are to be gently introduced, so as to cause no uneasiness. The sore, however, often assumes an unhealthy appearance, and the discharge is thin. Though this may arise from the sinus not being completely opened, it is more commonly owing to the weak state of the constitution. Bark, wine, and cold bathing, country air, and milk diet, have been recommended. Balsam of Peru and of capivi, turpentine, and other stimulating applications, have been used often with little success. Unfortunately, when the wound *has* healed, worse symptoms have come on. *Patients* are, however, often *impatient*, and the surgeon must cure the wound which he has made, if he wishes to preserve his credit. It is melancholy to reflect, that we cannot always, at the same time, do our duty, and satisfy those under our care. We have sometimes succeeded in inducing patients to "bear the ills they have," rather than "fly to others that they know not of," and our best success has been obtained—by delay.

D. Mudge's "experienced and successful method of treating fistula in ano" consists in employing a speculum to dilate the rectum, and bring the parts more completely within the view. The callous edges of the wound are touched with butter of antimony; and when the surface appears preternaturally smooth, the precipitate ointment is applied.

See Heister's Surgery; Le Dran's Operations; Sharp's Operations; Pott's Treatise on Fistulas; Bell's Surgery, vol. ii. p. 282; Kirkland's Medical Surgery, vol. i. p. 201, 235; London Medical Journal, vol. v. p. 392; White's Surgery, p. 386.

Fistu'la in the epidi'dymis. In the London Medical Observations and Inquiries, vol. ii. p. 273, is an instance of a fistula in this part being cured. A man of thirty-five years of age hurt his testicles by a fall; a suppuration followed, and the matter was discharged externally. When the swelling was reduced by means of an emollient cataplasm, a fistula was discovered in each epididymis: a probe director was then introduced into the left sinus, which was cut open its whole length; after which all the indurated parts and the diseased skin were dissected; the same was done on both sides, and a part of the epididymis on the right side was cut away. The dressings, as in common wounds, finished the cure; and the functions of the testes were afterwards said to be fully executed.

Fistu'la lachryma'lis, (see Ægylops,) is a disorder of the canals leading from the eye to the nose, which obstructs the natural passage of the tears, so that they trickle down the cheeks. In its first and mildest stage, an inflammation on the part is alone observed: in the next, matter is discharged from the puncta lachrymalia, which flows with the tears; the matter may proceed from an orifice through the skin, between the nose and the angle of the eye. The last and worst degree is, when the matter of the abscess has corroded the subjacent bone.

If the skin between the angle of the eye and the nose is not perforated, it is called *imperfect*; if corroded, a *perfect*; and if the subjacent bones are affected, a *compound, fistula lachrymalis.*

Other disorders near the seat of the fistula lachrymalis are confounded with it; but properly this kind of fistula is an erosion of the ducts of the lachrymal sac; in consequence of which, pus flows from them into the great angle of the eye; when the clear lachrymal fluid alone flows out, the disorder is an epiphora, q. v. The matter of a proper fistula generally flows through the upper puncta, but sometimes through the lower only, or in a few instances through both.

The symptoms are, frequent dropping of tears, and of purulent matter, especially in the morning, without any manifest external inflammation. By pressing with the finger upon the lachrymal sac, a discharge of pus

follows through the puncta lachrymalia; and if this pus be offensive to the smell, or of a green or blackish colour, though not offensive, the adjacent bones are generally carious. When the matter is of a bad smell or colour, the probe will readily determine the state of the bone; for sometimes it is not injured, notwithstanding the attendance of the usual signs; and it is sometimes carious, when the pus is laudable. If, however, the discharge continues to be faulty, a caries will, for the most part, be formed in the lachrymal bone, the os planum, or in the jaw bone. If the nasal duct is obstructed, it is known by injecting some fluid into it, when, instead of passing into the nose, it returns by the puncta lachrymalia: if there is an encysted tumour, the exterior parts swell, and the tumour will not yield to the pressure of the finger, though there is no inflammation. When it does yield, there is a lachrymal hernia. Instances have occurred of a fistula lachrymalis not discharging pus with the tears, but alone when the patient was asleep; and this hath happened when the adjacent bones have been carious.

If the complaint is recent, the habit of body not remarkably diseased, the external skin not corroded, the nasal duct unobstructed, the matter of a good colour and consistence, incision and the cautery are unnecessary; for compression and mild astringent collyriums will be sufficient: the matter should be occasionally pressed out with the finger, to prevent its acquiring an acrimony. But if the duct into the nose is stopped, nothing will succeed but the operation. In performing it, the loose skin of the under eye lid must be pressed upon the globe of the eye, and a passage into the lachrymal groove cut: this is known by the crackling of the os unguis under the pressure of the knife; a probe must then be introduced to perforate into the nose. It is necessary to guard against cutting on the upper part of the maxillary bone, which will be discovered from the resistance. In that case the incision must be made further back. If, in perforating the os unguis, you press upon it too forwards, you will be obtructed by a part of the maxilla superior, which forms a portion of the canal in which the sac is lodged; if you press inwards, there will be danger of injuring the os, or septum nasi, or the os ethmoides: but if the instrument is passed backwards and downwards towards the uvula, no obstruction will occur.

For compressing instruments with which to cure the slighter cases, see Sharp's Operations, and Gooch's Cases. On the Fistula Lachrymalis, see Sharp's Operations; Le Dran's Operations; Edinburgh Medical Essays, vols. ii. and iii; Pott's Treatise on the Fistula Lachrymalis; St. Yves on Disorders of the Eyes; Heister's Surgery; Bell's Surgery, vol. iii. p. 469; Kirkland's Medical Surgery, vol. ii. p. 134; London Medical Journal, vol. i. p. 62, vol. ii. p. 77, 245; Nosology of the Eyes, p. 77, 83; White's Surgery, p. 256.

Fi'stula in peri'næo consists in an opening in the skin, corresponding with one in the urethra. It sometimes happens that one opening from the side of the urethra corresponds with several through the skin; but it rarely happens that there is more than one opening from the urethra.

After lithotomy, a puncture of the perinæum, an abscess in the same part near the urethra, a scirrhus in the prostate, &c. a fistula is sometimes formed, through which the urine partly passes, while the rest is conveyed through the natural passage.

A fistula proceeding from the urethra runs in various directions before it reaches the external opening of the skin; so that when the latter is near the anus, it may be taken for a fistula in that part; but the discharge of urine through the fistula at once distinguishes its nature.

Besides the callosities on the external orifice of these fistulas, there are sometimes calculous concretions lodged in their cavities; indeed, so various are the circumstances attending different cases of this kind, that only general rules can be laid down for their treatment.

In general the outward opening must be enlarged by cutting away the callous lips, or destroying them by caustic; but it sometimes happens that the same end may be attained by distending the urethra with a bougie. Le Dran observes, that though there are several fistulous orifices, and several callosities in the perinæum, when the water passes off in a small stream through the natural passage, the chief remedy will be the introduction of bougies; for as this canal is enlarged, the external orifices are diminished and healed, and the callosities consequently softened. Mr. Bell prefers the cure of this fistula by the introduction of a seton. See Fistula. Le Dran's Operations. Bell's Surgery, vol. ii. p. 226. London Medical Journal, vol i. p. 379. White's Surgery, p. 395.

On fistulas in general, see Celsus, Boerhaave's Aphorisms, and Pott's Treatise on Fistulas.

FISTULA'RIS. Fistular. In botany, those flowers are thus called which are compounded of many long hollow small florets, like pipes; and those plants are called fistulous whose stalks are hollow, like a pipe.

FISTULO'SUM FO'LIUM. See Farctus.

FIXA'TIO. Fixation. In chemistry it is the rendering any volatile substance fixed, so as not to fly off upon being exposed to an intense heat.

FL. LAP. The abbreviation of Car. Linnæi Flora Lapponica.

FLABE'LLIFO'RMIS, (from *flabellum*, *a fan*, and *forma*, *likeness*). In botany it means a leaf, shaped like a fan.

FLA'GELLUM. A lash. In botany, a barren twig, a shoot like a thong.

FLA'MMULA. Formerly a skein of silk with which setons were made. The name also of several species of ranunculus, of the atragene and clematis.

Fla'mmula jo'vis, (from its burning acrimony). *Surrecta alba*. The upright lady's bower, *clematis recta* Lin. Sp. Pl. 767. Upright traveller's joy. The recent leaves, and in a less degree the flowers, on being chewed, excite a burning heat of the tongue and fauces; and if retained long in the mouth, produce a blister; but by drying, this acrimony is considerably diminished. The root, seed, and bark, if rubbed with the fingers, strike the nostrils very quickly with a strong smell. This plant yields a very acrid water; and Stoerck has published several cases of its successful exhibition, particularly in inveterate headachs, pains in the bones, nodes, ulcers, and cutaneous affections from syphilis. He chiefly recommends an infusion of two or three drachms of the leaves in a pint of boiling water, of which four ounces are to be taken

three times a day, whilst the powdered leaves are employed as an escharotic. (See Stoerck de Flammula Jovis.) In this country it has been little employed, and with less success.

FLATULE'NTUS, and FLA'TUS FURIO'SUS. See Ambulo.

FLA'TUS. Flatulence. Vapours rarefied by the heat of the containing part. Distensions, uneasy sensations, and often a considerable degree of pain, are the consequence. The term is confined to wind in the stomach and intestines. In other cavities, it is called *tympanites*. See Apepsia, Digestio, and Hysteria.

FLA'VII CLEME'NTIS MEDICAME'NTUM. The name of a medicine for the gout, described by Actuarius.

FLA'VUS CO'RTEX. Yellow bark. This bark, very lately introduced into practice, is supposed to be a species of cinchona, growing in the interior mountainous parts of America, described by Murray under the title of *cortex chinæ*, vel *chinchinæ regius*, seu *cortex chinæ flavus*. This bark, according to Murray, consists of flattish pieces of about the length of a finger, the breadth of the thumb, and a line in thickness. Its colour is yellowish, inclining to that of the red oxide of iron. It partakes more of the ferruginous colour on its external than on its internal surface, owing to the close adhesion of the epidermis to the bark. Both in its fracture and on its surface it appears fibrillous, breaking easily between the fingers, so that it may be rubbed into a yellow powder. In taste it is intensely bitter, with a slight degree of astringency. Its efficacy is considered as far superior in intermittent fevers to the bark commonly employed. Dr. Relph observes, that in colour it only approaches nearer to a yellow than any other species of Peruvian bark imported into this country, especially when reduced to powder; that it consists of flattish irregular pieces, of a cinnamon colour, inclining to red, having, in certain directions of the light, a peculiar sparkling appearance on the surface. The pieces are very generally divested of the cuticle, of a fibrous texture, dry, and rigid to the feel, easily rubbed to powder between the finger and the thumb; not remarkable for their specific gravity. They have little odour, but to the taste are intensely bitter, with a moderate share of astringency, and a flavour corresponding unequivocally to that of the cinchona officinalis. The external surface of this bark is somewhat of a deeper colour than the internal, and in some specimens it is as deep as that of the red bark. The pieces vary much in size; some are about two inches and a half in length, an inch in breadth, and the sixth of an inch in thickness; while others are still smaller; and some are to be found from twelve to eighteen inches in length, with the breadth and thickness in proportion. Pieces sometimes through the whole chest are nearly cylindrical, and as completely covered with an outer coat as the most perfect specimen of common bark. The epidermis of the large pieces of the yellow bark is of a reddish brown colour, rough, and of a somewhat spongy texture; but that of the smaller pieces is grey, harder, and much more compact.

Like the cortex Peruvianus, it yields its virtues to water by infusion or decoction, to proof or rectified spirits, and extracts may be formed from either in the usual way. It is considered to possess the same virtues, but in a greater degree than either the common or red bark, consequently to be more efficacious in smaller doses. For the complaints to which it is adapted, see Cortex Peruvianus: the dose of the powder is from ℈ ss. to ℈ ij.—of the extract half the quantity is sufficient. See Relph on the Yellow Bark.

FLE'MEN, (quasi Flegmen, from *flecto, to incline downwards*). A tumour about the ankles; or callous furrows in the hands or feet.

FLERE'SIN. See Arthritis.

FLE'XOR, (from *flecto, to bend*). A name applied to several muscles, from their office of bending the parts to which they belong.

Fle'xor bre'vis mi'nimi di'giti ma'nus, rises from the unciform process of the carpus, toward the annular ligament, and is inserted into the basis of the little finger.

Fle'xor ca'pitis. See Rectus internus major.

Fle'xor carpi radia'lis; *flexor carpi exterior*, and *bicornis;* rises from the anterior part of the inner condyle of the os humeri, passes toward the outside, and runs through the annular ligament, being partly inserted into the trapezium, and partly into the first metacarpal bone.

Fle'xor ca'rpi ulna'ris, *flexor carpi interior*, rises from the inner condyle of the os humeri, and almost from the whole surface of the ulna, forming a tendon inserted into the os pisiforme.

Fle'xor di'giti pa'rvi mi'nimi. See Abductor minimi digiti manus.

Fle'xor digito'rum accesso'rius. See Flexor lungus pedis. Dr. Hunter calls it *accessorius*.

Fle'xor digito'rum pe'dis. See Flexor sublimis.

Fle'xor secu'ndi interno'dii digito'rum pe'dis. See Flexor sublimis.

Fle'xor interno'dii pri'mi digito'rum. See Lumbricales. Dr. Hunter describes the lumbricales as productions of the flexors, and distinctly that called

Fle'xor interno'dii pri'mi po'llicis ma'nus, rising from the annular ligament of the carpus, and inserted into the first bone of the thumb.

Fle'xor interno'dii pri'mi et secu'ndi po'llicis. These muscles rise sharp and fleshy about the middle of the back part of the fibula; then, running into a tendon in passing over the joint, and through a channel in the inner part of the os calcis, are inserted into the upper end of the second bone of the great toe.

Fle'xor interno'dii se'cun'di digito'rum ma'nus, *flexor sublimis*, or *perforatus*, rises from the inner condyle of the os humeri, and from the fore part of the head of the ulna and radius; passes through the annular ligament, and spreads out into four tendons, which are inserted into the basis of the second phalanx: these are bound down by what is called an *annular ligament*, which is really a general sheath of the fingers, thicker at the joints than elsewhere. Brown calls this muscle *flexor secundus*.

Fle'xor interno'dii secu'ndi po'llicis ma'nus, is made up of two portions, the anterior of which

is inserted into one sesamoid bone, the posterior into the other.

Fle'xor interno'dii te'rtii digito'rum ma'nus, by Dr. Hunter called *perforans manus; profundus manus;* rises from the inner condyle of the os humeri, from the external part of the ulna about its middle, and from the interosseous ligament; runs between the perforatus, and forms four tendons, which pass through as many slits in the perforatus, to be inserted into the basis of the last phalanx.

Fle'xor interno'dii te'rtii po'llicis, vel longi'ssimus po'llicis ma'nus, hath sometimes a twofold beginning; one from the internal substance of the os humeri, between the perforatus and perforans, but this head is occasionally wanting; or springs from the upper and fore part of the ulna: the second head rises on the radius, passes over the articulation of the carpus, and is inserted in the upper part of the third bone of the thumb.

Fle'xor lo'ngus, or pe'rforans pe'dis, called also *accessorius*, rises from the posterior part of the tibia, just below the poplitæus, and from the interosseous ligament; goes on the inside of the astragalus and os calcis (from whose internal part a short head arises, called *accessorius*), and passing through the slit of the perforatus, its four tendons are inserted into the basis of the last bones of the toes. This muscle receives some fibres from the flexor pollicis longus.

Fle'xor pe'rforans ma'nus. See Flexor interno-dii tertii digitorum manus.

Fle'xor po'llicis bre'vis, is short, thick, and fleshy, seemingly divided into two muscles, by the tendon of the flexor pollicis longus passing over it. It rises from the upper part of the os cuneiforme medium, and, running over the termination of the musculus peronæus primus, is implanted into the ossa sesamoidea of the great toe, which are likewise tied to the superior part of the second bone of that toe.

Fle'xor po'llicis lo'ngus ma'nus, rises from the fore part of the radius, and commonly receives one slip from the coronoid process of the ulna; forming a tendon which passes deep under the annular ligament, runs between the two sesamoid bones, over the first and second bone, to be inserted into the basis of the third.

Fle'xor po'llicis lo'ngus pe'dis, rises from the posterior part of the fibula; passes in a groove between the astragalus and os calcis; is covered by the abductor pollicis, and goes between the sesamoid bones, where it meets with an annular ligament, to be inserted into the last bone of the great toe. It gives some fibres to the perforans pedis.

Fle'xor po'llicis o'ssis pri'mi et secu'ndi, is a large disgregated muscle, arising from the ligamentum transversale carpi, the bones of the carpus at the basis of the mons lunæ, and the os metacarpi of the middle finger, whence it passes to its insertion into the first and second bones of the thumb. In its tendon, near the insertion into the first bone of the thumb, are placed two sesamoid bones. Its actions are various, as are the directions of the muscular fibres.

Fle'xor subli'mis, or perfora'tus pe'dis, called by Winslow, *flexor digitorum brevis*, and by Brown, *flexor secundi internodii digitorum;* rises from the lower and inner part of the os calcis; is divided into four tendons under the sole of the foot, which are inserted into the bones of the second phalanx.

FLEXUO'SUS, (from *flecto, to bend*). This applies to the stalk in botany, and means having many turnings, bent differently at every joint.

FLORA'LIS, (from *flos, a flower,*) belonging to a flower; the leaves which immediately attend the flower.

FLO'RES. (See Flos.) Flowers. In chemistry, they are the most subtile parts of bodies, separated from the more gross, by sublimation in a dry form, and found under the respective names of the materials used, as *flores benzoini antimonii*, &c. Mace is sometimes, called the *flowers* of nutmeg. In pharmacy, they are directed to be gathered when moderately expanded, on a clear dry day before noon. Red roses are taken before they open, and the white heels are cut off and thrown away. Those flowers which are gathered for keeping should be dried in the shade, but as quickly as possible; in some instances, the place may be warmed by a fire, though the sun should not shine upon them. When the flowers are dried, they must be kept close and dry. With their scent and colour they lose their virtues. The medical virtues of different flowers reside in different parts; e. g. saffron is a production which rises from the style of the flower; the active part of camomile flowers is in the yellow disk; in roses, lilies, and several others, the virtues are in the petala; and the flavour admired in rosemary flowers is chiefly in the cups.

FLO'RES ANTIMO'NII. See Antimonium.

FLOS, (from φλοξ, *quia emicat ut flamma;* or from *flando, quia spirat odorem:* some authors derive it from χλοος, *green*). A flower is that part of a plant in which the parts of generation of either sex reside. In some flowers are the parts proper to one sex only; in others both sexes are included in the same flower. A flower, when complete, consists of a calyx, corolla, stamen, and pistil; but the essential parts are the anthera at the top of the stamen, and the stigma: these are sufficient to constitute a flower.

Tournefort's system, which alone could be the rival of the Linnæan, depended on the form of the flowers: as it is not yet wholly disused in France, though superseded rather by Jussieu's natural arrangement than the Linnæan system, we shall shortly give its outline.

The vegetable kingdom is divided into *herbs* and *trees*. *Herbs* are such as have flowers with petals or without them. The petalodes are simple or compound. The simple-leafed flowers are divided into monopetalous and polypetalous; the former into regular and irregular; the regular flowers into the *campaniformes* and *infundibuliformes;* the irregular into *labiati* and *anomali*. The *polypetali* regulares are the *cruciformes*, *rosacei*, *umbellati*, *caryophyllæi* and *liliacei*). The irregulares are the *papilionacei* and *anomali*. The compound petalodes are the *flosculosi*, the *semiflosculosi*, and the *radiati*. The apetali are either those without leaves and without a flower, or without flower or fruit.

The flowers of *trees* are similarly divided. The apetalous ones are the *apetali* and *amentacei;* the petalodes monopetali contain only the *monopetali;* the others are the *rosacei* and *papilionacei*. According to Linnæus, the calyx is the expansion of the epidermis, the corolla or flower of the liber or inner bark.

Flos abo'rtiens. Abortive flower, producing no fruit.

Flos amentaceus. See Amentum.

Flos ape'talus; is without a corolla; often called stamineous, incomplete, imperfect. The parts of generation are covered only by the calyx.

Flos campanifo'rmis, shaped like a bell. Those whose edges spread wide, are termed open bell shaped flowers; those less spread, tubulous bell shaped flowers.

Flos caryophylle'us, resembling a single carnation, having five regular petals, ending at the bottom in a long narrow claw.

Flos compo'situs; a species of aggregate flower, containing several florets, inclosed in a common perianth, and on a common receptacle, with the anthers connected in a cylinder.

Flos crucifo'rmis, is composed of four equal petals, placed in the form of a cross. Of this sort are the cabbage, the wall flower, and mustard.

Flos fœmi'neus. Female flower, which has pistils or stigmas, without stamens, or at least antheræ.

Flos flosculo'sus. A flosculous flower. By Linnæus called *tubulosus, a tubulous compound flower*, composed wholly of tubulous florets, exemplified in tansy, and the camomile flowers.

Flos infundibulifo'rmis. A funnel shaped flower, as the primrose, &c.

Flos labia'tus. Lip shaped flower. A monopetalous corolla, with a narrow tubular basis, expanding at the top in one entire, or in two lips: Linnæus uses the term ringens, including under it both labiated and personate flowers. This creates a confusion, which, according to Martin, would be removed, if we put labiate for an irregular monopetalous corolla with two lips, and appropriate the term ringens to such as have the lips gaping and open, personate to such as have them closed. Sometimes the upper lip is wanting, and then the style and chives supply its place, as in the ground pine, bugula, &c. This is sometimes called an unilabiated flower. In some species, the upper lip is turned upwards, as in the ground ivy; but most commonly the upper lip is convex above, or turns the hollow part down to the under, representing an helmet, whence they are called *galeate*, *cucullate*, and *galericulate*.

Flos lilia'ceus. A lily shaped flower, is generally composed of six petals, which resemble those of the lily, the tulip, and the asphodel: and is a natural order of Murray.

Flos monope'talus. A flower composed of one leaf; or whose leaves are joined at the bottom, so as to fall off entire.

Flos ma'sculus. Male flower; bearing stamina only, without pistils; or at least wanting the stigma.

Flos monope'talus anomalus. An irregular flower, consisting of one leaf.

Flos papiliona'ceus, (from *papilio, a butterfly*). The papilionaceous, or butter fly shaped fower, is irregular and usually four petalled. The lower petal is shaped like a boat, and is called *carina* or *keel;* the upper, which spreads and rises upwards, is called *vexillum*, *standard* or *banner;* the two side ones are separated by the keel, and are called *alæ*, the *wings;* the keel is sometimes split, and then this corolla is properly five petalled. These flowers are called pea blossomed, because the pea is the most common example.

Flos persona'tus, a masked flower, is an irregular monopetalous flower, in which the pistil becomes a capsule entirely distinct from the calyx: it has a similar appearance with the labiate flower; but does not ill represent a mask, the snout of some animals, or the beaks of fowls.

Flos petalo'des, a petalous flower, has organs of generation surrounded with petals.

Flos polype'talus, a polypetalous flower, is composed of several petals. When these agree in figure and position, it is called *regular polypetalous;* but when they do not agree, *irregular polypetalous*.

Flos pyramida'lis farne'sianus. See Battatas canadensis.

Flos radia'tus, a radiated flower, consists of two parts, viz. the disk and the rays, which are several semiflorets set round the disk in the form of a star: these are called *radiated discous flowers;* but those which have no rays are called *naked discous flowers*.

Flos rosa'ceus, rose shaped flowers, consist of four or more regular petals inserted into the receptacle by a short broad claw, as in the wild rose.

Flos rota'tus, is a flower in the form of a wheel; wheel shaped corolla; monopetalous; spreading flat, without any tube; such as that of borrage.

Flos sangui'neus mona'rdi. See Nasturtium Indicum.

Flos scorpioides. Those flowers are ranged on one side of the pedicle, which twists at the top, in the form of a scorpion's tail. Of this sort is the heliotropium.

Flos semifloculo'sus, a semifloculous flower, is composed of several semiflorets, included in one common calyx.

Flos so'lis pyramida'lis. See Battatas Hispanica.

Flos spica'tus, spiked flower, is one whose flowers are set thick on the pedicle, so as to form an acute cone.

Flos stamineus, a stamineous flower, is composed of many chives included in a calyx, having no petals, Of this sort is the bistort, &c.

Flos ste'rilis. Barren flowers. These have no embryo adhering to them, and are called *male flowers*.

Flos te'rræ. See Cœli flos.

Flos tubulo'sus. See Flos flosculosus.

Flos ventricula'tus. Whorle shaped flower. These grow closely united, surrounding the stalk at the joints.

Flos umbella'tus. An umbellated flower. When the extremity of the stalk or branch is divided into several pedicles, or rays, beginning from the same point, and opening in such a manner as to form a kind of inverted cone, like an umbrella, it has this appellation. When the pedicles, into which the stalk is divided, are subdivided into others of the same form upon which the flowers are disposed, the first order is called *rays*, the second *pedicles*. When it consists of pedicles only it is called a *single*, when composed both of rays and pedicles a *compound umbel*.

Flos urceola'tus. Pitcher shaped flower, bellying out like a pitcher; applied to the calyx, corolla,

and nectary. Of this sort are the arbutus and whortleberry flowers.

FLO'SCULUS, (a dim. of *flos, a flower*). A FLORET, or LITTLE FLOWER, one of the distinct florets which compose an aggregate flower.

FLUIDA. The fluids of the body have been classed according to their form, or their qualities. In the former view, they may be arranged under the heads of *gaseous*, *watery*, *oily*, *glairy*, or *mucous*. The *gaseous* fluids are the insensible perspiration from the surface, and the lungs; some gas combined loosely with the blood; the contents of the pericardium; of the ventricles of the brain; of the duplicature of the peritonæum, perhaps of the sheaths of the nerves; more certainly of the stomach and intestines. The *watery* fluids are, the circulating, the secreted, and the absorbed fluids: the *oily*, the contents of the adipose membrane, the bile, and cerumen; the *glairy*, those contained in the cavities of the joints; the *mucous*, those which line surfaces contiguous to each other, generally such as admit of occasional dilatation for the passage of any body, as the throat, the vagina, &c.; often those whose accretion this fluid is designed to prevent, as the eye lids, the prepuce, &c.

Dr. Hooper divides the fluids from their qualities into the *crude*, more properly the *alimentary*, as the chyme or chyle; the *sanguineous*, as the fluids of the heart, arteries, and veins; the *lymphatic*, or the contents of the lymphatic system; to which he adds the *nutritious gelatine;* the *secreted* and the *excrementitious*.

The secreted fluids may be again divided according to their form, as stated above; but the varieties are numerous, and the shades of distinction often minute. Thus milk unites the watery and the oily; the semen approaches an albumen, and the liquor of the prostate remains to be more accurately examined. The diseases of the fluids are numerous, but must be the subject of a separate consideration. See MORBI FLUIDORUM.

FLU'OR, also FLUS, (from *fluo, to flow*). This word, when used adjectively, is applied to signify the habitual fluidity of any substance, implying that it cannot be rendered solid; e. g. a volatile alkali treated with quicklime is always liquid, and cannot be made to concrete or crystallize, so is called *fluor volatile alkali*, to distinguish it from the common carbonated ammonia.

When the word fluor is used substantively, it signifies a fusible mineral, or one which facilitates fusion. Of this kind are many spars, which are called *fluors;* and by the word fluor, spar is generally understood. Spar appears like crystal; but less bright, colourless, and pellucid; it commonly rises in triangular points, and is calcareous: it is the same with stalactite.

The spar fluor is a fluate of lime; or calcareous earth with the fluoric acid. Of this spar the ornamental vases and columns from Derbyshire, are made; but it is never employed in medicine.

FLU'OR A'LBUS. The WHITE FLUX, the WHITES, *eluvies*, *cachexia uterina*, *leucorrhœa*, *leucorrhois*, &c. is a flow of matter from the vagina, of different colours and consistencies, but generally of a pale or whitish colour. Astruc distinguishes, by an useless refinement, this discharge into the lymphatic, semilacteous, and lacteous. In Dr. Cullen's Nosology it is the menorrhagia alba; the fifth variety of his menorrhagia. He defines it "a serous menorrhagy, without any local injury in women not pregnant." He places it under this head, because the leucorrhœa is usually joined with menorrhagia, or soon follows it; and because it is highly probable that the serum flows from the vessels which supply the menses. The causes of leucorrhœa also are often the same as those of menorrhagia.

The seat of this disorder seems to be in the uterus, near the os internum, though principally in the vagina. Astruc thinks its seat to be in the glands, situated on the third or internal tunic of the uterus, and that they are vesicular bodies about the fundus uteri; these glands he calls *colatoria lactea*, and adds that this disease consists in a preternatural discharge from them. The uterine exhaling vessels, according to Hoffman, "become blood vessels at the menstrual period, and when emptied they contract to their former dimension and tone; but if by immoderate evacuations, or other causes of debility, their power is weakened, they separate the serous part of the blood, which, by stagnation, or from a particular state of the body, acquires various degrees of acrimony and consistence." As pregnant women are liable to this complaint, it does not appear that in them the discharge proceeds from the uterus, except from about the os internum; for the spongy chorion firmly adheres to its inner surface in almost every part. Some women have, indeed, a return of the menses in every month of pregnancy, which, though deficient both in quantity and quality, confirms Hoffman's opinion, as well as that the vagina may be a principal seat of the discharge.

Women who abound with serum, with lax fibres, or at the decline of life, and girls at the approach of the menses, are most subject to this disorder; though it sometimes occurs from infancy to old age. Hoffman observes, that women who are subject to a mucous defluxion at the nose are, on a suppression of the menses, affected with a fluor albus.

That the immediate cause of a fluor albus is debility of the vessels from which the menstrual discharges flow, or a retarded circulation of the blood through them, appears from some women having always a leucorrhœa whenever their menses are detained. In languid habits the disease returns periodically, instead of the proper menstrual evacuation, until the patient's constitution is sufficiently invigorated; and in many instances it is manifest only during the absence of the menses.

The more remote causes are, cold moist air, a sedentary life, poor diet, excessive menstrual discharges, abortions, violent extraction of the placenta; indeed, every circumstance which weakens the constitution in general, or these vessels in particular.

From Hippocrates' description, it appears to have a great affinity to a cachexy. He says, "that the matter discharged resembles the white urine of an ass; white swellings appear in the patient's face, the part below the eyes swells, the eyes are disordered, and appear as if the patient was dropsical; the colour of the skin is whitish, and the lower part of the belly tumid; in the legs appear tumours so lax and so soft, as to retain the impressions of the finger; a biting pain is perceived in the stomach, and a sensation of an acid water lodged

in it, either when the patient is fasting or happens to vomit; when she goes up a steep place, she is seized with short breathing; her legs are cold, her knees feeble, her uterus preternaturally opened, with a sense of weight at its mouth. This discharge is sometimes daily, and occasionally it appears two or three times in a month, and continues, each time, only a few days; the humour is serous and limpid in some, and in others more viscid: sometimes it is acrid, and occasions an itching, pricking, or even an excoriation; in its greater degrees of virulence, it appears of different shades, from the slightest yellow to a green or even a blackish green colour, and it is then more or less fetid. When the case is mild, it is often not regarded; but when more violent, a cachexy is the consequence. There is in that case a pain and sense of weight in the loins, turbid urine, longings and loathings, indigestion, swelling of the face in the night and of the feet in the day, palpitation of the heart, fainting, symptoms ending fatally in dropsy, or a consumption."

This disorder should be distinguished from a cachexy, a gonorrhœa, pale and ill coloured menses, and from ulceration, abscesses, and cancers in the parts of generation.

Leucorrhœa is often a symptom of cachexy, and the treatment is the same, so that distinction is not necessary. It is frequently mistaken for gonorrhœa; and in turn the latter is styled the whites. Leucorrhœa, when violent, is attended with a discharge as thin, as discoloured, and as acrid as gonorrhœa; and the character of the woman or her husband will, at times, be the only means of distinguishing the complaint. This similarity is, however, advantageous in another view, as it enables the practitioner to preserve the peace of a family, by giving a safer name to the effects of imprudence. If a woman is regular, it will be found that, during the discharge of the menses, the whites disappear; but the matter of a gonorrhœa is found combined with the blood; and except in very old women, whom we cannot suspect of gonorrhœa, the discharge is seldom so acrid as to occasion pain in making water.

Ulceration and abscesses in these parts have been usually preceded by inflammation, or may be traced to some violence; and the discharge of cancers is attended by the violent lancinating pains at the bottom of the belly. The discharge from cancers also, we believe, is the only fluid from those organs, which discolours bright silver.

If this disorder is moderate, it is supported a long time without much inconvenience; but if considerable, it soon spoils the beauty, weakens the digestive powers and the whole system, occasions sterility, and more frequently a disposition to miscarry. If the flux is unseasonably checked, the belly is said to swell, a hectic fever to come on, and a train of the most disagreeable symptoms to follow. We suspect, however, that to check it quickly is no easy task.

The indications of cure are, to promote digestion, increase the strength, and restrain the preternatural discharge. The diet should be light, cordial, and nourishing; isinglass dissolved in milk is useful, with moderate quantities of red port.

Leucorrhœa is with great difficulty removed. If it proceeds from partial debility of the vessels of the womb and vagina, from frequent births or miscarriages, remedies can scarcely be brought to act on such remote organs; and to remove partial debility by general remedies is a tedious, and often an unsuccessful, task.

Avoiding irritation of body and mind is highly necessary; and it is equally so to guard against topical irritation. The bowels must therefore be kept free, and every excitement of the uterine system avoided. Moderate exercise in cool air, cool rooms, and light clothing, food nourishing, but not highly spiced, or flatulent, are useful. The most scrupulous cleanliness is essential; and injections of milk and water, or green tea, should be frequently thrown up, cold.

Tonic medicines are principally employed; and the chief of these is cold bathing. The chalybeate mineral waters are remedies of considerable importance, among which the Cheltenham and Tunbridge springs are most useful. The bark is often employed, and is frequently salutary; but the more powerful astringents are said by Hoffman to be injurious. The humoral pathologists, in almost every disease, suspected acrimony; and this idea has led to the use of absorbents and of alteratives and mercurials, in leucorrhœa. The former are at least innocent; and as, in such circumstances, acids often abound in the stomach, they may be useful. Mercurials are, we believe, injurious, if we proceed beyond the slightest doses, to give a general tone to the arterial system. For the same purpose chalybeates are generally and freely employed. They have been used also for injections; and smiths' forge water has been recommended. This fluid, however, soils the linen, and as a powerful astringent may be injurious.

The alteratives employed have been the Lisbon diet drink, antimonials, and sarsaparilla. They have been supposed useful when the discharge is highly acrimonious; but we have seldom employed them, and scarcely in any instance found them effectual. The disease is peculiarly obstinate, and to relieve it our almost only chance.

See Cullen's First Lines, vol. iii. p. 24, 31. Hamilton's Midwifery, edit. 2, p. 119, 137, 140. Hoffman's Dissertation on the Fluor Albus. Leake's Medical Instructions, edit. 5.

FLUS, (from *fluo*, *to flow*). See Fluor.

FLUVIA'TILIS, (from *fluvius*, *a river*). Belonging to a river.

FLUX, synonymous often with fusion; and frequently implying the substance by which fusion is promoted. It has various names from its appearance or nature, as black or white flux, crude flux, &c. In general it consists of a mixture of nitre and tartar.

FLUXIO. See Catarrhus.

FLUXUS, (from *fluo*, *to flow*). A Flux. Sometimes it signifies a defluxion, and in this sense it is synonymous with catarrh. Sometimes it is used in a more limited sense, as fluxus ventris, a continued evacuation of thin fæces, without either tenesmus or lientery; or a fluxus hepaticus, when the excrements are like water in which flesh hath been washed. Hippocrates uses the word ῥοος, fluxus, in his work de Natura Muliebli, of which there are the fluor albus, and fluor ruber, i. e. menses. Fluxus ῥυσις means a loss of the hair, in A. Trallian. (lib. i. cap. 2.) In Cullen's Nosology, it is synonymous with Apocenoses.

FOCA'RIUS, (from *foveo, to burn).* Bread boiled on the hearth or gridiron.

FO'CILE MA'JUS et MI'NUS. Arabic. Barbarous appellations of the ulna and radius in the arm; the tibia and fibula in the leg.

FO'CUS (from *foveo, to burn*). The burning point of the speculum, or rather the point at which all the rays of light converge when bent towards the perpendicular by a convex lens. Focus morbi is the supposed principal residence of the disease, from whence it communicates its noxious influence. Some ancient anatomists gave this name to the first lobe of the liver. See Auriga.

FODI'NA, (from *fodio, to dig*). See Labyrinthus.

FŒ'DULA, (from *fœdus, foul;* from its stinking smell, when rotten). A species of fungus.

FŒNI'CULI, vel FŒNICULA'TUM LI'GNUM. See Sassafras.

FŒNI'CULUM; a diminutive of *fœnum, hay;* because when dried, it is preserved; or quasi *fœnum oculorum*, the *hay* or *herb good for the sight.* Fennel. Wine impregnated with it is called *marathrites.*

Fœni'culum vulga're, *fœniculum* Germanicum, *marathrum*, common fincle, or fennel; *Anethum fœniculum* Lin. Sp. Pl. 377.

This plant is so common that a description is unnecessary: its seeds are small, and of a blackish brown. The plant is perennial, native in the southern parts of Europe, but thrives in our gardens; supposed to be the *marathron* of the Greeks, highly esteemed among them for promoting the secretion of milk. The experience of Bergius seems to confirm this opinion.

The seeds are more warm and pungent, but not so pleasing, as those of the sweet kind. They are stomachic and carminative, commended against nauseas and loathing; and if eaten in the morning fasting, supposed to help the sight. Dill, anise, and carraway, are, however, allowed to be superior in these respects.

The leaves have the same flavour with the seeds, and smell stronger, but to the taste are weaker and less agreeable. They impregnate water sufficiently with their virtues by distillation, and by the same process afford a considerable quantity of essential oil. Rectified spirit of wine is rendered agreeably aromatic by them, and the extract retains the whole strength after evaporation.

The roots, taken up in spring, have a pleasant sweet taste, are slightly aromatic, and are ranked amongst the aperient roots.

Fœni'culum dulce. Sweet fennel. This variety of the anethum fœniculum, *var.* α, is annual, a native of warm climes, and cultivated in gardens. The seeds are larger, paler, and sweeter than those of the former sort; contain a gross oil, easily obtained by pressure, and have been esteemed pectoral and diuretic: when freed from the essential oil, they are perfectly insipid. The London college directs us to distil a simple water from the seeds, and from a pound to draw off a gallon; which is said to be diuretic and carminative. See Lewis's Materia Med. Neumann's Chem. Works.

Fœni'culum Alpi'num. See Meum.

Fœni'culum a'nnum. See Ammi verum.

Fœni'culum erraticum. See Saxifraga Anglica.

Fœni'culum mari'num ma'jus et minus. See Crithmum.

Fœni'culum orienta'le. See Cuminum.

Fœni'culum porci'num. See Peucedanum.

Fœni'culum sine'nse. See Anisum Indicum.

Fœni'culum sylve'stre. See Meum latifolium adulterinum.

Fœni'culum tortuosum. See Seseli Massiliense.

FŒ'NUM CAMELO'RUM. See Juncus odoratus.

Fœ'num Græ'cum, (from *fœnum, hay*, and *Græcus, Greece;* because it grew there in the meadows, like hay). Fenugreek; *buceras*, because the fruit is corniculated; and *ægoceras*, because the pods were supposed to resemble the horns of a goat, *trigonella fœnum græcum* Lin. Sp. Pl. 1095. It is a plant with serrated, roundish leaves, whitish papilionaceous flowers, followed by long, slender, crooked, flattish pods, containing yellowish rhomboidal seeds, furrowed from one angle to the other; or, as Neumann observes, oblong, flattish, quadrangular, and roundish at one end. These seeds are sown annually in the south of Europe, from whence they are brought to us, and are the only parts of the plant employed; their prevailing principle is mucilage, and an ounce renders a pint of water very mucilaginous. They are chiefly used in emollient cataplasms and fomentations, and in emollient and carminative clysters. They are slightly bitter, and have a disagreeable smell. See Lewis's Mat. Med. and Neumann's Chem. Works.

Fœ'num græ'cum sylve'stre. See Glaux vulgaris leguminosa.

FŒTA'BULUM, (from *fœteo, to become putrid,*) a foul ulcer; and an abscess with a cyst. Severinus.

FŒ'TIDA TINCTU'RA. See Asafœtida.

FŒ'TUS, (from *feo, to bring forth).* See Voss. Etymol.) *Epicyema*, and *epigonion.* The young of all viviparous animals whilst in the womb, and of oviparous animals before they are hatched. (See Conceptio). The name is transferred by botanists to the embryos of vegetables.

In the human fœtus are several peculiarities not to be found in the adult. 1. The *ductus*, or *canalis, arteriosus.* (See Arteriosus ductus). 2. The *arteries of the navel string*, which are continuations of the hypogastrics, after the birth, are shrivelled up, and form the *ligamenta umbilicalia inferiora.* 3. *The veins of the navel string*, which are formed by the union of all the venal branches in the placenta, and passing into the abdomen, *become the falciform ligament of the liver.* 4. *The ductus venosus*, q. v. 5. *The lungs*, which, before being inflated with air, are compact and heavy; but after one inspiration become light, and as it were spongy. When the lungs swim in water, it is supposed that the child has breathed; and the conclusion is drawn that it has been murdered. But the uninflated lungs become specifically lighter than water as soon as any degree of putrefaction comes on, which quickly happens after the death of the child; and where the utmost care hath been taken to preserve the child, it hath breathed once or twice, and then died; and on the other hand, they may sink, though the child has breathed, if tubercles have formed in them. (See Medicina forensis.) 6. *The thymus gland* is very large in the fœtus, but lessens as years advance, 7. *The foramen ovale* in

the heart of a fœtus is generally closed in an adult. 8. *The circulation of the blood.* See Circulatio.

These peculiarities of structure are connected with the state of the fœtus, while yet in utero, when it has the adventitious support of the mother, on whom its existence for a time depends. The uterine fœtus is inclosed in a bag, composed of different membranes, styled the *ovum*; but the whole, if we except the external membrane, the decidua, is a part of the fœtal system, and connected with its growth and existence.

The ovum, at the earliest period of its existence, or rather as soon as it becomes the object of even the assisted sight, appears like a small vesicle, slightly attached to some part, generally the fundus of the uterus; and, on examination, all the organs of which it consists are confusedly blended. They by degrees appear more distinct; and in the more advanced periods we discover the membranes already described in the articles Amnios, Chorion, and Decidua, q. v. The decidua forms apparently, at first, the principal bulk of the ovum, and is, as we have said, double; the outer membrane lining the uterus, and the inner, reflected, covering the ovum: the double chorion is the only membrane of the ovum which is properly a part of the mother.

In the early period of gestation, a white speck is observed on the amnios, near the part where the umbilical vessels are inserted. It is a vesicle filled with a white liquor called *vesicula umbilicalis*, *alba* or *lactea*, and united with the umbilical cord by a funis, consisting of an artery and vein. It disappears in the progress of gestation, and we are unacquainted with its use.

Though the bag or external parts of the conception are at first large in proportion to the fœtus, they are afterwards related in an inverted ratio; the fœtus increasing more rapidly than its contents and accompaniments: the latter seldom become more bulky after the seventh month. The fœtus is, for a time, invisible; and when at first seen, resembles, as we have remarked, a tadpole, with a rounded head, from which a tail projects. This tail does not consist of what are afterwards the inferior extremities, for these only appear to sprout after some months; nor is it the superior extremities in embryo, for these apparently are added at the sides. When we can perceive any addition, we find a very minute moving point, somewhat below the head, which expands into a heart, at first conveying an almost colourless fluid, and afterwards red blood. Two large black points, the eyes, seem to project, after some time, from the head of the tadpole, and almost to cover it: a chasm is seen below, the future mouth; and a disproportionately large abdomen is soon conspicuous. As we find all these important organs accessory, or rather evolved at a subsequent period, we must consider the early formation, or the parts first evolved, as the most important. These can be only the brain and spinal marrow, each essential to the existence of the animal, and the motion of the heart, on which life depends. All the other organs probably exist at the earliest period, but are invisible from their minuteness and pellucidity. The muscles and membranes have their primordial stamina in the nervous system, and the fibrils are probably convoluted and compressed. What we style evolution, then, is only extension; and the bulk or size of an organ is limited by their length, and their capacity of admitting the interposition of inorganized matter. We can see an obvious instance of increased bulk by the interposition of such matter, if we trace the fibres of the stem of an apple, expanding to the bulk of the fruit.

A fœtus of four weeks is near the size of a common fly; soft, mucilaginous, and, in appearance, suspended by the belly; its bowels covered by a transparent membrane. At six weeks, it is of a somewhat firmer consistence, nearly the size of a small bee; the extremities then begin to shoot out. At three months its shape is tolerably distinct, and it is about three inches long. At four, five, and six months, it is five, near seven, and near nine inches respectively. In the successive months it increases in length to twelve, fifteen and twenty, or twenty-two inches, though varying in different women, and in different births. Indeed all these measurements are rather approximations than accurate representations.

Of the membranes we need not again speak, but merely to remark that the ovum is contained in the double decidua, as the head in a doubled night cap, and that each is probably an inspissated exudation at different periods from the uterus (Scarpa). Between the chorion and amnios, in the early months, a collection of gelatinous matter is found; perhaps with the vesicula lactea, to assist in the nutrition of the fœtus, while the circulation is yet incomplete; and in the latter, this space is occasionally filled by a serous fluid, styled the false waters; so that every discharge of water, in pregnant women, is not dangerous. If not attended with a discharge of blood, it is apparently harmless. These waters, however, have led some physiologists into an error, who supposed, that they had discovered a receptacle for the urine, called in quadrupeds the *allantois*, an oblong membranous sac between the chorion and the amnios. No such receptacle, however, is found in the human subject.

The placenta, as we shall afterwards show, consists of two parts. One is apparently derived from the decidua, and has been supposed a spongy inorganic substance, for the purpose of attachment; but it contains numerous blood vessels which can be injected exclusively from the arteries of the mother. The remaining part of the cake is an organ of the fœtus, and its vessels can only be injected from the umbilical cord. These facts, which are now well established, prove that no circulation is carried on between the mother and fœtus in continuous vessels; nor can any considerable nerves, indeed scarcely any, be traced from the uterus to the fœtus part of the placenta. The fœtus has therefore a system peculiarly its own in every respect, indebted only to the mother for support, warmth, and a supply of nutriment.

When the blood, through the funis umbilicalis, reaches the abdomen of the fœtus, it is carried to the liver; and one half of the whole mass circulates in that organ. In the earliest stages, the liver is peculiarly large; and this considerable proportion of the vital fluid is seemingly designed to nourish it, for the bile is colourless, and without taste. This viscus does not indeed lessen, but its proportion is diminished by a more rapid increase of the other parts, and in every organ where a peculiar organic structure is necessary nature seems to form it very early of a large size. This is the case with the eyes, the liver, the lymphatic system, &c.; nor, when the relative sizes are considered, is the

genital system of either sex an exception. The remainder of the blood is carried by the ductus venosus to the vena cava, where also the blood, after having circulated through the liver, arrives. We thus trace it to the right auricle; but, as the lungs are not yet expanded by air, the pulmonary system cannot contain the whole quantity, and one part, but its proportion is not exactly known, passes through the foramen ovale, a hole in the septum, which divides the auricles. The rest proceeds to the right ventricle; but of this portion only a part enters the pulmonary artery for the reasons assigned, and the rest is conveyed to the aorta, through a duct styled the *ductus arteriosus*. Thus the entire mass of fluids is conveyed to the aorta, to be circulated through the whole machine.

The nutrition of the fœtus has occasioned many controversies. We may just mention a friendly one between the first Dr. Monro and Mr. Gibson, in the first and second volume of an excellent collection, though too much neglected, the Medical Essays of Edinburgh; because they contain a greater variety of facts, respecting the fœtus, than are to be found in any other work. The subject may now be drawn within a narrow compass. The fœtus is probably not nourished by the liquor amnii, because this fluid is not nutritious; it contains but a small portion of animal gelatine, and a large one of neutral salts, and is rather excrementitious than wholesome. If employed for this purpose, it probably is not swallowed, since there are no fæces collected in the bowels, for the meconium is only the inspissated bile, and other fluids of the intestines, which have acquired a colour from the delay; and no allantois to receive an excrementitious discharge. It is not probably absorbed; for the surface of the fœtus when born is covered with mucus, apparently designed to prevent its irritation. This fluid, however, is now found to belong to the fœtal part of the ovum; so that were every fact adduced in support of the nourishment of the fœtus by the liquor amnii to be admitted, we must still seek for a supply. This supply is undoubtedly afforded by the mother; but it is still doubtful whether in the maternal part of the placenta the blood undergoes any preparation. We know of none; we can perceive none: it is apparently deposited in cells, and again absorbed.

Since, then, the connection of the fœtus and the mother is so slight; since there are no continuous vessels, and scarcely any, if any, nervous communication; what reason can be assigned for the reported influence of the mother's imagination on the child, either in impressing any peculiar mark, more essentially changing an organic structure, or mutilating it, in consequence of seeing similar objects? Such INFLUENCE IS WHOLLY UNFOUNDED; THE OFFSPRING OF FANCY, SUPPORTED BY ACCIDENTAL FACTS, OFTEN BY DESIGNED MISREPRESENTATIONS. Sound physiology denies every such connection; nor can it be established, without admitting a connecting ether or aura, which on any change made in the mother's system is followed by a corresponding one in the fœtus. We shall leave the establishment of such an aura to the visionary supporters of sympathetic medicine, or the modern dreamers, who believe in animal magnetism. No such exists, or at least the influence of no such medium can be perceived.

If we examine the various facts adduced, the marks, for instance, we shall find that they are as often seen without any previous affection of the imagination as with it; that the resemblance, when such fancies have occurred, is distant, and often imaginary. If we look at the changes of organization, we shall find, often, that the shock has taken place when the bones were firmly united, and when the disposition could not be changed without violent mechanical force: the fact mentioned by father Malebranche, where the limbs of the fœtus were fractured, from the mother seeing a criminal broken on the wheel, is evidently false, or the circumstances greatly misrepresented. When, in the advanced period of gestation, the sight of a mutilated person is apparently followed by a similar mutilation of the child, the influence of the sight is highly improbable. What becomes of the mutilated limb? It may be supposed to be deprived of life, and absorbed, since it is never found; but the time required for such a process is far beyond the whole period of gestation, and the putrid limb, long before it would be completed, must produce a fever of the worst kind, for it must be remembered that the fœtal blood returns to the mother. We might allege, that of ten thousands exposed to such sights, in perhaps only a single instance will the supposed consequence follow; and that it sometimes occurs without the previous spectacle. When both then happen, the concurrence must be pronounced accidental only. It is evident, however, that the fœtus is affected by the complaints of the mother. It has in many instances shared her eruptive diseases; sometimes seemingly her fevers; more probably her nervous complaints. If, with the little connection which we have shown to take place, it can partake of these diseases, it may be supposed to suffer more essentially, or it may appear that we have too rashly denied any nervous communication. These influences are, however, much less considerable than authors have supposed. The agitations of the nervous system must be conveyed to an organ so peculiarly irritable as the uterus, and any spasmodic contractions of that organ must be felt by the fœtus. The additional warmth also of the blood, in fever, may be supposed to affect the irritable little being, not yet born; and the matter of the small pox, which we can only trace, because this of all the febrile exanthema alone leaves any cicatrix, may undoubtedly be absorbed from the maternal part of the placenta. Nature, however, seems to have anxiously guarded against any communication, and the child often survives uninjured the most violent diseases of the mother.

The changes from the fœtal state take place from the moment the child breathes; but the cause of its breathing has puzzled the ablest physiologists. The necessity of taking breath has been attributed to irritation, to an "appetite for air," and to innumerable fancied causes. The real cause appears to be change of position. The fœtus, in the womb, assumes that position, which the superior strength of the flexor muscles produces. The body is bent forward, the knees drawn up, the legs backward, the arms across the body, and the fingers clenched. When the position is altered the ribs are raised, and the abdominal viscera fall down. A vacuum is the consequence in the lungs, which the air rushes in to supply. The sensation of uneasiness induces the necessity of expelling the air; and the same

causes concur to bring on the repetition of breathing, which, from the uneasy feeling excited by the necessity for inspiration and expiration, is regularly continued.

In consequence of the expansion of the lungs, a larger portion of blood is carried into that organ; the right ventricle is more completely emptied, and the impetus which kept the foramen ovale open, and which carried the blood through the ductus arteriosus, is lessened; they gradually contract into ligaments, and the whole of the fluid, brought by the veins, is carried through the lungs. When the supply from the umbilical cord is cut off, the ductus venosus contracts in the same way, and the vena portæ receives the blood from the returning veins of the abdominal viscera, as in the whole extent of the future life.

The fœtus differs, in many respects, from the adult, even after the changes enumerated have taken place. The head is very large in proportion to the rest of the body, the bones of the head soft and yielding, the sutures not yet formed, and a triangular space is left at the union of the coronal and sagittal sutures. The bones of the trunk, the extremities, and all the articulations, are remarkably flexile. All the protuberances of bones (apophyses) are distinct osseous portions, united by cartilages (epiphyses); the heads and condyles of bone, as well as the brims of cavities, are cartilaginous.

The brain and spinal marrow, the glandular and sanguiferous systems, are, we have said, larger than in the adult. A gland, peculiar to the fœtus and infant, is found at the upper part of the mediastinum, between its folds, which disappears in advanced age, and is apparently connected with the lymphatic system. The kidney is also divided into distinct lobes, as in brutes.

In the fœtus, the cavity of the thorax is, as may be expected, less than after respiration; the lungs are smaller, more compact, and of a red colour like the liver. The abdomen is disproportionately large, and the extremities particularly small.

It has been supposed, that if a child, who has only once or twice breathed, be thrown into water, the foramen ovale may continue open, and he may enjoy the advantages of living in air or under water. This idea is supported by the remark, that negroes are excellent divers, and that they are usually plunged into water as soon as they are born. The supposition is not impossible, but has never been reduced to practice. We have a faint recollection of the experiment having been tried on puppies without success.

The extra-uterine fœtuses are lodged either in the ovarium, in the Fallopian tubes, or in the cavity of the abdomen. One instance is recorded where the fœtus was found in the cavity of the abdomen, the uterus, Fallopian tubes, and ovaria, being at the same time in an unaltered state, similar to what happens where impregnation has not taken place. This and other appearances will, however, be readily understood, when we speak more particularly on the subject of Generation, q. v. (See Medical Memoirs, London, vol. iii. p. 176.) When extra-uterine fœtuses die, the weight, after some time, occasions an irritation, and an abscess is formed, by which the child generally comes away by parts. See instances recorded in the London Medical Observations and Inquiries, vol. ii. and iii. See also Dr. Hamilton's Outlines of Midwifery; Haller's Physiology; Sabatier's Description of the Fœtus; Wrisberg's Observationes Anatomicæ; and Dr. Hunter's Tables.

FOLIA'CEUM ORNAME'NTUM, (from *folium, a leaf*). The fimbriated part of the Fallopian tubes. See Tubæ Fallopianæ.

FOLIA'TA TERRA, (from its resemblance to *folium, a leaf*). See Sulphur.

FOLIA'TIO, (from *folium, a leaf,*) the disposition of the nascent leaves within the bud, differently distinguished according to the disposition of the leaves. See Martin's Botanical Dictionary.

FOLIUM, (from φυλλον, *a leaf*). A leaf; called *folium*, to distinguish it from the leaf of a flower, which is called *petalum*. See Petala.

A leaf is termed: 1. *Folium abruptum pinnatum*, abruptly pinnate, when they have neither leaflet, nor tendril, nor clasper at the end. 2. *Acinaciforme*, sabre-shaped. 3. *Acuminatum*, awl-winged, or *Integerrimum*, entire. 4. *Acutum*, acute. 5. *Bifidum*, bifid. 6. *Binatum*, two lobed. 7. *Canaliculatum*, channelled. 8. *Cartilagineum*, cartilaginous. 9. *Ciliatum*, ciliated. 10. *Cirrhous*, winged leaf. 11. *Conjugatum*, conjugated. 12. *Cordato hastatum*, heart arrow pointed. 13. *Cordatum*, heart shaped. 14. *Crenatum*, crenated. 15. *Crenatum acutum*, acute crenated. 16. *Crenatum duplex*, double crenated. 17. *Crenatum obtusum*, obtuse crenated. 18. *Crispum*, curled. 19. *Cuneiforme*, wedge shaped. 20. *Decompositum*, decomposite. 21. *Decurrens*, running winged. 22. *Deltoides*, deltoid, resembling the Greek Δ. 23. *Digitatum*, resembling a hand with the fingers extended. 24. *Dolabriforme*, hatchet shaped. 25. *Duplicatio pinnatum*, vel *Pinnato pinnatum*, doubly winged. 26. *Duplicato serratum*, doubly serrated. 27. *Erosum*, eroded. 28. *Hastatum*, pike, or javelin shaped. 29. *Hispidum*, thorny, stinging. 30. *Integerrimum*, perfectly entire. 31. *Lacerum*, lacerated, or torn. 32. *Lanciniatum*, jagged. 33. *Lanceolatum*, spear shaped. 34. *Lineare*, linear, narrow. 35. *Linguiforme*, tongue shaped. 36. *Lunatum*, moon shaped. 37. *Lyratum*, lyre shaped. 38. *Nervosum*, nervous, fibrous. 39. *Oblong*. 40. *Obtuse*. 41. *Obtusum cum acumine*, blunt pointed. 42. *Orbiculum*, round. 43. *Ovatum*, oval. 44. *Oval*, or *Elliptic*. 45. *Palmatum*, palmated. 46. *Papillosum*, warted. 47. *Pilosum*, piled, or like velvet. 48. *Pinnatifidum*, wing pointed. 49. *Pinnato pinnatum*, double winged. 50. *Pinnatum abruptum*, abrupt winged. 51. *Pinnatum cum impari*, winged, with one pinna in excess. 52. *Plicatum*, plaited. 53. *Præmorsum*, bitten. 54. *Quinque angulare*, five-cornered. 55. *Quinque partita*, divided into five parts. 56. *Racemosum*, branching. 57. *Reniforme*, kidney shaped. 58. *Repandidum*, notched. 59. *Rugosum*, wrinkled. 60. *Sagittatum*, arrow pointed. 61. *Serratum*, sawed. 62. *Sinuato dentatum*, indented, sinuated. 63. *Sinuatum*, sinuated. 64. *Subrotundum*, roundish. 65. *Subulatum*, awl shaped. 66. *Supra decomposite*. 67. *Teres*, taper. 68. *Ternatum*, trifoliate. 69. *Tomentosum*, downy. 70. *Triangulare*, triangular. 71. *Trilobum*, trilobated. 72. *Triplicato ternatum*, triply trifoliate. 73. *Wing leaf*, with membranous foot stalks.

Leaves consist of a parenchymatous matter dispersed in the meshes of a net work, and the whole is covered by an expansion of the epidermis of the pedicle or foot-stalk. The upper pagina of the leaf seems designed to throw off the excrementitious exhalations of the plant,

and the under to imbibe moisture. It is necessary for these purposes that the light should have access to that part which is designed for the separation of the oxygen; and if a leaf is forcibly turned, by an opposite curvature of its foot stalk, it restores the upper pagina to the sun's rays. Leaves have been consequently supposed to bear some analogy to the lungs of animals.

Fo'LIUM. It is the name of the philosopher's stone: and of that triangular membranaceous sinus, where the sagittal and coronal sutures in infants meet: it signifies a relaxed uvula in Arnaldus. See also DEXAMENE.

Fo'LIUM, called also *fol. Indum*, *malabathrum*, *malabatrum*, *tamalapatrum*; *cardegi Indi*; *catou-karua*, *pseudocassia*; INDIA LEAF; is of a firm texture, of an oblong oval shape, pointed at both ends, smooth and glossy on the upper side, and less so on the under; of a yellowish green above, and of a pale brownish colour beneath, furnished with three ribs running its whole length, one very protuberant on the lower side, and two smaller ones which bound the edges. Both the leaves and their pedicles are very mucilaginous; chewed, they render the saliva slimy or glutinous; infused in water, they yield a large quantity of strong tenacious mucilage; but they possess little of the strong aroma of the bark. These leaves, according to Ray, are diuretic. It is an ingredient in the theriaca, and supposed by Bosc, from an examination of different specimens, to be the leaves of the *laurus cassia* Lin. Sp. Pl. 528. See Lewis's Materia Medica.

FOLLI'CULUS, FOLLIS, (from φαλλος, *a bag*). A FOLLICLE, a little bag; called also *cryfta*. It is likewise the name of a large leathern bag, filled with wind, and used as an exercise by the ancient Romans. In surgery, it is a bag which contains the matter of abscesses and tumours, and the meliceris; in botany, the thin involucrum or membranaceous cover which incloses the seeds of plants; in anatomy, a simple gland. See GLANDULA.

FOLLI'CULUS FE'LLIS. See VESICULA FELLIS.

FOMENTA'TIO. See FOTUS.

FO'MES, (from *fovendo*). FEWEL. When spoken of in diseases, it is the remote cause of the disease; most commonly the material, efficient cause. In the plural, *fomites*, it is generally applied to the infection contained in woollen or cotton, and rendered more deleterious by confinement.

Fo'MES VENTRICULI. See SPLEN.

FONS PHILOSOPHO'RUM. The PHILOSOPHER'S FOUNTAIN; the balneum Mariæ.

FONS PU'LLANS, vel PULSA'TILIS. See FONTANELLA.

FONTA'LE ACETO'SUM. See ACIDULÆ.

FONTANE'LLA, in anatomy, is the membranous part found in new born infants at the meeting of the coronal and sagittal sutures, and which at last ossifies. It is called *fons pullans*.

FONTANE'LLA, (a diminitive of *fons*, also *fonticulus*). A LITTLE FOUNTAIN. In surgery, it is metaphorically used to signify the small aperture called an *issue*. Issues were made in Hippocrates' time, and have maintained their credit down to the present day. The parts where issues are generally made, are, 1st, on the coronal suture, just where it joins the sagittal; but a perpetual blister on this part is to be preferred: 2dly, the neck: 3dly, the arms, near the lowest part of the deltoid muscle, in the interstice between it and the biceps muscle.: 4thly, above the knee, on the inside of the thigh, in a hollow, which may easily be perceived by the finger: 5thly, below the knee, on the inside of the leg, where there is a space between the muscles, filled with cellular substance: 6thly, on the back; but the fifth would be more useful and less troublesome, if placed above the knee.

The method of making an issue is, first to mark the part with ink; then the operator and an assistant having raised the skin with their fore-fingers and thumbs, the operator pushes a lancet through the skin, to make an opening spacious enough to receive a pea, or a larger substance if necessary. This is introduced and secured by a sticking plaster and bandage: it must be renewed every twenty-four hours.

A caustic is sometimes applied, and continued six or eight hours; the eschar cut, and a pea inserted. The caustic, in some instances, is allowed to slough off, and the discharge continued by means of a pea.

Instead of common peas, wooden or silver balls are sometimes employed to promote the discharge; at others the dried oranges, called orange peas, or pieces of gentian or orris roots cut to a proper size.

Issues resemble, in some part of their effects, blisters, and, like them, produce benefits very disproportioned to their discharge. They act, however, slowly, and are more applicable to chronic than acute diseases. They produce a less considerable, and often a less effectual, discharge than setons; but are more cleanly and less painful. When any acrimony occurs in the fluids, for, on some occasions, such must be allowed, the drain of an issue is highly useful; and it appears strikingly so from inflaming and discharging at those times when this acrimony is usually deposited on the surface. When considerable determinations of blood to the head occasionally take place, two large issues will often prevent the attack; and in this case, too, they discharge more violently at the expected period of suffering. In chronic inflammations of the bones, issues are of considerable importance. In those enlargements of the bones, which are observed in scrofula, they are of service; and in those of the vertebræ, which produce distortion, they are valuable remedies. (See DISTORSIO.) In gout, they seem often to prevent the too frequent returns of paroxysms, and we are led to employ them from a similar effect of those drains which arise from chalk stones. In nervous affections they are highly salutary, particularly in some cases of epilepsy; and in angina pectoris, Dr. Macbride thinks that they have been of service when put in the thigh. They were formerly often used to prevent complaints, particularly in children; but they are now found to be troublesome and unnecessary.

Issues are formed with great advantage when we would heal ulcers of long standing. In many cases, after the ulcers are healed, the issues may be gradually diminished, as the constitution improves; but even then, to dry up the issue hastily would not be judicious, as many disagreeable, and sometimes fatal, effects have been the consequence. See Bell on Ulcers, ed. 4. p. 140; his Surgery, vol. 4. p. 376, 384. White's Surgery. Lera on the Theory of Issues; and Hoffman, vol. vi.

FONTICU'LUS, (from *fons*, *a fountain*). See FONTANELLA.

FORA'MEN, (from *foro, to pierce*). An hole. See Os and Caput.

Fora'men cæ'cum. The name of a hole in the middle of the tongue. See Lingua.

Fora'men Græcum; an opening in the basis of the skull, between the ethmoidal and frontal bones, through which a small vein passes.

Fora'men la'cerum. See Caput.

Fora'men ova'le. See Cor.

FORAMINULE'NTUM OS, (from *foramen, a hole*). See Ethmoides os.

FO'RCEPS, Pincers; (quasi *ferriceps*, from *ferrum, iron*, and *capio, to take hold*). A small forceps is called *volsella*. A surgeon's instrument of numerous and varied uses. The small forceps are employed to take hold of small parts, to remove dressings, or minute bodies, for which the fingers cannot be conveniently employed. Larger ones are used to extract bullets from wounds, polypi from the nose, calculi from the bladder, and occasionally the fœtus from the vagina and uterus, when advanced so low as to be conveniently reached, and the pains from debility or other causes are slack and inefficient. In each case their forms are different, but they can only be properly considered when we treat of each subject.

See Heister's Surgery. Mulder on the Forceps and Lever. Vide Embryulcia.

FO'RMA. Form; opposed to substance or essence; as formal is to material. Thus a spasm is a formal cause of inflammation; a thorn a material cause.

FO'RMIAS, (from *formica*). Formiate. Salts produced by the union of formic acid with different bases; not used in medicine.

FORMI'CA. The name of a black wart, with a broad base, and cleft superficies; because the pain attending it resembles the biting of an ant: a varicose tumour also on the anus and glans penis.

Formi'ca miliaris. See Herpes.

Formi'ca minor, (*quia ferat micas*; because of its diligence in collecting small particles of provisions together).

Parvula (nam exemplo est) magni formica laboris.
Ore trahit quodcunque potest, atque addit acervo.

The ant, or pismire. This little insect, supposed to have greater strength in proportion to its size than the elephant, contains an acid which seems to occasion the uneasiness on our skins when they are said to have stung us. A gross oil is obtained by expression, after distilling them in water; and an essential oil arises with the acid liquor in distillation. The formic acid, obtained by distillation and washing the red ants in water, when concentrated, has a penetrating smell, and is corrosive; but its taste is so agreeable when greatly diluted with water, that it has been proposed to be used instead of vinegar.

The expressed juice of these little animals has been recommended to render baths stimulating, and employed in rheumatism; and an ant's nest bruised has been applied to the parts affected with rheumatic pains. The oil of ants has never been used. The quantity of acid to be obtained from them is nearly half their weight, and Fontana found it to approach very near the carbonic acid. See Lewis's Mat. Med. Neumann's Works.

FORMI'CANS, (from *formica, an ant*). Creeping; an epithet bestowed by Galen on a low unequal pulse.

FO'RMIX. See Herpes exedens.

FO'RMULA, a diminutive of *form*, and applied to the form of a medicine. The distinctions were formerly numerous and minute; the appellations varied from trifling accidental circumstances. We need not follow the singular fancies of Morellus, and some of his predecessors, but the most modern and useful author is Gaubius. He divides formulæ into *internal* and *external*. The former are either *solid* or *liquid*. The solid formulæ are *powders, boluses, electuaries, linctuses, pills, lozenges*, and *cakes* (Rotuli). The liquid formulæ are *infusions, decoctions, expressed juices, emulsions, mixtures, juleps, smaller mixtures*, and *draughts*. The julep is a dilute pleasant mixture, and decoctions were sometimes called *apozems*.

The external formulæ are *injections, aspersions, epithems* and *cataplasms* of different consistence, *baths, vapours of burnt bodies, plasters, cerats, ointments, odoriferous balsams, liniments, blisters*, and *frictions*. Formulæ, directed to the head, were *cucuphæ (caps), frontalia* applied to the forehead, and collyria for the eyes. Applied to the nose, errhines and perfumes; to the mouth and throat dentifrices, stimulants to produce a discharge of saliva *(apophlegmatismi)* and *gargles*; to the stomach *scuta*; to the anus *clysma* and *suppositorium*, to the vagina *pessi*.

These are nearly retained, but not in all their variety; and the directions for each, so far as directions are necessary, may be found under their respective heads. In works of this kind it has been usual to add formulæ; but these can be only examples, and the simplicity of modern practice scarcely requires such. They are usually the refuge of quacks, and of those ignorant practitioners who direct a remedy to the name of a disease, and copy a form which they employ indiscriminately: for these reasons we have seldom introduced them, though we have offered every necessary hint to avoid heterogeneous mixtures. Should formulæ, however, be required, we will add them in an appendix.

FO'RNAX, (from the Arabic term *forn*,) *Fornus*. A furnace. Furnaces are chemical instruments to expose conveniently any body to the degree of heat required. In all furnaces, we must endeavour, 1st, to confine the heat as much as possible to the object; 2dly, to prevent its being dissipated; 3dly, to produce the heat required with as little fuel as possible; 4thly, to be able to regulate the degree of heat according to our wants.

Of furnaces there are a great variety invented by chemists for the performance of their operations, which may be seen, with their constructions and uses, particularly in the Encyclopædia Britannica, under the article Chemistry; Lavoisier's Elements of Chemistry; and Dr. Black's Lectures. Unfortunately, we have no Dictionary of Chemistry to refer to; and the object is not so properly medical as to induce us to enlarge on it. See also Athanor, Balneum Mariæ; and Dr. Lewis's Commercium Philosophico-technicum, part the first.

FORNICA'TUS, (from *fornix, an arch* or *vault*). Fornicated petals are such flower-leaves as are arched, like the roof of the mouth, as the crest of clary or sage.

FO'RNIX. See Achicolum.

Fo'rnix, (from the Arabic term *forn*,) is part of the corpus callosum in the brain, and called from a

distant resemblance that it hath to the arches of vaults. See Cerebrum and Lyra.

FO'RTIS, A'QUA, is a name which artists have given to the nitrous acid, from its dissolving power. See Nitrum. It is also called *Elephas*.

FO'SSA, (from *fodio, to dig*). A ditch. In anatomy it is synonymous with fossa navicularis.

Fo'ssa navicula'ris. See Auricula.

Fo'ssa ma'gna. The interior cavity of the pudendum muliebre, obvious on a separation of the labia.

Fo'ssa pituita'ria. See Sella turcica.

FO'SSILIS SAL. See Gemmæ sal.

FO'SSILUS. A name of the *tibia*, and of the *fibula*.

FO'TUS, or FOMENTATIO, (from *foveo, to cherish,) embroche. Thermasma, chiliasma.* To foment, is to cherish with heat, to bathe with warm liquors; though dry powders, parched barley, or oats in bags, liquids in a bladder, or in a sponge, applied warm to the diseased parts, are also named fomentations. They are usually, however, fluids externally applied, as warm as the patient can bear them, in the following manner: two flannel cloths are dipped in the heated liquor, one of which is wrung as dry as the necessary speed will admit, then immediately applied to the part affected: it lies on until the heat begins to lessen, and the other is in readiness to apply when the first is removed. This alternate application is continued fifteen or twenty minutes, and repeated two or three times a day. If there is a wound, it is usually defended by a piece of thin cloth.

Every intention of relaxation and soothing by fomentations may be answered by warm water alone; but when discutients or antiseptics are required, the suitable ingredients must be added. Fomentations of warm water are not, however, employed as relaxants only. They are applied with advantage to contracted limbs, to indolent abscesses, foul ulcers, and sometimes to bruises. In these instances the stimulating power of the heat is useful to excite the action of the torpid vessels. See Balneum.

The common fomentation is a decoction of camomile flowers, in the proportion of an ounce to a quart, and it is often preferred to the *decoctum pro fomento* of the London College. ℞. Abrotani exsiccati; absinthii maritimi exsiccati, camæmeli exsiccati, singulorum, p. ℥i. foliorum lauri exsiccatorum, p. ℥ij. aquæ distillatæ m. ℔ 6. paulisper coque et cola. The preference is given to the former, on accouut of its being less complicated, and that little benefit is derived from the numerous ingredients.

The degree of heat should never exceed that of producing a pleasing sensation, except when employed as a stimulus: great heat produces effects very opposite to that usually intended by the use of fomentations.

Fo'tus anody'nus. See Anodynum.

FO'VEA, (a *foveo*, for *fodio, to dig*). In anatomy it is the sinus of the pudendum muliebre. In the bath rooms it is a sudatory for receiving one or both the legs, in order to sweating.

FOVI'LLA, a fine substance imperceptible to the naked eye, exploded by the pollen in the anthers of flowers.

FRACASTO'RII SPE'CIES, i. e. pulv. è bólo, (from *Fracastorius*, the inventor). See Bolus, Confectio, and Diascordium.

FRACTURA, (from *frango, to break*). *Catagma; classis; clasma; agme.* A fracture. Dr. Cullen places this genus of disease in the class *locales*, and order *dialyses;* and defines it part of a bone having its cohesion destroyed by violence, and separated into large fragments.

Fractures are differently denominated, according to their direction; as a transverse, oblique, or longitudinal fracture. When one bone is broken in one place only, and no remarkable injury is perceived in the adjacent parts, it is called a simple fracture: when a bone is broken in more parts than one, or when two bones that are joined together, as the radius and ulna, are both broken, it was formerly called a compound fracture; but the term is now confined to those fractures in which the external integuments are penetrated by the end of the fractured bone. If with a fracture there is a dislocation, or a wound, it is then a complicated fracture. In fractures, the reunion of the separate parts of the bone is by a renewal of the organical bony substance, and not by a glutinous matter, which hardens into what is called callus.

Fractures are discovered by the eye, the ear, and touch.

The period in which the reunion may take place is influenced by the constitution, and many different circumstances. In pregnant women, a cure is sometimes not effected until after delivery; see London Medical Observations and Inquiries, vol. iv. and Hildanus mentions three cases of this kind: but the reunion sometimes takes place even in these circumstances. A scorbutic or a venereal taint may prevent the bone from healing, or a caries may retard the union; if a wasting of the limb, or a palsy, comes on, the cure will be slow, if ever effected. If a fracture happens in a bone over which an ulcer hath long continued, it is very difficultly united. A fracture in the cranium, vertebræ, ribs, sternum, os ilium, or os pubis, is dangerous, on account of the vicinity of the brain, spinal marrow, or other viscera.

If called after the tumour or a violent inflammation be come on, the extension must be deferred until these are removed; but if these symptoms are slight, reducing the limb may prevent their increase. If there is a wound, all extraneous matters should be removed at the first dressing, and all strictures lessened; if the wound is too small, it should be dilated; and, if possible, this should be done before inflammation comes on, as the parts are then more sensible; and if it can be effected without altering the relaxed state of the limb, a circumstance of such importance that hardly any thing should interfere with it, the dilatation should be made so that the discharge may be depending. Indeed, every means of preventing the matter accumulating in a depending part should be avoided. If a bone protrudes, a portion should be sawed off, unless it can be easily reduced; an operation but little troublesome. If a luxation accompanies a fracture, it should first be reduced, and afterwards the fractured bones replaced, though, if the fracture be very near the head of the luxated bone, the luxation may be left till the fracture is healed.

When a simple fracture happens, the bones should be replaced, and the limb laid in an easy state, slightly bent: the reduction was called by the Greeks *cathidrusis*. A cataplasm of oatmeal, oil, and vinegar, or, as a substitute, a plaster of ceratum album, should be next applied. The bandage with eighteen tails is the best, both in simple and compound fractures; it is more

commodious than the roller, as it allows of viewing the limb without disturbing it. At the conclusion, if the leg is œdematous, cold pumping, the lace stocking, and daily rubbing with a flannel, will restore the natural state of the limb.

Compound fractures are often attended with mortification; but this should not always hasten amputation. When any tendency to this symptom appears, a fomentation of a strong decoction of camomile flowers and wormwood, in which sal ammoniac has been dissolved, sprinkling the flannels with a strong camphorated spirit at the time of applying it, should be used. The wound should be dressed twice a day, the part wrapped up with a warm cataplasm, and bladders about one half full of warm water applied, to keep up a proper warmth. The bark joined with rhubarb, in some cases with nitre, and in others with opium, camphor, volatile alkali, and snake-root, should be given.

When amputation seems necessary, we should consider whether life will not be endangered if it is omitted. It is impossible in some instances to know immediately whether a limb can be saved. However, when a bone or bones are broken into many pieces, and to a considerable extent, as is frequently the case when the accident happens from cannon shot, broad wheels of carriages, &c. when the soft parts are so torn and bruised as to render a mortification of the part a probable and immediate consequence, amputation will be necessary without delay. If the ends of a bone, or two bones, by which a joint is formed, be crushed, and its ligaments considerably injured, amputation cannot with propriety be deferred. Some instances of compound fractures also require speedy amputation; for an inflammation seizing the limb tends quickly to gangrene, and the progress is usually rapid. Instead, therefore, of waiting for a separation of the mortified from the sound part, or to try what art can effect, the operation is immediately necessary. A very short time makes all the difference between probable safety and death. If in a compound fracture this inflammation hath taken place, and hath continued some hours, amputation would destroy; and the only chance is to use such regimen as appears to be indicated; and when this has no further use, then to support the patients with cordials, wine, and bark. Again, inflammation may not run high; yet frequently there are collections of matter, which after several openings recur: the patient, instead of being recruited, wastes by the discharge, hath night-sweats, loses his appetite and strength. In these cases the bones continue disunited, and amputation at last is necessary. Mr. Pott observes, that in compound fractures there are three points of time in which amputation may be requisite. 1st, Immediately, or as soon as possible after receiving the injury; 2d, when the bones continue long without any disposition to unite, and the patient's strength failing from the discharge, death apparently impends; 3d, when a mortification shall have taken such complete possession of the inferior part of the limb, down to the bone, that, upon separation of their parts, the bone or bones would be left bare in the intermediate space. The necessity of early amputation in these cases arises from the ill effects of a greatly obstructed circulation, from the destruction of numerous vessels. The pain, irritation, and the admission of air, also produce considerable fever and inflammation, which quickly terminate in gangrene and death. If a joint is injured, the danger is increased; as the pain and irritation, with the subsequent inflammation, from the admission of air into the cavity, are greater. If possible, then, the operation should be determined on before inflammation approaches; for, if this has taken place, it will be too late. In the second instance, the particular time for amputation must be determined by the patient or his friends; for, with the surgeon, it is not choice, but necessity. In the third instance, the time requires no consideration; for if the soft parts are destroyed, either the surgeon must saw the bones, or they must be left to separate. In either case the patient loses his limb. These are some of the principal instances which determine in favour of amputation; experience, and the several authors who have written on this subject, will suggest others, and amongst these may be consulted Pott's Works, with his pamphlet entitled Remarks on the Necessity, &c. of Amputation in certain Cases; Gooch's Works; Observations on Mr. Pott's General Remarks on Fractures, by Thomas Kirkland, Surgeon; and the Systems of Surgery, by Bell, Dease, Kirkland, &c.

Fracture of the carpus.—These bones are small, and rarely broken; and when fractured, they cannot be properly replaced, nor will they consolidate. The ligament and tendons are also generally so much bruised, that the joint of the hand becomes rigid; abscesses, fistulas, and caries, generally ensue, and relief is seldom obtained but by amputation of the hand. An attempt may be made by two assistants extending, while the surgeon endeavours to replace the fractured bone or bones. White's Surgery, p. 145.

Fracture of the clavicle.—Whatever part of the clavicle is broken, the part which joins the scapula descends below that which is fixed to the sternum, on account of the weight of the arm. When this bone is fractured, the patient cannot lift his arm; it hangs inclined toward his breast, and, from a slight motion of the humerus, the fracture in the clavicle will be evident to the touch, sight, and ear. To reduce this fracture is easy, but to retain the bones in their proper situation more difficult. An assistant should place his knee between the scapulæ of the patient, and with his two hands draw the shoulders back: the clavicles will be thus extended; and the surgeon, standing before the patient, must reduce the ends of the bone, by raising the arm to its proper situation, instead of loading the end next the sternum with compresses to bring down the rising end of the bone. A narrow but thick bolster is then to be applied above and below the clavicles, to fill up the cavities; upon these two narrow bolsters, in the form of the letter X, are to be laid; and over the whole a piece of thick paper moistened with vinegar. A wad of tow, or a ball made of soft rags, is put under the armpit, next to the fractured end, for the support of the shoulder; the bandage to keep the bones from moving, and a sling is fixed about the neck, to suspend the arm. See Bell's Surgery, vol. vi. p. 59. White's Surgery, p. 138.

A fractured neck.—The processus dentatus of the second vertebra is tied to the skull by a ligament, and kept close to the fore-part of the first vertebra by another in that vertebra, that it may not bruise the spinal marrow; and when either this ligament or process is broken, it is styled a broken neck, whose consequence is sudden death.

Fracture of the ribs.—When the ribs are broken, their ends recede from each other; but when they project outward, no considerable danger ensues. If they press inward they produce an uneasy pricking, inflammation, cough, fever, an abscess, or spitting of blood. The cure is generally completed by applying an exact uniform circular compressive bandage, if neither inflammation nor swelling forbid: if these symptoms attend, they must be reduced by bleeding, &c.; then the bandage and a cooling diet will succeed. See Bell's Surgery, vol. vi. p. 63. White's Surgery, p. 140.

Fracture of the skull.—When, from an injury done to the head by external violence, a loss of speech and of sense, a lethargy, or convulsions follow, no certain conclusions can be made from these symptoms, as they may be owing to extravasation or concussion as well as to fracture. If, however, upon making an incision on the part, the pericranium is found loose, a fracture has most probably taken place. In examining for a fracture, care is required to distinguish it from a suture, particularly the uncommon ones, as those about the ossa triquetra; but if, on scalping, we find the pericranium firmly adhering to any part that resembles a fracture, we may be assured that it is a suture. If, when the head is shaved, you can feel the pericranium under your finger to be loose, a fracture has clearly occurred.

When a fracture happens on the skull, the trepan is immediately used by some surgeons, with a view to obviate or prevent the effects of so great a degree of violence; but it is forbidden by the best practitioners, except a part of the skull is depressed. Celsus advises us not to proceed to an operation before the approach of unfavourable symptoms; and Ruysch adds, that "when the symptoms are not augmented, we are not to proceed to incision and perforation; but, after bleeding, we are to attempt the cure by repeated application of warm cephalic fomentations." The advice and practice of Mr. Bromfield, when a concussion of the brain happens, are of the same nature. See Concussio. White's Surgery, p. 211.

A fractured leg.—In the leg the tibia is generally fractured near its lower extremity, where it is weakest; and often, when the tibia is broken, the fibula is also fractured at its upper extremity. When there is a dislocation of the malleolus internus, the fibula is commonly fractured, and has occasioned it.

A fractured fibula seldom gives any uneasiness, or hinders the patient from walking; but it may be discovered by taking hold of the leg under the calf with one hand, and with the other moving the foot; for the hand which holds the leg will distinguish the fracture. Mr. Pott thinks that, in this case, a tight bandage upon the fractured part is not to be admitted; but that, if it is applied to the two extremities of the leg, the broken end will be brought into contact, and a cure will be effected.

When the tibia is fractured, lay the patient on the injured side, on a flat surface, and raise the knee of the fractured limb towards the abdomen, at the same time bending the joint; thus the extensor muscles of the foot are relaxed, and the extension required for the reduction will be performed with ease. Having replaced the fractured bone, apply a long splint padded with tow to the fibula, and another on the inside of the leg, over part of the tibia, and secure them with straps. The patient may lie on the injured side during the cure, and thus a cradle or fracture box will be needless; the knee may also continue in the same posture as that in which the fracture was reduced.

If the tibia is fractured at its lower end by a gun shot, although the part above is apparently unhurt, the patient will lose his life unless the limb be taken off above the knee. Though if any other cause had produced a similar fracture, the operation below the knee would have succeeded. Bell's Surgery, vol. vi. p. 121. White's Surgery, p. 149.

Fracture of the cubit.—The cubit hath two bones, viz. the radius and ulna. Fractures in these are discovered by the sight, touch, and ear: by the touch and sight, if the hand of the affected cubit be moved inward and outward, though a fractured ulna, from its inability to support the joint, will be discovered sooner than that of the radius: the ear discovers a grating noise if the elbow be held steady, and the hand moved inward and outward.

If the radius is to be reduced, and the fragments have receded towards the ulna, an assistant should stretch the arm, and the surgeon should press down the patient's hand towards the ulna, until the depressed part is elevated. The arm on each side must then be compressed with the palms of the hands, so as to restore the compressed muscle between the ulna and radius, and the fragments of the radius to their natural position. A compress and strong pasteboard upon the fore part of the arm, over the quadratus muscle, will prevent it from drawing the fractured bone toward the sound one. The circular bandage must be applied, and the arm suspended in a sling, with the hand in a prone situation.

If the ulna is fractured, the same directions should be followed: remembering to turn the hand towards the radius, until the depressed part of the ulna has recovered its former position.

If both these bones are broken, we must still proceed as before. Mr. Pott observes, in this case, that it is necessary to put the longitudinal compresses as nearly as possible between the bones, in order to prevent the callus uniting them, which would hinder the rotatory motion of the arm.

It often happens in fractures of this part, that, notwithstanding every precaution, a stiff joint follows; therefore, though, in this particular instance, and in fractures of the patella, keeping the whole limb straight relaxes the particular muscles of the bones, yet if a stiff joint is apprehended, as soon as the benefits from relaxation have ceased, the limb should be gently bent; for a stiff bent cubit is much more useful than a straight one. See London Medical Journal, vol. i. p. 356; Edinburgh Medical Commentaries, vol. ix. p. 582; White's Surgery, b. iv.; Bell's Surgery, vol. vi. p. 84.

A fractured finger.—When the contusion of the hand or fingers is very considerable, amputation is most advisable; but if the part can be saved, the fractured bone must be properly placed, the fragments reduced, and the whole confined with a narrow fillet to the next finger. Begin the bandage about the wrist, carry it over the back of the hand to the finger; and, if more fingers than one are fractured, carry it round each separately, and then round them all: put a ball into the hand, and bind it tight to the fingers; continue the roller back to the wrist, and place the hand in a sling. Bell's Surgery, vol. vi. p. 93.; White's Surgery, p. 145

A fracture of the thigh.—Hippocrates justly observes, that when either the bone of the humerus or of the thigh breaks inwardly, the symptoms are more dangerous than when the same happens outwardly, because the vessels and nerves are lodged in the inner parts.

When the thigh is fractured in its middle or lower part, it may be reduced by the hand; but when the accident happens on the upper part, greater force is required. Wherever the seat of the fracture is, the position of the patient, and of the limb to be reduced, should be ordered as in the case of a fractured leg. When a due extension is made, and the ends of the fractured bone replaced, splints, properly padded with tow, must be secured; and if Gooch's machine for fractures of the thigh bone is used, patience only will be further necessary. If this machine is not to be procured, the position proposed, when the leg is fractured, may be trusted, and particularly whan the neck of the thigh bone is the seat of the disorder.

When a fracture of the thigh is complicated with a wound, it is dangerous, and sometimes incurable. When near the joint it is usually fatal, as the large blood vessels are frequently lacerated. The danger is not much less if the wound is on the back part of the thigh, because of the difficulty in dressing it. If the hæmorrhage can be restrained by using the tourniquet, and taking up the wounded vessel, the fracture may be reduced; but if the bone is much injured, and the hæmorrhage violent, amputation is usually most eligible.

A fracture of the neck of the thigh bone is sometimes mistaken for luxation; but it is more easy to break than to luxate this bone, and fractures in the neck are more frequent than in its other parts. A fracture of this kind is reduced and retained with more difficulty than in the body, and a lameness usually follows the reunion. The oblique direction of the neck, with the number and strength of the muscles, occasion these difficulties.

When this fracture happens, according to Gooch, the thigh and knee are turned outwards; the limb is much shortened, and considerably shrunk; pain is felt in the course of the sartorius muscle, which, from its origin and insertion, must be greatly stretched, often causing pain on the inside just below the knee; and a crepitus is observed when the patient moves his limb. When these symptoms appear, the limb being gently but steadily extended, until the fractured limb appears as long as the sound one, let the patient be laid in the posture recommended when the leg is the part thus affected, and let bleeding be employed to prevent or remove inflammation. If Gooch's extending machine could be obtained, its use would be the most eligible method for preventing future inconveniences. Bell's Surgery, vol. vi. p. 95.; White's Surgery, p. 146.

A fractured humerus.—If this bone is fractured in the middle, no great difficulty attends; but if near the superior and anterior head, both pain and danger follow. To reduce this fracture, place the patient in a chair; his elbow being bent, let an assistant steadily grasp the fractured bone at its lower end, while another assistant does the same a little below the shoulder; then the arm being extended gently, the operator takes the fractured part in his hand; and as soon as the extension is sufficient, the bone being replaced, he applies the bandage, and confines it by hanging the fore arm in a sling.

It sometimes happens that when the case is an oblique fracture, the sharp end of the bone is so entangled in the adjacent muscles as to prevent a reunion; but if an incision is made upon them, and the point sawed off, they are easily replaced and readily unite. See Medical Musem, vol. ii. p. 404; Bell's Surgery, vol. vi. p. 79; White's Surgery, p. 143.

A fractured os innominatum.—In this case there is great danger, especially if the patient vomits a brown or bloody matter. In reducing it, the patient must lie on the sound side; the fractured parts must be restored by the surgeon's hands alone; then compresses, dipped in rectified spirit of wine, must be secured by means of the spica bandage. See White's Surgery, p. 143.

A fractured jaw.—When fractures of the upper jaw stretch towards the eyes, the consequent inflammation is often dangerous; and when they penetrate the antrum, they are generally tedious, and occasion great deformity. Replace the fractured bones with the fingers when there is no wound; or with forceps or a narrow scapula, when the parts are laid open; and a piece of adhesive plaster best retains the dressings. Bleeding, with an antiphlogistic regimen, must be advised to obviate inflammation of the eye and contiguous parts, and the reunion of fractured parts must be left to nature.

When the lower jaw is fractured, and its situation is ascertained, the bones must be carefully replaced; which is done by securing the patient's head, and pressing the fingers of one hand upon the inside of the jaw, while the other hand is employed externally in guarding against any perceptible inequality of the bone. If a tooth is seated in the course of the fracture, it must be immediately extracted; but if a tooth, not seated in the course of the fracture, is forced out of its socket, it may be replaced, and fixed by tying it to the contiguous firm teeth; the fractured bones must then be retained in a proper situation till they are firmly reunited, by means of a compress and bandage of soft old linen or cotton. The parts being kept firm by an assistant, a thick compress should be laid over the chin, and extended from ear to ear along each jaw; and, over the whole, a four-headed roller applied. Liquid diet is necessary until the cure is performed. See Bell's Surgery, vol. vi. p. 52, 58; White's Surgery, p. 137.

A fractured metacarpus.—An assistant may extend the fractured hand upon a smooth table, while the surgeon, with his fingers, endeavours to replace the fragments. White's Surgery, p. 145.

A fracture of the nose.—Both the bones and the cartilages are liable to be broken. If the bones are broken, the nose appears flat where the fracture is; but if the cartilage has suffered, the nose leans to one side. If the injury is considerable, the cure will be incomplete; and from the vicinity of this organ to the brain, the danger is considerable: an ozæna, a caries, or a polypus, may be the consequence. Fix the patient in a reclining posture, and elevate the depressed parts of the nose with a quill, replacing them in their proper order with the fore-finger and thumb of your other hand: to prevent their collapsing, fill the nostril with lint, or introduce a canula: if there is no wound, a plaster will secure the whole; but if there is a wound it must be treated in the

usual way. If a splinter is so situated as to be reunited with difficulty, it may be removed. When the bones are reduced, they do not easily separate. Mr. Bell thinks, that any very loose portion of bone should be removed immediately, whether it be raised up or forced into the nostril; but whatever adheres to the remaining portion of bone, with firmness, should be replaced. See Bell's Surgery, vol. vi. p. 49.; White's Surgery, p. 137.

A fractured knee pan.—When a small fragment of the fractured patella is drawn upwards, if the patient is fat, it is not very easy to discover the accident. In examining to decide whether the patella is broken, the knee must not be bent, because the fragments are thus separated further from each other, and occasion unnecessary pain. This bone is generally broken transversely; the lower part remains fixed to the knee, but the upper is drawn by the muscles on the fore part of the thigh. When the case is discovered, the patient must be laid on his back, the leg extended, and the muscles above the fractured part gently pressed downwards, until the fragments of the bones approach within an inch of each other; in this situation they must be retained by a compress and bandage. The fractured parts should never be brought close together, for a stiff joint might in that way be occasioned.

Sometimes the ligament which secures the knee pan to the tibia is broken, and this case is mistaken for a fracture of the knee pan: the mistake is not of much consequence, as the method of cure is the same. See Warner's Cases of Surgery; Medical Museum, vol. iii. p. 349, &c.; Bell's Surgery, vol vi. p. 111; White's Surgery, p. 147.

Fracture in the foot.—Fractures in the tarsus, metatarsus, and toes, are generally accompanied with wounds, from the contusion of the nerves, tendons, ligaments, and membranes. They are cured in the same manner as those of the carpus, metacarpus, and fingers. Fractures in this part, as well as in the hand, and leg near the ankle, especially when the malleolus recedes from the principal bone, are seldom so completely cured as to leave the limb free from some inconvenience. Bell's Surgery, vol. vi. p. 130.

Fracture of the os sacrum and os coccyx—is discovered by the pain perceived in the part, and by the touch. The fragment must be reduced by the fingers; but if depressed inwardly, the fore finger must be introduced into the rectum, and the depressed part replaced. The T bandage should be then applied over a proper compress. The patient must keep his bed for two or three weeks; and when he turns from one side to the other, be cautious not to turn on his back: when he rises, the properest seat will be a chaise percée. See Bell's Surgery, vol. vi. p. 74; White's Surgery, p. 143.

Fracture of the scapula.—If the acromion be broken, it is easily reduced with the fingers, if the os humeri is raised a little upwards; but it is with such difficulty retained, that the arm can seldom be afterwards lifted freely: after the reduction, a compress must be put on it, and a ball under the arm pit: after the bandage is applied, the arm must be supported by a sling.

If the neck of the scapula, which is below the acromion, or the acetabulum, be broken, the accident is not easily discovered; but a stiffness of the joint, inflammation, abscess, or other bad symptoms, follow.

All other fractures of this bone are less hazardous; and to reduce them, an assistant should extend the arm forward, whilst the surgeon is employed in restoring the fragments with his hands, laying on it compresses, with pasteboard splints, and securing all with the fascia stellata, or quadriga. See Bell's Surgery, vol. vi. p. 76; White's Surgery, p. 140.

A fractured sternum.—After a depression or a fracture, the part is in pain; and the accident is known by the bone grating, if moved by the fingers, and by its moving in consequence of a little pressure against it; though the proper indication is a manifest sinus or inequality in the part.

From the irritation produced by the fracture, and in part by the violence which occasioned it, pains in the breast, difficulty of breathing, violent cough, hæmoptoe, extravasations of blood within the mediastinum, with other dangerous symptoms, follow. To reduce it, the patient must lie on his back over some hard pillows, that his shoulders may be depressed, and the breast elevated; the operator must then press forcibly, to extend the ribs, and push the sternum forward. If this fails, a crucial incision must be made into the skin, and the depressed part of the sternum elevated with a terebra, gently screwed into the part.

After the reduction, the napkin and scapulary may be applied, to keep the thorax firm.

Mr. Bell, in the sixth volume of his Surgery, page 67, observed, that in some cases it is fractured without being displaced; in others it is not only broken, but at the same time forced in upon the pleura. When, therefore, the pain, cough, oppressed breathing, and other symptoms, do not yield to blood letting and other parts of an antiphlogistic course, an incision should be made upon the injured part, of a sufficient length to admit of a free examination of the bone; and the depressed piece may be raised either with a common scalpel, or a levator, if there be an opening that will admit an instrument. When this is not practicable, an opening may be made for this purpose with the trepan. If the operation be performed with caution, the bone may be raised with safety; and the sore must then be treated in the usual way. See White's Surgery, p. 139.

Fractures of the vertebræ.—When any of the vertebræ are fractured without affecting the spinal marrow, the posterior apophyses, or acute tubercles, are only injured, and these fractures are not dangerous. The parts may be replaced with the fingers, and on each side of the spina dorsi narrow compresses moistened with spirit of wine should be applied, secured with pasteboard splints, the napkin, and scapulary.

Fractures in these parts are easily known by the pain, and on slightly touching them.

If the transverse apophyses which tend towards the cavity of the thorax are broken, the heads of the ribs inserted into them will likewise be fractured, and the case is dangerous.

When the body of a vertebra is broken, the spinal marrow is injured, and the parts below the fracture are motionless, and death soon follows. In this case, not to seem either negligent or ignorant, the injured part must be laid bare, the fragments which press the medulla elevated, and, if loose, extracted: the wound may then be cleaned and dressed with warm stimulating applications. See Boerhaave's Aphorisms; Petit on the Diseases of the Bones; Aitkin's Treatise on Frac-

tures; Pott's General Remarks on Fractures; and Kirkland's Observations on Pott's Remarks; for machines to be used after the reduction of fractures, see Gooch's Cases and Remarks; Bell's Surgery, vol. vi. p. 71; White's Surgery, p. 142.

FRÆ'NUM, (from *fræno, to curb*). See Ligamentum annulare, Lingua and Penis.

FRA'GA, (from *fragro, to smell sweet*). The strawberry. (See Arbutus.) *Fragaria vesca* Lin. Sp. Pl. 708. The common wood strawberry, the most agreeable kind, flowers in May, and the fruit ripens in June. A decoction of the whole plant is used against the jaundice.

FRAGAROI'DES, (from *fragara, a strawberry*, and *εἶδος, likeness*). Barren strawberries. See Arbutus.

FRAGI'LITAS O'SSIUM, (from *frango, to break,*) *friabilitas ossium*, has been supposed to consist in too great redundance of the earthy principle in the sound habit. In the diseased, the scurvy, lues venerea, and scrofula, may occasion it. Mr. Sharp attributes it to a defect of the oil; but the real cause of fragility from disease is a deficiency of the earth, and the bones are broken with little or no pain. The *fragile vitreum* of pathologists is supposed to be owing to cold. See Morbi solidi simplicis.

FRAMBŒ'SIA. See Yaws.

FRA'NCOLIN. See Attagen.

FRA'NGULA, (from *frango, to break;* so called from the brittleness of its branches). See Alnus nigra.

FRAXINE'LLA, (from *fraxinus, the ash*). See Dictamnus albus.

FRAXINUS, (from *fragore*, from the noise its keys make when shook by the wind,) *bumelia*. The ash-tree; *fraxinus excelsior* Lin. Sp. Pl. 1509, is a tall tree, common in woods and hedges. Its bark whitish; the seeds oblong, reddish, or brownish coloured, shaped somewhat like a bird's tongue, whence they are called *lingua avis*, and *orintho-glossum*.

The fresh bark is bitterish and astringent, but loses these qualities in drying. A drachm of this bark is diuretic, and the watery extract hath the same effect. The middle bark hath been used in intermitting fevers, when assisted by alkaline salts.

The seeds are diuretic and healing, in the dose of a drachm. Raii Hist. Lewis's Materia Medica.

Fraxinus o'rnus. The flowering ash. *Manifera arbor* Lin. Sp. Pl. 1510; though later authors have found the manna to be the production of another species not noticed by Linnæus, the *f. rotundifolia*. See Manna.

FRE'NA. See Alveolus.

FRIABI'LITAS O'SSIUM, (from *frio, to crumble*). See Fragilitas.

FRI'CTA. See Colophonia.

FRI'CTIO, (from *frico, to rub*). Rubbing. Friction of the body, if duly continued and repeated, promotes absorption and perspiration, quickens the circulation, particularly through the finer capillaries. It contributes not only to convey medicines into the body, but also to their advantages when introduced. This remedy is best used when the primæ viæ are most empty, and the chylopoietic organs too languid, and should in that case be steadily applied over the whole abdomen. Gentle friction with oily substances relaxes; but strong friction with rough dry cloths is a powerful tonic. It has been considered particularly useful in ascites, and many other cases where the action of the absorbent system is to be promoted. When the brush is employed, the vessels are only slightly stimulated; but the most effectual means of applying it is by rough cloths, flannels, or woollen gloves. As much pressure should be used as the parts can bear without pain, and it is often advantageous that the patient should be also the operator.

FRI'ESEL. See Miliaris febris.

FRIGIDA'RIUM, (from *frigidus, cold*). A vessel in the baths for holding cold water. It sometimes means the cold bath.

FRIGERA'RIA. See Putrida febris.

FRI'GUS, (from *frigeo, to be cold*). Cold. In Vogel's Nosology it signifies the coldness of the feet and hands. Heat and cold are the names of certain sensations in our bodies, and depend on the substances which produce them having a less or a greater affinity for heat than the bodies themselves. See Cold.

FRI'TTA. Fritt; *ammonitrum*, is a mass of salt and ashes concreted with the sand in making glass.

FROND. A twig of a tree with its leaves; Linnæus applies this term to the peculiar leafing of palms and ferns. Martyn says it was anciently written *fruns*, from *βρυω, pollulo, to germinate* or *bud*.

FRONDI'PORA. See Eschara.

FRONS, (from *φρενες, thought*, as the supposed seat of thought). The forehead is that part above the eyes destitute of hair, extending from one temple to the other; but in ancient authors it sometimes means the whole countenance. In botany it means a leaf or branch, from *fero, to bear*.

FRONTA'LE, (from *frons, the forehead*). The name of a topical medicine applied to the forehead; *anacollema* (see Cataplasma): it often means also a linen bag, in which cephalic ingredients are contained to be applied to the forehead. See Epithema.

FRONTA'LIS, Mu'sculus ve'rus. See Corrugator coiterii.

Fronta'lis ne'rvus. The fifth pair of nerves from the brain, sends off its first branch, called *orbitarius et ramus superior*, which is subdivided into three: the first is the frontal, which spreads on the upper part of the orbit of the eye, to the fat which surrounds the globe of the eye, the musculus elevator palpebræ, &c.

Fronta'lis si'nus. The frontal sinus. There are two of these formed of the separated laminæ of the os frontis; placed above the orbits, on each side the top of the nose: they are covered with the same membrane which lines the nostrils, and open into them; but are occasionally wanting.

Fronta'lis ve'na is a branch from the external jugular, forming a vein in the forehead, called by the ancients *præparata vena*.

FRONTIS, OS. The bone of the forehead; *coronale os, inverecundum, motopion*. The external surface of this bone is smooth at its upper convex part, but below several cavities and processes are observed. At each angle of the orbit the bone juts out to form two internal and two external processes. The ridge which makes the supercilium is called the superciliary process. The lower part of the forehead, where the hair of the eye brows grows, is called *ophrys*. The nasal process

is situated between the two internal angular processes; and the two orbitar processes are continuations of the superciliary: between these is an aperture for the reception of the ethmoid bone. At the internal angular process is a cavity for the *caruncula lachrymalis;* at the external angular process is another for the pulley of the musculus obliquus major. The foramina are three on each side; one in each superciliary ridge, through which a nerve, vein, and artery pass to the integuments of the forehead. Near the middle of the internal side of the orbit, in the transverse suture, or near it, is a small hole, called the *internal orbitar:* the orbitar internus posterior is smaller, and lies about an inch deeper in the orbit. On the inside of the *os frontis* there is a ridge, which, on the upper part, is imperceptible, and grows more prominent at the bottom, where there is a foramen cæcum; to this ridge the falx is attached. The frontal sinus is placed over the orbits, and is divided by the septum just described. This bone is of mean thickness, between that of the os occipitis and of the parietal bones; but at the orbitar process, from the pressure of the brain and the globe of the eye, it is almost transparent. It will be obvious that the trepan cannot be applied over the sinuses to reach the brain.

FRUCTIFICA'TIO, (from *fructifico, to make fruitful*). Fructification, or fruiting, consists in the flower and fruit; and there is no fructification without anther, stigma, and seed. When perfect, it consists of seven parts.—1. Calyx—2. Corolla—3. Stamen—4. Pistil—5. Pericarp—6. Seed—7. Receptacle.—Of these, the four first belong to the flower; the two next to the fruit; and the last is common to both. The pedicle of the flower or blossom is the stem of the fruit, and its fibres are expanded through the whole bulk. The epidermis forms the calyx, the next layer of the bark the liber, the wood the antheræ, and the medulla the stigma. All previously exist; and in no instance is there any new formation: all is evolution only.

FRU'CTUS, (from *fruor, to use*, or from *feri*, Heb.). Fruit; *carpos*. It is properly the part of a plant wherein the seed is contained, but in general it is any seed or grain covered with a pulp or shell, or uncovered; but it is more strictly styled fruit when there is a pulpy covering. For the nutritious properties of fruits, see Aliment. The chemists call metals the fruits of the earth.

Fru'ctus umbilica'tus. Umbilicated fruit is that on which the flower grows. The flower usually forms a cavity, called *umbilicus*, or *navel*, as in the medlar, hip, &c.

FRUMENTA'CEUS, (from *frumentum, wheat*). A term applied to all such plants as resemble wheat in their fruit, leaves or ears.

FRUME'NTUM, (quasi *frugamentum*, from *fruges, fruit*). Corn. It is spontaneous in many climates, but industry has meliorated it in all. It is a species of grass in its primitive state, whose seed is improved by culture. A name also of wheat. See Triticum.

Frume'ntum corruptum. See Brasium.

Frume'ntum I'ndicum, frume'ntum turcicum. See Mays.

Frume'ntum sarace'nicum. See Fagopyrum.

FRUSTA'NEUS, (from *frustra, in vain*). Botanically applied, it means having the parts of fructification neutral or infertile.

FRU'TEX, (*à ferendo fructum, from bearing fruit*). A shrub. It is a plant with many woody perennial trunks, such as roses, or seringas. Linnæus makes the distinction of a shrub from a tree to consist in its having no buds, though trees have often no buds in hot climates; and he acknowledges that nature has placed no limits between them. The word is generally used by gardeners for all woody plants of low growth.

Fru'tex ba'ccifer Brasilie'nsis. See Caaghiyuyo.

Fru'tex I'ndicus ba'ccifer. See Belilia.

Fru'tex I'ndicus spino'sus. See Cara schulli.

Fru'tex odora'tus septentriona'lium. See Myrtus Brabantica.

Fru'tex pavoni'nus. See Poinciana.

Fru'tex terribilis. See Alypia.

FRUTICO'SUS, (from *frutex, a shrub*). Fruticose. Plants which are of a woody substance.

FUCOI'DES, (from *fucus*, and *ειδος, likeness*). A species of an aquatic plant, of a middle nature betwixt conserva and fucus. It is often finely divided, of a more tender substance than the fucus, and not distinguished by nodes and joints like the conserva or corallina.

FU'CUS, (from *φυκος*, from *fuka*, Hebrew, *antimony;* so called because, like antimony, it was used in painting the cheeks). A species of plant growing in the sea, whose leaves and stalks are of various figures. It is generally of a viscid and coriaceous substance, and furnished with vesicles on both sides, which admit o air being separated to assist its floating. Its extremities are often set with tubercles, which have been supposed to be its fructification. Those used in medicine are, 1. *Alga marina latifolia vulg. Fucus vesiculosus* Lin. Sp. Pl. 1626. (See Quercus marina.) 2. *Lactuca marina; ulva marina* Lin. Sp. Pl. 1632; which is of the same use as the alga.

Fu'cus escule'ntus. The tangle of Scotland, an edible crisp, but not a very nutritious, marine plant.

Fu'cus mari'timus. See Kali.

Fu'cus mari'nus. See Alga.

FU'GA DÆMO'NUM, (because it was thought to drive away evil spirits). See Hypericum.

FUGACI'SSIMUS, (from *fugax, speedy*). In botany it is applied to the petals, and means of very short continuance.

FULCRA'TUS, (from *fulcrum, a prop,*) propped; applied botanically to a branch, descending to the ground, and supporting the stem.

FUGI'LE. Ear wax. (See Cerumen auris). An appearance in the urine like wax. (Paracelsus.) It sometimes means a bubo, at others a tumour of the parotid glands.

FULI'GO, (quasi *fumiligo*, from *fumus, smoke,*) *araxos, asopter*, asuoli, soot, is the shining black concrete, formed by the smoke from wood. It hath a disagreeable smell, and a pungent bitter nauseous taste: the more resinous the wood, the more bitter will be the soot. By a chemical analysis it affords a volatile alkaline salt, an empyreumatic oil, a fixed alkali, an acid formed by the decomposition of the mucilage, and a resin soluble in alcohol.

Soot yields its virtues to water, or to proof spirit, each of which dissolves about one fourth part of it; and is considered as an antispasmodic, and an emmenagogue.

FULMINA'TIO, fulmination, (from *fulmino, to lighten* or *thunder*). In chemistry it means generally explosion, when it is the same with *detonation*. But in

the depuration of the more perfect metals, when infused with lead, a bright colour succeeds a kind of sulphureous cloud before appearing in the metal during the fusion, which has this appellation. See DETONATIO.

FUMA'RIA, (from *fumus, smoke;* since, like smoke, it draws tears). FUMITORY. *Fumis terræ, capnos, herba melancholifuga; fumaria officinalis* Lin. Sp. Pl. 984. COMMON PURPLE FUMITORY. It is a plant with bluish green, finely divided leaves, producing, towards the tops of the stalks, spikes of irregular purplish flowers, followed each by a single seed; annual, flowering in May and June, and delighting in shady places. The leaves have a bitter saline taste; and an extract obtained from a decoction of them is very bitter. The juice of these leaves, if dropped into the eyes, is supposed to cure dimness of sight. The plant has been supposed by physicians of the first authority to be a powerful deobstruent, particularly of the hepatic system; and it is highly commended in scorbutic and acrimonious states of the fluids; consequently in various cutaneous diseases. The juice, mixed with whey, and used as common drink, is said to prove diuretic and laxative. Dr. Cullen has found it useful in many cases where bitters are prescribed; but it is chiefly useful in clearing the skin, and he has experienced its good effects in many instances of cutaneous affections, resembling lepra. The dose is two ounces of the expressed juice twice a day: the dried root may be also given in infusion, or decoction; or the extract may be substituted; for these all retain the virtues of the fresh herb.

FUMA'RIA BULBOSA, Lin. Sp. Pl. 983, is of similar virtues, but weaker than the *f. officinalis.*

FUMA'RIA A'LBA, also called *cysticapnos Africana scandes,* AFRICAN CLIMBING BLADDER FUMITORY. *Fumaria vesicaria* Lin. Pl. Sp. 985, is a climbing plant, chiefly resembling the fumitory above described, only that the fruit is an oval bladder, containing the seeds.

FUMIGA'TIO, (from *fumus, smoke).* FUMIGATION. By the subtile fumes inspired, or sometimes swallowed, much benefit or injury may be produced. The latter is evident from the palsies produced among workers in lead and quicksilver mines, and the benefits derived from impregnating the air with salutary materials. Catarrhs and catarrhous coughs are relieved by fumes received with the breath, sometimes of warm water, at others, it is said, of æther; and by the same method expectoration is assisted in asthmas: even ulcers in the lungs have, it is said, been healed by this method. The advantage of fumigations in the cure of venereal ulcers is well known, though the practice is now disused. (See INHALATIO.) But this plan has been lately revived by Mr. Abernethy, and is supposed to affect the constitution when other methods have failed, and to produce its effects in a comparatively shorter time. Lalonette's powder was supplied by precipitating the oxide of mercury from calomel by means of ammonia, and it is sprinkled on a hot iron, while the fumes are confined by the patient being placed in a box. Partial mercurial fumigations are used also in white swellings of the knee, and swellings of the breast.

FUMIGA'TIO NITROSA. See CONTAGION.

FU'MUS TE'RRÆ. See FUMARIA.

FU'NCTIO, (from *fungor, to perform).* See ACTIO.

We shall add professor Richerand's new classification of the functions. It is elegant, comprehensive, and complete.

THE PLAN OF A NEW CLASSIFICATION OF THE FUNCTIONS OF LIFE.

CLASS I.—FUNCTIONS THAT SERVE FOR THE PRESERVATION OF THE INDIVIDUAL.—(*Individual life.*)

ORDER I.
Functions which assimilate the aliment by which the body is nourished.

(*Assimilating, internal, or digestive functions.*)

GENUS I.—DIGESTION
Extracts the nutritive part.
- Reception of the food.
- Mustication.
- Solution by the saliva.
- Deglutition.
- Digestion in the stomach.
- ——— duodenum.
- ——— intestines.
- Excretion of the fæces and of the urine.

GENUS II.—ABSORPTION
Carries it into the mass of humours.
- Inhalation of chyle.
- ——— lymph.
- Action of vessels.
- ——— glands.
- ——— the thoracic duct.

GENUS III—CIRCULATION
Propels it towards the organs.
- Action of the heart.
- ——— arteries.
- ——— capillary vessels.
- ——— veins.

GENUS IV.—RESPIRATION
Combines it with atmospheric oxygen.
- Action of the parietes of the thorax.
- ——— lungs.
- Alteration of the air.
- ——— in the blood.
- Disengagement of animal heat.

GENUS V.—SECRETION
Causes it to pass through several modifications.
- Exhalation.
- Secretion by follicles.
- ——— glands.

GENUS VI.—NUTRITION
Applies it to organs, to which it is to supply growth, and restore their loss.
- Different in every part according to the peculiar composition of each.

(CLASS I. Continued.)

ORDER II.
Functions which form connexions with surrounding objects.
(*External or relative functions.*)

GENUS I.—SENSATIONS
Inform the being of their presence.
- Organs
  - The Sight.
  - Hearing.
  - Smell.
  - Taste.
  - Feeling.
- Action of nerves.
- ——— the brain.
- Human understanding.
- Sleep and watching.
- Dreaming and sleep walking.
- Sympathy.
- Habit.

GENUS II.—MOTIONS
Approach towards or remove it from them.
- Organs and muscular motion.
- The skeleton.
- Articulations.
- Place.
- Progressive motions.
  - Walking.
  - Running.
  - Jumping.
  - Swimming.
  - Flying.
  - Creeping.

GENUS III.—The VOICE and SPEECH
Cause it to communicate with similar beings, without change of place.
- The Voice
  - Articulated, or Speech.
  - Modulated, or Singing.
- Stammering.
- Lisping.
- Dumbness.
- Ventriloquism.

CLASS II.
FUNCTIONS THAT SERVE FOR THE PRESERVATION OF THE SPECIES.—(*Life of the species.*)

ORDER I.
Functions which require the concurrence of both sexes, as
- CONCEPTION and GENERATION.
  - General differences of the sexes.
  - Hermaphrodism.
  - Systems relative to generation.

ORDER II.
Functions which exclusively belong to females, as
- GESTATION.
  - Of the uterus in a state of impregnation.
  - History of the embryo.
  - ——— fœtus and its membranes.
- DELIVERY.
  - On the uterus after delivery.
  - The lochiæ.
- LACTATION.
  - Action of the breasts.
  - Milk.

- GROWTH.
  - Infancy.—Dentition.—Ossification
  - Puberty.—Menstruation.
  - Adolescence.
  - Youth.
- VIRILITY.
  - Temperaments.
    - Sanguine.
    - Muscular.
    - Biliary melancholic.
    - Lymphatic.
    - Nervous.
  - Idiosyncracy.
  - Human race.
    - European Arab.
    - Negro.
    - Mongul.
    - Hyperborean.
- Decrease.
  - Age of decrease.
  - Old age.
  - Decrepitude.
- Death.
- Putrefaction.

The splendid work of M. Vicq d'Azyr on the Brain furnishes us with the following table of the FUNCTIONS, or the *proper characters of living bodies*. These are, DIGESTION, NUTRITION, CIRCULATION, RESPIRATION, SECRETIONS, OSSIFICATION, GENERATION, IRRITABILITY, and SENSIBILITY. Every body in which one or several of these functions are observed must be regarded as an organized or living body.

I. *Digestion.* Which have one or many stomachs distinct from the œsophagus and intestinal canal: MAN, QUADRUPEDS, CETACEA, BIRDS, and CRUSTACEA.

LIVING BODIES,

Whose stomachs are distinguished from the œsophagus and intestinal canal only by some enlargement: OVIPAROUS ANIMALS, SERPENTS, CARTILAGINOUS and PROPER FISH.

Who have only an alimentary tube: INSECTS, WORMS, ZOOPHYTES.

Who have neither stomach nor intestinal canal: PLANTS.

II. *Nutrition.* Whose nutritious juices are absorbed by the vessels opening into the external cavities; ANIMALS of EVERY KIND.

LIVING BODIES,

Whose nutritious juices are absorbed by vessels opening externally: PLANTS.

III. *Circulation.* Having blood, blood vessels, and a heart with two ventricles and two auricles; MAN, QUADRUPEDS, CETACEA, and BIRDS.

A single ventricle, internally divided into several cavities and two auricles: OVIPAROUS QUADRUPEDS and SERPENTS.

LIVING BODIES,

A single ventricle, and auricle: CARTILAGINOUS and OTHER FISH.

Whose heart is formed by a long convoluted contractile vessel containing a white fluid: CRUSTACEA, INSECTS, and WORMS. In some crustacea there are traces of a heart.

Who have no heart, but vessels filled with fluids of different kinds: ZOOPHYTES and PLANTS.

IV. *Respiration.* Who breathe by free unconnected spongy lungs: MAN, QUADRUPEDS, CETACEA.

Who breathe by free cellular muscular lungs: OVIPAROUS QUADRUPEDS and SERPENTS.

LIVING BODIES,

By lungs adhering to the ribs provided with appendices: BIRDS.

By gills of different forms: FISH and CRUSTACEA.

By holes placed on different rings: INSECTS and EARTH WORMS.

By a trachea and external fringes: AQUATIC WORMS.

By tracheæ: PLANTS.

In which neither holes nor tracheæ are discernible: POLYPI.

V. *Secretion.* This takes place in different forms or degrees in every living body.

VI. *Ossification.* Which have an internal bony skeleton: MAN, QUADRUPEDS, CETACEA, BIRDS, OVIPAROUS QUADRUPEDS, and FISH.

LIVING BODIES,

An internal cartilaginous one: CARTILAGINOUS FISH.

An external horny: PERFECT INSECTS and LITHOPHYTES.

Calcareous: CRUSTACEA, SHELL FISH, the greater number of MADREPORES, ZOOPHYTES.

Woody: PLANTS.

Which have no skeleton: INSECTS in their larva state, WORMS, POLYPI.

VII. *Generation.* Viviparous: MAN, QUADRUPEDS, CETACEA.

LIVING BODIES,

Oviparous, whether hatched internally or without the body: BIRDS, OVIPAROUS QUADRUPEDS, CARTILAGINOUS and other FISH, SERPENTS, INSECTS, CRUSTACEA, WORMS, PLANTS.

VIII. *Irritability.* Wholly muscular or contractile: the greater number of the larvæ of INSECTS, WORMS, POLYPI.

LIVING BODIES,

Whose muscles cover their skeleton: MAN, QUADRUPEDS, BIRDS, CETACEA, OVIPAROUS QUADRUPEDS, FISH, SERPENTS.

Whose muscles are covered by their skeleton: PERFECT INSECTS and CRUSTACEA.

Who have some contractile parts, but no spontaneous motions: PLANTS.

IX. *Sensibility.* Who have nerves, and a brain distinct from their spinal marrow; ALL ANIMALS, except those in the following sections.

LIVING BODIES,

Who have nerves and a brain scarcely distinct from their spinal marrow: INSECTS, CRUSTACEA, WORMS.

Without discovered nerves, brain, or spinal marrow: ZOOPHYTES, PLANTS.

See ANIMAL.

FU'NGUS, (σπογγος, *sponge*; from their spongy contexture). TOADSTOOL, *besacher*; is the lowest, and a very imperfect vegetable genus, having neither visible seeds, flowers, leaf, nor the structure of a plant. Most of them spring up from, and are soon dissolved into, mucous matter. See Ray's Synopsis, and AMANITA.

FU'NGUS, in surgery, is a spongy excrescence, which arises in wounds and ulcers, commonly called, though often improperly, *proud flesh*. In general, dry lint is the best application. A spongy lax flesh, rising from the bottom of ulcers, differs much from the fungus in healing wounds, and often requires the knife, or a caustic: the former is in one mass, but the fungus in healing wounds in many little protuberances. When this ill-conditioned spongy flesh arises, it is of very little use to attempt its destruction before the general habit is improved; and when this is effected, dry lint, or other gentle means, will be generally sufficient. The fungus

over a carious bone cannot be removed before the caries is stopped, and the exfoliation completed: the fungus then disappears spontaneously.

If fungous excrescences arise from the brain after trepanning, they may be cut away with a knife, or suppressed with lint dipped in rectified spirit of wine, and gentle pressure.

If the tumour appear to increase internally, a circumstance known by symptoms of compression on the brain, it has been sometimes advised to enlarge the opening of the bone; a precarious measure, often attended with dangerous hæmorrhage. Pressure in this case is inadmissible; but Mr. Abernethy suggests the application of vegetable astringents. Some benefit has, it is said, resulted from sprinkling these tumours with equal parts of myrrh and lapis calaminaris.

Fungus is also the name of a tubercle about the anus, occasioned and cured like a condyloma.

White swellings are called *fungi* by some authors. In Vogel's Nosology it signifies a soft œdematous tumour of the joints. Dr. Gottlieb Richter observes, that in consequence of external bruises, sometimes after catching cold, and often spontaneously, a round, pretty regularly circumscribed swelling arises round the patella: it is not painful, and a fluctuation is obvious. It sometimes occupies both sides of the patella, is sometimes confined to its ligament, and frequently surrounds the whole knee pan. The patient feels no complaint, except some degree of stiffness in the motion of the knee joint. This tumour must not be opened; and he recommends the following plaster, taking also tartar emetic in small doses, and rubbing the knee with the volatile liniment. R. Gum. ammon. ℥i. solv. in aceti scillitici, q. s. ad. consistentiam unguenti tenuioris. This must be spread thick upon leather, applied over the whole knee. Similar tumours on the joints of the elbow have been observed.

Fu'ngus albus acris, Fu'ngus pipera'tus albus. See Agaricus piperatus.

Fu'ngus articuli. See Spina ventosa.

Fu'ngus igna'rius and la'ricis. See Agaricus and Agaricus quercus.

Fu'ngus melite'nsis. *Cynomorion coccineum* Lin. Sp. Pl. 1375, supposed to be an astringent, and used in diarrhœas and dysenteries.

Fu'ngus salicis, *boletus suaveolens* Lin. Sp. Pl. 1646. It has at first an acid taste, and is then bitter. It has been employed in hectics, but is now disused.

Fu'ngus hæmatodes. This singular complaint was first distinctly described by Mr. Hey, in his very excellent work, entitled "Practical Observations in Surgery." It is a bloody tumour which forms in every part of the body, painful when seated in the muscles; but producing little inconvenience when in the cellular substance. It distends the integuments; but does not, like an abscess, render them thinner. When pressed with the hands, one part will give the sensation of a deep-seated fluid; in another the tumour is hard and uneven. When the integuments burst, the appearances are sometimes those of an excoriation only; sometimes a dark, bloody mass protrudes through the aperture. Where the fungus comes into contact with the muscles, they lose their natural redness and their fibrous appearance, becoming brown, and like the adipose membrane.

When the fungus appears through the skin, it bleeds copiously, and the hæmorrhage is frequently repeated till the patient sinks; neither the hydrargyrus nitratus ruber, the hydrargyrus muriatus, antimonium muriatum, or undiluted vitriolic acid, can repress its growth. Amputation is the only remedy; and if the tumour has begun at the lower part of a limb, and the slightest portion is left at the upper, the disease returns. It appears to be an organised, and is probably a living, parasitic animal, nourished by the vital fluid of the patient, and capable of absorbing from the subjacent vessels what is effused from its own.

Fu'ngus ma'ximus rotu'ndus pulverule'ntus. See Lycoperdon vulgare.

Fu'ngus membrana'ceous, and sambu'ci. See Auriculæ Judæ.

Fu'ngus, petræ'us mari'nus. See Androsace.

FU'NIS BRA'CHII. See Mediana vena.

FU'NIS vel FUNI'CULUS UMBILICALIS, (from its resemblance to a rope). The navel-string. It is of very different lengths, commonly about half a yard; usually fixed near the middle of the placenta, but occasionally near its edge. It is composed of two arteries and two veins: though sometimes the vein, and at others the artery, is singie. These vessels are convoluted, and surrounded by a fine net work of fibres of a gelatinous texture. The arteries are continuations of the internal iliacs or hypogastrics; the veins are formed by the union of all the branches in the placenta; they are continued into the abdomen at the navel, and so on to the vena portæ in the liver. (See Fœtus). After the birth, the remaining parts of the arteries in the abdomen form the ligamenta umbilicalia inferiora, and the veins the falciform or suspensory ligament of the liver.

There is always a point where the funis begins, and where the integuments separate from it: it is indifferent where it is divided, as it always drops off at the same place.

If the funis be torn off from the child, so that a ligature cannot be applied, Le Motte assures us he succeeded in preventing an hæmorrhage by applying pledgets of lint, and confining them with proper compresses and bandage; but some recommend the needle and ligature. Animals stop the hæmorrhage by drawing the funis with their teeth; and, in such cases, we might imitate the practice by employing the forceps.

If the child descends to the os externum, but seems to be drawn up and down as if suspended by a rope, the funis is probably too short, or entangled: in this case some practitioners have cut it about five or six inches from the child's belly; but with a little patience it will stretch sufficiently.

FURCE'LLA, FU'RCULA INFE'RIOR, (a dim. of *furca, a fork*). See Ensiformis.

FU'RCULÆ, (from *furca, a fork*). See Clavicu-læ.

FU'RFUR, (from the Hebrew term *farfarah, to break into small pieces*). Bran. Called by Cœlius Aurelionus *cantabrum leptophityron*. It is commended as excellent for removing offensive sordes from the head; and for relieving headachs, when rubbed warm on it. It has been used also as an expectorant, in decoction, or rather in infusion; and, sweetened with honey, is said to relieve violent and obstinate coughs. We have already remarked that it is almost exclusively gluten and of an animal nature, producing, by distillation, ammonia

FU'RFURA, (from *furfur, bran).* Scurf. Small exfoliations of the cuticle from exudation, like bran, which follow some eruptions on the skin: a new cuticle is formed underneath during the exfoliation.

FURFURA'TIO. See Furfurosi.

FU'RFURES, (from *furfur, bran).* The appellation of urine, whose sediment resembles bran. It is also called *pityroides;* and is synonymous with furfurosi.

FURFURO'SI, (from the same). Those afflicted with a scurf on the head, which, upon combing, discharges a scaly substance like bran, sometimes called *porrigo*, and *farrea nubes.*

FU'RNUS. See Fornax.

FURIO'SUS, (from *furio, to enrage;* so called from the violence of pain). See Ambulo.

FU'ROR UTERI'NUS, (from *furo, to be mad*, and *uterus the womb,) acrai, brachuna, astromania, arascon, arsatum.* Dr. Cullen calls it *nymphomania;* and places it in the class *locales*, and order *dysorexiæ.* He defines it an unrestrained desire for venereal enjoyment: but there is one species, varying only in its degree. It is a kind of madness, or an high degree of hysteria; and its immediate cause a preternatural irritability of the uterus and pudenda of women, or an unusual acrimony of the fluids in these parts.

The disease is known by the wanton behaviour of the patient: she speaks and acts with unrestrained obscenity, and, as the disorder increases, scolds, cries, and laughs, by turns. While reason is retained, she is silent and melancholy; but her eyes discover an unusual wantonness, which is soon manifested by every word and action.

In general, it is relieved by time and medicines, more often by matrimony; but it sometimes degenerates into mania.

Bleeding is sometimes useful; but the best remedy is camphor, in doses of ten to fifteen grains, with nitre, and small doses of the tinct. opii, at intervals. The cerussa acetatta has been given in doses of three to five grains; and cooling purges have been repeated in proportion to the violence of symptoms with advantage. Injections of barley water, with a small quantity of hemlock juice, have been recommended; but we know not with what success they have been employed. The regulation of the mind; avoiding improper company, either of young men, or, what is infinitely more dangerous, wanton women; is of the highest importance. See Riverius's Practice of Physic.

FUR'UNCULUS, (from *furo, to rage;* from the violence of the heat and inflammation previous to suppuration,) called *dothein;* and by Paracelsus, *chiadus, chioli;* a boil, is a phlegmonous tumour which commonly terminates in a suppuration of a peculiar kind. It is a variety of the phlogosis phlegmone (Culleni), distinguished on account of the form in which it appears. A boil is a small circumscribed inflammation, arising in the external parts, and terminating in an acute tubercle, about the size of a pigeon's egg, attended with redness and pain, and sometimes with a violent burning heat. These inflammations cannot be discussed; but for the most part suppurate spontaneously, but slowly, and break at first on their top, or the most pointed part, when some drops of pus, as from an abscess, come out. The germ, or what is commonly called the *core*, is next seen: it is a purulent substance, but so thick and tenacious that it appears like a solid body, which may be drawn out in the shape of a cylinder, like the pith of an elder branch, sometimes to the length of an inch. The separation of this core is usually followed by the discharge of some liquid matter, spread through the bottom of the sore. As soon as this is discharged, the pain entirely ceases, and the opening heals spontaneously: if it should not, the cure may be effected by a small quantity of Peruvian balsam.

Suppuration is the best method of removing this kind of tumour; for if repelled, it almost as certainly returns on some other part: but indeed the surgeon is seldom applied to on account of it, the common method of applying a poultice of flour and honey, sometimes a plaster of shoemaker's wax, answering every purpose. If, however, they do not come forward to suppuration, this process should be assisted by fomentations, a gum plaster, or any warm application. In other circumstances, emollient cataplasms, mixed occasionally, if the pain is violent, with extract of hemlock, or with opium, are useful. The root of the white lily is supposed to unite a stimulus with its emollient property.

These complaints are seldom attended with any danger; they are more frequently signs of a strong constitution, capable of throwing some morbid matter out of the habit. They have been considered sometimes habitual; then alterative medicines are necessary. Rosemary has been recommended: and the burdock root has been even considered as a specific. See London Medical Journal, vol. i. p. 332. Pearson's Principles of Surgery, vol. i. p. 66, &c. White's Surgery, p. 17. See Abscess.

FUSA'NUS, or FUSA'RIA, (from *fusus, a spindle:* because its wood is made into spindles). See Euonymus.

FUSIFO'RMIS, (from *fusus, a spindle*, and *forma, likeness).* Botanically, it is applied to the root, and means tapering like a spindle.

FU'SIO, (from *fundo, to pour out).* Fusion, *diachysis.* It is the reduction of solid bodies to a state of fluidity by fire. Fusio and solutio, per ignem, mean the same; but, by fusion, we usually understand a solution or liquation of metals or minerals: by liquefaction, a solution of pinguious and concreted substances; by solution, the union of a body with a menstruum into a transparent fluid.

G.

GABIA'NUM O'LEUM. See PETROLEUM VULGARE.

GABIRE'A. See MYRRHA.

GA'BRIEN. See BEYA.

GACI'RMA. See CUMANA.

GA'GEL. See MYRTUS BRABANTICA.

GALA'CTIA, and GALACTIRRHŒ'A, (from *γαλα*, *lac*, and *ῥεω*, *fluo*). An excess or overflowing of milk.

GALA'CTINA, (from *γαλα*, *lac*). See LACTICINIA.

GALACTITES, a fossil employed by the ancients, sometimes as an astringent, but more frequently as a promoter of the secretion of milk, Pliny xxvii. 59. It derives its name not from its colour, but from its whiteness when triturated with water, Dioscorides lib. v. c. 150; and seems to be the same with the morochites of Pliny, *ομοροχθος* of the Egyptians, the moroxite of Karsten. The ancients discovered it in Egypt on the banks of the Nile. Abilgaard found it to contain sixty parts of lime, twenty of alumine, four of magnesia, and four of carbonic acid. It differs from the dolomie in having a less proportion of the acid, and no iron.

GALACTO'DES, (from the same,) milk-warm, and a milky colour. Hippocrates.

GALACTO'PHORA, and GALACTOPOIETICA MEDICAME'NTA, (from *γαλα*, *milk*, and *φερω*, or *ποιεω*). Medicines which increase the milk. No medicine seems to have a specific power on these glands; and the only means of increasing the milk is a diet as nutritious, and in such quantity as the stomach can bear; with ease and tranquillity of mind. To force food and drink, in order to increase the milk, will occasion uneasiness and indigestion, and obviate the intention we mean to promote.

GALACTO'PHORI DU'CTUS, (from the same). The LACTEALS. See LACTEA VASA.

GALACTOPO'SIA, (from *γαλα*, *milk*, and *πινω*, *to drink*). The method of curing by a milk diet.

GALÆ'NA INA'NIS. BISMUTH. See BISMUTHUM.

GALA'NGA. GALANGAL; the roots of the *maranta galanga* Lin. Sp. Pl. 3; a grassy leafed plant, which grows in China, and in the East Indies. The dried roots are brought into Europe in pieces of about an inch thick; branched, full of knots and joints, with several circular rings, of a reddish brown colour on the outside, and of a pale red within.

This root hath an aromatic smell and bitterish biting taste; but the heat and pungency are superior to the bitter. Dr. Lewis observes, that the pungent matter appears to be of the same nature with that of pepper; that it resides not in the volatile oil, but in a resinous matter. Neumann thinks that it resembles ginger in its smell, taste, and chemical composition, but is less agreeable. It is used like the other spices in palsy and every species of debility.

There is a galanga major called *acori radix*, from a variety of the same species, weaker and much more disagreeable. See Lewis's Materia Medica. Neumann's Chemical Works.

GALA'XA, (from *γαλα*, *milk*). Is that white line in the heavens called the MILKY WAY; and is a congeries of fixed or nebulous stars. By analogy it is applied to the porosities in the cranium; and Charlton distinguishes the passages and distribution of the chyle in the mesentery by the name of galaxia.

GALBANATUM, a preparation of galbanum now disused.

GALBANUM, GUM, (from the Hebrew *chalbanah*,) *albetad*, *chalbane*, *gesor*, is the concrete, gummy resinous juice of an evergreen plant, with leaves like those of anise, growing in Syria, the East Indies, and Ethiopia. It is named *ferula Africana*, *oreosilinum Africanum*, *anisum fruticosum galbaniferum*, and *anisum Africanum fructicescens* and *ayborzat; bubon galbanum* Lin. Sp. Pl. 364. LOVAGE LEAVED BUBON. The gum is brought to us in pale coloured, semitransparent, soft, tenacious masses, of different shades, from white to brown: the better sorts, when opened, appear to be composed of clear whitish tears, often intermixed with stalks or seeds of the plant. It is rather resinous than gummy, and is more completely soluble in alcohol than in water. The former menstruum indeed leaves only the impurities. It hath a strong unpleasant smell and bitterish warm taste, is unctuous to the touch, and softens in the fingers.

In medical virtue it may be said to be less antispasmodic than asafœtida, and a less powerful expectorant than the ammoniacum. Dr. Cullen thinks that alone

it has little power, but affords a variety, so requisite in the use of antispasmodics. Galbanum is, however, often useful in a flatulent state of the bowels; and is scarcely inferior to asafœtida, a medicine generally unpleasing by its smell, and which can be only given with advantage in pills, which many cannot swallow.

A considerable portion of the virtue of galbanum consists in its essential oil, which rises in distillation, either with water or with spirit; and great care is consequently required in purifying it. For inferior purposes, the best method is to expose it in winter to a sharp frost, and while brittle to powder it: thus the impurities may, in some measure, be separated in the searce: for internal uses it is included in a bladder, and kept in hot water until soft enough to be strained by pressure through an hempen cloth.

Besides the essential oil yielded by distillation with water, an empyreumatic oil is obtained by distilling in a retort without mixture. This oil is of a fine blue colour, but changes in the air to a purple.

It is common to spread galbanum on leather, and to apply it to the belly in hysteric disorders, and in spasms following delivery; but asafœtida, with about one third or one quarter of camphor, and as much opium, is preferable. See Neumann's Chemical Works. Lewis's Materia Medica. Cullen's Materia Medica.

The college of physicians order the following tincture:

Take of galbanum, cut into small pieces, two ounces; proof spirit of wine, two pints; digest with a gentle heat for eight days, and strain. They consider it as a warm antispasmodic, promising to be of service in flatulency, hysteria, and the asthmatic complaints of old people. Pharm. Lond. 1788. If decanted, it is a more powerful medicine; for the finer parts of the galbanum are suspended, and while the medicine is thus strengthened, the elegance of composition is not affected, as on mixture with water it becomes milky. If rectified spirit is employed, about one third of the dose will be sufficient. Externally, galbanum has been applied to expedite the suppuration of indolent tumours; and as a warm stimulating plaster. For the first purpose the following is often successful.

Cataplasma galbani compositum. R. Rad. lilii albi ℥ iv. caricarum ʒ i. rad. cepæ vulgaris contusæ ℥ i. ss. gummi galbani ʒ ss. Radix lilii et caricæ coquantur, et simul contundantur; postea radix cepæ adjiciatur, et denuo galbanum vitello ovi solutum.

Galbanum is also an ingredient in the *pilulæ è gummi*, *emplastrum lythargyri cum gummi*, and the *emplastrum ad clavos Pharm. Edinensis*.

GA'LBEUM. Bracelets worn by the Romans; not only as ornaments, but as salutary: so called from the emperor Galba, who is said to have worn them.

GA'LBULÆ, (from *galbus*, *yellow;* from the colour). See Cupressus.

GA'LBULUS, (from the same). When the skin of the body is naturally yellow.

GALDA GUMMI RESINA. Its source is unknown; but in taste and smell it resembles the gum elemi, and, like it, is reckoned a stimulant and resolvent. The ancients added to these virtues an expectorant quality. It is not at present to be procured.

GA'LE. See Myrtus Brabantica.

GA'LEA, (from γαλη, *a cat;* because it was formerly made of the skin of that animal). A helmet. (See Pileus). In anatomy it is the appellation of the *amnion;* in surgery, of a bandage for the head; in botany, of the upper lip of a ringent corolla or labiated flower. Among diseases, it is by analogy a name for a species of headach, which surrounds the head like a helmet.

GALEANTHRO'PIA, probably from γαλη, *a cat*, and ανθρωπος, *a man*, as it is a species of madness in which a patient imagines himself to be a cat, and imitates its manners.

GALEA'TUS, (from γαλη, *a helmet*). Botanically, it is applied to leaves or flowers which have the shape of a helmet.

GA'LEGA, (from γαλα, *milk;* because it increases the milk of animals, particularly of goats). *Ruta capraria*, goat's rue, *galega officinalis* Lin. Sp. Pl. 1062. The root is perennial; on the stalks are pods with oblong kidney-shaped seeds. It is a native of Spain and Italy, where it is eaten as food; but is not noted in medicine.

Ga'lega nemorosa verna, a species of orobus. *Orobus vernus* Lin. Sp. Pl. 1028.

GA'LEGÆ. A species of senna. *Cassia tora* Lin. Sp. Pl. 538.

GALE'NA, (from γαλην, *a calm;* supposed to tranquillize the violence of the disease). It was a name of the theriaca before the addition of vipers as an ingredient; and is now the name of a lead ore which contains a little silver. The lead ore is mineralized by sulphur, Haüy, iii. 456.

GALENICAL; the system or the practice of Galen. (See Medicina). Galenical medicines is a term employed in opposition to chemical. It was first used to distinguish the antagonists of the chemists; and the preparations are those in which fire is not employed, or at least in a slight degree, and in which no decomposition takes place. Decoctions are indeed galenical remedies; but the decomposition of the vegetable is, in this operation, imperfect.

GALE'NION. The name of an anodyne malagma, in P. Ægineta.

GALEO'PSULON, GALEO'PSIS, (from καλος, *good*, and οψις, *sight*; because it is supposed to assist the sight). *Lamium rubrum*, *urtica iners magna fœtidissima*, *stachys fœtida*, and hedge nettle. Unless the synonyms are erroneous, it must be the *stachys palustris* Lin. Sp. Pl. 311. It is supposed to be a good anti-hysteric, and an infusion of the leaves and flowers to be useful in nephritic colics. Boerhaave attributes some salutary qualities to the species called clown's all heal, see Panax coloni; to the yellow archangel, and spotted archangel, see Lamium; but neither possesses any remarkable medical virtue.

Galeo'psis lute'a. See Lamium maculatum.

GALERICUM APONEUROTICUM. The tendinous expansion over the pericranium.

GALERI'TA, (from *galerus, a hat;* because its leaves are shaped like a hat). See Petasites.

GAL'I. See Indicum.

GA'LIA, (from *gallæ*, *galls*). There are two compositions; one called *pura*, the other *aromatic*; and galls were a part of each composition. Galia moschata contained aloes, amber, and musk; sometimes nut-

meg; galia zibettina, civet. The form was that of troches.

GALIA'NCON, (from *γαλιος, a weasel*, and *αγκων, the elbow*). See ANCI. Those who have one arm shorter than the other are called *galiancones*, from their resembling a weasel.

GA'LIUM APARI'NE. See APARINE.

GA'LIUM VE'RUM. See GALLIUM.

GALL SICKNESS, the name of a remittent bilious fever in the Netherlands.

GA'LLÆ, (from *Gallus*, a river in Bythinia,) *nuces gallæ, gallæ maximæ orbiculatæ, gallæ spinosæ, ceses*, GALLS; the productions of the *quercus cerris* Lin. Sp. Pl. 1415.

They are hard round excrescences; the nests of an insect called *cynips*, found in the warmer countries on the oak tree. The tear which issues from the wound, made by the insect, gradually increased by accessions of fresh matter, forms a covering to the eggs and succeeding insects. Those galls which have no aperture contain the dead insects. Two sorts are distinguished in the shops; one said to be brought from Aleppo, *galla spinosa*; the other from the southern parts of Europe, called *European galls*. The former are generally of a bluish, greyish, or blackish colour, and verging to a blue, unequal in their surface, difficult to break, and of a close texture: the others are of a pale brownish or whitish colour, smooth, round, easily broken, less compact, and of a much larger size. The two sorts differ in strength; but in other respects are of the same quality: the small, protuberant, bluish, and heavy ones are the best.

Galls are supposed to be the strongest astringent in the vegetable kingdom, without any other smell or taste. Both water and spirit take up nearly all their virtue, though the spirituous extract is the strongest preparation. The powder is, however, the best form; and the dose is from a few grains to half a drachm.

They are not much used in medicine, though they are said to be beneficial in intermittents. Dr. Cullen has cured agues, by giving half a drachm of the powder of galls every two or three hours, during the intermission; and by it alone, or joined with camomile flowers, has prevented the return of the paroxysms. A fomentation, made by macerating half an ounce of bruised galls in a quart of boiling water for an hour, has been found useful for the piles, the prolapsus ani, and the fluor albus, applied cold. An injection simply astringent is made by diluting this fomentation, and used in gleets and leucorrhœa. The camphorated ointment of galls has been found also serviceable in piles after the use of leeches, and is made by incorporating half a drachm of camphor with one ounce of hog's lard, and adding two drachms of galls in very fine powder. Galls are also employed for making black writing ink, and the colouring matter for dyeing black. The decoction of galls is more rough and astringent to the taste; but an infusion in cold water strikes a deeper black with green vitriol. This is not, however, always an accurate test of the degree of astringency. For the properties of the gallic acid, see CHEMISTRY.

See Lewis's Materia Medica. Neumann's Chemical Works. Cullen's Materia Medica.

GALLATU'RA. See ALBUMEN OVI.

GA'LLICUS MO'RBUS. The FRENCH DISEASE. See LUES VENEREA.

GALLINACEUS LAPIS; the same with the lapis obsidianus of the ancients; the lave vitreuse obsidienne of Haüy, iv. 494.

GALLINA'GINIS, vel GALLI GALLINACEI CA'PUT, (from *gallinago, a woodcock*). When the prostate is cut open, we discover the eminence called *caput gallinaginis*, thick behind and slender before: on each side of this eminence appear the orifices of the vesiculæ seminalis.

GALLI'TRICHIS. WILD CLARY.

GALLI'TRICHUM. See HORMINUM.

GA'LLIUM, (from *γαλα, lac, milk*; because it coagulates milk). Called *gallion*, CHEESE RENNET, LADY'S BED STRAW. It is the *gallium verum* Lin. Sp. Pl. 155; a plant with square stalks, and long narrow leaves, which commonly stand eight at a joint in the form of a star. On the tops appear thick clusters of small yellow monopetalous flowers, followed each by two seeds. It is perennial, found in dry waste grounds, and flowers in June and July.

The flowers have a strong, not disagreeable, smell; the leaves scarcely any: but both possess a degree of acidity, and are employd in curdling milk. It is on that account styled *cheese rennet*. The whole plant is said to be cooling and astringent; but seldom used in medicine. It is also a name for MADDER. See RUBIA SYLVATICA LÆVIS.

GA'LLIUM LATIFO'LIUM FLO'RE LUTE'O. See CRUCIATA VULGARIS.

GALVANISM, (from Galvani, one of its earliest cultivators). Though the phenomena which Galvanism offers are by no means wholly new, yet the discovery of their nature and source, as well as their application, are among the most brilliant improvements of an inventive age. It was long since observed that the electric torpedo, and electric eel, as they were styled, could give, with powers scarcely impaired, many repeated shocks; and philosophers contemplated with astonishment batteries which required no new charge; an efficacy scarcely diminished by exertion. This effect was probably not produced by muscular exertion, for in that system there was no provision for the exercise of such powers. The discriminating organs were cellular, to which a large proportion of nerves could be traced, and anatomical investigation gave no further assistance.

Cotugno, a student of medicine, in 1788, on dissecting a mouse, punctured the intercostal nerve with his scalpel, probably while he touched the other part with his probe, and he felt a shock. The experiment, with some others, was repeated by Vassali; but the only conclusion drawn was, that nature had a power of preserving some portion of the electricity after death. Galvani added to our knowledge by showing us, that the contact of two metals was necessary for the production of this new power, which greatly resembled the electrical; and it was conjectured very early, that these metals acted as doublers of electricity. In the Annales de Chimie, we find a very ingenious calculation of their effects, on the principle of the two metals acting in this way (vol. xli. p. 3), in a report made by La Place, Coulomb, Fourcroy, Biot, &c. to the academy respecting the Voltaic pile. But we shall not enlarge

on this part of the subject, because it is scarcely medical, and because the Galvanic phenomena are more nearly connected with the oxidation of the metals. Before, however, we leave this early stage of the history, we may remark, that Sulzer, in 1769, and Fabroni soon afterwards, found that if a piece of silver was placed on the tongue, and a plate of zinc under it, on these metals touching each other a pungent taste was perceived.

Galvani seems rather to have retarded than promoted the knowledge of this science, by connecting it too closely with the fashionable system of electricity, and attempting to find, in the muscular fibre, the two sides of the Leyden phial. The theory of Volta is still different; yet the peculiar action of this singular fluid is not yet well understood. It is shown to exist, by coating, as it is styled, a nerve and a muscle with a different metallic substance, and then joining the distant coatings by some conductor. The muscle is thus powerfully agitated; and even long after life is at end, these motions may be excited. The heart, alone, is most disobedient to this power; and for a reason easily assigned. As an organ of peculiar importance, its nerves are derived from many different sources, communicating with numerous fibres of a very distant origin, in plexuses and ganglia. If then any particular nerve is coated, but a very small portion of the nervous power which regulates that organ is affected.

In the manner, however, described, the influence of Galvanism is very inconsiderable; the Voltaic pile, called from Volta, was contrived to augment its power. This pile consists of plates of zinc and copper, placed alternately, interposing woollen cloths, wetted with a solution of muriated ammonia, between each. It is improved in its powers, and the continuance of its effects, by fixing these plates in a wooden frame, and pouring in the interstices a dilute muriatic acid. It is varied often by using one metal, and different fluids, or supplying the place of metals with other substances, as charcoal and plumbago. These varieties, however, belong rather to the general view of the science than to the present article. For medical purposes, the trough, as it is called, is very generally employed; and the plates are squares, whose sides seldom exceed three inches. Larger ones have been tried; but though they seem to possess a greater Galvanic power, they do not communicate more: after their action they are less completely discharged. The shape is of no consequence; for they are often round, and then called *discs*.

The action of Galvanism on the human body is nearly that of electricity; but as a stimulant, it is less intense, and more steady. The cuticle in animals, and the epidermis in plants and seeds, resist it more powerfully than the electrical influence; and it is necessary often, for the purpose of increasing its power, to puncture the skin, so as to draw some blood. The coats of the nerves have apparently a similar effect; for the influence is greater, the nearer the coating is placed to the part on which the nerves are dispersed, where the coats are thinner, or wholly lost. In general, however, Galvanism does not seem to resemble accumulated electricity; but a weaker charge diffused over a larger surface. In the operation, the metals are oxidated, and the water between them is decomposed, the zinc apparently yielding the oxygen, and the copper the hydrogen. As the water is seemingly decomposed on each side, it has become a problem to account for the disappearance of the oxygen on the side of the copper, and the contrary. Philosophers have not yet dared to face this difficulty, as it so strongly militates against the modern chemical doctrines. This decomposition of a watery fluid was, however, introduced very early into its medical system; and Galvani, resting on the hypothesis of Cotunnio de Ischiade Nervosa, that sciatica, and many other complaints, arose from the accumulation of a fluid within the nervous sheaths, supposed that it was of service from its influence on the morbid causes. We have no reason, however, to think that it has any effect in this way, though it has been supposed also from this circumstance to change the positive electricity of the healthy body to the negative state.

Galvanism seems chiefly to affect the nervous system, including the muscular fibres, and, indeed, in some degree, fibres of every kind, producing even some apparent contraction in the fibrin of the blood. The nerves and muscles, however, it penetrates more actively than the electrical fluid in its usual state; for it produces powerful contractions, and sensations of pricking and burning in parts insensible, from disease, to electrical sparks, and even shocks. The effects are increased by moistening the skin, and wetting it so much as even to penetrate the cuticle; still more, we have said, if the cuticle is divided: but it often happens that one person may be insensible to its influence, and occasionally the pile is a long time in producing its effects, seemingly from some obstacle, which is removed by an apparently inconsiderable change in the apparatus. It appears to penetrate the nervous system in every direction with equal facility, and probably passes through the minutest fibres, as, after a nerve has been cut and re-united by what seems a condensed cellular or ligamentous substance, the Galvanic influence is not transmitted. It apparently acts by exciting the nervous power; since, like all powerful exciters, it soon destroys irritability. Animals killed by the destruction of this principle soon become putrid; and this is also the rapid consequence of death by putrid miasmata, electricity, and Galvanism.

Galvanism, in consequence of its readily permeating the nerves, has been employed, by Humboldt, to ascertain what parts are nervous, and the real use of some nerves whose office was doubtful. The tendons, probably from the compactness of their structure, are insensible of the Galvanic stimulus. By his experiments it also appears that the third branch of the fifth pair of nerves supplies the organs of taste, and the ninth pair gives activity to the muscles of the tongue, as Galen supposed.

This active principle has been employed with success in restoring persons apparently drowned; and by establishing a communication between zinc and silver wires, introduced into the mouth and anus of small birds, Humboldt has recovered them from asphixy. Except, however, in deaths from violence, Galvanism is useless; since, in the last struggles, irritability is usually destroyed. It has been recommended to distinguish a case of peculiar difficulty and importance, viz. the existence of amaurosis in cases of cataract. If the two metallic exciters, in a proper position, do not

produce the usual sensations in the retina, the operation will probably be useless, as the sentient power of the nerve is apparently lost.

M. Grappengeisser, the first author who seems to have applied Galvanism to medical purposes, used it chiefly in palsies, and in various weaknesses of the sentient or moving nervous fibres; it has been certainly useful, though obviously inefficacious in diseases arising from an organic defect. Yet, in a very considerable degree of what may be styled organic defect in the structure of the nerve itself, it seems to have been beneficial where this defect occasioned epileptic symptoms (Edinburgh Medical Commentaries, vol. last); and from this we are led to expect some advantages from the remedy, where epileptic paroxysms proceed from either extremity, and rise to the head in the form of an aura. In gutta serena, practitioners have not succeeded by means of Galvanism; and it ought to be remembered, that the very sensible retina seldom recovers its powers after it has been, for even a short time, in a paralytic state.

In cases of spasmodic contraction, as cramp, contracted fingers, or limbs, Galvanism has often relieved; and in lameness from gout it has been successful. In one instance, hydrophobia is said, by Vassalli Eundi, to have been cured by it; but, in sciatica, the same author adds, that it has been occasionally injurious, though in some circumstances he supposes that it may be beneficial. Nervous headachs, and similar symptoms, have been relieved by Galvanism; and Aldini thinks, that in two instances of mental derangement it has been highly useful. In the application of Galvanism to palsies, a remark of M. Pfaff should be attended to, though we believe it has not been confirmed by other practitioners, viz. that the zinc should be applied to the muscles, and the silver to the nerves; for if the arrangement is altered, the irritability of the muscles is diminished rather than increased.

This remedy has been employed in some cases of vitiated secretion. Its effects on the secretions, like those of electricity, are the increase of the discharge; and it is not improbable that where the secreted fluids are diseased from a relaxation of the vessels, Galvanism may be useful. It has been employed also, like electricity, in discussing indolent tumours, and in cataracts, but with no very marked or decided success. A few boasted cures have raised our expectations, but the little permanency of the benefit received has again depressed our sanguine hopes. After repeated experiments about the head, inflammations of the eyes, a catarrhal inflammation of the Schneiderian membrane, an insensibility of the organ of taste, headach, or vertigo, have followed; and Galvanism has been undoubtedly injurious where there was considerable irritability.

On the whole, then, we have not yet received very encouraging accounts of the success of Galvanism in diseases; and we fear that we must resign it, with electricity, as a remedy that promises to be beneficial, but whose advantages have not yet answered the flattering expectations first raised.

We have considered Galvanism only as electricity, but it is probably not exactly the same; and we may, with some advantage, add a few observations on this part of the subject, which, though not strictly medical, may perhaps admit of some application to medicine. Galvanism will, indeed, produce all the phenomena of electricity; but it cannot be accumulated in non-conducting bodies, or excited by any operation on them. The distinction seems to depend on this, that in the electrical machine, the fluid accumulated on the non-conducters is raised from the earth, or drawn from the atmosphere around; in the Galvanic pile it is the fluid which formed a component part of the conductor, appearing in consequence of its change of capacity in this respect. In the doubler of electricity it is the same; and the electricity of the air appears to be truly Galvanic, since it is owing to the decomposition of water, and consequently a change in the capacity of air that before contained vapour. Conductors of electricity are also conductors of Galvanism, and in the same order. In the following series, viz. gold, silver, copper, iron, tin, lead, and zinc, each will become positive when connected with that which precedes, and negative with that which follows. The metal oxidated gives out the Galvanic fluid; and it may be produced by a single metal, if one part only is changed in its state. The most and least oxidable metals form the most active combinations; and after the metals, charcoal, muscular flesh, spirits, and beer, are conductors in their order. Charcoal is the most, and beer the least, powerful. Various circumstances in common life were little understood previous to the discovery of the Galvanic fluid. As it may be excited by two dissimilar fluids, and one metal, the improved taste of porter from a pewter pot, a fact generally acknowledged, may be owing to this principle; nor is it very absurd to suppose, that two persons in a different state of electricity may excite the Galvanic fluid by the medium of a single metal, as in the management of the Perkinean tractors.

We are not yet sufficiently informed of the influence of different animal substances as conductors or exciters of Galvanism. Galvanic effects probably arise from alternate strata of muscles and nerves; but it is more certain that this fluid acts particularly through the medium of the nerves. This has been denied, because leeches are sensible of this action, and in these animals no nerves have been discovered; but we shall show that they really have a nervous system. Mushrooms are also tolerably good conductors of Galvanism.

In the animal economy, the capacity of the fluids for containing electricity is constantly changing. To the facts adduced under that article, of the different states of the electricity of the fluids of the body, may be added, from the observations of Buvina, that in the shivering fit of fever the electricity is negative. In shivering from fear it is the same; and diseased cats are no longer electrical. Vigour, spirit, and activity in the human body, and probably all animals, are, therefore, connected with the positive, or as we have been willing to style it, with the excess of electricity; languor and disease with its defect. We find, too, in the electrical organs of the torpedo and gymnotus electricus, (for as the only organs in which they differ from other fish, we may presume that they are the seat and source of their peculiar powers,) that the surface is greatly increased by the numerous plates of which they consist, and that a very large proportion of nerves is sent to these plates. When we combine these facts, we shall find reason to conclude that the nerves are the probable sources of the

animal, Galvanic fluid; and that these and the nervous fluids are the same, or nearly related. If in the animal process the excess of electricity disappears, we must look for some reservoir in which it is collected, some storehouse from which it may be issued; and this appears to be the brain and nerves. Such, at least, are apparently the fair conclusions from the facts before us.

Mr. Wilkinson also supposes that the cells of the lungs are really Galvanic organs; and that the electricity of the air is discharged in these cells, where the fluid loaded with carbone (a conductor so powerful as to be discovered in a small proportion, even when mechanically mixed with any body, by means of Galvanism) increases its activity, thus giving a stimulus to the heart. The idea is ingenious, but it must rest on its own basis. We are not aware of any argument that will support or invalidate it. See Wilkinson's Elements of Galvanism. Le Sue's History of Galvanism. Aldini's Experiments. Annales de Chimie; and Philosophical Magazine, *passim*.

GALRE'DA, (from *galrey*, *jelly*, German). A jelly made by boiling the cartilaginous part of animals. In Paracelsus, it signifies an excrementitious mouldiness.

GAMBO'GIA, (from the province *Cambogia*, where it is produced in the largest quantities). From its supposed virtues, it is called *gummi ad podagram*, *gummi gutta;* and by corruption *gotta*, *gutta gamba*, *gamon*, *germandra*, *catagemu*, *gamboidea*, &c.; from its gold colour, *chrysopus;* and from its purgative quality, *succus laxativus*, *succus Indicus purgans*, and *scammonium orientale;* usually GAMBOGE.

It is a gummy resinous concrete, brought from the East Indies; not, as has been supposed, the produce of the tree called *coddam-pulli;* but more probably obtained from a shrub of the esula or tithymalus kind, referred by Koenig to a new genus, *stalagmites*. It is usually supposed to be the concrete juice of the *Cambogia gutta* Lin. Sp. Pl. 728; and is brought to us in large cakes and rolls. It is solid, brittle, of a smooth surface, perfectly opake, free from any visible impurities, of a deep reddish yellow colour, and uniform throughout its whole substance; stains moist hands of a yellow colour; when chewed, it hath little or no taste; but soon after impresses a pungent acrimony and heat, and occasions a dryness in the mouth. It easily melts over the fire, ignites from the flame of a candle, burns with a white flame, and leaves a gray ash.

In medicine, it is chiefly used as a drastic purge; but in small doses, or united with other laxatives, often operates with safety and ease; producing copious discharges by stool. In many constitutions gamboge disagrees with the stomach, and occasions vomiting, with cold sweats, and other marks of dangerous commotion; and in dropsies, if given alone, it sometimes produces faintness from the discharge. The dose is from two grains to ten. Boiling in water is said to lessen its activity; solutions in alkalised water are supposed to act only by stool and urine.

In general, we have not found these observations correct. Rubbed with almonds, from its want of taste, it is a convenient laxative for children; and alkalis have been styled its correctors, but they seem only to change the colour from a yellow to a dull red.

It may be given in doses of three or four grains rubbed down with a little sugar, and repeated every three or four hours; it then evacuates water freely, both by stool and urine. See SPIRITUS COCHLEARIÆ AUREUS.

It has been recommended also in obstructions of the bowels, in tænia, and in quartans. It, however, too often produces vomiting to be eminently useful in the first complaint; and to destroy a tænia, its dose must be unusually and dangerously large. It is employed, however, with advantage in Madame Nouffler's formula, to assist the action of the fern root. In quartans it is no longer exhibited.

The *gambogiæ tinctura ammoniata*, ammoniated tincture of gamboge, has been of considerable service in some cutaneous complaints, if a tea spoonful or two are given every night and morning; and is made by dissolving eighteen grains of gamboge in two ounces of the spirits of ammonia.

Rectified spirit of wine dissolves five sixths, and acquires a deep gold colour from it: water, assisted by heat, takes up the same proportion; but on cooling deposits much of the resin: if the water is first impregnated with an alkaline salt, it is said to deposit none. See Tournefort's Materia Medica. Lewis and Cullen's Materia Medica.

GA'MMA, GA'MMATA, FERRAMENTA. An instrument mentioned by P. Ægineta, made like the Greek letter Γ, used for cauterising a hernia aquosa.

GA'MMARUS, (from καμαρα, *an arch*, from the vaulted roof of its shell). See CANCER FLUVIATILIS.

GA'MON. See GAMBOGIA.

GAMPHE'LE. The CHEEK. The JAW, (from γαμφω, *crooked*). See BUCCÆ.

GA'GAMON, (from Γαγγαμη, *a fishing net;* which it was said to resemble). The OMENTUM; and the name is assigned also to the contexture of nerves about the navel.

GA'NGLIA. See SESAMUM VERUM.

GA'NGLION. A primitive in the Greek. In anatomy, it imports a knot in which nerves from different sources are intimately mixed. Where two nerves join together, there is generally a ganglion, or plexus; as may be seen at the beginning of all the nerves of the medulla spinalis, and in many other parts of the body. See PLEXUS, and CEREBRUM.

In surgery, it is a moveable tumour formed on the tendons; generally about the carpus; but always near the skin, and not attended with any uneasiness. Ganglions are supposed to be formed of lymph, secreted within the vaginæ of tendons, differing in their form and consistence, though they never suppurate. Mr. Sharp reckons these tumours among those encysted ones called meliceris. Dr. Cullen ranks it as a genus in the class *locales*, and order *tumores*, and defines it, *a hard moveable extuberation, fixed upon a tendon*.

Mr. Sharp assures us, that he hath frequently succeeded by making an incision through their whole length, at the same time dividing the ligament of the wrist, and afterwards dressing as in wounds in general. Mr. Warner gives two instances of his successfully extirpating them: he observes, that the objection from danger of wounding the subjacent tendon or ligament is of little importance, since these parts can be generally avoided; and the accident occurs daily in wounds without danger. He recommends the cutting away part of the cyst, and then destroying the rest by digestion. A seton passed through them is a safe and easy cure. See

Sharp's Operations in Surgery, in the chapter on encysted tumours. Warner's Cases in Surgery. Heister's Surgery. Bell's Surgery, vol. v. p. 476.

GANGRÆ'NA, (from *γαινω, to feed upon*). See Mortificatio.

Gangræ'na o'ris. See Cancrum oris.

Gangræ'na o'ssis. See Spina ventosa.

GANGRENE SCORBUTIQUE DES GENCIVES. See Cancrum oris.

GA'NNANA, and GANNANAPE'RIDE. See Cortex Peruvianus.

GA'RAB. See Ægilops.

GA'RGALE, GA'RGALOS, GARGALI'SMOS, (from *γαργαλιζω, to tickle* or *stimulate*). Titillation, irritation, itching.

GARGA'REON, (from the Arabic *gargar*). See Uvula.

GARGARI'SMA, or GARGARI'SMUS, (from *γαργαριζω*, and that from *γαργαρεων, the throat,*) *anagargariston, diaclysma, collutorium oris.* A gargle. It is used for washing the mouth and throat when inflammations or ulcerations are present. A small quantity may be taken into the mouth, moved briskly about, and spit out; or held on the back of the throat, and agitated there by a gentle expiration: if the patient cannot do this advantageously, the liquor may be injected with a syringe. When gargles are required, they should be more frequently repeated than is usual in common practice. Simple gargles are designed for cleansing the fauces, and generally consist of vinegar and honey, with infusions of some of our indigenous aromatics. In cases of putridity, the bark, with mineral acids; decoctions of contrayerva, with tincture of myrrh, and port wine, occasionally with Cayenne pepper, as in the West India gargle, are necessary. See Angina and Aphthæ.

GARGARI'SMA ALU'MINIS. See Hypostaphile.

GA'RGATHUM. A bed on which lunatics were formerly confined.

GA'RON, or GA'RUM. A kind of pickle prepared of fish: at first it was made from a fish which the Greeks called *garos;* but the best was prepared from mackerel. Among the moderns, garum signifies the liquor in which fish is pickled. With vinegar is called *oxygarum.*

GARO'SMUM. See Atriplex fœtida.

GAROTI'LLO. See Angina gangrænosa.

GARYOPHY'LLON PLINII. See Cassia Caryophyllata.

GAS, (from *geist*, in the German language *spirit*). Elastic fluid, aeriform fluid, elastic vapour. The word gas was first employed by Van Helmont to express the spirit which rises from fermenting liquors. By this term we now mean a permanent aëriform fluid, incapable of becoming fluid by cold, and owing its aërial form to its intimate union with caloric. See Aer.

Gas pi'ngue sulphu'reum. The deleterious exhalations from caves, usually the carbonic acid gas; sometimes hydrogenous gas.

Gas sulphu'ris. Sulphuric acid gas.

Gas sylve'stre. The subtile spirit which rises from fermenting liquors, carbonic acid gas.

Gas vento'sum. The air.

GASCO'IGNI PU'LVIS, (from *Gascoigne*, the inventor's name). See Bezoar orientalis.

GAS'TER, (*γαστηρ*). In Hippocrates it is usually synonymous with the abdomen; sometimes with the uterus; generally with the stomach.

GASTE'RANAX. See Bithnimalca.

GA'STRICA, (from *γαστηρ, the stomach*). See Gastrodynia.

Ga'strica arte'ria de'xtra, vel Gastrica major, proceeds from the hepatica arteria; passes behind the pylorus, and, beyond it, sends out the duodenalis or intestinalis; then runs along the right side of the great curvature of the stomach, to the neighbouring parts, to which, on both sides, it distributes branches, and at last ends in the gastrica sinistra.

Ga'strica arte'ria sini'stra, vel Ga'strica minor, is a branch of the splenica; it runs from the left to the right, along the left portion of the great curvature of the stomach; supplies the omentum with branches called *gastro epiploicæ sinistræ*, and then communicates with the gastrica arteria dextra: from this union the gastro epiploicæ mediæ are produced.

Ga'strica febris. This epithet is usually applied to the bilious remittents, styled fancifully by Pinel *meningo gastric*, and varied as either a remittent or continued fever. By Selle it is styled *glutinoso gastric*, from the quantity of mucous matter in the stomach. See Pinel Nosologie, and Selle Pyretologia.

Ga'strica ve'na, epiploi'ca sini'stra. See Gastrica vena sinistra.

Ga'strica ve'na re'cta; called also *gastro epiploica dextra.* It is sometimes a branch from the vena portæ ventralis, or from its principal branches; goes to the pylorus, to the great curvature of the stomach, and communicates with the gastrica sinistra.

Ga'strica vena sinistra, goes out from the splenica, at the left extremity of the pancreas, from whence it runs to the great extremity of the stomach, and along the great arch, until it meets the gastrica dextra, sending in its passage branches to the sides of the stomach, and communicating with the coronaria ventriculi.

GA'STRICUS SU'CCUS, (from the same). The gastric juice is a thin pellucid fluid, supposed to flow from the glands in the stomach to assist the solution and digestion of the food; but is probably only the remains of former meals. See Digestio.

GASTRI'NUM. See Clavellati cineres.

GASTRI'TIS, (from *γαστηρ, venter*). See Inflammatio ventriculi.

GASTROCE'LE, (from *γαστηρ, the stomach*, and *κηλη, a tumour*). A rupture of the stomach. The tumour is in the upper part of the linea alba; though it has happened that a portion of this viscus has been forced through the fibres of the diaphragm into the lungs. See Abdomen.

GASTROCNE'MII, (from *γαστηρ, a belly*, and *κνημη, the leg*, or *shin bone*). Albinus calls these muscles by the name *gemellus*, for each at its origin is a biceps rising from each condyle of the femur: the heads soon join, leave a notch, through which the large vessels and nerves pass, and the whole is inserted into the upper posterior part of the os calcis. The tendon of the soleus, with the tendon of this muscle, forms the tendo Achillis. They form the greatest part of the calves of

the legs. They are sometimes called *gastrocnemii externi*, occasionally *suræ*.

GASTROCNE'MIUS INTE'RNUS. See Soleus.

GASTRO CO'LICA VE'NA, (from γαστηρ, *the stomach*, and κολον, *the colon*,) is a branch from the mesaraica minor, and soon divided into two, one of which runs to the head of the pancreas, and forms the gastrica recta vena, and the colica recta vena.

GASTRODY'NIA, (from γαστηρ, and οδυνη, *pain*). *Gastrica, periadysmia*; pain in the stomach; usually a symptom of dyspepsia. When it arises from flatulence it has been styled *pneumatosis*.

GASTRO EPIPLOI'CA, (from γαστηρ, *the stomach*, and επιπλοον, *the omentum*). An epithet for the arteries and veins that go to the stomach and omentum.

Gastro epiploi'ca vena. A branch of the gastrica sinistra.

Gastro de'xtra. See Gastrica recta vena.

Gastro sini'stra arte'ria. See Splenica arteria.

GASTRORA'PHIA, (from γαστηρ, *the belly*, and ραφη, *a suture*). Gastroraphy. This word strictly signifies the sewing up any wound of the belly; yet in common acceptation it implies that an intestine is wounded as well as the belly. This operation is useless in small wounds, but necessary in large ones. The best method is to pass double ligatures in one needle, in order to include the rolls at one end, and to be tied upon them with bow knots on the opposite side, which gives an opportunity of straitening and loosening the knots at pleasure. After passing as many ligatures as seem necessary, the lips of the wound are brought gradually together, and kept so until the knots are tied.

The operation of stitching the bowels can only take place where they fall out of the abdomen, so that we can see the situation and nature of the wound in the intestine. It requires no particular direction; but the end of the ligature must be suffered to hang without the external wound, that it may be more easily removed. See Sharp's and Le Dran's Operations.

GASTROTO'MIA, (from γαστηρ, *belly*, and τεμνω, *to cut*). Gastrotomy. Opening the belly and uterus, as in the Cæsarean operation.

GATRI'NUM. See Clavellati cineres.

GAU'DIUM, (from *chadah*, *to rejoice*). Joy. Is one of the exciting passions, and, in a moderate degree, animates the whole system; renders the pulse free and soft; excites the action of the capillaries; and assists digestion: but if sudden and immoderate, like all violent excitements, it exhausts the irritability, so that madness or sudden death sometimes ensues.

GA'ZAR. See Laurus Alexandrina.

GAZE'LLA. (Indian.) The African wild goat, which affords the oriental bezoar. Gazella Africana is the antelope. See Antelopus.

GECCO; Poison, peculiarly violent in its operation, procured, it is said, by irritating the most poisonous serpents. With this the Indians infect their arrows.

GE'DWAR, or GEI'DWAR. See Zedoaria.

GEI'SON, (γεισον, *the eaves of a house*). See Vallum.

GELA'SINOS, (from γελως, *laughter*). An epithet for the four middle fore teeth, because they are shown in laughing.

GELA'SMUS, (from the same). See Sardonicus risus.

GELATINA, (from *gelo*, *to congeal*). Gelatine is an ingredient in the vegetable as well as the animal kingdom; though the former is more properly styled *gum* or *mucilage*. It is transparent, soluble slowly in cold water, and rapidly at 90°. Alkalis dissolve it, especially when assisted by heat; acids more rapidly. With the nitric acid it is partly converted into malic and oxalic acids. It is insoluble in alcohol; but a small portion may be added to the watery solution without any precipitation.

With tanin, a yellowish white precipitate is thrown down from a solution of gelatine, which forms an elastic adhesive mass, not unlike vegetable gluten, and is a compound of the tanin and gelatine. Indeed the tanin is the most certain test of mucilage in any body. By heat it is decomposed, and yields, in a retort, ammonia, a fœtid oil, zoonic acid, and a porous charcoal, leaving phosphat of lime, muriat of soda, and potash.

Gelatine soon becomes sour, and quickly putrefies. The animal mucilage, which greatly resembles it, is not precipitated by tanin, nor does it become a jelly by evaporation. The jellies of ripe fruits are denominated only from their consistence, which is obtained by sugar.

GELA'TIO, (from the same). Freezing; sometimes the rigidity of the body which happens in a catoche or catalepsis.

GEMA'NDRA. See Gambogia.

GEME'LLÆ CY'STICÆ, (from *geminus*, *double*). See Cysticæ Venæ.

GEME'LLI, (from the same). See Gemini musculi.

GEME'LLUS, (from the same). See Gastrocnemii, Geminus, and Brachiæus externus.

GEMINA'TUS, (from *geminus*, *a twin*). In botany it signifies having two growing from the same part.

GE'MINI; the name given by Albinus to the two muscles which Winslow calls *gemelli*, sometimes named *marsupiales*, because they resemble a purse. They are two flat, narrow, small muscles, situated almost transversely one above the other, between the tuberosity of the ischium and the great trochanter, immediately below the pyriformis; parted by the tendon of the obturator internus. (See also Quadrigemini.) The appellation also of twins (see Generatio); and a name of the extensor carpi radialis. Twins are also called *gemelli* and *didymi*.

GE'MMÆ, GEMMEUS, (from *gemma*, *a jewel*). *Fossilis sal*, *lucidum sal*, *maltheorum*, *almene*, *cibarius sal*, *sal rupeus*, rock salt, fossil salt, common salt, and *sal gem*, from its transparency. It is found in the mountains of Poland, Catalonia, Persia, and the East Indies; and is purified by solution in water, when it becomes the common or alimentary salt. In the mines of Wilizca it is sometimes hard enough to be turned in the lathe into toys and vases. The kind naturally pellucid is chiefly used in medicine; and supposed to be more penetrating than the salt formed by evaporation.

GEMS. See Capra Alpina.

GEMU'RSA. The name of an excrescence betwixt the toes.

GE'NA, (from γενυς, *the cheek*). The upper part of the face between the nose and ears.

GENE'IAS, (from the same). The downy hairs which first cover the cheek; the name also of a bandage mentioned by Galen, that comes under the chin. See Fascia.

GENE'ION, (from the same). See ANTHEREON.

GENERA'TIO, (from *genero, to beget*). GENERATION. This peculiarly curious and interesting subject has employed the ingenuity and sagacity of physiologists of every age, though with little success. They have approached only the sacred fane; destroyed many ill-founded fabrics; exploded many ridiculous theories; and established the question at least on a secure basis.

Every animal propagates its like; and each being proceeds from an egg. In the lowest classes of animals, however, nature providently guards against the destruction of the species, by an impregnation continued through several generations: and, in some instances, has accumulated individuals in an apparently single body. To take, then, an accurate survey of the whole subject, we must commence at the earliest stage of animated existence.

Naturalists have, at last, agreed, that plants have distinct sexes; and the common experiment in the east on the date tree is admitted to be a general example of what takes place in the animation of the seed, styled its fecundation. We find this animation so perfect, that time scarcely destroys it if the access of the air is prevented. The ground, which has been covered for ages with buildings, will, if turned up, produce the peculiar plants of the soil, and those only. Where gardens have once been an exotic will spring among indigenous plants, claiming the distinction of a denizen. The impregnation of the ovum of an animal will be occasionally, in similar circumstances, lasting; for the tanks in India, though dried for months, will, after the first rains, swarm with eels similar to its former inhabitants. Where the sexes are separated by the force of winds, or other accidents, the former impregnation is continued to many, sometimes even six successive generations. In all these instances, the unvaried form and properties of the species show that the succession is not fortuitous; that the generation is not equivocal.

There is, however, a vicarious mode of reproduction, or rather a mode of increase by buds, where, as we have said, numerous individuals are collected in a single body. This mode is well known in the vegetable kingdom; but it is also found in the lower classes of the animal. The polypus is an instance of this kind. Some snakes possess a similar power of sprouting from buds, and can reproduce a considerable portion after mutilation: many animals of a higher order can reproduce a lost limb. In these cases, some appearances of successive impregnation may be suspected; but as we advance in the scale the power is less. When the operations of nature are more perfect, common resources have no longer an effect; the power of the bud, which can produce a new polypus, is not able to form another man, nor even reproduce the smallest portion.

We find also life more profusely bestowed in proportion to the simplicity of the structure. The production of mites mocks calculation: the elephant seldom produces more than two. Millions are contained in the spawn of a herring; but the human being produces one only. This simplicity of structure does not, however, depend on that of the muscles, for in a caterpillar Lyonnet enumerated some thousands, but on the construction and functions of the nervous system. Two or three years bring the greater number of animals to their perfection: man requires at least twenty. Yet impregnation is equally the work of an instant; and, in these years, man, by the exertions of his own constitution, by his own efforts, brings forward his body and mind, till the result is a Locke, a Newton, or a Leibnitz. Life then, as by the touch of a Promethean torch, is the illumination of the moment: the constitution of the speck that is animated completes the work. When we survey in this atom the future being, its minuteness surpasses the conception, and its supposed increase appears an impossibility. It is a trite remark, that every thing is great or little by comparison; but it is of more consequence to observe, that our idea of "little" is regulated by our organs. What we can scarcely discern is very minute: what the greatest aid of glasses discovers appears to our minds the limits of existence. But we know it is not so. Light, for instance, has an almost insensible momentum; and we know its velocity is incapable of being measured, and is estimated at an immense rate. What then must be the body? It must be as far beneath the smallest atom that our glasses can discover, as that is to the column of a cathedral. When, then, we reach the smallest point which our organs, with the aid of lenses, can convey to the mind, it is our conceptions only that have attained their limits, in consequence of the imperfection of those channels by which ideas are conveyed. The world below us is apparently as extensive as that above; and we know not but that it may sink to atoms as minute, compared to the smallest we can perceive, as the whole solar system is vast and superior to it.

These reflections will not, we trust, appear misplaced, as they will facilitate our progress in the present consideration, and be applicable in many future disquisitions. We are now prepared then to repeat, with more confidence, that generation consists only in animation; and that the growth is the progressive evolution of organized parts, by the interposition of inorganic matter. To suppose that in the first created animals were contained the germs of every future generation (the Swiss hypothesis styled *emboitement*,) is apparently too extravagant, even with the assistance of our former reflections. It is probable that so "wonderful a piece of work as man" must be for ages forming by the concurrence of second causes. Such is the profusion with which the Creator seems to have bestowed life, that though we would reject the molecules organiques of Buffon in their immediate operation, according to his system, we think it highly probable that in the successive arrangements of the component parts of the more perfect animals they may have some share. The philosopher will perceive the tendency and end of these reflections, which it is unnecessary at present to pursue farther, as inapplicable to the present subject.

From the first exertion of philosophical investigation, it is reasonable to suppose that the source and means of our existence must have employed the reflections of those who were capable of penetrating in their inquiries beyond the narrow sphere which surrounded them; and, at different eras, it was believed that both the male and female contributed to the production; that the male was the only agent, while the female afforded support and nourishment; or that the fœtus was produced and

nourished by the female, and animated only in the moment of generation. We shall speak of each opinion, and its authors, very shortly, in their order.

The first and most obvious opinion was that of Hippocrates and Harvey. It is indeed highly reasonable, and supported by every appearance: though the more modern systems of Haller, Bonnet, and Spalanzani, must, in some measure, modify and extend this theory, it will not be easy wholly to deny it. The discovery, however, of animalcules in semine masculino, for a time directed the views of physiologists to the second opinion; and Leuenhoeck, its author, eagerly supposed that he could discover among these embryos of each sex. Animalcules, however, are found in every fluid; and these appear only after some time, when a degree of putrefaction has probably taken place. More modern discoveries, also, respecting the changes progressively occurring in incubation, have wholly destroyed this system. Buffon, in his fanciful doctrine of the molecules organiques, has improved on this theory, and apparently attributes the production of the fœtus to the union of animated particles from each parent. The whole is embellished by his fancy, and adorned by his eloquence; but we can scarcely admit of their influence, except in more remote arrangements; and indeed the existence of these molecules must be considered rather as a probable idea than a fact, which admits of proof or application.

The discoveries of Haller and of Bonnet respecting the origin and independent life of the chick, in ovo, have greatly altered the views of physiologists on this subject: these have been assisted by Dr. Hunter's observations on the human gravid uterus at various periods of impregnation, and the result is the third of the opinions stated, which as the more recent and fashionable, we shall proceed to explain, with its various modifications suggested by different authors, and by the facts themselves.

According to this system, the fœtus pre-exists in the ovarium of the female; and in the moment of impregnation is detached from it. A vesicle remains (the corpus luteum), from whence it was apparently separated, a cavity peculiarly vascular, as is always found when any loss is to be supplied. To this is added, that when twins are contained in the womb, two of these vesicles are found. The ovaria are two spheroidal flattened bodies, inclosed between the folds of the broad ligaments, by which the uterus is, in part, suspended. They have no immediate connection with the uterus; but near them the extremity of a tube, which opens on either side into that organ, hangs with loose fimbriæ in the cavity of the abdomen. It is supposed, then, that in the venereal orgasm these extremities are erected, that they grasp the ovarium, and receive the ovum. This would appear fanciful and hypothetical, but that a perfect fœtus has been found in the ovarium, in these tubes, and even been discovered in the cavity of the abdomen, having apparently eluded the grasp of the fimbriæ. In neither case could the fœtus have ascended *from* the uterus, for whatever difficulty attends the hypothesis now to be explained, will act with equal force against this idea; and to it must be added, that on the latter supposition the embryo must depart from its nidus, where it is to be supported and nourished; on the former he approaches to it.

We may conclude, then, that the fœtus really pre-exists in the ovarium; but the question remains, how it is animated. The access of the male semen is known to be necessary; but the difficulty which attends the passage of the fœtus into the uterus equally militates against the progress of the semen into the ovarium. It has been eluded by Harvey, who supposes a seminal aura to reach the ovary; and by a Mr. Johnston, who suspects that the semen is absorbed, and carried to this organ through the medium of the circulation. The latter, for many reasons improper to be detailed in a popular work, is not probable; and the aura, when speaking of the fœtus, we have shown to be a vague and unsupported medium. In short, every view of the subject seems to show that the semen has a ready access to the embryo. In the same moment that the one is detached from the ovary and conveyed to the uterus, the other may reach that organ. But the fœtus when in the Fallopian tubes, or the abdomen, is animated, so that it is more probable, that by some action of the uterus and its tubes the semen is conveyed to the ovarium; and every fact shows that the muscular fibres of the uterus are at that moment most highly excited. It is certain, that for the purpose of impregnation the semen must reach the cavity of the womb.

Here then induction ends; and difficulties begin. From this view it may appear obvious, that generation is only the animation of a pre-existing germ; and that as we have shown the fœtus to be an independent being, at least dependent only on the mother for a supply of fluids, we have no difficulty in accounting for its growth, and the successive evolution of its different organs. Such, however, would be the conclusion of a shallow, uninformed physiologist. The union of a male and female of different species, even in the vegetable kingdom, is followed by an hybrid production, partaking the properties of both. The mule, the offspring of a horse and an ass, is a familiar example. In a large family, some of the children will partake the form, the temper, the diseases of the father; others of the mother. This cannot be owing merely to the means of excitement, much less to the small portion of nutriment which the semen can afford, supposing it a nutritious fluid, an idea anxiously supported. Bonnet's mechanical system of a net-work, the meshes of which the semen fills, thus modifying the form, is still less tenable; nor can we escape from the opinion first stated, that the male as well as the female contributes to the formation of the future offspring. The primordial embryo is undoubtedly in the female; but the "man stamps an image of himself," the "world's first wonder," either by an union of principles, or a modification of those which pre-existed, in a manner which will probably never be explained.

We have thus given, in a few words, the substance of numerous extensive disquisitions, endeavouring to distinguish facts from hypotheses. We shall be gratified if it should appear that we have explained the subject comprehensively, so far as it will admit of explanation; more so, if we shall be found to have avoided the pruriencies, which, under the veil of science, are so often indulged, and whose only purpose is to gratify sensuality. See Haller's Physiology, lecture 33; also the article Conceptio in this work.

GENEVA. Gin. A spirit distilled originally from juniper berries; but at present flavoured by oil of turpentine.

GENIA'LIS ARTE'RIA, (from *geneion*, *maxilla*). See Maxillariæ arteriæ.

GENICULA'TUS, and GENI'CULUM, (from *genu*, *a knee*, or *joint*). It is strictly a joint with an articulation; but frequently a joint in general, and synonymous with *nodus*, *a knot*: hence all roots and pods of plants, divided into joints, are said to be geniculated.

GENIO GLO'SSI, (from γενειον, *the chin*, and γλωσσα, *the tongue*). *Mesoglossi*. These muscles arise from the chin, above the genio hyoides, and enter the middle of the tongue to bring it forwards. Winslow thinks that they push the tongue out, retract, or expand it.

Genio hyoidæ'us, (from γενειον, *the chin*, and *hyoides*, *the bone of the tongue*). *Rectus attollens*. A small muscle arising from a tubercle above the beginning of the mylo hyoides, and inserted into the upper part of the base of the os hyoides.

Genio pharyngæ'i, (from γενειον, and φαρυγξ,) *mylopharyngæi* (Douglas). Muscular fibres joined to the side of the genio glossi, and inserted into the sides of the pharynx, and continuing with the genio glossi to the chin.

GENIPI HERBA. See Artemisia.

Genipi verum, is a species of achillæa in Haller, which we have not been able to trace in the system of Linnæus. It is the *achillæa foliis pinnatis, pinnis simplicibus, glabris punctatis*; a strong bitter, and supposed to be useful in diarrhœa, indigestion, and epilepsy.

GENI'STA, (from *genu*, *a knee*; from the inflection and angularity of its twigs). *Cytisogenista*, *cytisus scoparius vulgaris*. Common broom; *spartium scoparium* Lin. Sp. Pl. 996. It is a shrubby plant, with numerous angular twigs; the leaves are small, and somewhat oval, set three on a pedicle; the flowers are papilionaceous, and of a deep yellow colour; seeds flat, hard, and brownish, in broad pods; common on heaths and uncultivated sandy grounds; flowers in May and June.

The leaves and tops have a nauseous bitter taste, which they yield by infusion in water and spirit, and which remains concentrated in the extracts. They are commended for their purgative and diuretic powers, and have been successfully employed in dropsies. Half an ounce of the fresh tops are boiled in a pint of water to half a pint, and two spoonfuls given every hour till it operates by stool, or the whole is taken, repeating it every day, or every other day. (See Lewis, and Cullen's Materia Medica). The ashes of broom have been much used in dropsies by the recommendation of Sydenham; and their utility has been confirmed by the experience of other practitioners; but their whole power is supposed to depend upon the alkaline salt, and not on the vegetable from whence it is obtained, though the taste of the ashes shows that they contain no small portion of its essential oil. Lemery recommends the seeds.

An extract, called *extractum cacuminis genistæ*, is ordered to be made by the college of physicians, London. (See Chamæmelium.) It is given as an aperient and diuretic, in doses from ʒ ss. to ʒ i. in hydropic cases.

Geni'sta Canarie'nsis. See Aspalathus.

Geni'sta Hispa'nica, and Geni'sta Junce'a. *Spartium arborescens*, *spartium Hispanicum frutex*, and Spanish broom: *genista Hispanica* Lin. Sp. Pl. 999; common in gardens, flowers in June and July. It is of the same nature as the common broom, but said to be more efficacious.

Geni'sta spa'rtium spino'sum. See Alhagi.

Geni'sta spa'rtium. *Nepa Theophrasti*, *genista spinosa minor*, *genista Germanica*, Lin. Sp. Pl. 999; and the lesser furze. It is so generally known as not to need a description, and its virtues are insignificant.

Geni'sta spino'sa In'dica, &c. See Bahel-schulli.

Geni'sta spino'sa ma'jor; *spartium majus*, *scorpius*, *genistellæ spinosæ affinis*, *bahel-schulli*, *nepa*, furze or gorse, *ulex Europæus* Lin. Sp. Pl. 1045. Its medicinal virtues, if it has any, are the same with those of common broom.

Geni'sta tincto'ria, Lin. Sp. Pl. 998, *chamæspartium genistella*, *tinctorius flos*, green weed, and dyer's weed; found in pasture ground, flowers in June and July, and seems to resemble common broom. See Raii Hist. Plant.

GENITA'LIUM, (from *geno*, or *gigno*, *to beget*). Diseases of the genital passages.

GENITU'RA, (from the same). The semen masculinum, sometimes the pudendum virile.

GENOU, (from γονυ, *the knee*). See Diarthrosis and Enarthrosis; but the term is not strictly applicable to the latter species, though used for all.

GE'NSING, (Chinese). Ginseng, *aralia humilis*, *nisi*, *sisarum montanum Coræense*, *aureliana Canadensis Iroquæis*, *plantula Marilandica*, *panax quinquefolium* Lin. Sp. Pl. 1512.

Ginseng is the root of a small plant growing in China, Turkey, and in some parts of North America, particularly in Canada and Pennsylvania. It is two or three inches long, taper, about the thickness of a little finger, often forked at the bottom; elegantly striated with circular wrinkles; of a brownish yellow colour on the outside, and whitish, or of a pale yellow, within; with one or more little knots on the top, the remains of the stalks of the preceding years, and the marks of the age of the root. The Chinese roots are somewhat paler than those from America, and supposed to be superior as tonics.

Ninzin has been supposed synonymous with ginseng; but it is a root of a different species, similar to, though weaker than that of ginseng: the ninzin root is larger, lighter, and less firm; whitish on the surface, yellow within, with a slight aromatic smell, an acrid bitterish taste, and is a species of sium; *sium ninsi* Lin. Sp. Pl. 361.

The Chinese esteem this root as a general restorative and powerful aphrodisiac; but these qualities it possesses in a very inconsiderable degree. (See Cullen's Materia Medica.) Indeed, though the Chinese give such extravagant accounts of its many virtues, from its sensible qualities we conclude it has very little power as a medicine. To the taste it is mucilaginous, and sweet like liquorice, yet accompanied with a degree of bitterness, a slight aroma, and little or no smell: the saccharine matter and the aroma of these roots are

preserved in the watery as well as in the spirituous extract; the latter is pleasantly warm.

A drachm of the ginseng root may be sliced and boiled in a quarter of a pint of water to about two ounces, and may be drunk as soon as it is cool: the dose must be repeated morning and evening; but the root may always be twice boiled. M. Reneaum says that the hepatica nobilis Tragi is endued with the principal virtues of the ginseng. See Raii Historia Plantarum. Kempfer's Amœnitates. James's Medical Dictionary. Lewis's Materia Medica. London Medical Transactions, vol. iii. p. 34.

GENTIA'NA. Gentian, greater yellow gentian, felwort, or the *European chincona gentiana lutea* Lin. Sp. Pl. 320. The stalk is unbranched and jointed; the leaves oblong, acuminated, ribbed, and set in pairs at the joints; the flowers in clusters at the top of the stalk, of a pale yellow colour, somewhat bell shaped, and deeply cut into five segments; the seeds contained in oblong capsules; the root moderately long, slender, branched, brownish on the outside, and of a deep gold colour within; its pith woody, though more spongy than the rest of the root. It is perennial, a native of the mountainous parts of Germany, Switzerland, and France, from whence the dried roots are brought to us; but the plant is found wild in England.

Sometimes the thora valdensis of Ray, or aconitum pardalianches of Bauhine, is sold for the gentian. It is known from the true gentian by a paler colour externally, having longitudinal wrinkles; its texture is closer than that of gentian; whitish within, and not bitter; but when chewed only mucilaginous. It is the *ranunculus thora* Lin. Sp. Pl. 775.

The best roots of gentian are of a middling size, of a lively yellow colour, tough, and most free from fibres. The older and larger roots are more porous; the younger and slender more compact.

Neumann obtained from ʒ xvi. of the root, by means of rectified spirit ʒ vij. ss. of resinous extract; and from water, ʒ ix. of a gummy one. The London college directs the watery extract (see Chamæmeli extractum); but the spirituous is preferable: the dose may be from gr. x. ℈ ij. or ʒ i. In distillation, spirit carried nothing over, and water too little to deserve notice.

It is a strong pure bitter, and by any agreeable addition is rendered very grateful to the stomach. Of all the preparations, the infusion in cold water is the most pleasing and active; but when a warm stomachic is required, the tincture of gentian is to be preferred.

The febrifuge virtues of the gentian root have been supposed equal to those of the Peruvian bark, but in many cases it has failed; yet when joined with galls and tormentil roots in equal parts, and given in proper doses, gentian has cured intermittents in Scotland. (See Cullen's Materia Medica.) It is, however, one of the principal bitters now employed by physicians; and as such medicines are supposed to be not only tonic and stomachic, but also anthelmintic, emmenagogue, antarthritic, and febrifuge, this root has as good a claim to these numerous virtues as any other. Bitters are supposed to relieve dyspeptic complaints, though arising from debility of the stomach, more effectually than bark, chiefly from their not producing any stricture on infarcted viscera. When applied as a tent in wounds, it does not render the lips callous; so that it is often used with advantage for imbibing the moisture in issues, which it also dilates. See Lewis's Materia Medica. Raii Historia. Neumann's Chemical Works.

The officinal preparations of this medicine are the extract above noticed; the compound tincture of gentian prepared as follows:

℞. Gentianæ incisæ et contusæ p. ℥ ij. corticis exterioris aurant. Hispalensium exsiccati ʒ i. seminum cardamomi minoris contusorum demptis capsulis ℥ ss. spt. vinosi tenuioris ℔ ij. Digest for eight days, and strain.

This is an elegant composition, a warm stomachic, and not injured by keeping: it was formerly the tinctura amara Pharm. Lond.

The compound infusion of gentian is made by macerating six drachms and a half of gentian, half an ounce of fresh lemon rinds, and a drachm of dry orange peel in twelve ounces of hot water for an hour. It was the infusum amarum of the former Pharmacopœia; but two drachms and a half of the gentian root are omitted in the present edition. It is a light pleasant bitter, strengthens the stomach, and restores the appetite: two ounces may be taken twice a day, and some cordial carminative tincture should be added if necessary.

Vinum amarum, Ph. Edin. is prepared by adding gentian root ℥ ss. Peruvian bark ℥ j. Seville orange peel dried ʒ ij. canella alb. ℥ j. to four ounces of proof spirit, two pints and a half of Spanish white wine. The ingredients should be macerated in the spirit for twenty-four hours, and the wine then added: after three days it may be strained. This is considered a very useful and elegant stomachic medicine.

Gentia'na mi'nor, Gentia'na cruciata, Lin. Sp. Pl. 334, and cross wort gentian. It grows in Hungary on hills and in dry meadows, but is rarely brought to us.

Gentia'na a'lba. See Laserpitium.

Gentia'na amarella, Lin. Sp. Pl. 334, resembles the gentian, but is in taste intensely bitter.

Gentia'na asclepiadea, Lin. Sp. Pl. 329, scarcely differing in medical powers from the other species.

Gentia'na centau'rium. See Centaurium minus.

Gentia'na ni'gra. See Oreoselinum apii folio.

Gentia'na purpur'ea, Lin. Sp. Pl. 329, Purple gentian; *cursuta*.

The stem is erect, simple, smooth, strong, succulent, about a foot in height; lower leaves nearly elliptical, ribbed, entire; upper leaves, in pairs, sheath like, concave, embracing the stem, pointed, ribbed, inclosing the flowers; flowers, large, purple, standing in whorls, upon short peduncles; calyx, a deciduous spatha; corolla, bell shaped, purplish, plicated, divided at the limb into five ovated dotted segments; filaments, commonly five, of the length of the germen, and furnished with conical antheræ; germen, oblong; style, cleft, points reflex, furnished with blunt stigmata; capsule, ovate, two celled, containing numerous small seeds; roots perennial, cylindrical, slender, branched, externally brown, internally yellow. It is a native of the Alps, introduced into this country by Saussure in 1768; is a

strong bitter, greatly resembling in appearance and taste the gentian, but in no degree superior, though used by some practitioners of Edinburgh for more than forty years. Dr. Home considers it as a variety of the gentiana lutea.

GE'NU, (from γονυ παρα το εις γην νευειν; because by this articulation the body is bent towards the earth). The KNEE; also the patella, KNEE PAN. The knee is the articulation of the thigh and leg bone; as a ginglymus it admits of only flexion and extension, except in its bent state, when it will allow of a small rotation by the relaxation of the ligaments. This joint is made up of the femur, patella, and tibia; for the fibula does not reach it. The patella in extension is drawn up, in flexion pulled down. Under the ligament of the patella is a sac containing mucus, resembling the synovia. Its strength, as of all joints of the same kind, is on the side. The capsular ligament is large, and admits of the collection of a fluid within it when the swelling appears above and on each side the patella, but chiefly above, on account of the ligaments being thinner. What is called the synovial gland Dr. Hunter concludes is merely fat, like all the glands of a similar kind; and the real synovia is, he thinks, secreted by the vessels of the vascular membrane which covers the cartilages. Besides the capsular ligament, there are two others covering the posterior parts of the condyles of the femur, and fixed into the head of the tibia, between its two cavities; these ligaments are stretched when the leg is extended, and relaxed when the leg is bent, allowing at this time a little lateral motion. Between the tibia and the femur are two semilunar cartilages, thick on their external edges, and thin in their centre; and tied to the tubercle by their horns: they alter their figure according to the situation of the bones, to make the shape of one correspond to that of the other.

It sometimes happens that one or two pieces of cartilage, or bone covered by cartilage, are found loose in the cavity of this joint. Some of these are as large as common garden beans: they are generally flat, oblong, having their edges rounded. Mr. Cruickshank formerly considered them as belonging to the patella; and that, like the ossa triquetra in the skull, they were owing to distinct points of ossification: but having found one entirely cartilaginous, and another bony one covered by cartilage, formed on the lower end of the femur, he was convinced of his mistake. In the last mentioned case, Mr. Cruickshank observes that there was a cavity in the lower end of the femur, corresponding to the loose bone, showing a former connection; though, as both surfaces were nearly smooth, its manner was not evident. He supposes that during their growth these cartilages and bones are connected to the neighbouring parts by vessels; and that, when either their determined bulk is completed, or their size too large for the easy motion of the joint, they become loose. When this happens, the synovia, from the irritation, is secreted in greater quantity; the capsular ligament is distended, a degree of stiffness takes place in the motion of the joint, with more or less of external inflammation. The fluid underneath is distinctly felt; and the loose bit of cartilage rises frequently above the condyles of the femur, on the out or inside of the knee, and may be taken between the thumb and finger through the integuments. When the patient hath walked much, the synovia is sensibly increased; and, on remaining quiet for two or three days, is as sensibly diminished. The symptoms are sometimes so mild as not to need an operation; but it is often the only expedient for relief. Mr. J. Hunter recommends removing them by incision; but thinks the particular spot where the operation is to be performed, as well as the manner of operating, deserve the greatest attention. There is a part of the ligament which receives the basis of the patella during the extension of the leg, and rather resembles cellular membrane than capsular ligament, lying under the lower extremities of the vasti and crureus muscles, before they are inserted into the patella. Mr. Hunter proposes to lay hold of the cartilage or bone, and cut upon them at this place: the incision, he thinks, should be no larger than just to allow of their being easily thrust out. A stitch or two is then to be passed through the divided integuments, but not into the cavity of the joint, and the lips of the wound by these means brought together. If they penetrated the joint, instead of uniting the parts, they would act as seatons, and produce inflammation: for by a seton introduced into the tunica vaginalis testis we often obtain a radical cure of the hydrocele. The aim of the surgeon is, if possible, to heal the wound by the first intention; and a piece of sticking plaster, with a proper bandage, and position of the joint, may make stitches unnecessary. Mr. Hunter recollects six or seven cases in which these cartilages were removed by excision, though not exactly in the manner recommended; all of these succeeded except one, where the operation was attended with great inflammation, and followed by an anchylosis of the joint. Other instances of failure have occurred; but there are constitutions where any wound, particularly a penetrating one into the cavity of the joint of the knee, will be attended with danger. The circumstances to be avoided are too much exposing the cavity of the joint; lacerating or bruising of the capsular ligament; not properly closing the orifice in the integuments; or employing a blunt or dirty instrument in dividing them. Each may produce inflammation, and render the operation dangerous; but in tolerably sound constitutions, when performed with the necessary precautions, it is generally safe: when, however, the cavity of the joint is inflamed, the danger is very great. Ligaments and cartilages have fewer vessels than most other parts: they inflame, and suppurate, if exposed to irritation, with greater difficulty; the joint anchyloses, and is destroyed, or the patient sinks under a hectic from absorbed matter, if the limb is not amputated. See Cruickshanks in the Edinburgh Medical Commentaries, vol. iv. p. 342, &c. Hunter's Works. Hay's Observations in Surgery.

GENUFLE'XIO, (from *genu*, *the knee*, and *flecto*, *to bend*). KNEELING. In kneeling, the ossa pubis are lower than when we stand; and this not only increases the hollow of the loins, and throws the belly and its viscera more forward, but in some measure strains the abdominal muscles; occasioning syncope from the uneasiness. This depression of the os pubis in kneeling depends partly on the tension of the musculi recti anteriores, the lower tendons of which are, in this situation;

drawn with violence under the condyloid pulley of the os femoris. Winslow.

GENU'GRA, (from *γονυ, the knee*, and *αγρα, seizure*). GOUT IN THE KNEE. See ARTHRITIS.

GENUI'NI DE'NTES. See DENS and SAPIENTIÆ DENTES.

GENUS, (from *γινομαι, to generate*). See CLASSIFICATIO.

GEO'DES LA'PIS, (*λιθος γεωδης, a stone*, so called from *γη, earth*, which it contains). It is rather astringent and drying, somewhat detergent when applied to the eyes, mitigating inflammations in the breast, if mixed with water, and rubbed on it. Dios. lib. v. cap. 169. The fossil usually employed is an ocre, an ore of iron, sometimes a sulphurated iron; but the term by naturalists is confined to rounded stones containing a cavity which is sometimes filled with water.

GEOF. M. M. The abbreviation of Step. Franc. Geoffry Tractatus de Materia Medica.

GEOFFRÆ'A INE'RMIS; from Dr. Geoffry; SMOOTH GEOFFRÆA, OR BASTARD CABBAGE TREE. *Geoffroya inermis, foliolis lanceolatis*, of Swartz; of Ayton in the Hortus Kewensis; and of Wildenow, Sp. Pl. vol. iii. p. 1130. See Wright, Philosophical Transactions, vol. lxvii. p. 507, tab. 10. This tree is a native of Jamaica, distinguished by the name of CABBAGE BARK TREE, OR WORM BARK TREE. The bark is externally smooth, and of gray colour; internally black and furrowed, has a mucilaginous and sweetish taste, with a disagreeable smell, and is considered as a powerful anthelmintic. Dr. Wright, who resided long in Jamaica, has supplied the safest and most efficacious modes of exhibition, from his own experience. It may be given either in decoction, syrup, powder, or extract. The decoction is made by boiling one ounce of fresh dried or well preserved cabbage bark in a quart of water, over a slow fire, till the water resembles deep coloured Madeira. This must be strained off, sweetened with sugar, and used early, as its virtues are soon lost. This syrup is formed by dissolving double the quantity of sugar in any portion of the decoction; and this will retain its virtues for many years. By evaporating the strong decoction of this bark to a proper consistence, the extract is prepared; though it must be continually stirred to mix intimately the resinous part, on which probably its efficacy will depend. The powder requires no directions: it resembles jalap, but is not so heavy.

A strong healthy person may take of the decoction, or syrup, two table spoonfuls; of the extract, three grains; and of the powder, ʒ ss.—and the dose must be gradually lessened, so that a child of one year should take only of the two first half a table spoonful; of the extract, half a grain; and of the powder, five grains.

These doses may be gradually increased till a nausea is excited; but it is safest to begin with small ones, and gradually increase them. The decoction is given in Jamaica, seldom failing to destroy worms in the intestines, and discharge them in considerable quantities. By frequent use, however, these animals become familiarised to the poison, and it is necessary to stop, or employ other medicines of inferior power. Cold water should not be drunk during its operation, as it is apt to occasion sickness, vomiting, fever, and delirium. When these occur, or when too large a dose has been given, the stomach must be cleared with warm water; the patient purged with castor oil, and take plenty of lime juice for common drink: vegetable acid is the antidote to this poison.

For Mr. Anderson's account of this bark, and the mode of giving it, see PALMA NOBILIS.

GEOFFROYA SURINAMENSIS. Wildenow, vol. iii. p. 1130.

GEOPILY'SIA. A separation by solution. Rulandus.

GER. The abbreviation of Gerarde; and employed in quoting Gerarde's Herbal, which was improved by Thomas Johnson.

GERA'NIS, (from *γερανος, a crane*; from its shape resembling an extended crane). A bandage used by the ancients in cases of a fractured clavicle, or a dislocated shoulder.

GERA'NIUM, (from *γερανος, a crane*, because its pistil is long, like the bill of a crane). A bandage used from the days of Hippocrates, now called *spica simplex*. In botany, it is the name for BATRACHIUM, CROW'S FOOT, OR CRANE'S BILL; its seed vessel consists of five capsules opening inwards, and containing each a single seed; the flowers are pentapetalous.

GERA'NIUM ROBERTIA'NUM, Lin. Sp. Pl. 955, *gratia dei*, and HERB ROBERT; hath reddish or purplish flowers on one pedicle; the leaves are divided down to the foot stalk into three segments, and these again are deeply cut. It is the only sort used in medicine. Its strong smell, salt, and slightly astringent taste, seem to point out some medicinal powers; and it has been employed to repel the milk in hæmorrhages of the bladder and increased mucous discharges. Externally it has been applied to bubos and ulcers of the mammæ, though disused in the present practice.

GERA'NIUM BATRACHOI'DES, *gratia dei Germanorum*, and CROW'S FOOT CRANE'S BILL; *geranium pratense* Lin. Sp. Pl. 954. It hath two blue, but sometimes white, flowers on one pedicle; the leaves are large, wrinkled, and divided into five or seven segments, which again are deeply cut on their edges.

GERA'NIUM COLUMBI'NUM, *pes columbinus* Lin. Sp. Pl. 956, DOVE'S FOOT, and DOVE'S FOOT CRANE'S BILL; hath purple flowers, standing two on a pedicle; the leaves are shaped like those of mallows, and have long foot stalks.

GERA'NIUM MOSCHA'TUM, Lin. Sp. Pl. 951. MUSCOVY, and MUSKED CRANE'S BILL, *acus mocchata*; hath a number of red flowers on one pedicle; the leaves are indented, oval shaped, set in pairs along a middle rib, which is terminated by an odd one.

GERA'NIUM SANGUINA'RIUM, Lin. Sp. Pl. 958, *hæmatodes*, and BLOODY CRANE'S BILL; hath solitary flowers, which on their first appearance are red, but soon change to a bluish colour; the leaves are roundish, but divided almost to the pedicle into five segments, which are often subdivided at the extremities into three.

All these plants are found wild in different parts of this kingdom; they flower in May, June, and July. They have an astringent taste; and this quality is extracted by water as well as by rectified spirit, and, on

evaporating the filtered liquor, remains in the extract. See Radii Historia. Lewis's Materia Medica.

GE'RARAT. A name in Avicenna for some poisonous animals.

GERMA'NDRA. See Gambogia.

GE'RMANIS O'LEUM. See Carpathicum, and Melissa.

GE'RMEN, (quasi *geramen*, from *gero*, *to bear*). See Blastema.

GEROCO'MIA, (from γερων, *an aged person*, and κομεω, *to be concerned about*,) that part of medicine which relates to old age.

GERO'NSTERRE WATER. See Spadanæ aquæ.

GERONTO'XON, (from γερων, *an old person*, and τοξον, *a dart*,) a small ulcer like the head of a dart, appearing sometimes in the cornea of old people. See Bothrion.

GE'RULA. A monstrous plant. Paracelsus.

GE'RYON. Quicksilver. See Argent. vivum.

GESN. The abbreviation of Conradi Gesneri Historia Plantarum.

GE'SOR. See Galbanum.

GESTA'TIO, (from *gero*, *to carry*). See Æora.

Gesta'tio. Gestation, or pregnancy, *cyophoria*. It is the progress of the fœtus from the time of conception to that of parturition. See Fœtus.

The time of a woman's pregnancy is nine solar months, or about two hundred and eighty days; but the child is sometimes born at seven months, and in a few instances at ten. See Medicina forensis.

From the moment in which the fœtus is animated, a change takes place in the mother's constitution. Sometimes this is so striking as to be at once perceptible; sometimes it is so trifling that months pass on before any obvious change takes place. The change first perceptible is increased irritability. Fancies the most singular and extravagant possess the mind; objects most cherished lose their interest, and others seem to assume new attractions; the appetite is equally capricious; the sleep is broken and interrupted. The stomach partakes of this caprice; and food, the most alimentary, loses its relish, while the most unpleasing, and apparently disgusting, diet is sought after. At the moment of leaving the bed, sickness and faintness come on; the stomach strains with violence, and nothing, or a little bile only, is discharged. The greater number of these symptoms, however, occur in most instances only about the end of the month or six weeks, and they vary in their number and degree, seldom disappearing till about the middle period, or about two hundred days. In this interval they are often truly distressing. Every kind of food is immediately rejected, faintness follows, and even the night is not free from distressing fancies. In such circumstances art is of little avail. Opiates will sometimes quiet the irregular exertions of the stomach, but it will sometimes fail. The columbo root, in powder or in tincture, is sometimes useful; and the aqua kali, or ammoniæ puræ, will occasionally relieve the vomiting, or the distressing heart burn. In general, something should be taken into the stomach before the expecting mother rises from bed, and a cup of peppermint or camomile tea is the most effectual means of lieving the usual urging.

The cause of these commotions we know not, but they are evidently neither unnatural nor morbid. They arise probably from the irritation of the uterus, communicated to the stomach, and are the effect of the new unaccustomed motions excited in this very irritable organ. That they are not morbid is sufficiently clear, from their scarcely in any instance producing abortion, and from the child being born healthy and active; though for at least three months, sometimes through the whole period, the mother has never retained a single meal, and is apparently worn to the lowest state of debility; a degree of debility under which some delicate women have sunk. The final cause seems to be the necessity of securing a supply for the fœtus. When a woman is first pregnant, all the evacuations are diminished, and a plethoric state occurs. Nature, at that time, requiring no recruit, rejects every addition: secure in what is provided, all adventitious aid is rejected. Were more accumulated, the embryo might be thrown off by the effort of vessels excited beyond their powers; and vomiting, which, as we have shown, determines to the surface, prevents the uterine vessels from being too much distended. When the uterus rises above the pelvis, when the fœtus has attained the power of motion, and is felt at first in irregular fluttering, and afterwards by more distinct actions, all the supply which the mother can convey is wanted. The scene is then changed: the appetite returns, the sleep is uninterrupted, digestion rapid and perfect, the spirits free and unruffled. So far from irritation suggesting fancied evils, real ones disappear; and, though she sometimes *talks* of the future delivery being fatal, she *acts* as if she looked forward to a numerous offspring, and even to *their* descendants. In short, if there is a period of greater health and activity than any other, it is from the two hundred and fortieth to the two hundred and eightieth day; interrupted only, at last, by the unwieldy size, and probably, through the whole, by a little constipation.

In other cases the practitioner feels greater difficulties. Pregnancy sometimes is not discovered by its appropriate symptoms, and these are occasionally concealed. In the early weeks, the abdomen is said to be flatter than usual: it is at least not fuller; and if obstruction takes place, with none of the appropriate symptoms of pregnancy, *that* is considered as a disease, and active emmenagogues are employed. Luckily, this discharge, as we shall find, is not much in our power. If a woman is married, not advanced in years, even though in a bad state of health, pregnancy should be always suspected. If she has been before regular, the suspicions are stronger; but, if not so, we must still suspect, and avoid any powerful evacuants, till the period when the state can be ascertained by unequivocal symptoms, or by the touch. If the woman is clandestinely pregnant, every artifice is employed to conceal the real symptoms, and the facts are only ascertained by the greatest address. The look of a chlorotic and a pregnant girl greatly differs. In the former the face is sunk; the skin muddy; the breasts flaccid; and the nostrils dry: in the latter, whatever are the symptoms of debility, the skin is clear, the features retain some animation, the breasts are full, and the nipple ruddy. These appearances cannot be disguised; but the state of menstruation is concealed, for by this means they hope to escape from their inconveniences, by the probability of what they style "forcing medicines" being ordered. In every circumstance, however, where the slightest

doubt remains, the prudent practitioner will abstain from active measures, till the period arrives when the tumour, or the touch, will clear all his doubts. The tumour, in these clandestine pregnancies, is attributed to dropsy; and on this head we have already spoken. (See Ascites.) The touch is more decisive; and, by this means, real pregnancy may be ascertained, and distinguished from scirrhus, or polypus of the uterus. If the woman leans forward on a chair, the surgeon, from behind, introduces his fore or middle finger into the vagina, and moves it round till the point touches the os tincæ. In the virgin state it is smooth and even; the uterus yields to the finger, and may be moved like a light ball with ease. In the first three months the difference is inconsiderable; but the tubercle at the mouth of the uterus is somewhat enlarged, and the womb itself sinks, seemingly, lower in the vagina. These marks are, however, equivocal; for even in the unimpregnated state women differ in these respects. But at about the fifth month, the cervix uteri begins to be distended, and the os tincæ to offer a different sensation to the finger. The tubercle shortens, the orifice expands, the uterus itself is moved with difficulty. At last the os tincæ no longer conveys the idea of a fissure, but of an elliptical tube, and is sometimes at that period wholly beyond the reach of the finger. The tumour, at the same time, affords no unequivocal sign. It is not uniform over the whole abdomen. It does not yield, as if its contents were flatus; there is no fluctuation, as if there were water; no unequal hardness, as if any contained part were scirrhous. The swelling rises from above the pubes, generally leaning to one, very often the right, side: it is circumscribed above, hard, but not considerably or irregularly so; and from the state of the urinary secretion, cannot be confounded with a distended vesica. In the fifth month the uterus extends about half way between the pubes and navel, and the neck of the womb is sensibly shortened. In the seventh month the fundis uteri reaches to the umbilicus; in the eighth, midway between this and the pit of the stomach; in the ninth, to the scrobiculus cordis. After the fifth month, and more decidedly in the further stages, the breasts are full; the areola round the nipple extends, and from a ruddy assumes a brown or blackish hue. In reality, however, after the sixth month deception must be at an end: the facts are decisive.

Not to break the continuation of the subject, we omitted mentioning the distinction between pregnancy and scirrhus, or polypi of the uterus. In the first the weight of the womb is considerable, but the edges of the os tincæ are hard and irregular: in the second we find also considerable weight in the uterus, but the other symptoms of pregnancy are wanting, and it is very generally the disease of advanced life.

During gestation the uterus enlarges not from distention or pressure, for distended organs become thinner, and compresed ones thicker than natural: the womb preserves its former thickness; and even increases to the usual bulk of the gravid state when the fœtus is in the ovary, the Fallopian tubes, or the abdomen. Its substance, during gestation, becomes softer; its veins enlarge, so as to assume the appellation of sinuses; its arteries run in a serpentine direction, and freely anastomose, especially near the placenta, and open obliquely into this organ. Its fibres are circular, and arise from three distinct sources; the spot where the placenta is attached, and from the orifice of each tube. When the womb rises high, as is usual in a first pregnancy, the ligamenta rotunda are considerably stretched, and pains, striking from the belly downward, are very distressing.

A surgeon is often consulted about the reckoning. It is usual to commence from about the middle of the period between the last return and the suppression; but it is safer to reckon about a week earlier. If the menses return scantily in a woman usually regular, the reckoning should commence about a week before this inefficient recurrence. But the whole should be corrected by the *quickening*, the period when the child's motion is perceived. This is at first indistinct, resembling rather a flatulence in the bowels; but producing sometimes a deliquium. When thus unequivocally marked, somewhat more than the fourth month may be supposed complete, or from one hundred and thirty to one hundred and forty days. When not thus marked, about a week may be reckoned back from the *certain* feeling of a motion, and that may be fixed on as the same period of pregnancy. When, from the irregularity of the menses, the weakness of the child's motion, and the mother's age, generally connected with the two former, we cannot determine from either circumstance, the state of the tumour must decide. See La Motte's Midwifery; Denman's Midwifery, vol. i.; and Dr. Hamilton's very excellent Outlines.

GESTICULA'TIO, (from *gesticulor, to dance about*). Gesticulation. Oribasius described it as a middle kind of exercise betwixt dancing and mock fighting. It is the expression of the passions and feelings by action, as in the modern pantomime; and was formerly a gymnastic exercise.

GE'UM RIVALE, Lin. Sp. Pl. 717; a plant with little smell, but of an austere taste; a native of North America, where it is celebrated as an astringent and tonic, and employed in diarrhœas, dysenteries, and even supposed a specific for intermittents.

Ge'um urba'num, (γεον). See Caryophyllata.

GHI'TTA. See Gambogia.

GHORA'KA. See Carcapuli fructu malo, &c.

GIALA'PPA. See Jalapa.

GI'BBER, and GIBBO'SITAS, (from *gibbus, crooked*). Gibbosity, crookedness. The chest and spine are both distorted by a faulty arrangement of the vertebræ. See Cyrtoides and Cyrtoma.

GI'BBUS, (from *gabah, a hill*, Hebrew). In botany it means having both sides convex.

GI'FFÆ. Tumours behind the ears.

GI'GARUS. See Dracontium.

GIL'ARUM. See Serpyllum.

GILIADE'NSE BA'LSAMUM. See Balsamum.

GINGI'BERIS AMARITU'DO, (γιγγιβερις). See Canella alba.

GINGIBRA'CHIUM, or GINGIPEDIUM, (from *gingivæ, the gums*, and *brachium, the arm*, or *pes, the foot*). The scurvy, in which the gums and arms, sometimes the feet, are affected. See Scorbutus.

GINGI'DIUM, (γιγγιδιον). See Chærophyllum.

Gingi'dium Hispa'nicum. See Visnaga.

GINGI'VÆ, (from *gigno, to beget;* because the

teeth are generated in them). The GUMS; *ula*, the plural of *ulon*. Pollux distinguishes the flesh on the outside of the teeth from that on the inside, or the part between the teeth: the first is *ulon;* the two last *enulon: ula* also sometimes means a tumour on the gums. They are that reddish, compact, fleshy substance which covers the two sides of the whole alveolary border of each jaw, insinuates itself betwixt the teeth, then called *harmos*, and adheres to them. Arteries from the carotids run in the gums, and the nerves are from the fifth pair.

The gums are apt to become spongy, and to separate from the teeth; but the usual cause is a stony crust which forms itself on the teeth. When this calculus is separated, the gums soon recover their former state, especially if rubbed with a mixture of the infusion of roses and the tincture of myrrh. In cases also of ulcerations in the gums, mouth, throat, and fauces, the following gargles are useful.

The alum gargle is made by dissolving two drachms of alum in a quart of barley water, adding three ounces of honey of roses. This is also useful in relaxations of the uvula, and other cases where astringents are necessary.

The myrrh gargle consists of six parts of lime water, three of honey of roses, and one of tincture of myrrh. In scrofulous ulcers, where unctuous applications are inadmissible, it is useful.

The scurvy also affects the gums; and when not manifest in any other part, sometimes appears in the mouth: when a scorbutic disorder invades the whole habit, its first symptom is swollen gums. Sometimes a scorbutic complaint attacks the gums, and occasions heat, pain, and itching in them; if touched, they bleed; white spots, red and inflamed about their circumference, are occasionally observed; and if neglected, especially in young persons, a copious flux of thin fetid saliva is discharged, which corrodes all around it. In Holland it is called the WATER CANCER. Besides proper internal antiscorbutics, and the Peruvian bark in large doses, the best external application is the muriatic acid, diluted with water.

GINGERBREAD, a warm, wholesome bread, composed of flour, treacle, and ginger.

GI'NGLYMUS. A HINGE. See DIARTHROSIS.

GI'NSENG. See GENSING.

GITH, or GIT, (from *ketsa*, Hebrew). See NIGELLA ROMANA.

GITHA'GO, (from *gith*). See NIGELLASTRUM.

GLABE'LLA, (from *glaber*, *smooth*, because usually without hair). The space betwixt the eye brows.

GLA'BER, (from *galab*, Hebrew). SMOOTH. In botany, applied to the leaf it means having a smooth even surface.

GLABULÆ. See CUPRESSUS.

GLADI'OLUS, (*communis* Lin. Sp. Pl. 52, from the sword-like shape of its leaf). FRENCH CORN FLAG; *xiphium*, *anactorion*. Its root is tuberous and double; the leaves like those of the iris; the flower liliaceous, and divided into six segments. It is cultivated in gardens, and flowers in June. The root is externally discutient; internally alexipharmic; and said to be aphrodisiac. See Raii Hist.

GLADI'OLUS FŒTIDUS. See IRIS FŒTIDUS.

GLADI'OLUS LUTE'US. See IRIS PALUSTRIS.

GLA'MA, or GLA'ME. Sordid and swollen eyes.

GLA'NDES UNGUENTA'RIÆ. See MYROBALANI.

GLA'NDIUM, (from *glans*, *a nut*). See THYMUS.

GLA'NDULA, (from its resembling a nut). *Aden.* A GLAND; a distinct soft body, usually of a reddish colour, which separates a peculiar fluid from the general mass, either injurious to the system, or for some useful purpose in the animal economy. It has been doubted whether an artery without convolution may not be adapted for secretion. It is impossible to prove a negative; yet it appears highly improbable, unless the supposed secretion be merely a serous exhalation.

The glands are roundish bodies, seated in the cellular membrane, generally near the large vessels, from which they receive considerable branches: they are of different consistence, and various colours. Sylvius first divided them into conglobate, now called *lymphatic* and *conglomerate*. (See CONGLOBATA, and CONGLOMERATA GLANDULA). Malpighi added what he called the *folliculus* or *simple gland;* such as are found behind the ears, but more remarkably in the fauces.

Dr. Nicholls divides the glands into sinuous, tubular, and equal. A sinuous gland is one whose several follicles have their own excretory ducts, transmitting their fluid to a common basin, as the kidneys. The tubular is the same with the conglobate gland of Sylvius, of which the testes are an instance. In an equal gland the vessels are branched, as in the liver.

Glands are most commonly divided according to the nature of the fluids they furnish, into mucous, sebaceous, lachrymal, salivary, and biliary; but these distinctions are only the parade of science, and add little to its utility.

Ruysch proves, by subtle injections, that the substance of the glands is vascular, consisting of a ramifying artery, partly terminating in a vein, and partly in an excretory duct. But there is not the slightest evidence that the extremity of the artery forms a continuous canal with the excretory duct. On the contrary, a hollow cavity is probably interposed, in which the fluids stagnate, and in which the change principally takes place. Mr. Hewson, however, thinks that the little globular bodies called *cryptæ* and *folliculæ* are only convoluted arteries.

In reality, however, the structure of glands is little known. From corroded injections we perceive only ramifications of vessels in angles peculiar to the organ, and constant in every individual; and on this regular arrangement a mechanical theory of secretion has been raised. In no instance, however, do we find that the injections pass by continuous vessels into the excretory ducts; and in very few will they, by any management, penetrate so far.

When the glands are swollen only, if hard, they are said to be indurated; if harder, and irregular in their feel, to be scirrhous; if, when hard, they are painful, they are styled incipient or occult cancers; if their hardness and pain continue, carcinomata, or inveterate occult cancers; and if the skin breaks, they are called ulcerated and true cancers.

Indurated glands in children's necks are common, and of little importance. The lymphatic system in the

early periods is large, and from want of irritability often obstructed. These tumours, even though they apparently tend to suppuration, may generally be removed by the use of small doses of calomel, with sea water, in a sufficient quantity, daily to produce a gentle discharge from the bowels. Cicuta, sometimes recommended, is unnecessary, and often injurious. Should the glands not be painful, no application is necessary; but they should be kept perfectly cool. See Scrofula, Scirrhus, Cancer, Lupia, Nævus. Kirkland's Medical Surgery, vol. ii. p. 475.

On the nature and structure of glands see Sylvius, Malpighi, Ruysch, Cowper, Havers, De Bordeu, &c.

Gla'ndula lachryma'lis; lachrymal gland, is a hard conglomerate gland, situated in a cavity of the os frontis, within the orbit, above the external canthus. From the lachrymal gland, on the inside of the tunica adnata of the eye lid, six or seven excretory ducts perforate the tunica adnata by as many orifices, at the distance of a few lines from the tarsus, and evacuate a saline aqueous fluid, called the tears, between the eye lid and the bulb of the eye. The extremities of very small arteries exhale also a moisture from the whole surface of the tunica conjunctiva, which, mixed with the liquor of the lachrymal gland, and the mucus of the Meibomian glands, moistens and lubricates the eye, and the inside of the eye lids.

Gla'ndula lachryma'lis, and innomina'ta. See Caruncula lachrymalis.

Gla'ndula pituitaria; a small greyish body, lying between the sphenoidal folds of the dura mater on the sella turcica. It is oval, white or greyish within, and sometimes apparently divided into two lobes. It is covered by the pia mater, and the opening of this covering is the extremity of the infundibulum. It has been supposed the seat of the soul, as it is the only single organ of the brain, but is probably a lymphatic gland.

GLA'NDULÆ CERU'MINIS. See Auditorius meatus.

Gla'ndulæ myrtifo'rmes. When the hymen is torn, the broken fimbriæ of the membrane contract and form apparent glands; but their glandular structure has not been ascertained. They are so denominated from their fancied resemblance to myrtle berries.

Gla'ndulæ odori'feræ, are situated on the inside and at the lower edge of the glans penis; and secreting a fluid, which thickens by stagnation, and acquires a particular offensive smell. These glands are often inflamed in those who have a long prepuce; and emit a matter exactly similar to that which flows from the urethra in gonorrhœa. It is, however, doubtful whether this discharge be venereal.

Gla'ndulæ pacchioniæ. Small oval fatty bodies in the longitudinal sinus, which are probably not glandular. See Cerebrum.

Gla'ndulæ supra rena'les, and renales. See Capsulæ atrabilariæ.

Gla'ndulæ vascula'res. See Cowperi glandulæ.

GLANDULOSO CA'RNEUS, (from *glandula*, *a gland*, and *carneus*, *fleshy*,) an epithet given by Ruysch to some excrescences which he observed in the bladder.

GLANDULO'SUS, (from *glandula*, *a gland*). Botanically it is applied to a leaf, which has minute glands on its surface.

GLANS. An acorn. It is also a strumous swelling; and a name for a pessary, or a suppository, denominated from its resemblance.

Glans Jo'vis Theophra'sti, (from the same). See Castana.

Glans pe'nis, (from the same,) *balanos*, *cuspis*, and nut. It is formed by the corpus spongiosum urethræ, turned over the corpora cavernosa penis, and covered by a continuation of the integuments. When the cuticle is removed, every little villous body seems a vessel. In the fifth volume of the Edinburgh Medical Essays, a glans penis is said to have been regenerated after amputation; but of this restoration we have many doubts.

Glans unguenta'ria. See Ben.

GLA'STUM, (quasi *calastum*, from Callia, who is supposed to have first used it). Woad; *isatis sativa*, vel *latifolia*; *isatis tinctoria* Lin. Sp. Pl. 936, is cultivated only for the use of dyers, who obtain from it their best blue; an inferior sort is called by the French *vouede*. The plant is not used in medicine, though it is said to be astringent, probably because the indigo is supposed to be so; but this fœcula is the production of a very different plant, the *indigofera tinctoria* Lin. Sp. Pl. 1061. (See Indicum.) From the isatis sylvestris a volatile salt hath been obtained by fermentation only. This is a variety of the *isatis tinctoria*; but it is a plant of the class *tetradynamia*, many of which afford ammonia. See Lewis's Materia Medica. Neumann's Chemical Works.

Gla'stum I'ndicum. See Indicum.

GLAUBE'RI SAL; so called from its discoverer or inventor. Glauber's salt, *sal mirabilis*, *admirabilis*, *sal catharticum Glauberi*, *natron vitriolatum*. The Dauphiny salt is a natural production of this kind, obtained from an earth in the province of Dauphiny in France; but that in general use, and which receives the name of Glauber, its author, is artificial; consisting of a vitriolic acid with the mineral alkali. See Chemistry.

The salt which remains after the distillation of the muriatic acid is directed to be exposed to a strong fire, in an open vessel, to separate the remaining acid, to be boiled in distilled water, strained, and crystallized. Ph. Lond. 1788. In cold weather it will shoot in forty-eight hours, and in warmer weather in about twice the time.

The fineness and largeness of the crystals greatly depend on the quantity of acid. The Edinburgh college directs one part of the oil of vitriol to two parts of sea salt for obtaining the spirit of salt, and the residuum is as nearly of a due degree of acidity as can be ascertained by a general rule.

Mr. Fergus, of Piccadilly, London, says, that from two pounds and half of kelp, and nearly two ounces of the oil of vitriol, he obtained half a pound or more of Glauber's salt. He takes calcined kelp ℔ i. powders, and dissolves it in a glazed earthen pan with boiling water ℔ ij. filters the clear liquor into a similar vessel, adding gradually, when hot, as much oil of vitriol, diluted with somewhat more than an equal part of water as is necessary to saturate it. It is then filtered, evaporated to a pellicle, and crystallized.

The *sal catharticum amarum* is nearly of the same quality with the *natron vitriolatum*, and often substi-

tuted for it. But its basis, instead of the alkali, is magnesia, which is detected by adding an alkali in solution to the sal catharticum, from whence the magnesia is separated. The salts do not, however, differ in their medical properties.

The true natron vitriolatum is apt to lose so much of its water of crystallization as to become opake, and fall into a white powder. It is applied externally in a cataplasm, by dissolving an ounce of the vitriolated natron in half a pint of water, and reducing it to a proper consistence by crumb of bread. It is applied in those inflammations of the eye where the secretions are deficient; the form is attributed to Dr. Kirkland.

In small doses, plentifully diluted with water, it is laxative and diuretic; in larger ones, cathartic. For the latter purpose it is given from ℥ ss. to ℥ ij. and, if diluted in water, from one pint to two should be employed, and in that case the dose of the salt may be diminished. It then answers every purpose of the Epsom and similar waters; cools and checks the circulation so much, that Dr. Alston thinks it specific in active hæmorrhages. Gangrenes are sometimes washed with a solution of it in vinegar. It has been supposed, when too freely taken, to attenuate the blood, and produce dropsies. It may perhaps debilitate, by injuring the digestive organs; but can produce little permanent mischief. See Lewis's Materia Medica, Glauber, Boyle, Becher, and Stahl.

GLAU'CIUM, (from γλαυκος, *blue*, from its colour). See Papaver spinosum.

GLAUCO'MA, GLAUCO'SIS, or GLAUCE'DO, (from γλαυκος, *blue*). Mr. Sharp, Operations of Surgery, p. 158—163, says, that the glaucoma of the Greeks is the suffusio of the Latins, and the cataract of the present times. (See Cataracta). Woolhouse, Maitre Jean, and M. St. Yves think it a cataract, with a gutta serena; called *cataracta glaucoma*. In this complication of diseases the operation and all other means are useless, unless to ease pain.

GLAUCO PHYLLUS, (from γλαυκος, *blue*, and φυλλον, *a leaf*). Botanically applied to leaves of an azure or sea green colour.

GLAUCO'SIS. See Cataracta.

GLAU'RA. See Succinum.

GLAUX VULGARIS, (from γλαυκος, *sea green,*) *astragalus glaux* Lin. Sp. Pl. 1069; *glycyrrhiza sylvestris flore luteo; fænum Græcum sylvestre; hedysarum glycyrrhizatum*. Liquorice vetch. It grows in thickets and under hedges; flowers in July: the herb and seed are commended for increasing the milk in women's breasts; the root is sweetish, astringent, and diuretic, but very rarely used. This plant is often sold for the galega. Raii Hist.

GLECO'MA HEDERA'CEA. See Hedera terrest.

GLE'CHON, (γληχων). See Pulegium vulgare.

GLECHONI'TES. Wine impregnated with pennyroyal.

GLEET. See Gonorrhœa mucosa.

GLE'NE, (γληνη, *the socket of the eye,*) the cavity of the eye, and the pupil; but it is used to express any slight depression or cavity in a bone which receives another bone in articulation. Cotyle is a similar cavity, but deeper. See Os.

GLENOI'DES, (from γληνη, and ειδος, *likeness*). The same as glene; but particularly applied to two cavities, or small depressions in the inferior part of the first vertebra of the neck.

GLEUCI'NUM O'LEUM, (from γλευκος, *must*). Gleucine oil; formerly made by infusing several aromatics in wine and olive oil.

GLEU'COS, (from γλυκυς, *sweet*). Must; sometimes sweet wines. See Mustum.

GLEU'XIS, (from the same). Wine in which are much saccharine and extractive matter.

GLISCHRO'CHOLOS, (from γλισχρος, *viscid*, and χολη, *bile*). Bilious viscid excrements.

GLISOMA'RGO. See Creta alba.

GLOBO'SUS, (from *globus*, *a globe*). Globular, *round*. In botany it is applied to the root.

GLOBULA'RIA FRUTICO'SA. See Alypia.

GLO'BUS HYSTE'RICUS, (quasi *glomus*, from *galom*, Hebrew, *a globe or round ball*). In hysteric disorders a ball seems to ascend from the stomach into the throat, so as to threaten suffocation. This seeming ball is flatulence, confined by spasm in the upper orifice of the stomach. When this is relaxed, the air escapes through the œsophagus. The only remedies are laxatives, the warm carminatives, and opiates.

GLO'CHIS, (from γλωχις, *the point of a spear*). The point of the pubes of plants.

GLOMERA'TUS, (from *glomer*, *a clue of thread*). In botany it means growing together in a globular form.

GLO'SSA, (γλωσσα). See Lingua.

GLOSSA'GRA, (from γλωσσα, *the tongue*, and αγρα, *pain*). A rheumatic pain in the tongue.

GLOSSOCA'TOCHOS, (from γλωσσα, *tongue*, and καθεχω, *to repress*). An instrument for depressing the tongue, described by P. Ægineta.

GLOSSOCE'LE, (from γλωσσα, and κηλη, *tumour*). An extrusion of the tongue.

GLOSSOCO'MA. A retraction of the tongue.

GLOSSOCO'MON, (from γλωσσα, *a tongue*, and κομεω, *to guard*). A case for the reeds of a hautboy or glossocomion, and employed as the appellation of an instrument or case for containing a fractured limb.

GLO'SSO PHARYNGÆ'I, (from γλωσσα, and φαρυγξ, *pharynx*). These muscles are fibres which come from the tongue, running along its lateral edges, from which they are separated as they run backward, and down on the sides of the pharynx, under the stylopharyngæi. (See Pharynx). The name also of the cephalo pharyngæi.

Glosso-staphyli'ni, (from γλωσσα, and σταφυλινος, *staphylinus*). These two muscles are fixed in the lower and lateral part of the basis of the tongue, whence they run obliquely backward, along the anterior arches of the septum palati, and terminate insensibly on each side near the uvula. They form the substance of the two anterior arches of the palatum molle.

GLO'TTA. See Lingua.

GLO'TTIS, (from γλωττα, *the tongue*,) is the narrow aperture at the upper part of the aspera arteria, and covered by the epiglottis when we hold our breath, or swallow. The glottis, by its dilatation and contraction, contributes to the modulation of the voice.

GLU'CINE. An earth lately discovered, but not yet employed in medicine. It is denominated from the sweetness of its salts.

GLUE. Inspissated animal gluten. A good glue impermeable to water may be made by boiling a handful of quick lime, with four ounces of lintseed oil, to the consistence of a paste, and then drying it on iron plates.

GLU'MA, (from γλυφω, *to scrape* or *bark*). Husk, chaff; a species of calyx peculiar to corn or grass, infolding the arista: it is either uniflora; multiflora; univalvis; bivalvis; multivalvis; colorata; glabra; or hispida.

GLUS. See Dysuria mucosa.

GLUTÆ'A ARTERIA, (from γλουτος, *the buttock*,) is a branch of the hypogastric artery, and generally the largest: near its beginning it sometimes sends out the iliaca minor, and sometimes the small branch that goes from that artery to the os sacrum, and other parts fixed to it; afterwards this artery passes out of the pelvis, in company with the sciatic nerve, through the upper part of the great sinus of the os innominatum, below the musculus pyriformis, and is distributed in a radiated manner to the three glutæi muscles. In its passage it gives branches to the os sacrum, os coccygis, the musculus pyriformis, the muscles of the anus, and to the neighbouring parts of the rectum, forming a particular hæmorrhoidalis interna. It sends twigs to the bladder, and parts near it: and detaches a pretty long branch, which runs down with the sciatic nerve.

GLUTÆ'US MA'XIMUS, (from the same,) *glutæus major*, is a muscle which rises from the posterior lateral part of the os coccygis, from a ligament extended between the os sacrum and the latter bone; from the flat surface of the ilium, where it is connected to the os sacrum; and from the spine of the ilium. Its anterior portion grows tendinous, where it runs over the trochanter major, and makes part of the fascia of the thigh: the posterior is inserted into the hind part of the femur, to assist its extension. This muscle with the glutæus medius and minimus, make up the fleshy part of the buttocks, from which they are denominated.

Glutæ'us me'dius, rises as high as the spine of the os ilium, and is inserted into the very uppermost part of the trochanter major, bringing the thigh backward and outward.

Glutæ'us mi'nimus, rises rather lower than the preceding, and forms a middle tendon inserted into the trochanter major, blended with the medius. It is an abductor of the thigh.

GLU'TEN, (quasi *geluten*, from *gelo*, *to congeal*). Glue, lentor; the part of the blood which gives firmness to its texture. (See Blood). It is also a component part of vegetables, and is particularly found in the husks of grain. It is soluble in alcohol and alkalis; in its properties it approaches very nearly the nature of animal substances, and affords, in distillation, ammonia, containing hydrogen, carbon, and nitrogen. It is obtained also by boiling the expressed juice of cresses, scurvy grass, and many other plants of the tetradynamia class, after it has stood till the colouring matter has separated.

GLU'TIA, (from γλουτος, *the buttock*). See Cerebellum.

GLU'TOS, (from the same). A buttock.

GLUTTUPA'TENS, (from *gluttus*, *the throat*, and *pateo*, *to extend*). An appellation of the stomach, which is only a dilatation of the œsophagus.

GLYCYME'RIDES MA'GNA. See Chama.

GLYCYPI'CROS, (from γλυκυς, *sweet*, and πικρος, *bitter*, from its taste). Woody night shade.

GLYCYRRHI'ZA, (from γλυκυς, *sweet*, and ριζα, *a root*). *Liquiritia; dulcis radix;* and *adipson; glycyrrhiza glabra* Lin. Sp. Pl. 1046. Smooth legumined, or common liquorice, is a plant with oval leaves, set in pairs along a middle rib; the flowers are small, bluish, and papilionaceous, standing in spikes on naked pedicles; followed by smooth pods, containing flat kidney shaped seeds: the root is long, slender, flexible, of a brownish colour on the outside, and yellow within. The plant is perennial, a native of the southern parts of Europe, and cultivated in England. The roots may be taken the third year after the slips or offsets have been planted. An inferior kind, the glycyrrhiza echinata, is sometimes substituted.

The English liquorice is equal to the foreign; and the root, when carefully dried and powdered, is of a richer and more agreeable taste than when fresh, of a dull yellow colour, but often adulterated by a mixture of flour. The dry root is not inferior to the fresh: but it may be kept moist even in dry sand; wet sand rots it.

Liquorice is almost the only saccharine substance that does not produce thirst; and it was consequently called *adipson:* but this quality arises from the necessity of chewing the root, and partly from the stimulus of a slight bitter combined with its sweetness. It covers the offensive taste of many unpalatable medicines, and does not readily ferment: it has been esteemed attenuant, detergent, diuretic, expectorant, and demulcent; though it has only properties similar to sugar, and is preferable only as a demulcent, since its expressed juice dissolves slowly. It yields all its virtue to water; but spirit dissolves less of the mucilage, and the spirituous tincture and extract are the sweetest.

The extract of liquorice, ordered to be prepared like that of camomile, would be best made by pressing the fresh roots betwixt iron rollers, and inspissating the juice. The usual extract is adulterated by a mixture of the pulp of prunes. See Lewis's Materia Medica, and Cullen's Materia Medica. Neumann's Chemical Works.

Glycyrrhi'za sylve'stris flo're lute'o. See Glaux vulgaris leguminosa.

Glycyrrhi'za trochi'sci. See Bechica.

GNAPHA'LIUM, (from γναφαλον, *cotton*, from its soft downy surface). Cudweed; *albinum. Gnaphalium dioicum* Lin. Sp. Pl. 1199.

Gnapha'lium alpi'num. See Leontopodium.

Gnapha'lium lute'um. See Elychrysum.

Gnapha'lium mari'timum; called also *gnaphalium marinum, gnaphalium cotonaria; athanasia maritima* Lin. Sp. Pl. 1182; cotton weed, or sea cudweed.

All the species of cudweed are astringent, and supposed to be useful in fluxes and hæmorrhages; but not used in this country.

Gnapha'lium monta'num; *pes cati; hispidula; elchrysum montanum flore rotundiore; filosella minor;* a variety (β) of the *g. dioicum.* Mountain cudweed, or cat's foot. It is very common in France, and a syrup made of it hath been celebrated under the name of *syrupus de hispidula* seu *œluropo.*

GNAPHA'LIUM VETERUM. A species of BASTARD DITTANY. See PSEUDO-DICTAMNUS.

GNA'THOS, (from *γναμπτω*, *to bend*, from its curvature). The entire cheek, sometimes only the lower part, between the angles of the mouth and ear, which the Latins call *bucca;* occasionally the jaws and the jaw bones.

GNI'DIA GRA'NA, (from *Cnidus*). See CNIDIA GRANA.

GOACO'NEZ. The name of a large tree in America: it affords the balsamum purius, vel album; but the source is unknown. See Raii Hist.

GO'AN. The name of a tree in Persia, of whose ashes putty is made.

GO'BIUS, or GO'BIO, (from *goba*, Hebrew). The fish called the GUDGEON. See AMYGDALOIDES.

GO'GGLES. Spheroidal bodies made of horn or black ivory, to cover the eyes, which are fixed by means of a black ribbon round the head. In the front is a small aperture, and sometimes a glass. They are used to defend weak eyes from dust, and, in cases of squinting, to keep the optic axes in the same direction; but in the latter case they seldom succeed, the patient preferring to see with one eye only.

GOMPHI'ASIS, (from *γομφος*, *a nail*). See AGOMPHIASIS.

GO'MPHIOI, (from the same). See MOLARES.

GOMPHO'MA, GOMPHO'SIS, or ENGOMPHOSIS, (from *γομφος*, *a nail; clavatio*). A Greek term for that species of synarthrosis which resembles a nail driven into a piece of wood, of which the teeth in their sockets are an instance.

GONA'GRA, (from *γονυ*, *a knee*, and *αγρα*, *a pain*,) *gonyalgia*. The gout in the knee.

GO'NE, (from *γιγνομαι*, *to generate*). The SEED; in Hippocrates the uterus.

GONGRO'NA, (from *γογγρος*, *a round tubercle in the trunk of a tree*). Any hard tumour, but particularly a BRONCHOCELE, q. v.

GONGY'LION, (from *γογγυλες*, *round*). See PILULA.

GONOI'DES, (from *γονη*, *seed*, and *ειδος*, *form*,) resembling seed. Hippocrates often uses it as an epithet for the excrements of the belly, and for the contents of the urine, when they resemble seminal matter.

GONORRHŒ'A, (from *γονη*, *seed*, and *ῥεω*, *to flow*,) an involuntary efflux of seminal juice: but this is not the proper appellation of the disease to which it is applied, and the term now commonly used is *blennorhagia*, from *βλεννος*, *mucus*, and *ῥεω*, *to flow*, i. e. *mucifluxus;* and to gleets the name *blenorrhœa*, or *mucifluxus passivus*, without phlogistic symptoms, is assigned.

Dr. Cullen places this disease in the class *locales*, and order *apocenoses;* and defines it a preternatural flux of fluid from the urethra in males without any libidinous desires. The first species is *gonorrhœa pura*, or *benigna*, a mucous discharge from the urethra, without dysuria, or lascivious inclination.

2. GONORRHŒ'A IMPU'RA, *maligna*, *syphilitica*, a discharge resembling pus from the urethra, with heat of urine, &c. after impure coition, to which often succeeds a discharge of mucus from the urethra, with little or no dysury, called a *gleet*.

3. GONORRHŒ'A LAXO'RUM, *libidinosa*, a pellucid discharge from the urethra, without erection of the penis, but with venereal thoughts while awake.

4. GONORRHŒ'A DORMIENTIUM, *oneirogmos*, when during sleep, but dreaming of venereal engagements, there is erection of the penis, and a seminal discharge.

The *gonorrhœa benigna* is defined by Dr. Fordyce, "an increased secretion from the mucous glands of the urethra, without infection." The matter discharged is whitish and mild, producing no excoriation, or other disorder, on the parts through which it passes, or on which it falls.

The principal cause is a weakness in the parts which are the seat of the disorder; occasional causes are too frequent purging, violent exercise on horseback, too frequent indulgences, cold, excess of spirituous liquors.

The virulent gonorrhœa is a local inflammation, attended with the discharge of a puriform matter from the urethra in men, and from the vagina in women, preceded by a slight sensation at the end of the penis, like a flea bite; accompanied with a frequent desire of making water, which occasions a scalding, or pricking and burning pain, during the time of its passage, particularly felt at the orifice of the urethra, and a little below it, arising from a stimulus applied to these parts. The lips of the urethra appear full and inflamed; a tension is felt in the penis, and the urinary passage is seemingly straitened, particularly at one part, viz. about half an inch below the orifice of the urethra. At this place also the urine, which is felt like scalding water, gives a hot pungent sensation, almost insupportable, and flows in a small interrupted stream. A little whitish mucus appears about the orifice of the urethra, and, if pressed a little above its extremity, the discharge is increased. The mucus soon assumes a greenish hue, verging to a yellow, and is thin. The disease sometimes appears within twenty-four hours after the infection, and is then proportionally slight; generally between the fourth and fourteenth days. Sometimes, by the violence of the irritation, the secretion of mucus seems to be considerably diminished, so that a very small discharge only takes place, though the other symptoms be extremely violent. In this case the disease hath obtained the very improper name of *gonorrhœa sicca*.

When the inflammation is extremely violent, the irritation produces frequent erections, particularly in bed; and as the frænum is usually inflamed, and will not admit of the usual distention, the penis is incurvated with intolerable pain. In this very exasperated inflammation, the perinæum is red and swollen, and all the parts around the trunk are distended and uneasy. The glans penis swells, and is transparent; the prepuce inflames, and cannot be drawn back, or if back, cannot be brought forward, constituting the disease styled PHYMOSIS or PARAPHYMOSIS, q. v. In the former case a hard cord is sometimes felt extending along the back of the penis, which is an inflamed lymphatic, and sometimes the forerunner of a bubo; but almost universally some ulceration precedes the appearance of a bubo. The seat of the disease is in the urethra, near its extremity; but it sometimes extends to Cowper's glands and the prostate. In the greater number of cases the inflammation goes on gradually increasing for ten days or a fortnight, and then as gradually recedes: the tightness grows less; the mucous discharge thickens and grows whiter, and

at last wholly disappears. In women the seat of the complaint is in the vagina, attended with the pungent sensation as in men; but, except when violent, so that the nymphæ and meatus urinarius are affected, not with such a painful heat of urine. See FLUOR ALBUS.

The matter of the discharge hath a purulent appearance; but is only the mucus of the urethra or vagina secreted in an unusual quantity, and changed in its colour and consistence by the stimulus applied to the parts; like the mucous discharge from the nose or lungs on taking cold. The discharge from the urethra or vagina was long supposed to arise from an ulcer, and various arguments were adduced in favour of an opinion now rejected. Much stress has been laid on the following fact recorded by Swediar, from Dr. Stoll; but numerous observations of a similar kind have been made in England, and we want not to go to Vienna to dissect persons who have died while affected with gonorrhœa. "Dr. Stoll had, about the year 1782, the instructive opportunity of dissecting a man who died while labouring under a virulent gonorrhœa. On opening the urethra carefully, he found its internal surface preternaturally red; two of the lymphatics preternaturally white and enlarged; and the puriform matter oozing out from the internal membrane, especially at the lacunæ, where the seat of the disorder was, without the least appearance of an ulceration or excoriation."

A discharge of mucus, if not connected with a venereal taint, even when accompanied with inflammation, is not infectious; and the common gleet, when inflammation is secondarily excited, by high living or violent exercise, is equally innocent. Yet when it has preceded a venereal taint, the greatest caustion is necessary. A degree of virus, which makes no impression on a part habituated to its stimulus, may convey infection to another unaccustomed to its action.

The gonorrhœa was for many years considered to be a local effect of that poison which, when introduced into the system, produced syphilis. The conclusion was obvious, as it was received in the same manner, and in the same organs. More attentive discrimination led to doubts on the subject, and to some experiments which, though personal, were scarcely justifiable. It was recollected, that the syphilis appeared more than a hundred years before the local inflammation was observed or described; that the latter often continued for several months without being attended by the former; and that the alteration from syphilis to gonorrhœa was a rare occurrence, not without suspicion of a new infection. These doubts suggested two important alterations in practice. Mercury was disused in gonorrhœa, and cooling medicines, with laxatives, only employed; or the inflammation was at once boldly checked, either by astringents, or by exciting a greater inflammation with a more violent and temporary discharge. The result of these plans is more decisive than a host of arguments. They were, for a long time, treated as dangerous innovations, and numerous are the cases of syphilis said to have been produced by their means. Mercury, however was gradually considered as less essential to the cure, and no great inconvenience has resulted. Syphilis sometimes apparently arises from gonorrhœa; and it is not surprising that, in such persons, either plan of checking the latter should be also attended with the former. In fact, both diseases are introduced at the same time; and the criterion of future syphilis, the chancre, sometimes appears very early in gonorrhœa. It is, we believe, absolutely certain that the matter of chancre introduced into the urethra will not produce a gonorrhœa, and the discharge from the urethra inserted under the skin will not produce syphilis. Yet there is little doubt but that the diseases are nearly related; and were we to indulge in speculation, we should suppose that the gonorrhœa was at first derived from syphilis; but that in a series of years, and successive introductions to different constitutions, it assumed a milder form, and became specifically distinct. In the same way it is not improbable that the vaccina may have been originally small pox. The gonorrhœa is undoubtedly, at present, a much more mild disease than on its first appearance, and in many persons can scarcely be called a disease. In former periods, the distressing train of symptoms rendered it truly terrible; and its consequences were swelled, often scirrhous, testicles; fistulæ in the perinæum; unconquerable strictures in the urethra; incontinence of urine, &c. These, excepting probably the strictures, are now comparatively uncommon.

Various are the preservations from gonorrhœa recommended and advertised as nostrums. We should perhaps not greatly assist the cause of morality were we to show how its precepts might be violated with impunity; but perhaps the fatal effects of a momentary deviation from the path of virtue may be sometimes obviated, without holding out encouragement to vice. There is, in fact, no certain preventive; though the danger of infection may be certainly diminished by the most scrupulous cleanness, washing with soap and water, or water to which a small proportion of the aqua kali puri has been added. The proportion should be such as to make a very slight impression on the tongue; and, in producing this effect, the alkali must be very gradually added; if it be first made strong, and afterwards diluted, the stronger alkaline solution dissolves the mucus of the tongue, so that each successive addition of water scarcely makes any difference in the taste, as the tongue is more tender. The poison of the gonorrhœa is applied apparently to the orifice of the urethra; but, in the erected state, when the corpora cavernosa urethræ are distended, the urethra itself is a little inverted; and, when collapsed, the part which before appeared the orifice is the upper portion of the canal. This collapse assists the progress of the poison still a little lower, and it at last rests about a finger's breadth in the urethra. In the use, therefore of preventatives, some of the fluid must be insinuated into the urethra, and a little may be even injected in a more diluted state.

When the idea that this disease was distinct from syphilis began to prevail, practitioners attempted to cure it, at once, by dissolving and discharging the mucus. The means employed was an injection of what was then called the caustic alkali, a weak solution of the kali purum, proportioned in the manner just mentioned. It certainly cured the disease, without any remaining inconvenience; but the inflammation it excited was sometimes so considerable as to be more troublesome than even gonorrhœa, and we are apprehensive that strictures in the urethra have been a frequent consequence. Injections of a solution of hydrargyrus muriatus have been

also recommended, and employed with success; not indeed as a mercurial, but as a stimulant. Each stimulates the mucous glands of the urethra, increases the secretion of mucus, and washes away, in the discharge, the remaining poison. The proportion varies; but about two grains to eight ounces of distilled water is sufficiently strong for men. The vagina is less sensible than the urethra; and in women the proportion should be increased, till it produces a smart pungent pain. This remedy is said effectually to relieve the most obstinate gonorrhœas in that sex.

Another method of extinguishing the disease has been attempted, viz. by exhibiting a large dose of the corrosive sublimate internally. It produces a very violent commotion in the system, in which every spasm, every obstruction, yields; but the remedy has not been sufficiently tried to enable us to decide on its efficacy, or indeed on its safety.

In the CURE OF GONORRHŒA, *vænesection* has been freely recommended. The earlier practitioners used it liberally; but we have said that the disease was, at that time, probably more violent. At present the young and the eager surgeon is so fond of his lancet, that we often find blood drawn, when little necessity appears for any evacuation. The inflammation is, in general, local, and requires rather a steady antiphlogistic plan than any decisive interference. If, however, general fever should come on, should the erections be painful and frequent, bleeding must be freely used, to diminish the general tone. *Purging*, another general remedy for active inflammation, has been too rashly employed. It was usual to give a large dose of calomel at bed time, and the colocynth pill, or some other drastic early in the morning. This plan debilitated the constitution, occasioned gleets, and left the most distressing hypochondriacal complaints. It has been accused also, though perhaps without reason, of producing hernia humoralis and strangury. Yet a plan, which was for so many years continued, could not have been wholly useless, or highly injurious. From its abuse arose probably the chief inconveniences; for we now find an active laxative, about twice in a week, with cooling diet and perfect rest, a ready way of removing even troublesome gonorrhœas.

In the general treatment of the disease, *rest* is of the greatest consequence; and this alone, with little assistance from medicine, will complete the cure. But, with this, every part of the antiphlogistic plan should be employed. The *diet* should be cooling, and even the mildest animal food should be eat sparingly. Milk, vegetables, ripe fruit, and the different farinacea, should constitute the principal nourishment; and the drink consist of barley water, with gum arabic, lintseed tea, toast and water, capillaire, or orgeat with water. It has been usual to dissolve nitre in the drinks; but this remedy is not without suspicion of irritating the urinary organs; and, if given, it should be largely diluted. Cream of tartar is more useful, and may be admitted. Whatever increases the flow of urine renders it less acrimonious, if the medicine is not conveyed to these organs; and a gentle *diuresis* will do little injury, as it will not weaken the tone of the parts. The usual *laxatives*, now recommended, are the neutral salts, castor oil, or senna; and with these two or three motions may daily be procured. Opiates should be given at night, to prevent the painful erections, and to relieve the pain of the chordee, if it exist; and, to the opium, camphor forms an useful addition.

Topical remedies are important. Frequent bathing the part, and the greatest cleanliness, are requisite; particularly washing under the glans, to prevent the accumulation of the fluids from the odoriferous glands, which produces irritation, inflammation, and often ulcers. Injections are now freely used, perhaps too freely. If emollient only, or gently sedative, they do little injury; but astringent injections in the early periods often prolong the disease, and we suspect, occasion the too frequent consequence of gonorrhœa, strictures. It is not sufficiently considered, that even the introduction of the pipe of the syringe often occasions a greater irritation than the injection itself can relieve. In the earlier stages, the aqua lithargyri acetati, largely diluted, is only admissible; and, with this, sometimes the mucilage of gum arabic, occasionally oil of almonds, may be added. Opium often forms a useful ingredient in such injections, and we have usually added it to milk, separating the curd; but the opium, finely powdered, and united with the oily injections mentioned, is equally useful. To four ounces of distilled water, or oil of almonds, eight drops of acetated litharge is sufficient, and about fifty drops of tincture of opium, or three grains of the substance. One part of acetated ammonia to eight or ten of water, forms a cooling pleasant injection. When the scalding of urine is troublesome, four drops of muriatic acid, added to two ounces of water, is often useful. When the hydrargyrus muriatis is employed, one grain may be added to six ounces of water: sometimes a drachm of purified mercury is mixed with an ounce and half of water, by the means of as much mucilage; but this injection seems to possess no peculiar virtue.

When the inflammatory state is removed, astringent injections are employed. Of the metallic astringents, zinc and copper are the principal; but the astringent balsams are sometimes recommended. Ten grains of vitriolated zinc may be dissolved in four or six ounces of water; a drachm of the cuprum ammoniacale in six ounces of rose water; or ten grains of the blue vitriol in two or three ounces, according to the sensibility of the patient. When the inflammation is considerable and long continued, a mixture of syphilitic infection may be suspected, and mercurials are sometimes, though rarely of service. In such cases, Plench's powder, or calomel, has been suspended in mucilage, and injected into the urethra, or mercurial ointment has been rubbed in the course of the urethra or the perinæum. When the balsams are employed in injections, about one drachm of the balsam copaibæ may be united with two ounces of water.

When the inflammation is slight, the pain inconsiderable, and the matter glairy, the Peruvian bark may be freely administered, the diet rendered a little more nutritious, and the cold bath employed.

See Aretæus de Causis et Signis Chron. Morborum, lib. ii. c. 5; Fordyce's Elements, part ii.; Howard on the Venereal Disease; Bell on Gonorrhœa; Swediaur on Venereal Complaints; Cullen's First Lines, edit. 4. vol. iv. p. 386, &c.; London Medical Journal, vol. ii. p. 233; White's Surgery, p. 400.

GONORRHŒ'A BALA'NI. See GONORRHŒA SPURIA.

Gonorrhœ'a beni'gna. See Gonorrhœ'a pura.

Gonorrhœ'a chorda'ta, when accompanied by a chordee.

Gonorrhœ'a libidino'sa. Gonorrhœa laxorum.

Gonorrhœ'a muco'sa. A gleet. Subsequent to gonorrhœa a discharge of matter frequently continues, incapable of conveying any disease, and not attended with inflammation. It appears to be, in general, a discharge from the mucous glands of the urethra, in consequence of the relaxation which has followed increased action; and is occasionally owing to the irritation of very violent purgatives, sometimes to strains, or the various causes of debility. The general remedies are, tonics of every kind, particularly bark and cold bathing, astringent injections, regular and constant exercise. It has been removed by a blister to the sacrum, and, in one instance, by a blister to the perinæum.

Though this disease sometimes yields with the greatest facility, yet a similar complaint, a gleet, is often peculiarly distressing and obstinate. Doubts have lately arisen, whether it be the same as the true mucous discharge, from a weakness of the glands of the urethra, or whether it is a vitiated secretion, from some change in their organization. The language of Mr. Hunter is highly exceptionable, in a philosophical view, as appearing to assign a reason from merely varying the expression of the fact. To "take on diseased action," or "a habit of action," is saying no more than that a part is diseased, or that a discharge continues from habit; and indeed it has been doubted, by a very respectable author, whether Mr. Hunter has not retarded the progress of science by such jargon, and his inconsequential reasoning, more than he has assisted it by his observations. We have premised these remarks, chiefly as an apology for not employing Mr. Hunter's language, while we are availing ourselves of his facts.

That a gleet arises from weakness of the glands, is highly probable from the nature of its causes; but, were this true, we should find tonics and stimulating applications generally effectual. We need not, however, tell every practitioner how often he is disappointed in the best concerted plans of this kind. If we look at some of the more peculiar causes, they will not greatly assist us. We find a gleet, for instance, generally accompanying a stricture in the urethra; and frequently a swelling of the prostate gland. In each case it cannot be wholly owing to weakness, and we are rather led to suspect some local irritation. If we look at the nature of the discharge, we shall find little additional information; for it consists of globular bodies, floating in a slimy mucus, rather than a serum. From this circle of difficulties we cannot escape but by conjecture. Mr. Hunter supposed it to be owing to a state of the glands, not unlike what occurs in scrofula; and thinks the continued discharge from the eyes, or the tonsils, in consequence of a cold falling on these parts in a scrofulous habit, analogous cases. The discharge of gleet, however, differs in its nature, and in the obstinacy with which it resists the remedies useful in the other complaints. Sea water injected into the urethra has no effect: small doses of mercurials more frequently fail than succeed; nor is it certain that the sea water bath is more effectual than one of fresh. We should rather suspect that it arises from some obstructions of the glands, from a thickening of their coats during the previous inflammation of gonorrhœa, or the continued irritation of the other causes; but that gleet will sometimes insensibly cease without evident reason, or from remedies which could not make so considerable a change in a short period. It is better, however, to attend to the effects of remedies.

Practitioners have attempted to cure gleets by general medicines, or topical applications. The general medicines are tonics and astringents, or stimulants; but the latter, though they deserve the title by being circulated through the arterial system, act only in consequence of their topical determination. The tonics are, cold bathing, the Peruvian bark, and the preparations of steel: these will sometimes succeed, and as often fail. Each has been occasionally tried for several months without success; and they have been combined with as little effect. Yet the general constitution always derives benefit from this plan; and should we fail in our principal object, our labour is not wholly in vain. The astringents or stimulants are the turpentines and the balsams, the astringent gums and cantharides. The effects of these medicines are not very striking; but Mr. Hunter thinks that if they produce no salutary effects in a short time, they will be useless; and he limits this period to the first six or eight days. They often in this time remove the complaint which recurs on their being discontinued, so that they should be employed long after the discharge has ceased.

Of the astringent gums we have little experience, and believe their power to be inconsiderable; but the stimulus of cantharides has often succeeded. This remedy must be cautiously employed, beginning with very small doses, about fifteen drops of the tincture, which may be gradually increased; as in the irritable state of these organs even a common dose may excite dangerous inflammation.

The topical remedies are, tonics, stimulants, or those of other topical inflammations. The decoction of bark, the solutions of copper, of iron, zinc, and lead, are occasionally employed. There is little room for choice; and we succeed with one or the other apparently by accident. Nothing is so capricious as this disease; *varium et mutabile semper*. The stimulating applications are equally uncertain. We once cured an obstinate gleet by the injection of punch, a remedy suggested in a convivial moment; at another time by green tea. Mr. Hunter mentions a case in which the undiluted extract of Goulard succeeded, apparently by producing a violent inflammation. The introduction of a bougie has had the same effect, and riding post has been equally beneficial. It is, however, an useful precaution, suggested by Mr. Hunter, that previous to the use of stimulant applications, the irritability of the patient should be known; and it should be ascertained whether any inflammation was likely to be conveyed along the urethra to the testes or the bladder. Bougies are sometimes rendered stimulant, by covering them with some active liniment or ointment. In general, the distention irritates sufficiently; but turpentine, mercurial ointment, or a camphorated liniment, will add to their powers. While the use of a bougie is continued, the discharge usually proceeds; but, after some time, about three weeks or a month, it should be omitted, and we may

then judge whether it has succeeded. If the running stops, the cure is usually effectual: if it continues, the remedy, if repeated, will be unsuccessful.

The remedies for topical inflammation are stimulants in the vicinity. Blistering the urethra, in its course, has succeeded. Drawing the electrical sparks, in the course of the canal, has had an equally beneficial effect. The discharge has been stopped by a recent gonorrhœa, and by the recent infection of syphilis, on the appearance of chancres. Venereal connections will sometimes occasion a return, and a recent infection has been suspected; but, in this case, the renewed discharge follows almost immediately, and a mistake is nearly impossible. Violent exercise and free living will also occasionally bring it back, with suspicious symptoms of inflammation; but its quick appearance, the nature of the discharge, its vanishing on rest and low living, soon destroy every apprehension that may have been entertained.

In women, gleets are equally obstinate; but they generally pass under the appellation of *leucorrhæa*. The greater number of remedies mentioned are inapplicable in such cases; and general tonics, with astringent or stimulant injections, can only be employed. But leucorrhœa is so common, and so little disgraceful, that, in such cases, medical assistance is seldom required, unless the discharge is in excess.

GONORRHŒ'A ONEIRO'GMOS. The discharge of semen during sleep.

GONORRHŒ'A SPURIA, vel BALANI, a discharge from the corona glandis.

GONYA'LGIA, (from γονυ, *the knee*, and αλγος, *pain*). See GONAGRA.

GORDI'US. A genus of vermes, which infest the inhabitants of hot climates by burrowing under the skin. There are two species, the *g. aquaticus*, and *g. medinensis*. The former requires no medical treatment: for the latter see DRACUNCULUS.

GORGO'NIAS. CORAL. When taken from the sea it hardens into a stony substance: an effect supposed to be produced by looking on the gorgons. See CORALLIUM.

GOSSI'PIUM, (from *gotne*, whence *gottipium*, Ægypti). See BOMBAX.

GO'TTA. See GAMBOGIA.

GOU'TIER. See BRONCHOCELE.

GRA'CILIS, (from *gracilesco*, *to become small*). The name of some thin and flat muscles.

GRA'CILIS INTE'RNUS. See RECTUS INTERNUS.

GRA'CILIS ANTE'RIOR. See RECTUS CRURIS.

GRADA'TIO, (from *gradus*, *a progression*). GRADATION is an exaltation of the qualities of metals in degree, by which their weight, colour, and consistence, are brought to greater degrees of perfection; for it has not the power of changing the substance, but only elicits their hidden qualities. Rulandus, Johnson. See EXCITATIO.

GRADUA'TIO. The solemn academical process, by which a *degree* of doctor of medicine is obtained; a process eluded by some venal universities, and perhaps not always conducted with sufficient strictness. It is eluded also by individuals, who call themselves doctors; and the public give them implicit credit for the title and their pretensions to it. In the university of Edinburgh the following regulations are observed:—

1. No person shall be promoted to the degree of Doctor of Medicine, except on one or two stated days in every year, viz. on the 24th of June, or 12th of September, or the days immediately thereafter.

2. No person shall be received as a candidate, until he has applied during three complete years to the study of medicine, in this or some other university, and has attended to all the branches of the science of medicine; viz. anatomy and surgery, chemistry, botany, materia medica, and pharmacy, theory and practice of medicine, and clinical lectures delivered by professors of medicine, on hospital patients.

3. Whoever is desirous of obtaining a degree, must deliver, before the 24th of March, or 12th of June, a medical dissertation, composed by himself, to some one of the medical professors, that he may peruse it, if necessary correct it, and affix to it a written testimony that he has perused it, with the date when he received it.

4. Then, whoever is desirous of a degree in medicine must communicate his intention to the Dean of the Faculty of Medicine, on or before the 20th of April or June, and at the same time deliver to him his inaugural dissertation, with the testimony of the professor who perused it, to be subjected to the consideration of the Faculty of Medicine.

5. After this he is to undergo a medical examination by the faculty, either *viva voce* or in writing, that no person may be received as a candidate who is not well acquainted with polite literature and the science of medicine. As the professors think themselves bound in honour not to divulge the unfavourable result of an examination, a candidate may be remitted to his studies in this stage of his trials, without injury to his reputation or interest.

6. On the 18th of May, or 6th of August, the candidate shall, in an examination by two professors, in the presence of the Faculty of Medicine, give a farther proof of his advancement in the various branches of medical knowledge enumerated above.

7. To the candidate, after having passed these trials, shall be proposed, by one of the professors, an *aphorism of Hippocrates*, and, at the same time, by another professor, a *medical question;* the former of which, explained by himself, and illustrated by a commentary, and the latter, along with an answer to it, supported by proper arguments, he shall return to the professors, by whom they were proposed on the 28th of May, or 11th of August, and shall defend his commentary, and answer, before the Faculty of Medicine, on the 30th of May, or 18th of August.

8. If, by having duly fulfilled these conditions, the candidate shall deserve to be promoted, he shall receive from two of the professors, two histories of diseases, with questions annexed to them, for the purpose of writing an illustration of the one, and answers to the others. These histories, with the illustrations and answers, he shall deliver on the 12th of June, or 1st of September, to the professor who proposed them, and defend them before the Faculty of Medicine on the 15th of June, or 3d of September.

9. After the candidate has been approved of at his first examination, on the 18th of May, or 6th of August, he shall be permitted to send his dissertation to the

press, and shall deliver eight copies, accurately printed, to the Dean of the Faculty of Medicine, on the 15th of June, or 3d of September.

10. If the candidate, after having printed his dissertation, shall be approved of by the Medical Faculty at his third examination, all these proceedings shall be reported to the Senatus Academicus, by the Dean of the Faculty of Medicine, with whose approbation and authority he shall be ordered to publish his dissertation, and defend it in a meeting of the university, on the 24th of June, or 12th of September; when, if the Senatus shall think fit, the highest medical honours, that is, the degree of Doctor in Medicine, shall be conferred on him, with the usual solemnities, as the reward of his diligence and study.

11. To give greater solemnity to all these proceedings, the Faculty of Medicine shall always meet within the university on each of the above mentioned days, at nine in the morning. And if any candidate shall absent himself at the hour appointed, without sufficient reason, he shall not be permitted, on this occasion, to proceed with his trials, or obtain the degree of Doctor in Medicine.

It is required that all the abovementioned exercises shall be performed in the Latin tongue.

The regulations enacted by the Senate of the University of Glasgow, respecting degrees in medicine, are the following:

1. That before any person can be allowed to be a candidate for a degree in medicine, in this university, he shall appear personally before the senate, and lay before them evidence that, during the space of three years, or sessions of six months each, he has regularly attended in some university or universities, or in some medical school or schools of reputation, the following medical classes, viz. anatomy and surgery, chemistry and pharmacy, the theory and the practice of physic, materia medica, and botany.

2. That he shall bring forward evidence that, during one year at least, he has attended medical classes in this university.

3. That the candidate shall undergo three separate examinations in private, by the medical professors of the university, and write a commentary on an aphorism of Hippocrates, and another on a case of disease propounded to him by the said examiners. The first examination shall be on anatomy and physiology; the second on the theory and practice of physic; and the third on chemistry, materia medica, pharmacy, and botany.

4. That the examiners shall report to the senate their opinion respecting the medical knowledge of the candidate; and if their report be favourable, his name, as a candidate for a degree, shall be entered in the minutes of the senate, and a day fixed, when the candidate shall read his commentaries on the aphorism and case, and answer such questions on the several branches of medical science, as shall be put to him by the examiners, in presence of the senate. If the senate be of opinion that the candidate has shown himself worthy of a degree, it shall be conferred, in presence of the senate, by the vice-chancellor, provided the candidate has not published a thesis, which he may, or may not do, according to his own option; but if he has published a thesis, he must defend it, and the degree must be conferred in the comitia.

5. The whole of the examinations shall be carried on, and the commentaries on the aphorism and case must be written in the Latin language.

GRA'MEN, (quasi *gradimen*, from *gradior*, *to creep along*, from the extension of its roots). Grass.

Grasses are one of the seven natural families, into which all vegetables are distributed by Linnæus. They are defined to be plants which have very simple leaves, a jointed stem, a husky calyx, termed *gluma*, and a single seed. In Tournefort they constitute a part of the fifteenth class, termed *apetali;* and in the sexual system of Linnæus they are mostly contained in the second order of the third class, termed *triandria digynia*. Wheat, oats, barley, and rye, are grasses improved by culture. Grasses form the fourteenth order in the fragments of a natural method in Philosophia Botanica, and the fourth of the natural orders at the end of Genera Plantarum.

Gra'men avena'ceum. See Ægylops.

Gra'men cani'num; also called *gramen Dioscoridis; gramen repens*, and *loliaceum radice repente;* quick grass; cough grass; and dog's grass. The French call it *chien-dent; triticum repens* Lin. Sp. Pl. 128. It is a creeping perennial grass, of a whitish green colour, with knotty stalks, bearing a spike of imperfect flowers, somewhat resembling a wheat ear; the roots are whitish, or of a pale yellow, long, slender, jointed at distances, variously bent and interwoven.

The roots are sweetish, mildly aperient, and supposed to be deobstruent, diuretic, useful in ulcers of the bladder, strangury, and calculus biliaris. A considerable quantity of the expressed juice of fresh roots must be taken every day, if any benefit is expected. Sheep and cattle greatly improve in spring by the fresh grass, which produces a diarrhœa, and a discharge often of calculi.

Gra'men cru'cis, cyperio'idis, and Ægyptia'cum, *neiem-elsalib*, are roots in medicine named *cyperi*. The plants which produce them grow in watery places, have leaves and flowers in some measure resembling the water grasses, and are called *cyperus grasses;* Ægyptian cock's foot grass, or grass of the cross. The roots and plants possess the same virtues as the dog's grass, and are serviceable in the earlier stages of dropsy. They are supposed to correct the bad smell of the breath; to relieve nephritic disorders, colics, and uterine complaints; and are taken in powder and decoction, though the present practice properly disregards them.

The long and round cyperus are produced from the *c. longus* and *esculentus* Lin. Sp. Pl. 67. Some other species, particularly the *c. odoratus*, are employed, and some species of the carex occasionally substituted for them.

Gra'men da'ctylon; also called *dactylon radice repente; gramen dactyloides; gramen canarium ischæmi paniculis; gramen legitimum;* cock's foot grass. *Panicum dactylon* Lin. Sp. Pl. 85; grows in fields and vineyards, in sandy places: its virtues are the same as those of dog's grass. See Gramen caninum.

Gra'men da'ctylon aroma'ticum. See Juncus odoratus.

GRA'MEN LOLIA'CEUM. See LOLIUM.

GRA'MEN MA'NNÆ; *gramen dactylon esculentum; ischæmon sativum: festuca fluitans* Lin. Sp. Pl. 111. RUSSIA SEED and MANNA GRASS; grows in Germany and Poland: its seeds are small, oblong, pellucid, white, of a faint taste, and, when decorticated, similar to rice.

GRA'MEN PARNA'SSI. See PARNASSIA.

GRA'MEN SPICA'TUM. See PHALARIS.

GRA'MIA. The sordes of the eyes.

GRA'MMA. See SCRUPULUS.

GRA'MME, (γραμμη, *a line.*) See IRIS. A French weight. See WEIGHTS.

GRA'NA INFECTO'RIA KE'RMES. See CHERMES.

GRANADI'LLA PERUVIA'NA, (dim. of *granado, a pomegranate*). See CATAPUTIA MAJOR.

GRA'NAL. An evergreen tree in America of a poisonous quality.

GRANA'TA MA'LA, (from *granum, a grain;* because full of small seeds). *Granatum; mala punica; malum granatum; malicorium;* POMEGRANATE: *punica granatum* Lin. Sp. Pl. 676; is a prickly tree or shrub, with long narrow leaves, deep red flowers, set in bell-shaped cups of the same colour: the fruit is about the size of an orange, with a thick, tough rind, externally brownish, internally yellow, with a juicy pulp, and numerous seeds, called *coccones*, in cells like a honey comb. It is a native of the south parts of Europe.

The flowers are a mild astringent, similar to those of the wild pomegranate, which are preferred on account of their being larger. The pulp of the ripe fruit is a grateful subacid sweet, and of the same general qualities as the summer fruits. The rind is moderately astringent, called *cortex granati; malicorium; psidium*, and *sidium:* it yields its qualities copiously to water, but the flower most freely to spirit. Dr. Cullen asserts, that the strong styptic taste of this bark, and the black colour it strikes with green vitriol, show sufficiently its astringent power; and it is commonly supposed to be among the strongest of this kind. He has frequently found it useful in gargles; in diarrhœas; and in external applications; nor does he think it, internally used, more dangerous than other astringents. That it can suppress the catamenia, as has been supposed, seems to him very doubtful. Its dose, in powder, is from ʒ ss. to ʒ i. of the infusion, or decoction, an ounce and half. See Raii Hist. Lewis and Cullen's Materia Medica.

GRANATRI'STUM. See CARBUNCULUS.

GRANA'TUS SYLVE'STRIS. See BALAUSTIUM.

GRANDE'BALÆ, (*quòd in grandioribus ætate, nascuntur*). The hair under the armpits.

GRA'ND-GOR. The vernacular Scotch appellation of LUES VENEREA, q. v.

GRANDI'NES. Tumours on the eyelids, resembling hail stones. See CHALAZA.

GRANDINO'SUM, (from its resemblance to a hail stone,) Os. See CUBOIDESOS.

GRA'NDO, (*quòd, similitudinem granorem habeat*). HAIL. See CHALAZA and CRITHE.

GRANULA'TIO, (from *granum, a grain,*) the reduction of metals into small grains, (see COMMINUTIO,) and the raising of the fleshy parts of ulcers in a healing state.

GRA'NUM, (from *garan, corn*, Hebrew). A grain weight; the weight of a wheat corn.

GRA'NUM RA'GIUM. See CATAPUTIA MAJOR.

GRA'NUM TI'GLIA. See CATAPUTIA MINOR.

GRA'NUM MO'SCHI. See ABELMOSCHUS.

GRAPHIOI'DES, (from γραφις, *a pencil*, and ειδος, *a form*). See STYLIFORMIS PROCESSUS: the name also for a process of the ulna towards the wrist.

GRAPHI'SCUS, (from γραφις, *a style* or *dart*). An instrument to extract darts. Diocles invented, and Celsus describes it.

GRAPHOI'DES, or STYLIFORMIS, (from γραφις, *stylus;* supposed to originate from this process of the temple bone). See BIVENTER MUSCULUS.

GRA'PHOY. BROAD LEAVED LEOPARD'S BANE. See DORONICUM GERMANICUM.

GRA'TIA DE'I; the name of the HERB ROBERT, of the HEDGE HYSSOP, and of several other vegetables, from their supposed salutary qualities. See GERANIUM ROBERTIANUM. GRATIOLA.

GRA'TIA DE'I GERMANO'RUM. See GERANIUM BATRACHIOIDES.

GRATIO'LA, (see GRATIA DEI). *Digitalis minima; centaurioides;* WATER HYSSOP, and HEDGE HYSSOP, *gratiola officinalis* Lin. Sp. Pl. 24. It is a low plant, with finely serrated leaves, set in pairs on the stalks without pedicles; the flowers are whitish, jointed, and surrounded with fibres; perennial; a native of the south of Europe; raised in our gardens.

The leaves have a nauseous, bitter taste, but no remarkable smell; they purge and vomit briskly, in the dose of half a drachm of the dry herb, and of a drachm infused in wine or water. A slight decoction in milk operates the most mildly; an extract made from wine is given to two scruples, or ʒ i. and is said to be more efficacious than the plant itself. Cramer thinks this root similar to ipecacuanha, and equal to it in diarrhœas and dysenteries, as well as in the cure of intermittents, and superior to the decoction of the woods in the lues venerea. (See Raii Hist. Lewis's Materia Medica). It has been thought also a powerful diuretic and sudorific, as well as beneficial in mania, gonorrhœa, ozena, ulcers in the fauces, &c. Edinburgh Medical Commentaries, vol. v. p. 67.

GRATI'OLA CŒRU'LEA. See CASSIDA.

GRATTERO'NA. See APARINE.

GRAVA'TIO, (from *gravo, to burthen*). See CAROS.

GRAVATI'VUS, (from the same,) a pain of the head, attended with a sense of weight.

GRAVE'DO, (from *gravis, heavy*). A COLD. Gravedo imports a load in the head, or the running from the nose, experienced in catarrhus or coryza. Celsus translates κορυζα by the word *gravedo;* and Cœlius Aurelianus by the words *catarrhus ad nares.* Pliny applies this term to the disease called *caros;* but it is, properly, that weight or listlessness which accompanies a diminished perspiration, and, as Dr. Cullen observes, is generally a symptom of catarrh.

By a cold is usually understood a sudden check of perspiration, from an improper exposure to cold; the consequences of which are the lesser degrees of a catarrh: in its farther advances it is productive of fever, consumption, and similar disorder.

Persons who easily take cold should use frequently moderate exercise, and such medicines as strengthen

the general system; as cold bathing, &c. The disposition to take cold may be lessened, by gradually acquiring the habit of being exposed to sudden changes of heat and cold; but this attempt should be conducted with caution, lest the remedy might prove the source of the disease.

Disorders of this kind, in their early period, are speedily relieved by immersing the feet in cold water, just before going to sleep. See CATARRHUS; Dr. Fordyce's Elements, in the article Catarrh; Heberden's Observations in the London Medical Transactions, vol. ii. p. 521; and Stern's Advice to the Consumptive, &c. edit. 7. p. 9. &c.

GRAVI'DITAS, (from *gravida, to be with child*). PREGNANCY; and the extraordinary distention of the abdomen in that state. The period of gravidity or gestation is about nine months, or forty weeks, equal to two hundred and eighty days. It is sometimes, however, pretty certainly prolonged to ten months; and the law, we apprehend, allows eleven, as the utmost limits of possible gravidity. On the other hand, a child lives if born at the end of seven months, probably not earlier. See MEDICINA FORENSIS.

GRAVI'DITY SPU'RIOUS. Water in the abdomen; polypi, or water in the uterus; a mola, or unformed mass; and steatomata in the uterus, or Fallopian tubes; will often produce appearances of gravidity. The uterus itself will enlarge, the breasts swell, and all the appearances of real impregnation take place. We have partly spoken on this subject under ASCITES, q. v. and no situation in which a physician can be placed requires greater delicacy. In general, he should wait till all probability of impregnation is at an end, and then act according to the prevailing circumstances; but by all means be cautious of declaring his opinion till it be fixed on a secure foundation.

GRENE'TTE, (a dim. of *graine, corn*, French). See SANTONICUM.

GRESSU'RA, (from *gradior, to proceed*). See PERINÆUM.

GRIEF, is one of the depressing passions; it stops perspiration, renders every muscular action languid; and thus checks the intestinal and biliary discharges, renders the skin sallow, and, by lowering the activity of the nervous power, renders the body more accessible to the influence of infection. It has occasioned death, and the persons are said to die *broken hearted*. One instance is recorded, if we mistake not, by Dr. Whytt, where this organic change was produced by grief. We can easily conceive that the diminished power of the vital may be accompanied with such a diminution of the resistance of the simple solid, as to admit of the impulse of the blood when accumulated in the heart and larger vessels, from the altered determination, to occasion a rupture. Grief, if indulged, produces all the changes which distinguish hypochondriasis. The mind soon recovers its elasticity; but the bodily effects remain often during life, frequently terminating in melancholy and mania. Fretfulness, often confounded with grief, is not dangerous to the constitution, and rather referrible to excess of irritability.

GRIE'LUM. See HIPPOSELINUM.

GRINDERS' ROT. Scythe grinders are subject to a disease of the lungs, from the particles of sand mixed with iron filings. Cork cutters and lime burners are subject to a similar complaint; and we once saw it in an elegant and delicate young female, from an internal cause. See CALCULUS.

GRIPHO'MENOS, (from γριφος, *a net, surrounding the body*.) Pains which extend from the loins to the hypochondria.

GROSSULA'RIA, (from *grossus, an unripe fig*,) *uva crispa*, and GOOSEBERRY BUSH. It flowers in April, and its fruit ripens in July. The unripe fruit is said to abate the longings of pregnant women. The ripe fruit, if the skins are not swallowed, is nutritious, digestive, and cooling.

GROSSULA'RIA NON SPINO'SA. See RIBES.

GRO'SSUS, (from *garas*, Hebrew). See FICUS SATIVA.

GRO'TTO DEL CA'NI. A grotto near Naples, in which dogs are suffocated. The deleterious vapour is carbonic acid air, which rises only about eighteen inches. A man, therefore, is not affected; but a dog forcibly held in, or who cannot rise above it, is soon killed, unless taken out. He is recovered by plunging him in an adjoining lake.

GROTTO DEL SERPI. The grotto of the serpents, described by Kircher who visited it. It is near the village of Sassa, not very distant from Braccano, in Italy, filled with warm vapour, from some subterraneous apertures, without any apparent gaseous or other impregnation. Patients affected with lepra, elephantiasis, palsy, or gout, are said to be relieved by these vapours; and the relief is, in part, attributed to some serpents, which are not venomous, but which are numerous in this cavity, particularly in the spring, and are said to lick the diseased parts. The exuviæ of serpents abound in the grotto, and are suspended on the trees, apparently to cherish the delusion; but the benefit is wholly derived from the warm water.

GROUND NUTS, *arachis hypogæa* Lin. Sp. Pl. 1040, is a leguminous plant, originally from Africa, but now cultivated in all the European establishments. Its calyx is divided into two parts, the upper of which is semitrifid, and the inferior lanceolated; the corolla papilionaceous, almost reversed. It has nine monadelphous stamina, and the tenth free and barren; a superior ovarum, which becomes an oblong, cylindrical, reticulated pod, opening with difficulty, and containing two or three seeds. The leaves are alternated, winged, without an odd one; each composed of four oval leaflets, with a membranous stipula at their base, divided into two.

The flowers of the arachis are placed in the axillæ of the leaves. The upper ones, though perfect, are abortive; but the lower bend and hide themselves in the earth. They are there sought after by the negroes, who eat them boiled in water, or roasted in the ashes. The seed is of the size of the little finger, with the taste of an almond, but with a flavour of dry pitch, at first unpleasant. An oil equal to that of olives, which does not grow rancid, may be obtained from it, by pressure; and a bushel of the seeds, which, in the year 1768, were valued at only eight pence, produced a gallon of oil. Philosophical Transactions for 1769.

GRU'MUS, (from *garam, a clot*, Hebrew,) a portion of the coagulum of blood or milk.

GRU'TUM. Decorticated unbruised oats. GROATS.

GRY'PA. An ointment described by N. Myrepsus.

GRY'PHIUS PES, (from *γρυπος, to incurvate*). An instrument mentioned by Parey for extracting a mole from the uterus, bent like an eagle's talons; the griffin, from which it is denominated, is the appellation of a vulture.

GRY'PHUS. See ADAMAS.

GRYPO'SIS, (from *γρυπος, to incurvate,*) an incurvation of the nails.

GUA'BAM. A sweet cooling fruit which grows in the West Indies. See Raii Historia.

GUACA'TANA; *scrophularia Indica;* is a plant which grows in New Spain, and which eases the piles, in the form of a cataplasm (see Raii Historia); but it is unknown to the systematic botanists.

GUA'CU. See CEBIPIRA BRASILIENSIBUS.

GUAIA'BARA. A tree that grows in Hispaniola; the Spaniards call it *uvifera;* the leaves are large, and used as paper. *Cocoloba uvifera* Lin. Sp. Pl. 523.

GUAI'ACUM, (Indian). *Guaiacon, hagioxylon, lignum benedictum, vitæ lignum, palus* and *palma sancta, euonymo adfinis occidentalis, ibirace,* &c. The darker kind the Americans call *hiacan*, or *huiacan;* the yellowish they call *hoaxecan; guaiacum officinale* Lin. Sp. Pl. 546. COMMON GUAIACUM, OR POCKWOOD.

This wood was introduced into Europe early in the sixteenth century from Jamaica, Mexico, and the Antilles. It is brought over in large pieces, each weighing from four to five hundred weight, hard, compact, and so heavy as to sink in water, of a pale yellowish colour without, but black, of a deep brown, or marbled, within. It hath little or no smell, except when heated, and then its odour is slightly aromatic. When chewed it is slightly pungent, a quality which resides in its resin, and which it yields, in some degree, to water by boiling, but wholly to spirits.

Of the bark there are two kinds, one smooth, the other unequal on the surface: both are weaker than the wood. In the choice of this medicine, the freshest, most ponderous, of the darkest colour, and the largest pieces are preferred; and, as the finer parts are apt to exhale, they should be rasped only when used.

The wood was first introduced into Europe as a remedy for the venereal disease; and, as it warms and stimulates, promotes perspiration and urine, proving occasionally a gentle purgative, it assists the operation of mercury. When the excretory glands are obstructed, the vessels flaccid, the habit cachectic, in many cutaneous and catarrhal complaints, female weaknesses, in gouty and rheumatic disorders, it is often useful. The hectic fever, which sometimes follows a salivation, yields to a decoction of the woods. Guaiacum seems to stimulate the exhalent vessels more than the heart and great arteries; and is consequently safer than those which act more powerfully on the sanguiferous system. It is of course esteemed more effectual than other sudorifics in the lues venerea, in all cases of rheumatism, perhaps in gout.

A long use of this medicine hath been supposed to produce a yellowness of the skin. In thin emaciated habits; in an acrimonious state of the fluids; in hot bilious habits, and where the fibres are very tense, it is suspected to be injurious.

Three ounces of the wood, or four ounces of the bark, may be boiled in ℔ iv. of water to ℔ ij. and if a little liquorice is added to the latter end of the boiling, it will abate the disagreeable pungency of this medicine, which affects the throat in swallowing. Of this decoction at least half a pint should be taken in a day.

If the thin shavings of guaiacum are distilled in a retort, at first an almost purely watery fluid arises; on increasing the fire, an acid, reddish, empyreumatic liquor passes over, with a little fluid reddish oil, and much air is separated: the residuum is a coal. A pound of guaiacum wood, distilled on an open fire, gave ʒ iii. ss. of acid, and ʒ i. ss. of empyreumatic oil.

The extract of guaiacum, soft and hard, is prepared by boiling ℔ i. of guaiacum shavings in a gallon of water until half the liquor is wasted, repeating the operation by adding the same quantity of fresh water to the same shavings four or five times. The several decoctions passed through a strainer, are to be mixed and inspissated; adding, when the aqueous parts are almost exhaled, a little spiritus vini rectificatus, that the whole may be reduced into an uniform tenacious mass. This extract is called soft when of the consistence of a mass for pills, and hard when it can be powdered. The spirit is added at the conclusion of the boiling, that the resinous part may be perfectly mixed with the gummy. The harder extract is an excellent errhine.

The resin of guaiacum is prepared in the same manner as the resin of JALAP, q. v. and is the only active part of this wood: it is obtained pure by means of rectified spirit of wine, both from the wood and the gum, and is procured by wounding the bark in different parts of the body of the tree, from whence it exudes copiously. This natural resin, which is exported, is never pure; and about ʒ xii. of pure resin is obtained from ℥ xvi. of what is styled gum. This is partly accounted for by its being sometimes procured by boring billets of the wood longitudinally, and then burning them at one end, while the resin exudes from the other. It is also occasionally obtained by boiling the chips in water and common salt.

This gum is of a brown colour, partly reddish, often greenish, brittle, having a glossy surface when broken, of a pungent taste, affecting the tongue and palate in the same manner as the wood. It is chiefly brought in irregular masses, of a dusky green colour: that in the form of drops is the best, but rarely met with.

In choosing the gum, those pieces which have slips of the bark adhering to them, and that easily separated from them by percussion, is the best. When held against the light it is transparent, breaks with a smooth uniform shining fracture, of a bluish green colour. It is fusible in a moderate heat, but not softened by the heat of the fingers; insoluble in water, but soluble in alcohol; without smell or taste, but on hot coals diffusing an agreeable odour. When the powder is swallowed, it occasions a very painful burning and pricking in the throat.

Neumann assures us, that a composition of colophony and balsam of sulphur is imposed on the unwary for the true gum; but the cheat is easily detected, by exposing each to a due degree of heat, by which the odour of the false is perceived to be different from that of the true.

The wood and resin only are in general use as medicines; and as the efficacy of the former is supposed to be derived merely from the quantity of resinous matter which it contains, they may be considered indis-

criminately as the same medicine. Of the gum, or extracts, the dose may be from gr. v. to ℈ i. but in the latter dose it is often actively cathartic. It should be combined with a fluid by means of an egg, or some mucilage, as it is otherwise uneasy in the stomach. Indeed, if given in the form of an electuary or bolus, a similar medium is necessary.

Bolsam of guaiacum consists of gum. guaica. ℔ i. balsamum Peruv. ʒ iij sp. vini rect. ℔ i. ss. It was formerly called *polychrestum;* and from one to three drachms were given every night and morning in milk, or any convenient vehicle.

Tincture of gum guaiacum, commonly called the volatile tincture, is a solution of four ounces of the gum in a pint and a half of the compound spirit of ammonia. Pharm. Lond. 1788.

The dose is from a small tea spoonful to a large table spoonful two or three times a day, and it is very conveniently given in milk, though a proportion of the tinctura opii should be added, to prevent the larger dose from purging. Dr. Dawson frequently directs the latter dose with great advantage in rheumatic and arthritic complaints, in which cases, and against palsies from lead, he considers it almost as a specific. It should not, however, be given while any inflammatory diathesis remains.

See Raii Historia Plantarum; Lewis's Materia Medica; Neumann's Chemical Works; Cullen's Materia Medica.

GUAI'ANA CORTEX. See Simarouba.

GUAJA'CANA, *diospyros, faba Græca latifolia, pseudo lotus; diospyros lotus* Lin. Sp. Pl. 1510. It is not much known; but its leaves and fruit are astringent.

GUAJA'VA. The *guáva, guajábo; psidium pomiferum* Lin. Sp. Pl. 672. The name of a tree in the West Indies, whose fruit is cooling and moderately astringent; the root is also astringent. See Raii Historia.

GUA'O. *Comocladia dentata* Lin. Ed. Wildenow, vol. i. p. 189. A West Indian tree, called *thetlatian;* its effluvia are so acrid as to be injurious to those who sleep under it. It has the odour of dung, and its juice is so black that it cannot be washed out of linen.

GUAPARAI'BA. The mangrove tree of the West Indies; *mangle*, and *paletuvier*. The mangrove tree of the East Indies appears to be the *rhizophora gymnorrhiza* Lin. Sp. Pl. 634; that of the West, the *g. mangle* Lin. Sp. Pl. 634. If the root is split and toasted, then applied to the punctures made by the poisonous fish called *niqui*, it is said to cure. See Raii Historia.

GUARE'RVA-O'BA. See Cucumis agrestis.

GUARIRIGUIMY'MIA. *Bignonia pentaphylla* Lin. Sp. Pl. 870. A shrub in Brasil, like a myrtle, whose seed is supposed by Lemery to destroy worms.

GUA'SSEM. Certain black scorbutic spots mentioned by Avicenna.

GUATIMA'LA. See Indicum.

GUA'VA. See Guajava.

GUIDO'NIS BALS. See Anodynum bals.

GUILA'NDINA MOR'INGA. See Nephriticum lignum.

GUI'TY-I'BA. A tree growing in Brasil, and bearing the fruit called *guity coroga*, which contains a stone as large as a goose's egg, the kernel of which is astringent. The tree is not known to scientific botanists.

GU'LA, (from *γευομαι, to taste*). See Œsophagus.

GU'MA. See Argentum vivum.

GU'MMA, (from *gummi, gum*, plur. *gummata*, from the resemblance of the contents to gums,) is a tumour arising from the substance of a bone, so soft as to yield to the finger. As they increase in hardness, they are progressively styled *tophi, nodi*, and *exostoses*. In venereal cases, such tumours often happen on the head, and even in the middle of the hardest bones, apparently produced by an obstruction, and probably a dilatation, of the interstitial vessels raising the incumbent laminæ. A softness of the bones sometimes succeeds abscesses of the adjacent parts, and sometimes the seat of the disorder is in the substance of the bone, as in the lues venerea; but gummata have, however, been discovered, when no adequate cause could be observed. An acid has been suspected in the blood, or perhaps the phosphoric acid of the bones may be in excess. See Petit on Diseases of the Bones. Lues venerea. Bell's Surgery, vol. v. p. 541.

GU'MMI, (*tsamah*, pronounced *ghamah;* Hebrew,) gum, *gisisim*, is a concrete vegetable juice, of no particular smell or taste, viscous and tenacious when moistened with, and wholly soluble in, water; insoluble in alcohol or in oils; burning in the fire to a black coal, without melting or inflaming, and not volatile in the heat of boiling water.

The true gums are gum arabic, tragacanth, and senega: the gum of cherry and plum trees: the others contain a proportion of resin.

The virtues of gums are those of mucilages in general, which are only gums with a proportion of water. When the ancients used the word *gummi*, or *commi*, without any epithet, they meant gum arabic. The *Κομμι λευκον*, (Hippocrates De Morbis Mulierum,) is the same.

Gu'mmi Ara'bicum, called also *acanthinum; gum lamac; gum Thebaicum* and *Serapionis*, gum arabic, and the true gum acacia. It exudes from the Egyptian acacia, or thorn tree, whose fruit affords the inspissated juice of that name. *Mimosa nilotica* Lin. Sp. Pl. 1506. (See Acacia.) It is brought from Turkey in small irregular masses, of a clear whitish or very pale yellow colour.

Though insoluble in spirit, and in oil, yet, when formed into a mucilage, it is miscible with both, and with resins rendering them miscible with water. Dr. Grew first taught us to mix essential oil with water by means of gum; and in the London Medical Observations and Inquiries, vol. i. we find that oils, both expressed and distilled, resins, and balsams, may, by the same means, be mixed uniformly with water or with spirit. Alkaline salts, both fixed and volatile, though they render pure oil miscible with water, prevent the mixture of gum with oil. Acids do not in the least prevent the effect of gum in combining oils with water.

Animal glues very unlike vegetable gums are more nutritious, and apt to become putrid; and they will not combine oil with water. In a chemical view their difference is very great; those of the animal kind are changed by fire into a volatile alkaline salt, and a fetid oil; the vegetable into an acid liquor, and a very minute portion of oily matter, considerably less fetid than the former.

Gum arabic is glutinous and demulcent; consequently useful in tickling coughs, diarrhœas, hoarseness, in car-

dialgia, when from any oily aliment, and in almost every disease of the urinary organs. In dysuria the true gum arabic is preferable to the other simple gums. Though its action has been supposed not to extend beyond the glottis and the alimentary canal, it is certainly conveyed with little change to the kidneys; and, when used in moderate quantities, even checks the urinary discharge. To be effectual as an internal demulcent, two ounces a day should be, at least, taken. Dr. Hasselquist informs us, that a caravan, whose provisions were exhausted, found it very nutritive.

One ounce of gum arabic renders a pint of water considerably glutinous; but for mucilage, one part of gum to two parts water is required, and for some purposes an equal proportion will be necessary. See Lewis's Materia Medica; Neumann's Chemical Works.

Gu'mmi fu'nerum. See Bitumen.

Gu'mmi gu'tta, and ad podagram. See Gambogia.

Gu'mmi re'sina lu'tea. New Holland has furnished two new medicines; the red and the yellow gum. The first is astringent, and not unlike the kino described in the following article. The yellow is not very dissimilar; but the plant from which each is procured has not been reduced to its place in botanical systems.

Gu'mmi ru'brum astri'ngens Gambie'nse. The red astringent gum from Gambia; *Kino; sanguis draconis officinalis*, or the finest and true dragon's blood. Dr. Oldfield calls it true *gum Senegal*. In the inland parts of Africa it is called *pau de sangue: pau* is said to be a corruption of *palo, wood;* and, with the addition of sangue, to be the name of a tree in the inland parts of Africa which produces it.

Gum kino is very friable, easily breaking between the fingers; without smell, of an opake, dark, reddish colour, appearing almost black in the mass, and, when powdered, of a deep lateritious red. In chewing, it first crumbles, then coheres slightly, and seems soon to dissolve, with a very astringent slightly sweet taste.

It differs from the red lumps of the common gum Senegal in being much more brittle; and from the dragon's blood in its affinity to water; and from both in its stypticity when tasted. It dissolves both in spirit and in water; each taking up about two thirds of the whole.

This gum seems useful in many disorders from laxity, as in chronic diarrhœa, leucorrhœa, and mænorrhagia. It contains a larger proportion of gum than any other astringent drug, and, joined with alum, in the proportion of one part to three, (as in the pulvis stypticus, Ph. Edin.) is considered to be one of the most powerful astringents which has been employed. In a liquid form, however, the kino is said by Tromsdorff to decompose the alum; but this effect appears to depend on some accident, as the experiment does not always succeed. Cullen's Materia Medica; London Medical Observations and Inquiries, vol. i. p. 358, &c.

Gu'mmi Senegale'nse, *gum Senega*, and *gum Orientale*, is brought from the island Senegal, on the coast of Africa, and is said to be the production of the tree which affords the gum arabic.

This gum is generally in larger and darker pieces than the gum arabic, and rough on the outside: the gum arabic also is dry and brittle, but the Senega clammy and tenacious. The clearest pieces are sold for gum arabic, and their qualities are nearly similar; but the gum Senega is certainly more adhesive.

Gu'mmi tragaca'ntha, (from τραγος, *a goat*, and ακανθα, *a thorn*, because its pods resemble a goat's beard,) *adraganth*, and *dragantum;* gum dragant, or tragacanth. This gum exudes from a prickly bush, which grows in Crete, Greece, and Asia. *Astragalus tragacantha* Lin. Sp. Pl. 1073. Goat's thorn, or milk vetch. It is chiefly brought to us from Turkey in irregular lumps, or in long vermicular pieces. In Candy it begins to exude about June, and is more or less pure and white, according to its accidental mixture with dust. That which is white, light, smooth, and transparent, in vermicular striæ, of a sweetish taste, and without smell, is preferred. A yellowish or brownish colour is no mark of imperfection or impurity.

It differs from all other gums in giving a thick consistence to a larger quantity of water, probably from being insoluble in this fluid, which it slowly imbibes in a large proportion, swells into a considerable bulk, and forms a soft, but not liquid mucilage. On the further addition of water a fluid solution may be obtained by agitation, but the liquor is turbid; and, on standing, the mucilage subsides, the limpid water on the surface retaining little of the gum. It is more powerful as a mucilage than other gums, but not as a demulcent, though it softens and thickens acrid humours.

The pulvis è tragacantha compositus of the London college is made in the following manner: ℞. Tragacanthæ in pulverem tritæ, gum. arabici, amyli, singulorum ʒi. ss. sacchari purificati ʒiij. simul in pulverem tere. Ph. Lond. 1788.

It is mild, emollient, and useful in tickling coughs, and supposed to mix oils and resins more smoothly than the gum arabic. See Lewis's Materia Medica; Neumann's Chemical Works; Cullen's Materia Medica.

GUMMO'SÆ PI'LULÆ, (from *gummi, gum*). See Asafœtida.

GUMMO'SUM ELECTA'RIUM, (from the same). See Dysuria.

GURGEA'TIO, (from *gurges, a stream of water*). See Sudor anglicus.

GURGU'LIO, (γαργαρεων, from *gargarah, the throat*, Hebrew). See Uvula: the insect also called a *weavil*.

GUSTATO'RII. See Hypoglossi externi.

GUSTATO'RIUS, (from *gusto, to taste*,) the name of the third maxillary branch of the fifth pair of nerves.

GUSTE'RANAX. See Bithnimalca.

GU'STUS, (from γευομαι, *to taste*). The taste. Upon the tongue, towards the apex and sides under the skin, are obtuse papillæ of various figures; prominent in the tongue of a living person, when applied to the object of taste; but not discovered in the dead body. They rise from the nervous substance which covers the muscular flesh in the tongue, pass through the perforations of the corpus reticulare, as in the skin, and are covered with small vaginæ, formed by the exterior membrane of the tongue. These vaginæ are seemingly porous, that the substance tasted may, by pressure, be applied to them. Bellini has shown that these papillæ only are the medium of taste; and that the other parts

of the mouth, tongue, and palate, contribute nothing to it, except as resisting surfaces to assist the application. It is, however, highly probable that the back part of the palate is also sensible of the impression which conveys the taste.

It hath been generally said, that salts are the true objects of taste; and that the diversity of taste is owing to the different figures which are natural to salts: but Haller, on the contrary, asserts, that the reason of the diversity of flavours seems to reside in the intrinsic fabric or apposition of their elements, which do not fall under the scrutiny of the senses. In general, he thinks whatever contains less salt than the saliva is insipid; but that the nature or disposition of the covering with which the papillæ are clothed, together with that of the juices, and of the aliments lodged in the stomach, have a considerable share in determining the sense of taste; so that the same flavour does not equally please or affect the organ in all ages alike, nor persons of the same temperatures, nor even the same person at different times. In fact, the sense of taste is more closely connected with the state of the stomach than is generally supposed; and the languor or indisposition of that organ destroys or depraves the sense of taste. Other nervous affections have a similar effect. In fevers the taste is depraved or lost, and the substance of the papillæ, or of their vaginæ, seems to be organically changed; for with whatever care the tongue is cleaned, it never attains a healthy appearance.

In general, the taste determines what aliment is salutary; for the most part, whatever offends the taste is injurious in the stomach. See Haller's Physiology, in his Lecture of the Taste.

GU'TTA, (from *χεω, to pour out*). A DROP; *alunsel*. Drops are an uncertain form of administering medicines; and, where great exactness is necessary, they should not be prescribed. The shape of the bottle, or of its mouth, from whence the drops fall, as well as the consistence of the fluid, occasions a considerable difference in the quantity administered.

Gutta is also a name of the apoplexy, from a supposition that its cause was a drop of blood falling from the brain upon the heart.

GU'TTA GA'MBA. See GAMBOGIA.

GU'TTÆ NI'GRÆ. The black drops, occasionally called the Lancashire or the Cheshire drops, is a secret preparation of opium, more active than the common tincture, and supposed to be less injurious, as seldom followed by headach. One drop of this medicine is equal to about two and a half of the tincture of opium. We are informed by Dr. Cassells, that there are two preparations in use under this title. In the first, five ounces of purified opium, with pimento and cinnamon, of each two drachms; saffron and Seville orange peel, of each one drachm; are digested for a week in rectified spirit of wine, which is separated from the fæces by pressure. In the other, four ounces of opium are digested for three weeks in as many pints of the juice of quinces or verjuice, to which saffron, cloves, nutmeg, and cinnamon, of each an ounce, are added, and the digestion continued another week. Neither appears to us the real preparation; but we shall resume the subject in another article. Vide OPIUM.

GU'TTA OPA'CA. See CATARACTA.

GU'TTA ROSA'CEA, according to Dr. Cullen, is synonymous with *varus*, and *bacchia;* and these are placed as varieties of the *phlogosis phlegmone*. It is sometimes called simply *rosacea*, from the little red drops, or fiery tubercles, dispersed about the face and nose; *rubedo maculosa*, *Ionthos*, *butiga*, *gutta rubea*, *ruonia*, and *rosea*. Nicholaus Florentinus distinguishes three degrees of it, viz. 1. *rubedo simplex*, seu *facies rubra;* 2. *pustulosa;* and, 3. *ulcerosa*.

The cause is supposed to be in the liver, and this idea is supported by observing, that often on the disappearance of fiery pimples in the face, an indurated liver and a dropsy follow; on the contrary, disorders of the liver are sometimes relieved by eruptions in the face, so that repellents should be carefully avoided. Whether it be the cause or effect of a diseased liver, those addicted to spirituous liquors are most subject to this complaint; but the most abstemious are sometimes affected with it, by suddenly drinking a draught of cold water when they are hot, or by any partial suppression of the perspiration. The disease is peculiarly obstinate, and often resists every attempt to relieve it; nor will the eruptions disappear till the constitution is completely ruined.

In general, a temperate regimen is proper; but if the patient is accustomed to generous diet, a sudden alteration is not advisable: violent exercise should be avoided; and the mind kept as calm as possible. Scarborough water is generally esteemed very useful; spirits, spices, and every thing but the mildest food, should be avoided.

Practical writers abound with variety of topical applications; but great caution is required in their use. The hydrargyrum nitratum, if cautiously employed, is sometimes safe, and is the medicine called the golden ointment.

Internally, mercurial deobstruents, with antimonials; saline, acidulous, and ferrugineous waters, are useful. The decoction of sarsaparilla, of mezereum, or of ether, with that of the elm bark, or the root of the water dock, adding as much of any neutral salt as will keep the bowels loose, are the best assistants of the mercurials and antimonials. See Heister's Surgery; Turner's Diseases of the Skin; Medical Observations and Inquiries, vol. i. p. 189.

GU'TTA SERE'NA. (See AMAUROSIS.) On recurring to this article, we perceive that we omitted to mention Mr. Ware's very ingenious remark, that it may be sometimes occasioned by a dilatation of the circulus arteriosus, that circle which surrounds the sella turcica, and which on the fore part passes over the optic nerve. The anterior arteries are branched from the carotid; but others rise soon after, which, passing backward, join the basilar artery, and form the posterior portion of the circle, which lies over the nervi motores oculorum. This cause probably produces the disease when it is accompanied by an inability of moving the upper eye lid; and we can easily suppose that it may affect the optic nerve, without producing any change on the motory nerves, as the larger portion of the blood may be carried off by the anastomosing branches of the basilar artery.

We need scarcely apologise for omitting the singular fancy of Richter, who attributes gutta serena to infarcted viscera, and combats it by deobstruents and antispasmodics.

GU'TTÆ VI'TÆ. Bals. traumaticum. See Benzoinum.

GU'TTÆ ANGLICA'NÆ. A famous remedy of Dr. Goddard, which, we are assured by Lister, was only the spirit of raw silk rectified with oil of cinnamon. The secret was sold to Charles II. for the enormous sum of 5000*l.*

GUTTA'LIS. See Arytænoides.

GUTTE'TA, (from *goutte, the cramp*). Castellus informs us that the word *goutte* in French signifies *convulsion*; hence the name of a preparation called *pulvis ad guttetam*, which consisted of dittany, human skull, contrayerva, &c.; in general equal parts of peony and valerian roots are only mixed. It was originally an invention of Riverius, and often called *epileptic powder.*

GU'TTUR, (from χυω, *to pour out*). The throat; *brochthus.* See Bronchocele.

GUTTURA'LIS ARTE'RIA, (from *guttur, the throat*). The first considerable branch of the external carotid is the superior guttural, which arises where it parts from the internal, and runs to the thyroid gland, to the muscles, and other parts of the larynx or pharynx, hence called *laryngea.*

The inferior guttural artery is the Trachealis arteria, q. v.

Guttura'lis ve'na, *trachealis.* The right goes from the under part of the bifurcation above the mammaria of the same side, and sometimes from the subclavian. The left from the left subclavian near its origin.

GUTTURIFO'RMIS CARTILA'GO, (from *guttur, the throat* and *forma, likeness*). See Arytænoides.

GYMNA'STICA. Gymnastics; exercises of the body which were proposed for the restoration and preservation of health, and for the cure of diseases. They were of Greek origin; and are so called from the word γυμνος, *naked*; for they were performed by naked men in the public games. These exercises were originally designed to accustom the youth to feats of activity and strength. War was a laborious occupation from the weight of the armour, and strength must be acquired by exertion, and supported by constant exercise. The games were consequently connected with their religion, and victory in them was politically rendered an object of the highest importance.

——————Palmaque nobilis
Terrarum dominos evehit ad Deos.

The gymnastic art had attained no considerable degree of perfection in the days of Homer, as we find from the description of the games at the funeral of Patroclus. It was introduced, however, into medicine only about the time of Hippocrates, or rather a little before his era by Herodicus, probably his father. The gymnastics of the warriors were too violent for the diseased, or even for the preservation of health in those not naturally strong; and Hippocrates, in his work on regimen, speaks of exercise in general, of walking, of races either on foot or horseback, leaping, wrestling, the corycus, or exercising the suspended ball, with the usual additions of unctions, frictions, and rolling in the sand. Boxing, the pancratia, hoplomachia, running, quoits, the exercise of the ball, hoop, and javelin, driving the chariot, and swimming, seemingly required too great exertion to be admitted into the medical department; though walking, vociferation, recitation, and holding the breath, seem to have been among the medicinal gymnastics. Hoffman mentions fifty-five kinds of medicinal exercises, which it were tedious to enumerate. *Vide in loco.*

The Ægyptians considered gymnastics not necessary; they thought that by them a genuine health was not procured, but in its stead a short-lived strength, highly dangerous to young people. See Hieronymus Mercurialis de Arte Gymnastica Fabri Agoniston; Fuller's Medicina Gymnastica; Hoffman de Athletis Veterum, vol. v. p. 377, &c.

GYMNOSPE'RMIA, (from γυμνος, *naked*, and σπερμα, *seed*). The name of the first order in the class *didynamia*, in Linnæus's system, comprehending those plants which have four stamina; of which the two middle are shorter than the two outer ones, with a ringent flower, succeeded by four naked seeds.

GYNÆ'CIA, (from γυνη, *woman*). See Lochia and Menses.

GYNÆ'CIUM, (from γυνη, *a woman*). A seraglio; an appellation of antimony, and the *pudendum muliebre.*

GYNÆCOMA'STON, and GYNÆCOMA'STOS, (from γυνη, *a woman*, and μαστος, *the breast*). An enormous increase of the breasts of women; or a man whose breasts are large like a woman's.

GYNÆCOMY'STAX, (from γυνη, *a woman*, and μυστακ, *a beard,*) the hairs on the female pudenda.

GYNA'NDRIA, (from γυνη, *a woman*, and ανηρ, *a man*). The name of the twentieth class in the Linnæan artificial system, containing all plants with hermaphrodite flowers, which have the stamen growing upon the style; or else an elongated receptacle, bearing both stamens and styles. This class has been considerably reduced by some modern reformers, and the plants referred to other classes.

GYNA'NTHROPOS, (form γυνη, *a woman*, and ανθρωπος, *a man*). That species of hermaphrodite which partakes more of the female than of the male, opposed to that which partakes most of the male, called *androgynus.* These distinctions are groundless; for hermaphrodites are generally women.

GYNECA'NTHE, (from γυνη, *a woman*, and ακανθα, *a thorn*; supposed to be the female briony, and also prickly). See Bryonia nigra.

GYPSOPHY'TON, (from γυψος, *lime*, and φυτον, *a herb*; because it was supposed a lithontriptic). See Pimpinella alba Germanorum.

H.

HA'BA. See FABA.

HA'BASCUM. The name of a Virginian root which resembles a parsnip, and is a sulutary food.

HABÆ'NA. A BRIDLE. The name of a bandage, for the purpose of keeping the lips of wounds together.

HABI'LLA DE CARTHAGE'NA. See BEJUIO.

HABI'TUS, (from *habeo, to possess*). HABIT. See CONSUETUDO.

HA'BITUS PLA'NTÆ. The habit of a plant; its outward general appearance.

HA'CUB. A species of carduus, the young shoots of which are eaten by the Indians, but the roots are emetic. *Gundelia Tournefortii* Lin. Sp. Pl. 1315, of which there are two varieties: the first grows in America, and the second in Syria. It is classed by Jussieu with the cynarocephali, and has the leaf of a carduus, the habit and juice of a scolymus, and the head of an eryngium.

HÆ'MA, (from αἰθω, *to be hot*; from its heat). See SANGUIS.

HÆMAGO'GOS, (from αιμα, *blood*, and αγω, *to bring away*). The name of an antidote in Nicolaus Myrepsus, which was used for promoting the menstrual and hæmorrhoidal discharges.

HÆMALO'PIA, (from αιμα, *blood*, and οπ]ομαι, *to see*). A variety of the *pseudoblepsis imaginaria*, in which every thing seems of a red colour.

HÆ'MALOPS, (from αιμα, *blood* and ωψ, *the countenance*). The livid marks of sugillations in the face and eyes.

HÆMATAPO'RIA, (from αιμα, *blood*, and πορεω, *to put away*). A wasting from poverty of blood.

HÆMATEME'SIS, (from αιμα, *blood*, and εμεω, *to vomit*). See VOMITUS.

HÆMA'TIA, and HÆMA'TION. An epithet for *garum*, made of the intestines of fish macerated in salt.

HÆMATI'TES, (from its supposed virtue of stopping blood). It is called also BLOOD-STONE, *azedegrin*, *asedenigi*. When in flattish cakes, with knobs on the surface, the ancients called it *hæmatites*; when in long striated pieces, *schistus*; but they do not differ. The *terra sinoptica* is also called *blood stone*. *Fer oxide hematite* of Haüy iv. 105.

Twenty-four parts of hæmatites yield nine of iron; but it often affords half its weight, and is found in Germany, France, Spain, and England. It is very hard, of a dark red colour; but of a brighter hue when powdered. As it is very difficultly powdered, the crocis martis, or the rubigo ferri, may be substituted. See Lewis's Materia Medica.

HÆMATITI'NOS, (from *hæmatites*). An epithet of a collyrium in Galen, in which is the hæmatites.

HÆMATOCE'LE, (from αιμα, *blood*, and κηλη, *a tumour*). A species of false hernia in the scrotum, consisting of a collection of blood in the tunica vaginalis. It resembles, in appearance, an hydrocele, and the method of cure is the same. It most commonly follows hydrocele, and is occasioned by a puncture of the instrument, or sometimes by a natural hæmorrhage, in consequence of the support taken from the vessels by a discharge of the water. Blood in the tunica vaginalis is distinguished from water by its colour and weight. The tumour may be sometimes discussed by stimulant and astringent lotions; but the operation is generally necessary. If any vessel appears to discharge blood, and the application of alcohol, tincture of myrrh, or ether, applied by means of pledgets of soft lint, do not check the bleeding, the ligature must be employed. See Celsus; P. Ægineta; Bell's Surgery. vol. i. p. 482; Pott's Works, 4to. 1775; White's Surgery, p. 342.

HÆMATOCE'LE ARTERIO'SUM. See ANEURISMA.

HÆMATOCHY'SIS, (from αἱμα, *blood*, and χεω, *to pour out*). See HÆMORRHAGIA.

HÆMATO'DES, (from αιμα, *blood*, and ειδος, *resemblance*; from the red colour of its flower). See GERANIUM SANGUINARIUM.

HÆMATO'LOGIA, (from the same, and λογος, *sermo*). The doctrine of the blood, or an account of its nature and properties.

HÆMATOMPHALOCE'LE, (from αιμα, *blood*, ομφαλος, *navel*, and κηλη, *a tumour*). A tumour in the navel, turgid with blood. If astringent and stimulating applications do not succeed in discussing it, the fluid may be evacuated by a puncture.

HÆMATOPEDE'SIS, (from αιμα, *blood*, and πιδαω, *to leap*). BLOODY SWEAT; or the spurting of blood from a wounded artery.

HÆMATOPHLŒBŒ'STASIS, (from αιμα, *blood*, φλιψ, *a vein*, and σ]ασις, *a station*,) is a suppression of the impetuous current and intumescence of the blood in the veins. But, according to Galen, it sometimes means a full vein.

HÆMATO'XYLON CAMPECHIA'NUM, (from αιμα, *blood*, and ξυλον, *wood*; so called from its red colour). See CAMPECHENSE LIGNUM.

HÆMATU'RIA, (from αιμα, and ουρον, *urine*). See URINA.

HÆMOCE'RCHNUS, (from αιμα, *blood*, and κερχνος, *noise*). Blood brought up from the fauces, or the lungs, with a noise or rattling; sometimes bloody excretions discharged in a dry form.

HÆMO'DIA, (from αιμωδεω, *to stupify*). A painful stupor of the teeth, from acid and austere substances.

HÆMO'PTOE, (from αιμα, and πτυω, *to spit up*). See HÆMOPTYSIS.

HÆMOPTY'ICUS, (from the same). *Hæmotoricus*. A person who discharges blood from the mouth.

HÆMOPTY'SIS, (from αιμα, *blood*, and πτυω, *to spit*). A SPITTING of BLOOD; *hæmoptoe*. By this term, however, is meant a bleeding from the trachea or the lungs; for blood from the nose and the stomach is often apparently spit. When from the veins of the lungs it is called *perirrhexis:* but this can scarcely, in any case, be ascertained.

Dr. Cullen places this genus in the class *pyrexiæ*, and order *hæmorrhagiæ*, defining it a flushing of the cheeks; an uneasy sensation or pain, and sometimes heat, in the breast; a tickling of the fauces; a cough, by which blood of a florid colour, often frothy, is ejected by the mouth. He distinguishes five species:

1. HÆMOPTY'SIS PLETHO'RICA, when no external force has been applied, nor any cough or suppression of usual evacuation has preceded.

2. HÆMOPTY'SIS VIOLE'NTA, when from external violence.

3. HÆMOPTY'SIS PHTHI'SICA, where emaciation and continued debility follow.

4. HÆMOPTY'SIS CALCULO'SA, when with the blood calcareous concretions are thrown up.

5. HÆMOPTY'SIS VICA'RIA, when from the suppression of some accustomed evacuation.

Passionate, weak, and slender people, with long necks and flat breasts, or a sharp carinated sternum, gibbous or otherwise distorted, and those who while young were subject to bleed at the nose, are most subject to an hæmoptysis.

An hæmoptysis may occur, 1. From an accidental rupture or a wound of the vessels; but if the vessels are small, the patient quiet, and no previous disease exists in the lungs, there is little danger; but if large, the danger is considerable. 2. From tubercles or small tumours of an apparently scrofulous nature, contracting the vessels of the lungs, and consequently increasing the impetus on the other vessels, which in such constitutions are usually weak. This kind usually ends in phthisis. 3. From an ulcer in the lungs, forced up by coughing, and mixed with phlegm or pus; in which case the danger is great, as some large vessel has probably been eroded. 4. By anastomosis: this is said to be without danger, and often to relieve women whose menses are suppressed; but the existence of an anastomosis is in this case doubtful. It is more properly metastasis.

Sometimes the bronchial artery is ruptured. If the orifice is small, the discharge soon ceases; for, by the stagnation of the blood in the cellular substance of the lungs, the artery is compressed, and the rupture closed: this blood is sometimes absorbed, at others it excites inflammation, which terminates in suppuration. It then reaches the bronchiæ, and is by degrees spit up; but a hectic usually follows.

When the rupture happens in the pulmonary artery the discharge is sudden, and the blood more copious and florid than when from the bronchial artery; but without pain, and unmixed with phlegm. In this case the preceding symptoms are anxiety about the præcordia, difficulty of breathing, an oppressive undulatory pain about the diaphragm, flatulencies in the belly, a sense of heat in the sternum, salt taste in the mouth, coldness of the extremities, hoarseness, a dry tickling cough, &c. As these show a general stricture on the vessels, and a change in the balance of the circulation, so they are commonly the forerunners of a copious hæmorrhage. When the discharge is from the bronchial artery, its ejection is not sudden, and its appearance is blackish, and somewhat thick; though a frothy cough attends, there are a pain and heat in the breast, with a sense of weakness there, during the disease, sometimes with a fever, which abates with each discharge of blood, and returns at intervals when the hæmorrhage is stopped. Sometimes matter is mixed with, or follows after, the discharges. The distinction of these two cases is, however, difficult, and of little importance. It is of more consequence to ascertain whether the blood comes from the fauces, the nose, or the stomach. If from the fauces, either directly, or dropping from the nose, it is inconsiderable in quantity, and not *always* attended with any hawking; and though this is sometimes the case, the symptoms of hæmorrhagia nasi, or inspection of the fauces, will assist the distinction. Blood, however, seldom comes from the fauces, but in consequence of local inflammation or scurvy. When a discharge of blood is from the stomach, it is brought up by vomiting; but patients can seldom distinguish between these two operations. In general, when from the stomach, the quantity discharged *at once* is more considerable, it is mixed with the contents of the stomach, and not the mucus of the lungs; and nausea has generally preceded. The pulmonary blood is usually florid; that of the stomach of a darker colour. Complaints of the lungs preceding the discharge, will show that a doubtful hæmorrhage probably proceeds from that organ.

Spitting of blood, or rather the appearance of some blood with the sputum, is generally useful in pleurisies and peripneumonies; in the robust, a spitting of blood is not always dangerous, but in the tender and feeble the disease is seldom cured; if blood proceed from an ulcer, the event will be probably fatal.

The causes of hæmoptysis are those of hæmorrhage in general, viz. fever, with an alteration in the balance of the circulation, or increased impetus in consequence of obstruction; but this requires some elucidation. We have said, that, in the gradual evolution of the human body, the head is at first disproportionately large, and receives, for purposes we need not now explain, a large proportion of the vital fluid. In succession the chest expands, and receives in turn its additional quantity. Thus, in early youth, bleedings from the nose are frequent; we next find similar discharges from the lungs. When, therefore, a tendency to plethora exists, those vessels yield which are most fully distended in the different periods. Hæmorrhages from the lungs are,

however, more frequent from the second cause. Tumours, styled tubercles, as we have said, frequently contract the cavity of the chest, and occasion the most dangerous hæmoptysis; as from the increased impetus, which occasions the hæmorrhage, inflammation is induced, and a suppuration of an unkindly nature follows. If, from weakness, the vertebræ are distorted, the child, to relieve itself, bends on the opposite side, and by this double curvature greatly contracts the cavity. Tight ligatures round the chest, while the child is growing, equally prevent its expansion; and the mode of carrying children, by grasping them on each side of the sternum, produces the same effect. When we treat of hæmorrhages, we shall find that those styled active are attended with a febrile exacerbation, which, we have seen, destroys the balance of the circulation, and throws a large proportion of the blood on the internal parts. In such circumstances the occurrence of hæmoptoe is not surprising, when any of the predisposing causes, formerly mentioned, exist. Independent, however, of fever, the disease may happen from the contraction alone, since, in every situation, any considerable stricture, as we have seen (v. Febris), or as we shall more fully show (v. Inflammation), increases the action of the vessels a tergo; and should the slightest cause of increased general impetus or topical weakness concur, the disease must inevitably be produced. Whether any contraction of the bony covering of the chest has a tendency to bring on tubercles, has not been shown; but the very frequent consequence of tubercular consumption, from almost any hæmorrhage of the pulmonary vessels, seems to show either that this is the case, or that tubercles exist in almost every constitution, which, from dissection, appears not to be true.

These considerations lead to important consequences in the means of preventing hæmoptysis, and the consequent hectic. The first rule which they suggest is the propriety of guarding against every cause of increased impetus, by the mildest food, the gentlest exercise, and avoiding excess of every kind. Another is, the propriety of inducing some steady permanent discharge from the thorax, if any part of the chest appears particularly diseased. This is ascertained by pain, particularly felt on a full inspiration, or by the inability to lie on one side. The decubitus difficulis is a problem in pathology of no little intricacy; but, in general, in cases of this kind the patient *cannot* lie on the side affected; probably because the weight of the contents of the sound side contributes to check the very little action that remains. Whatever, however, becomes of the explanation, the fact is well established; and a blister, or a seton, can be continued on the side which is known, from this circumstance, to be diseased, without any inconvenience to the patient. If the disease cannot be discovered from this criterion, the blister should be placed on the sternum, near its lower part. In this place it will certainly contribute, though in a less degree, to take off inflammatory tension from every part of the thorax.

When hæmoptysis has come on, it must be combated by other remedies; and one of the most common, apparently the most useful, is generally bleeding. This, if preferred, should be actively employed; for small bleedings, frequently repeated, exhaust the patient instead of relieving the disease. We are confident, however, in adding, that this remedy is used too frequently, and with too little discrimination. An active, plethoric young man, labouring under hæmoptysis, from excess, from strains, or accident, may be bled freely, and frequently. A weak, debilitated person, with a contracted chest, may, for a moment, be relieved; but the remedy, together with the disease, contributes to sink the strength, and the habit is soon established, which requires this assistant discharge. It must be remembered, also, that hæmoptysis is sometimes owing to the contraction of the chest with debility, and but little, if any, assistance from increased impetus. In this case the advantages of bleeding, though considerable, are temporary, and its disadvantages numerous; yet it is an indispensable remedy.

As a blister will prevent, so it will often lessen, pulmonary hæmorrhage; and is indeed a very unequivocal remedy, though we so often hear of the stimulus it occasions during its early action. Whatever it may be in other respects, we know from experience that it is not injurious in hæmoptysis.

Another class of remedies is more suspicious; we mean emetics. We need not repeat what we have said under that head; but would chiefly limit their use to active hæmorrhages from the lungs, after bleeding; though even in a very debilitated state we suspect they may be useful. In this, however, they have not been tried; and they are certainly, in such circumstances, precarious.

Sedatives, particularly those which repress the activity of the circulation, are highly useful. Of these the chief are nitre and digitalis, to which some others have been added.

Nitre, if taken early in this disorder, is much to be depended on. The following method is convenient and useful: R. Sal. nitri ℥ ss. conservæ rosarum ℥ iv. m. cap. q. n. m. major. 3tia. quaq. hora pro re nata. But this remedy is much more effectual when given in the coldest water, and swallowed while dissolving. Ten grains, in urgent cases, may be given every hour, or even more frequently.

Digitalis has not been employed so actively as the urgency of the disease seems to require; but it may be given every hour, increasing each time the dose by a quarter of a grain of the powder. Its worst effect will be that of vomiting, which we have no reason to dread. As nitre, in the way recommended, is only a form of cold, so cold drinks, recommended by De Haen, may be equally useful, except that the bulk, required to produce a sufficiently sedative effect, may be inconvenient.

Another sedative that has been employed is opium; but this has been avoided, as it is suspected of stimulating in its first operation. We have found it, however, an useful medicine, without the slightest inconvenience from the supposed effect.

Cicuta has not, we believe, been given in such circumstances; yet, as it acts with safety as a narcotic in consumptive cases, we should expect some advantage from it. The belladonna and tobacco, also, which powerfully affect the nervous system, may, in emergency, be tried. Tobacco in clysters often produces fainting.

A remedy employed freely in America, with much confidence, is a table spoonful of common salt dissolved in a very small proportion of water. This cannot, like nitre, act as a sedative; but probaly operates as an un-

diffused stimulus on the œsophagus and stomach, which, by increasing the action of the vessels of their internal membranes, relieves the neighbouring organs, without increasing the impetus of the circulation. Does the vitriolated magnesia act in a similar way? It is undoubtedly an useful medicine in this disease, independent of its laxative powers. But gentle laxatives are always necessary to prevent the straining required for the evacuation of a costive motion, and to relieve every impediment to the circulation in the chylopoietic viscera.

Astringents, often relied on, are of little real utility. The bark is injurious; and, indeed, when we reflect that whatever constricts the fibres increases the disproportion between the capacity of the vessels and their contents, we must be satisfied that medicines of this kind are hurtful. Alum indeed is not without the suspicion of possessing a sedative quality, and kino is not manifestly an astringent. Yet each seems of little real utility in this complaint. In the passive hæmoptyses, astringents are apparently more proper, but even in these nitre is preferable; for in the lowest weakness of the animal actions, the heart and arteries often beat with the most inflammatory violence.

If the cough be troublesome, demulcents are necessary; and to these opium may be safely joined, even by those who dread its stimulus in other circumstances: but care must be taken that laxatives be interposed, lest an inconvenient and dangerous constipation should ensue. See Wallis's Sydenham. London Medical Observations, &c. vol. iv. p. 206; and Medical Museum, vol. ii. p. 257—259. Cullen's First Lines, vol. ii. p. 336, edit. 4.

HÆMORRHA'GIA, (from αἷμα, *blood*, and ῥηγνῦμι, to *flow*). *Hæmatochysis*, and *sanguifluxus*. Hæmorrhages, though frequent diseases, are not among the most dangerous complaints to which the human body is subject, and are of importance only in their consequences; for a hæmorrhage, when in excess, occasions faintness, and, during the deliquium, the bleeding stops.

The first distinction of hæmorrhages is into active and passive. Dr. Cullen, limited by his system, has chiefly noticed the former; but the line is not, as we shall soon find, easily drawn, or fixed with accuracy. Active hæmorrhages are those attended with fever, which seem to depend for their existence on coldness and shivering, with the usual attendants, a quick pulse, and marks of a particular determination to the part from which the discharge will proceed. But "degree does not change even a species," according to the canon of the systematics; and often in the lowest state of debility, the legs are cold, the part affected peculiarly hot, and the pulse throbs with vehemence. If such hæmorrhages are active, they have no place in Dr. Cullen's system. As a general outline, the distinction will, however, hold with sufficient accuracy, and we shall soon pursue it.

Another distinction is into accidental, and vicarious or critical hæmorrhages. The first are only to be styled diseases. When any discharge has been suppressed, blood is often poured from other vessels without any injury, except perhaps when the delicate organization of the brain is injured by it. Vicarious bleedings from the lungs are seldom dangerous; and from the stomach and intestines are only for a time inconvenient. But in the brain we cannot always limit the new discharge so as to prevent injury from compression, though in many cases the blood has been absorbed without any permanent disease. Critical discharges also in the brain are dangerous; nor is it impossible that these or vicarious bleedings in the lungs, if violent, may not occasion at once suffocation.

Active hæmorrhages we must then consider as febrile diseases of an inflammatory kind. They are defined by Dr. Cullen pyrexia, with an effusion of blood, independent of external violence; and the blood drawn having an inflammatory appearance. Active hæmorrhages chiefly occur in full plethoric habits, most frequently in the spring and in the early months of summer, before the warmth of the air has relaxed the external vessels. Previous to the fever which ushers in the discharge, some general fulness and uneasiness are felt, with a load on the parts from whence the hæmorrhage will flow. The topical heat, swelling, or itching, is sometimes considerable. A short rigor which follows is relieved by the usual heat, and the hæmorrhage soon comes on during this hot fit. After some time the discharge and the fever both cease; but every spontaneous hæmorrhage has a tendency to recur, and if this recurrence happens more than one, after a stated time, a habit is formed which is with difficulty overcome. These very marked appearances do not always occur; but traces of these symptoms may be often distinguished even in the most debilitated states.

The remote causes of hæmorrhages are not always those of plethora. The most plethoric states in a robust constitution are not peculiarly attended with these discharges; and, on the contrary, extenuated habits are occasionally subject to them. The principal remote causes of active hæmorrhages are, an alteration in the balance of the circulation, or a want of energy to propel the fluids to the surface. The immediate cause is the increased impetus of the blood in the hot fit, which is produced by the distended vessels, and the effort excited to conquer the resistance. The vessel ruptured is in general one constitutionally weaker than any other.

Persons subject to hæmorrhage are usually those of an irritable, delicate constitution, sometimes the weak and exhausted. Violent exertions, at particular periods of life, will occasion them in every habit. Hæmorrhages are in general most violent in the full and strong; but more permanent in the weak and irritable. The reason is, that in such cases the red globules and the gluten are chiefly discharged, on which the strength greatly depends. Fainting therefore soon comes on, from the depletion of the arteries. In the weak the lesser vessels yield, and a less proportion of these parts of the blood is discharged. The evacuation contains chiefly the serum coloured only with the red globules. This is in a great measure the case where the hæmorrhage depends on a want of energy in the arterial system to propel the fluids to the surface; and the attendants are surprised to find that such considerable discharges can be borne, when in reality a very small portion consists of the nutritious fluids.

The repetition of hæmorrhages is connected with the causes producing an irregularity in the balance of the circulation, generally arising from the predominating energy of some particular part of the arterial system. The plethora soon returns, for generally the appetite is more keen; the digestive and assimilatory functions

always proceed with augmented vigour, while the secretions are for a time retained. The quantity is in this way soon restored, but the quality is gradually deteriorated. The fluids are thinner; for though water can be easily supplied, the formation of the red globules, of the gluten, and the fibrin, is not the work of a short period, and it proceeds slowly in proportion to the debility induced. The progressive fulness of the vessels of different organs, at different periods of life, we have already explained, and of course the successive discharges from the nose, lungs, and liver, hæmorrhoidal and urinary vessels. We may resume the subject, at some length, under the article HÆMORRHOIDES.

The causes which particularly favour the occurrence of hæmorrhage are: 1. External heat, which is said to rarefy the blood: but the blood is by no means an expansile fluid; and the swelling of the veins, in warm weather, alleged as an argument of its expansility, is owing to the diminished resistance of the integuments. Sauvages and Haller inclosed blood in a thermometrical tube, and found that in the heat of boiling water it did not dilate $\frac{1}{200}$ part of its bulk. When, therefore, heat assists the production of hæmorrhage, it is rather by diminishing resistance, and increasing the irritability, which disposes to irregular action. 2. A sudden diminution of the weight of the atmosphere is said to have the same effect, and the facts adduced in its support are the bleedings from the lungs in ascending high hills. Later experience seems not to have confirmed this opinion, but to have attributed the hæmorrhage to the difficulties of the ascent, in lungs previously weak, since the accident is chiefly confined to such habits. 3. Violent exercise and violent passions certainly contribute to the production of hæmorrhage, particularly exercise of some organs, as of the voice, in producing hæmoptysis. 4. Ligatures, on particular parts or postures favouring a particular determination of the fluids. 5. Cold, particularly if applied suddenly to the lower extremities.

The first question to be considered when we are to speak of the *cure of hæmorrhages* is whether they are to be left to the regulations of nature, or be relieved by art. Dr. Stahl and his followers thought discharges of blood owing to the exertions of nature to remove an habitually plethoric state, and that when the vessels were sufficiently depleted the wound would close. We have admitted that when faintness came on, the hæmorrhage would cease; but it is highly proper not only if possible to prevent the occurrence, but to diminish or check the discharge. We cannot allow that nature, if all powerful, is all wise. If a person is plethoric she will sometimes discharge the load on the brain, sometimes on the lungs, where immediate death may ensue, instead of the stomach, where the blood would not be injurious. She does not when the plethora is removed prevent its recurrence, but stores up fluids for a return of the disease. In short, as in many other situations, nature must be superseded or checked in her operations, and hæmorrhages cured by art; for a recurrence, against which she has not provided, will occasion hydropic swellings; and in the lungs, her most common outlet, a consumption may be the consequence.

The chief foundation of what may be styled the hæmorrhage diathesis is plethora. It is necessary for various purposes of the animal economy that the arterial system should be kept full, and even distended. The arteries are kept full, whatever be the quantity of fluids, by the elasticity of their external coat, and the contractility of the muscular: they are kept distended by that portion of the fluids necessary to counteract this elasticity and contractility. Fulness is therefore relative: when only in that degree which excites a proper tone it is salutary; when beyond, it is morbid tension. So necessary is a fulness of the vessels, that nature is always anxious to keep it to the proper degree, and even in excess. Plethora is consequently the most frequent morbid state, and hæmorrhages very frequent diseases. The means of relieving plethora, while constantly counteracted by nature, are not easy. Fluids evacuated either by nature or art are soon supplied, as we have said, by the stoppage of the secretions; and consequently *bleeding*, the most obvious means, is only a temporary relief. It is a suspicious one, as the quantity is soon restored; and it is injurious, as laying the foundation of a habit which cannot with advantage be always obviated, or without danger neglected. It is, however, often absolutely necessary, to prevent fatal consequences; for suddenly to deplete will alone occasion that faintness to which the cessation of the discharge is most commonly owing. A more certain method of obviating plethora is by *diet*, and *increasing the excretions*. Though nature constantly keeps the vessels full by regulating the secretions, yet it depends on ourselves neither to fill the vessels rapidly with the most nutritious fluids, nor to keep them distended by inactivity. A light vegetable diet does not produce nourishment, either copious in quantity or rich in quality; and it prevents plethora, by being at the same time cooling and laxative. With this diet, moderate exercise is useful; and this is perhaps only contra-indicated in hæmoptysis. Exercise, while it fills the vessels of the surface, whose united areas we have found to be considerable, promotes that insensible discharge which we have shown to be so highly salutary; and if conducted so as not to increase the vital heat, or accelerate the circulation, is highly useful. Another equally obvious method of avoiding plethora is by *laxatives*. These should be mild and gentle; of that kind which excites the discharge from the excretories, rather than that which stimulates the muscular fibres of the intestines. The neutral salts are particularly valuable in this view. Of the other evacuants we cannot speak highly as obviating plethora, though the topical ones which obviate partial plethora are of singular utility. These are cupping glasses, leeches, setons, issues, and blisters. Each acts by drawing the fluids to the surface: each by partially evacuating them. In this general view we need not enter into their comparative merits, and perhaps on the whole a preference cannot be easily assigned. Neither acts with rapidity, except perhaps the cupping glasses, and they are prophylactic rather than curative remedies.

A very effectual method of curing hæmorrhages is by moderating the impetus of the blood, on which they so greatly depend. The first medicines to be employed are *refrigerants*; and the most effectual of these is cold water, internally; occasionally with frequently repeated, rather than large, doses of nitre. The latter is a remedy of the greatest importance; an "instar omnium" in these complaints, especially when saline purgatives are interposed. External cold is equally useful;

to which we should add, avoiding the irritations of light, heat, noise, and agitation of either mind or body. It must be remembered, that, when we spoke of cold as a means of producing hæmorrhage, it was its sudden application, particularly to the extremities. In the cure of hæmorrhages, its continued application is chiefly necessary. *Sedatives* are equally useful with the same views; but opium is, as we have said, a doubtful remedy, as supposed to unite a stimulating power. Faintness, and even that degree of it produced by nauseating doses of medicines, checks the discharge; and, perhaps, that faintness induced by injecting tobacco smoke into the rectum may have the same effect. We are confident that the digitalis has been useful chiefly in this way.

Another method of curing hæmorrhages is by *derivation*. For this purpose, rubbing the feet with mustard, or putting them in warm water, has been advised; but the operation of the last remedy is suspicious: if the water is too warm, and the pediluvium too long continued, greater injury than advantage will result. To this head also the effects of blisters and cupping, without scarifications, may be, in part, referred.

Astringents have been liberally employed; a practice probably suggested by the benefit derived from their external application to wounds. Internally, as we have stated under the head of Hæmoptysis, q. v., they are of doubtful and suspicious efficacy, unless they are such as unite a sedative power. We mean not to include in this censure astringent applications in bleedings of the nose, for these are external remedies.

Saturnine remedies are the doubtful astringents we have alluded to: they are very certainly sedatives of the most powerful kind, and an exception to the tonic powers of metals in general. Every preparation of lead is, however, supposed to be deleterious, and the cause of the colica pictonum; but scarcely in any instance does lead produce this effect, except from long continuance. Dr. Reynolds' courage has been extolled in ordering a grain of acetated lead in a single dose. Five times that quantity may be given twice a day for some days, interposing only an oily laxative every other day. We have often employed it in hæmorrhages, sometimes with success; but it is certainly inferior in its sedative effects to nitre.

Preventing the return of the blood to the heart by means of ligatures on the extremities has been a mode of relieving hæmorrhages; but the plan is injudicious, and it will scarcely in any instance succeed, unless after a few minutes trial; for the course of the blood in the arteries is soon interrupted, and an increased impetus of the whole circulating system is the consequence.

Various are the objects of superstition and horror employed for the same purpose, and probably with success; for terror annihilates every function, checks the circulation, and will even produce the deliquium which is the constant cure of the complaint.

Among the causes of hæmorrhage, we have mentioned that want of energy in the arterial system which prevents the circulation being carried on to the extremities. Practitioners may often observe hæmorrhages, with some appearances of activity, in the debilitated and the indolent of spare habits, without any marks of plethora. Such patients can scarcely be reduced lower; and we have found a fuller diet, exercise, a moderate quantity, or rather an additional quantity, of port wine, not only useful but necessary in such cases of hæmoptysis.

Passive hæmorrhages are those which are independent of fever, and in which the blood is poured out either by anastomosis or rupture of vessels. The former term is perhaps not sufficiently correct: it means a discharge of blood through the exhalants. Rupture of the vessels, however, is not uncommon in the last stage of debility, or in old age. All the appearances of catamenia in the advanced periods of life, are probably rather passive hæmorrhages than the proper menstrual discharge. Perhaps, in a strict view, all ruptures should be excluded from this class; but if no effort is perceivable, no increased impetus obvious, we are not authorized in supposing that any exists.

The causes of passive hæmorrhages are either extreme debility, or a dissolution of the blood. The serum is dissolved in the serosity by the means of neutral salts; and an alkali, or even common salt, carried in an unusual quantity into the circulating system, will apparently produce a dissolved state of the fluids. From Dr. Stark's experiments, it is probable that sugar, used in excess as an article of diet, will have a similar effect. Some poisons will, it is said, produce this disease. The hæmorrhois of Lucan may be fabulous; but the effects are peculiarly striking.

> "Sanguis erant lacrymæ: quæcunque foramina novit
> Humor, ab his largus manat cruor: ora redundant,
> Et patulæ nares: sudor rubet: omnia plenis
> Membra fluunt venis: totum est pro vulnere corpus."

Strange, however, as it may appear, we have seen even this picture realized, in a stout young farmer, without any known cause. We have seen it in a less degree in a delicate woman from excess of nourishment, taken for a supposed weakness. Each recovered: the first by the most active exhibition of the bark and mineral acids, the other by regulation of diet. In the former the muscular strength was apparently not impaired.

The cure of passive hæmorrhages chiefly depends on tonics; and of these, as we have said, the bark and the mineral acids are the most effectual; but even passive hæmorrhages are often relieved by refrigerants, particularly by nitre.

In external hæmorrhages the blood chiefly proceeds from the arteries; for even the bleeding from a large vein, if divided, ceases, from fainting coming on. When the wound or the size of the artery is considerable, a tourniquet above the wound is necessary; but in slight cases a compress of lint, or of lint mixed with the powder of vitriolated copper, confined with a proper bandage, is sufficient. The needle and ligature are sometimes necessary. See Wounds of the arteries.

Hæmorrha'gia na'si, *epistaxis* of Cullen, in the class *pyrexiæ*, and order *hæmorrhagiæ*. He defines it pain or load of the head, flushing of the face, with a flow of blood from the nose, of which he names one idiopathic species, *hæmorrhagia plethorica*, and six symptomatic; four from internal, and two from external, causes. Hippocrates means by epistaxis, repeated distillations of blood from the nose; and Fernelius observes, that "persons whose viscera and liver are weak

and scirrhous are subject to frequent hæmorrhages of the nose, as well as dropsical patients;" but, in general, it is the disease of the young and the plethoric.

The causes, in general, are the same as in other morbid hæmorrhages.

Epistaxis is often preceded by some degree of quickness in the pulse, flushing in the face, pulsation in the temporal arteries, heaviness in the head, dimness of sight, heat and itching in the nostrils; preceded, like other hæmorrhages, by a stricture of the skin, chilliness, lassitude, and often costiveness.

In many instances the loss of blood by the nose is salutary, as in fevers, vertigo, headach, epilepsy, dimness of sight. Those who in childhood often bleed at the nose when older become subject to hæmoptysis, rheumatism, and hæmorrhoids. When considerable headach has preceded, or the patient been subject to vertigo, or other diseases proceeding from too great an accumulation of blood in the vessels of the brain, bleeding at the nose should not be rashly checked. In fevers, when there is a load in the head, the same caution has been given; and it is, perhaps, the safest general rule: but we think even in the beginning of fevers we have found it lower the strength in too great a degree; and it should be apparently regulated rather than permitted to proceed till the patient faints. The nose is peculiarly adapted to deplete the arteries of the brain, as its vessels are numerous, their coats thin, and they are supplied with blood both from the external and internal carotids, which freely anastomose in this organ.

When it is to be checked, the remedies, mentioned under hæmorrhage, will be proper; but particularly nitre and the neutral laxatives. A cold wet napkin, or a sponge full of cold vinegar, with water, may be applied to the forehead and nose; and any thing very cold put down the back will occasion a shiver, during which the bleeding is checked. Dossils of lint, wetted with water, or oxymel, are often advantageously introduced into the nostrils.

When, notwithstanding every medicine and application, the blood continues to flow from the nose, the following method is often effectual. The hint of this method of stopping up the nostrils and passage to the throat is taken from Le Dran's Operations, case vi. in the Remarks, and easily cures the complaint. "Take a piece of strong sewing silk, wax it well, and to one end of it fasten a dossil of lint; then take a piece of catgut (about the size of the second string of a violin,) and introduce it up the bleeding nostril: when you perceive it in the mouth, take hold of its end with the forceps, and draw it out from thence, make a knot upon it, and fasten the end of the waxed silk to it; then withdraw the catgut back again by the nostril, take hold of the silk, and pull the dossil of lint into the posterior nostril; after which stuff the anterior nostril full of lint, and thus you certainly stop the bleeding. After a few days the lint may be taken away." See Hoffman; and Van Swieten's Commentary on Boerhaave's Aphorisms; Cullen's First Lines, edit. 4. vol. ii. p. 256; Bell's Surgery, vol. iv. p. 70; London Medical Transactions, vol. iii. p. 217; White's Surgery, p. 263.

Hæmorrha'gia uteri'na. See Menorrhagia.

Hæmorrha'gia hepa'tis, vel intestino'rum. See Melaina, and Morbus niger.

Hæmorrha'gia re'num, vel vesicæ. See Urina.

HÆMORRHOIDA'LIS, (from *hæmorrhois, the piles*). Hæmorrhoidal fever. It is of short duration, and considered as symptomatic. Vogel defines it an ephemera, attended with pain of the spine, piles, or at least painful varices, breaking out about the fourth day, which terminate the disease.

Hæmorrhoida'le, or hæmorrhoidalis he'rba, (from *hæmorrhois, the piles*). See Chelidonium minus.

Hæmorrhoida'les arte'riæ, (from the same). Hæmorrhoidal arteries. They are the external and internal.

Hæmorrhoida'lis inte'rna arte'ria (see Mesentericæ arteriæ), soon divides into branches, one of which runs down behind the intestinum rectum, to which it is distributed into several ramifications, and communicates with the arteriæ hypogastricæ.

Hæmorrhoida'lis exte'rna arte'ria. See Pudica arteria.

Hæmorrhoida'lis exte'rnæ ve'næ. The external hæmorrhoidal veins. They spread about the intestinum rectum and anus; and proceed from the hypogastricæ venæ: they communicate with the hæmorrhoidales internæ.

Hæmorrhoida'lis inte'rna ve'na. *Mesaraica minor vena.* The internal hæmorrhoidal vein; the *lesser mesaraic vein.* It is called *hæmorrhoidal*, from the tumours often found at its extremity next the anus, and is one of the three great branches of the vena portæ ventralis, though sometimes it springs from the splenica: it sends a branch to the duodenum from near its beginning; then it is divided into two branches, one of which ascends, the other descends; the descending branch runs down on the left portion of the colon on its lower incurvations, and on the intestinum rectum to the anus. The hæmorrhoidal veins have no valves.

HÆMORRHOI'DES, (from αἷμα, *blood*, and ῥέω, *to flow*). The hæmorrhoids, or piles. A discharge of blood from the hæmorrhoidal veins, called the *open* or *bleeding piles:* when instead of this hæmorrhage there are large tumours, generally painful at the lower part of the rectum, they are called the *blind piles.* The disease is placed by Dr. Cullen in the class *pyrexiæ*, and order *hæmorrhagiæ;* and he defines it a heaviness, or pain of the head, giddiness, pain of the loins and of the anus; livid painful tubercles about the anus, from whence blood generally issues, which sometimes also flows without the appearance of any tumours. He distinguishes four species:

1. Hæmorrhois tumens, when there are external swellings on the edge of the anus, called *mariscæ*, distinguished by the terms bloody and mucous.

2. Hæmorrhois procidens, when the piles are external, and caused by a bearing down of the anus.

3. Hæmorrhois fluens, when the piles are internal, without external tumour or bearing down of the anus.

4. Hæmorrhois cæca, when there are pains and tumour about the anus, without any discharge of blood. In some cases there is a discharge only of mucus; and the disease is then called *leucorrhois.*

Dr. Cullen thinks the hæmorrhois often depends upon a certain state of the whole body; but it is often a mere local complaint. He would, not, therefore,

refer a complaint of this sort to local diseases; because some piles, though in the beginning they may be merely local, if they should return often, as is usual, at length become habitual, and a general disease. Every species of the piles should be arranged therefore, in his opinion, amongst general diseases.

From dissections, this disease is supposed to be an ecchymosis in the cellular membrane of the lower part of the rectum, from the extremities of the neighbouring vessels: if this be true it accounts for the great loss of blood without loss of strength; for it is gradually emptied into the ecchymosis, and from thence only pours out in appearance so copiously.

There is seldom much discharge from the external hæmorrhoidal vessels, but they readily admit of painful varices. The internal hæmorrhoidal vessels not only discharge copiously, but, when this discharge is suppressed, disorders of the liver, spleen, pancreas, mesentery, and intestines, seem to be produced.

These general views of hæmorrhois have, however, always appeared to us unsatisfactory. Though the lax texture of the hæmorrhoidal veins admits of congestion, and, when a part of the intestine is inverted, the sphincter necessarily checks the return of the venal blood; yet these circumstances by no means explain the phenomena of this intricate disease. We have frequently alluded to the opinions of the German physicians, at the head of whom is Stahl, that the discharge is salutary, to repel it dangerous, and to promote it the best method of relieving various diseases of the viscera and head. Dr. Cullen is willing to refer all these effects to the hæmorrhage having been long established and become habitual. A distinction, however, so obvious could not have readily escaped even a prejudiced observer; but we believe it to be a fact, that even repelling the painful varices, or checking the discharge before it has become habitual, sometimes produces inconvenience. It is not also easily explained why such inconsiderable tumours should form an obstruction capable of exciting the action of the whole arterial system, and pouring out blood from its branches. If it is a fact also, that diseases of the liver are relieved by these discharges, it would be singular that the external as well as the internal tumours should have equally such a salutary effect, since the internal hæmorrhoidal vein only contributes to form the vena portæ. In short, every view of this kind is attended with considerable difficulties, which can only be eluded by at once denying all connection of hæmorrhoids with the general system, except when it becomes an habitual discharge. But it appears rash and presumptuous to deny, at once, what has been established in the opinion of able and experienced practitioners; opinions not hastily taken up, and as quickly resigned, but apparently resting on facts, the result of the observation of many years, in different and distant countries.

It may then be asked, are the hæmorrhoids varices only portions of veins enlarged? They may be so in many instances; but round, *circumscribed*, tumours are not readily explained, when we consider that the hæmorrhoidal veins have no valves: the very acute pain attributed to inflammation is not readily explicable, when we consider the great laxity of the coats of the veins, and the very few vessels found on them. Add to this, that an hæmorrhoidal tumour, when punctured, seldom bleeds; that leeches do not more quickly fill themselves in this part than any other of the body. It is highly probable then that these tumours are not varices, but small follicles inflamed, generally painful, and on the evacuation of a costive stool excruciatingly so. Such small bodies, suspected to be glands, certainly exist near the verge of the anus, and have been supposed to resemble the carunculæ myrtiformes at the entrance of the vagina.

If these are admitted to be the substance of the hæmorrhoidal tumours, many of the difficulties will be removed, and some consistency given to the various phenomena of the disease; but to elucidate this subject, we must enlarge a little, as we have proposed, on the progressive changes in the balance of the circulation. We had purposed to defer it to the article MAN (HOMO), where we intended to collect all those circumstances relative to his structure and constitution, both mental and corporeal, which cannot with advantage be displayed in distinct articles; but the application of these considerations will be more obvious in this place.

The vital fluid is contained in corresponding vessels, styled arteries and veins; but the former only are active powers. In the veins the blood is propelled by the adventitious aid of other muscular organs, secured in each step by valves. It is evident, therefore, that for the necessary support of the body, the action must bear some proportion to the resistance; for were either too great, the arteries would be emptied or infarcted. On inquiry, it appears that the proportion of the action to the resistance differs in different periods of our existence. Sir Clifton Wintringham showed, by experiment, that the density of the coats of the veins was greater in proportion to that of the coats of the arteries in young persons than in old. This proportion is gradually changing; and, after the acme of life, they are more nearly equal, or the resistance of the veins is little in proportion to the action of the arteries. If we look at the progressive growth of the body, we shall find this very wise distribution answers some important purposes; for the arteries, thus kept full, contribute to the evolution of the organs in succession; a change probably effected by expanding the nervous fibrils, which we have styled the *moule interieure;* and the same resistance throws the fluids into the exhalants, by which the nutritious particles are applied. This arrangement is no longer useful than during the increase of the body. The proportional action and resistance are, for a time, stationary; but at last the veins yield, and venous plethora is conspicuous. This is the period for apoplexies, for humoral asthmas, for infarcted viscera, and, to come nearer our object, for the bleeding piles.

In this succession we have already shown that the enlargement of the head first takes place, and its vessels are consequently filled. We trust it has not escaped our readers that we have anxiously pointed out the magnitude, the extent, and the dilatable structure of the venous system of the cerebrum, to show that nature carefully designs to keep the arteries full. Her object in this is from the present purpose; but though the resistance of the veins is considerable, a rupture of arteries, so carefully secured by a bony resisting covering, is prevented, and the anastomosing branches of both carotids yield to any increased impetus very easily in the nose. Hæmorrhages, from that organ, prevent the active hæmorrhagia cerebri; an appellation given by Hoffman

to apoplexies in young persons. Where the resistance in early age is considerable, it probably disappears more quickly; and from fifteen to thirty-five this danger from distended arteries is chiefly perceptible in the lungs. This point we have fully considered in the article Hæmoptysis, q. v. It next appears in the epigastric, and successively in the hypogastric, region.

If in early age we perceive active hæmorrhages in the brain, in the more advanced periods we perceive similar effects from venous plethora. We then find those apoplexies and palsies from a languid circulation, in other words, from weakened resistance of the venous system. In the lungs we find, from the same cause, humoral asthma and hydrothorax; in the epigastric region, infarcted liver, and the morbus niger; in the hypogastric, hæmorrhoids. If we judge right, hæmorrhoids are of two kinds. It is a disease of youth, as well as of maturer age; and, in the former, is often acutely painful, without evacuations; in the latter, less commonly painful, but usually attended with bloody discharges. In each it seems a salutary determination from parts otherwise overcharged; and this we think is proved by many facts. In the very painful hæmorrhoids of young persons, saturnine and cold applications, which relieve pain, often induce sickness and faintness. In speaking of fistula, we have shown that checking the discharge is often injurious, and that consumptive symptoms frequently follow the operation and the healing of the wound. We will admit that such consumptions are connected with the state of the liver; but so far as we have seen, and the cases are not few, the age is not that of biliary congestions, but of accumulations in the lungs, viz. the consumptive period, from fifteen to thirty-five, generally from eighteen to thirty. It appears then highly probable that congestions on the thoracic viscera are relieved by others on these parts, and we thus see the connection of hæmorrhoids with the general health, independent of any venous conpection with the liver. In these cases, the parts inflamed are carunculæ already mentioned, and the inflammation is active. Yet in the hæmorrhois of advanced life, such congestions evidently take place. The disease is the venous, and the tumours, in the greater number of instances, varices: they bleed, and the patient is relieved. Congestion and inconvenience follow, to be again obviated by a recurrence of the hæmorrhage.

Those who are of a lax habit, disposed to eat heartily, and drink freely; who indulge in ease, and are habitually costive; are the most subject to this disorder.

Hæmorrhoids are, however, often local diseases: when the uterus presses on the neighbouring trunks of the veins, the hæmorrhoidal vessels swell, and often discharge blood. When resinous purgatives, which are slowly dissolved, and act only on the rectum, are exhibited, the piles follow; and this effect is particularly produced by aloes, sometimes by rhubarb. These are, in general, true varices; and the tumours are livid, soft, and bleed freely on being punctured; but the other tubercles in the anus, styled *piles*, are hard, and exquisitely painful.

The eruption of the hæmorrhage in the open piles is often preceded by spasmodic strictures, flatulencies, pain about the os sacrum, and various other symptoms, which disorder the whole frame. In the beginning of excessive discharges the blood is black and grumous, afterwards redder, and at last it is mucous; at length the strength is impaired, the pulse is languid and trembling, a cachexy, a fatal hectic, or dropsy, comes on.

The piles are always readily distinguished; and attention is only required to prevent their being confounded with the colic, dysentery, or with syphilitic tumours about the anus.

When attended with an infarcted liver or spleen, a fatal hectic is the consequence: when the discharge is excessive, a dropsy. On the contrary, moderate discharges from the hæmorrhoidal veins are supposed to relieve a constitution oppressed by the gout, asthma, sciatica, diseases of the kidneys or bladder, hypochondriasis, hystèria, or mania. Those discharges only are deemed morbid by which the patient is enfeebled, and the constitution injured.

The general indications are, 1. To take off the increased impetus to the seat of the disease by bleeding and small doses of ipecacuanha. 2. To induce an astriction on the relaxed vessels; and for this purpose alum, the oak bark, or galls, may be employed. 3. To avoid all irritation, by regulating the stools, avoiding violent exercise and highly seasoned meats. An incautious use of improper diet will render the best medicines ineffectual in this disease. In general it should be light, cooling, and laxative. If, however, the distinctions we have endeavoured to establish be well founded, the hæmorrhoids of young persons should be treated as active inflammation, or a deposition of morbid matter, and the general regimen of Hectics, q. v. with a little more active depletion, may be employed.

Bleeding at proper intervals, where there is a sanguine plethora, will in some measure prevent the returns, or at least moderate their violence. Topical bleeding by leeches or punctures are also useful, though care must be taken that the leeches do not escape into the rectum. If that accident should happen, injections of a solution of common salt are the proper remedy; but the animal is soon gorged, and may then be destroyed.

When the disorder assumes a chronic form in the more advanced periods of life, and the piles do not bleed, they are attended with considerable pain; in which case dossils of lint, dipped in warm olive oil, may be applied; or olive oil, with an equal portion of brandy, or of tincture of opium, may be spread on soft rags, and retained by the T bandage. Saturnine applications relieve pain; but we have often found them produce sickness and faintness. Emollient fomentations and poultices, when the pain is excessive and inflammation violent, are useful. In this case also Mr. Ware recommends cutting out the principal pile, which is usually larger than the surrounding ones, with a pair of crooked scissors. This relieves the pain and inflammation; and the hæmorrhage, he says, is trifling. It could not be then an inflamed varix. If the piles are troublesome by their bulk, they may be dressed with a mixture of simple lime water, adding a small quantity of camphorated spirit of wine and a little of the cerussa acetata. See Gallæ.

The bowels must be kept lax; and for this end the electarium e cassia is preferable to the electarium e senna comp. Sulphur, and the oleum ricini, are also useful laxatives. The former is supposed to have a specific effect in this disease, though later practitioners consider it only as a mild laxative. The long time during which

it remains in the intestines, previous to its operation, seems to show that it acts exclusively on the rectum, and supports in some measure the idea of a specific action. The walnut is supposed to have a similar effect, and the preserved walnut is said to be a very useful laxative in this complaint. A mixture of soap and wax we have found highly useful. When the intestine protrudes after a stool, the patient should be placed in bed, the protruded gut supported, and in this case the sphincter relaxing the intestine is restored.

If the case requires the assistance of a surgeon to check the hæmorrhage, a cooling purge may be administered, and, five or six hours before any operation, a clyster injected. The patient must then be laid in the proper position, and the operator may tie up the bleeding veins with a needle and thread; taking hold of any tubercles with the forceps, he may tie or cut them off. If the hæmorrhage continues, lint, with proper compresses, and the T bandage, should be applied. If the veins are high in the rectum, it must be distended with a convenient instrument until the operator can reach them. If the blind piles encompass the anus so as to prevent the discharges by stool, and prove otherwise troublesome, the largest may be removed by a ligature; the application of warm spirit of wine, or other repellants, will not disperse it. If the distended vein is high and inflamed, it may be opened with a lancet. When from long continued piles a fistula is apprehended, *Ward's paste* is sometimes useful. It consists of a pound of elecampane root, with half as much black pepper, and a pound and half of fennel seeds, made into a paste with honey. When the piles are apparently continued from relaxation, two drachms of the tincture of muriated iron, with about a drachm and a half of opium, and four ounces of barley water, may be injected as a clyster twice a day.

See Hoffman; Heister's Institutes; Lobb on Painful Distempers; Le Dran's Operations; Cullen's First Lines, vol. ii. p. 424. edit. 4; Bell's Surgery, vol. i. p. 249; White's Surgery, p. 383.

HÆMORRHOI'DES EXCEDE'NTES; *immódicæ; polypósæ*, belong to the *hæ'morrhois túmens*; the *hæ'morrhoides decolorátæ*; the *hæ'morrhoides álbæ* and *múcidæ*, differ only in the appearance of the discharge, which is mucous, not bloody. See HÆMORRHOIDES.

HÆ'MORRHOIS AB EXA'NIA. See HÆMORRHOIS PROCIDENS.

HÆ'MORRHOUS, (from *αἷμα*, *sanguis*, and *ῥέω*, *fluo*). The name of a poisonous serpent (see P. Ægineta, lib. v. cap. 15,) or those large veins, which, when opened, discharge the blood copiously. Hippocrates.

HÆMOSTA'SIA, (from *αἷμα*, *blood*, and *ἵστημι*, *to stand*). A general stagnation of blood from a plethora.

HÆMOSTA'TICA, (from *αἷμα*, *blood*, and *στέλλω*, *to stop*). Medicines which stop hæmorrhages.

HÆ'RMIA. An Indian fruit, said to resemble pepper (see Lemery des Drogues;) not noticed by botanists.

HAGIOSPE'RMON, (*ἅγιος*, *holy*, and *σπέρμα*, *semen*; from its reputed virtues). See SANTONICUM.

HAGIO'XYLON, (*ἅγιος*, *holy*, and *ξύλον*, *wood*; from its virtues). See GUAIACUM LIGNUM.

HAIR. See CAPILLUS and PILUS.

HAIR WORM. See GORDIUS.

HAIR LIP. See LABIA LEPORINA.

HALCHE'MIA, (from *ἅλς*, *salt*, and *χέω*, *to pour out*). The art of fusing salt.

HA'LCYON, (from *ἅλς*, *the sea*, and *κύω*, *to bring forth*; a bird which lays its eggs in the sea). See ALCEDO.

HALCYO'NIUM, (from *ἁλκυών*, *the king's fisher*, which is supposed to build its nest with it). The spume or froth of the sea.

HA'LEC, *harengus*, the HERRING. Pickled herrings are applied to the soles of the feet as sinapisms. Fresh herrings are supposed to be alkalescent, and are useful when an acid prevails in the stomach. It is an oily food, and often disagrees. See ALIMENT.

HALICA'CABUM, (from *ἅλς*, *the sea*, and *κακάβος*, *nightshade*; because it grows on the banks of the sea). See ALKEKENGI.

HA'LICES. Yawning after sleep.

HA'LIMUS, (*ἅλς*, *the sea*; from its brackish taste); *portulaca maritima*; *atriplex maritima angustissimo folio*; *atriplex portulacoides* Lin. Sp. Pl. 1493; COMMON SEA PURSLANE, and TREE SEA PURSLANE, is found in marshes; flowers in July and August. Dioscorides tells us that the leaves are eaten as food; and Ætius, that the buds are used as pickles. The plant is warm, and when pickled is supposed to assist the appetite and digestion.

HALINI'TRON, (from *ἅλς*, and *νίτρον*). NITRE; more probably ROCK SALT.

HALLUCINATIO'NES, (from *hallucinor*, *to err*). See DYSÆSTHESIÆ.

HA'LMYRAX, (from *ἅλς*, *salt*). The nitre produced in the valleys of Media.

HALMYRO'DES, (from *ἁλμυρός*, *salted*). An epithet of some fevers, in which, according to Galen, the external parts communicate to the touch such an itching sensation as is perceived from handling salt substances. When applied to the skin, it signifies a roughness as if salted. It is also an epithet for many excretions that are salt and acrimonoius.

HA'LO, (from *ἅλως*, *an area*, or *circle*. See AREOLA.

HA'MBARA, and HA'MBRUS. See SUCCINUM.

HAMPSTEAD WATERS. See AQUÆ MINERALES.

HA'MULUS. An anatomical term applied to any process resembling a hook, as that in the pterygoid bone.

HA'MUS. A hooked instrument for extracting a dead child from the uterus.

HA'NDALA, (from *handal*, Arab.). See COLOCYNTHIS.

HAOU'VAY. See AHOVAI THEVETECLUSII.

HA'PSIS, (from *ἅπτω*, *to connect*). The sense of FEELING. It also signifies the connection of bandages; and *ἁψὶς φρενῶν*, in Hippocrates, signifies madness, delirium, or loss of reason.

HAPSICO'RIA, (from *ἀψικορος*, *fastidious*). LOATHING; as the "conviva satur."

HARE'NGUS. See HALEC.

HA'RMALA, (from *harmal*, Arab.) *ruta sylvestris*. ASSYRIAN WILD RUE. *Peganum harmala* Lin. Sp. Pl. 638. Its leaves are longer and narrower than the common rue, with but little scent: it grows in Spain and in the east, resembles the common rue in its qualities; but is rarely used. Raii Historia. See RUTA.

HARMA'TTAN. A prevailing wind on the coast of Africa, between Cape Verd and Cape Lopez, during the months of December, January, and February. (See Philosophical Transactions, vol. lxxi). It demands a place in this work, on account of its singular dryness, and its effects on the human body. The wind passes over the burning deserts of Africa, and is so dry that it rapidly absorbs moisture, and in a very short time the leaves and all the more tender plants are parched like hay. The skin becomes dry and chapped, the nose and lips sore, the fauces arid, and the sweat from the parts defended from its influence is highly acrid. Yet it is generally accounted healthy; though Dr. Lind gives it a different character, who calls it a fatal wind, perhaps confounding it with a simoon.

HARMO'NIA, (from ἁρμω, *to fit together*). In anatomy it is a species of articulation, where two thin bones meet and lie over each other.

HA'RMOS, (from the same). See Gingivæ.

HARPA'STRUM. A species of exercise with a ball.

HA'RPAX, and HA'RPAGA, (from ἁρπαζω, *to seize*). See Succinum. Also a mixture of quicklime and sulphur.

HARROWGATE WATER, a salt, purging, sulphureous water; the strongest in Great Britain, of the heat of 92°, but it does not lose its sulphureous smell even in a boiling heat. It is perfectly clear; and in taste and smell resembles rotten eggs and sea water combined. It was doubted whether these waters contained any sulphur: but it is now ascertained, and the sulphur is in the state of hepar sulphuris. A gallon of this water contains one pennyweight twelve grains and a quarter of carbonated lime; four pennyweights twenty-three grains of muriated magnesia; and an ounce seven pennyweights and twelve grains of sea salt. It contains also four ounce measures of acidulous gas, and thirty-five of fetid inflammable gas, such as is separated from hepar sulphuris by vitriolic acid. In small quantities these waters prove diuretic; in large, purgative. They are extremely useful in cutaneous and scrofulous disorders; in piles; as anthelmintics, destroying, if employed so as to purge, lumbrici and ascarides; and in debility of the digestive powers. In dropsical, scorbutic, and gouty cases, they are highly recommended. Externally they are considered as discutient and attenuating; and, used as a warm bath, remove stiffness and pains of the joints from strains, hard or scrofulous tumours, and greatly improve the state of old ulcers. When first drunk the water occasions slight giddiness and headach, which are carried off by its laxative effects. It should be used cold and fresh from the spring; and it has been employed externally in form of washes, fomentations, and baths, particularly in cutaneous diseases. See Monro on Mineral Waters, and Garnett on Harrowgate Water. At Harrowgate is also,

1st. The *sweet spa*, which strikes a light purple with galls, and from a gallon affords, on evaporation, a scruple of solid matter at one time, and eight grains at another: of these sediments, above one half was earth, the rest a vitriolated magnesia.

2. *Tuwhet*, of which a gallon yielded at one time thirteen grains, at another nineteen, of which three fifths were calcareous earth mixed with ochre, the rest vitriolated magnesia. It was discovered in 1638, and formerly the only one used internally, chiefly in nephritic cases.

3. *Alum well*, which, from its roughness, was supposed to contain alum; but seems to be impregnated with vitriolated or carbonated iron. Dr. Short properly considers these as chalybeate springs.

HARTFELL WATER, issues from the Hartfell mountain in the county of Annandale, Scotland. It is quite pure and pellucid; has a chalybeate and so strong a styptic taste, that it was suspected to contain alum; but, by being exposed to the open air, it becomes weaker, and is observed to be stronger in wet than in dry weather, so that it is mose probably a chalybeate; and on evaporation afforded 0.9 of vitriolated iron. Some portion of iron is also suspended by carbonic acid.

This water is recommended in cases where chalybeates are useful; in menorrhagia, fluor albus, gleets, old dysenteries, in diseases arising from relaxation, and in some circumstances of hectics. It sometimes at first produces giddiness, and consequently small quantities should be first used. A pint is a sufficient dose in one day. See Monro on Mineral Waters.

HA'STA RE'GIA. See Asphodelus luteus.

HASTA'TUS, (from *hasta*, *a spear*). Botanically it is applied to a leaf which resembles the head of a halbert.

HASTE'LLÆ, (a diminutive of *hasta*, *a spear*). Splints used in fractures.

HAUD, (Arabic). Wood; the Arabian name of *agallochum*, by way of eminence, *the* wood. It is distinguished by different appellatives, as *haud alcumeri*; *haud hend*, and *haud heud*.

HAU'STUS, (from *haurio*, *to swallow*). A draught. Draughts are only single doses of medicines in a liquid form; vomits, purges, opiates, and such as require great nicety in the dose, are given in draughts. This form of medicines is sometimes employed merely as a vehicle for pills or powders, and is then usually pleasant, and very slightly, if at all medicinal. Highly nauseous medicines, heavy and insoluble powders, or substances which very quickly ferment, are improper to be given in draughts.

HA'VEA GUIANE'NSIS. See Caoutchouc.

HAVE'LIA. See Hura.

HAVE'RI GLA'NDULÆ. Havers' glands. They are the sinovial glands, and called from *Havers*, who first discovered them.

HEAT VITAL. See Calidum innatum.

HAZEL NUT. See Avellana.

HEALTH. See Hygieine.

HEBDOMADA'RIA, (from ἑβδομας, *a week*,) one of the febris erraticæ.

HE'BE, (from ἡβαω, *to grow ripe*). The hairs which grow upon the pubes; the part on which they grow; or the age when they appear.

HEBI'SCOS. See Althæa.

HE'CTICA, vel E'THICA, (from ἑξις, *habit*,) the symptomatic fever; irregular intermittent fever; fever of suppuration; and slow fever. Hippocrates describes this fever under the name of *phthisis:* But Celsus is the first who speaks of it under that of *hectic*, and he directs the cure; what were afterwards called *slow hectic fevers*, were, among

the first physicians, called *tabid*, or *long continued fevers*, or *marasmi*. At present by this term is meant slow, but long continued, fevers, which induce consumption, and impair the strength. Dr. Cullen considers hectic always as symptomatic. He describes it a fever returning every day, with meridian and evening accessions; with remissions, but seldom a total freedom from fever; generally attended with night sweats, the urine depositing a lateritious branny sediment. He adds, that as all nosologists have admitted the hectic amongst the number of fevers, he has given its character; but that he never had observed a fever of this sort except when symptomatic, therefore he could not admit it to be enumerated amongst idiopathic fevers. In many examples given by Sauvages this fever is certainly symptomatic: but to prove a negative is very difficult; and if no internal disease to which it can be traced as a symptom can be discovered, we must allow it to be occasionally idiopathic. It has been called *febris remittens chronica non critica*, as it has no crisis, and is of long continuance.

On dissecting patients whose death was the consequence of a hectic, abscesses in some of the viscera, scirrhous or steatomatous tumours, are very often found.

Intemperate drinkers, and those who indulge in excess of any kind, are very subject to it; and disordered glands, abscesses, or ulcers in the internal parts, generally induce it: but these abscesses sometimes exist without a hectic, and the liver, sometimes even the lungs are found ulcerated when no fever had been observed.

The matter producing hectic may be formed in any part of the body, though perhaps in the lungs, and the glands of the mysentery, its source may be most commonly traced. A scirrhous gland, in any part, almost constantly produces this fever; particularly a scirrhous liver from hard drinking, or long residence in a warm climate. External accidents will sometimes occasion irregular exacerbations. Even a wound with a fine pointed instrument, according to Dr. Heberden, has produced this effect. Dislocations of the joint often produce shivering and disorders of the stomach; and the introduction of a catheter is attended also with shivering, often followed by the hot fit. A salivation is sometimes the cause.

The hectic arising from external inflammations and suppurations is longer in its attack and slower in its progress, in proportion to the magnitude and importance of the part. Thus in the joints, the usual seats of the disease, suppurations of the ankle, wrist, elbow, and even the shoulder, have often continued long before the constitution has suffered. On the contrary, when the knee, the hip joint, or the loins, are the seat of the disease, hectic soon comes on. During the continuance of wounds it sometimes comes on, and is then attended with every mark of debility.

Dr. Reid, in his Essay on the Nature and Cure of the Phthisis, denies that the absorption of the pus is the cause of the fever which attends that disease; but attributes it to the very large quantity of perspirable matter usually discharged from the surface of the lungs, which is retained when this organ is injured, and only evacuated in the hectic sweats. As the lungs, by the increase of the disease, are less capable of exhaling the usual quantity of gas, exacerbations and the morning sweats are proportionally increased, or the matter falling on the intestines, produces a diarrhœa. From being usually costive, the patient hath frequent motions, and, in proportion to their number, the sweating and expectoration are diminished. The quickness of the pulse between the paroxysms he attributes to the progressive inflammation of the different tubercles. On this opinion we may make some remarks in a future article.

Many other authors have contended that hectics are not owing to the absorption of purulent matter; and their arguments are entitled to considerable attention. Mr. Hunter has urged many facts in opposition to the generally received opinion; and it must be admitted, that should absorption be generally the cause, the lymphatics act very irregularly, at different times, and in different situations. We know, indeed, that fluids exposed to the mouths of the absorbents are sometimes not taken up, and soon afterwards, without any apparent reason, rapidly disappear. Though this caprice may account for some of his observations, yet the facts before stated, where hectic fever follows only suppuration of some of the larger and more important joints, cannot be accounted for in the same way. In some external abscesses also, we find that the hectic begins to appear only when they are opened; and though the suppuration of scrofulous tumours is attended with fever, venereal ones produce no general effect on the constitution. Mr. Hunter concludes that "the hectic is owing to the parts being stimulated to produce an effect beyond their powers, and that this stimulus is sooner or later in taking place, in different cases."

The connection between hectic and suppuration is, however, apparently so close, that we are unwilling to give up our former opinion; and we can perceive, we think, some clue to conduct us through the labyrinth of discordant facts. We would conclude, therefore, that *hectic is owing to suppuration of any considerable magnitude arising from constitutional disease*; and these constitutional diseases are such as are usually attended with increased irritability, or a broken constitution.

The appearance of hectic resembles that of an irregular intermittent. The pulse rarely becomes natural; but remains quick and weak: the chillness is often violent and long continued; not regularly succeeded either by a dry heat or sweat, though one of these generally follows; and the hot fit sometimes approaches without being preceded by a sensible chillness. The sweat seems to exhaust instead of relieving the patient, and when at an end, the fever will sometimes continue, or in the middle of the fever the chillness will return; a certain sign, according to Dr. Heberden, of the presence of this fever and its pathognomonic symptom. The return of the fits is equally irregular. Sometimes they recur, for a considerable time, at regular periods, and again lose this strictly intermittent form. In the fit, the urine is various, and nothing can be ascertained from its appearances. When an external ulcer is the cause, pains, apparently rheumatic, occur, though in a part very remote from the ulcer; and a sudden swelling of some part of the body is occasionally observed, which soon subsides. Its approach is usually gradual, the skin is dry, the tongue hard and parched, the cheeks flushed, the sleep not refreshing. On the approach of the fit, according to Hippocrates, the whole breast is pained, the breath resembles a whistling through a reed, a cough often

attends, a quantity of thin saline saliva is discharged, and, in the progress of the disease, the whole body is emaciated, except the legs, which become tumid. A pathognomonic sign, according to Galen, is an increase of fever after eating and drinking.

The hectic fever should be distinguished from the intermittent, the common inflammation, and the slow or nervous fevers. The intermittent is more regular in its form, and in its attacks; and the slow nervous fevers have not such marked exacerbations or remissions. The fever of inflammation is of the continued kind. Dr. Reid distinguishes the hectic of a pulmonary consumption from the fever, in consequence of abscesses or ulcers in other parts, as in the liver, or under the psoas muscle, by the absence, in the latter, of remissions and morning sweats: on the contrary, it is more continued, less violent, and the skin is usually dry. But this distinction is apparently unfounded.

If the pulse runs on to above 100, or from this number to 120, in a minute, the danger is considerable; though sometimes the pulse will be little affected, while a variety of other fatal symptoms attends. In lying-in women it is generally fatal; and the fatal signs are, a continually weak, quick pulse, an entire loss of appetite and strength, an Hippocratic countenance, a little red or oily urine, a diarrhœa, immoderate sweats, with swelling of the feet and legs.

In most cases the principal intention is to relieve the symptoms, to moderate the heat, prevent costiveness, or its opposite, check the night sweats, and at the same time assist the general health, by exercise, air, and a proper diet; in other words, to support the strength, without adding any stimulus.

The remitting tendency of the disease has suggested the use of the bark; but this remedy is usually injurious, as it produces stricture on the skin, increases the heat, and, in pulmonary cases, the dyspnœa. In these cases neither antimonials, camphor, nor squills, will obviate the injurious tendency of this remedy. Though they appear to lessen the bad effects, they do not render the medicine beneficial. The eleutheria is more useful, but seldom produces any striking advantage. The purer bitters often succeed: of these we may mention the gentian, the camomile flowers, and perhaps the uva ursi. Of the angustura bark we cannot speak so decisively as we may be able to do under phthisis, as it is at present the subject of our trials. With these the neutral salts may often be combined with salutary effects, and together they will produce that gentle looseness which very essentially diminishes hectic heats.

The cooling medicines are in general preferable, and these united with mild doses of antimonials are often highly advantageous. The myrrh seems to act as a sedative in lessening feverish heat; but we find little advantage in combining it with chalybeates, as in Dr. Griffith's mixture; nor do we think the Pyrmont water so useful as the Seltzer. The steel may succeed in debilitated constitutions where the liver appears to be much affected, and in the Cheltenham waters it is said to be salutary, and to prevent the debilitating effects of the neutral salts.

The balsams have been highly commended in these diseases; and with nitre, or the citrat of potash, we have thought the Peruvian balsam, in slight doses, an useful corroborant: in larger doses it is too stimulating. The cicuta with mercury has been given as a deobstruent; and in the hectics from scirrhous livers, the production of the fevers of hot climates, it is said, with success. In some cases of hectic, from suppressed hæmorrhoids, Bath waters have been advised. Should hectics arise from repelled gout, they may be also applicable; but in general these and all other stimulating remedies are injurious. When this disease is connected with wounds, asafœtida, with opium, has been useful.

In conformity to the most successful plan of treatment the diet should be mild and gently nutritious. Broths, milk, and vegetables, are the most useful; though a slight proportion of animal food, at an early dinner, may be not only allowed but recommended. A dry free air, with gentle exercise, particularly on horseback, is highly useful. An airy room, with light covering at night, is equally proper.

We have not mentioned bleeding; because, though sometimes employed in pulmonary hectics, it is not generally useful in this disease. We shall particularly mention it under PHTHISIS, q. v.

See Hippocrates de Internis Affectionibus; Aretæus de Curatione Acutorum, lib. ii.; Fernelius; Hoffman; Heberden's Observations in the London Medical Transactions, vol. ii. p. 1—17; Fordyce's Enquiry into the Causes, &c. of Putrid Fevers; Cullen's First Lines, vol. ii. 221, &c.

HE'DERA, (from *hæreo, to stick;* from its attachment to trees and old walls). IVY.

HE'DERA ARBOREA. COMMON OR TREE IVY; *corymbus; hedera helix* Lin. Sp. Pl. 292; is an evergreen plant, climbing and spreading on old walls and trees; the leaves are angular; the flowers appear in autumn, and are followed in winter by clusters of black berries.

The leaves are nauseous to the taste; but commended by the Germans in the atrophy of children, in rickets, ozæna, and epiphora. By the common people they are used to keep issues open, and applied to sores that have a thin discharge. In the plague the powder of the leaves, with vinegar, has been commended. The dose is from ℈ i. to ʒ i. Quercetanus made an extract from the berries; *extractum purgans.* From the stalks of the plant a resinous juice exudes in warm countries, called *gummi hederæ*, of a reddish brown colour without, and of a bright brown yellow within, of a vitreous splendour, but not pellucid: when rubbed it emits a light agreeable smell, and is of a resinous, slightly aromatic, and subastringent taste; chiefly used like other resins in plasters.

HE'DERA TERRESTRIS; *chamæcissus; chamælema; calamintha humilior; corona terræ; bacchica chamæclema;* GROUND IVY; ALE-HOOF; SUN-HOOF; JACK IN THE HEDGE; GILL GO-BY-THE GROUND; *glecoma hederacea* Lin. Sp. Pl. 807; is a low, hairy, creeping plant, with square stalks; roundish or kidney-shaped leaves, set in pairs at the joints; the flowers are bluish and labiated; the upper lip is cloven and turned backwards. It is common in hedges and shady places; flowers in April, and the succeeding warm months; is generally greenish all the winter.

This herb has a quick, bitterish, warm taste; an aromatic, but not very agreeable, smell, in a great measure dissipated by drying. It is supposed to be useful in dis-

orders of the breast, and as an attenuant. In obstinate coughs it is a favourite medicine with the poor, given in the form of tea, sweetened with honey; and Dr. Pitcairn speaks highly of it in consumptions. Dr. Cullen found no evidence of its diuretic or pectoral effects, and thinks it very improbable that it should be useful in phthisis. Ale is rendered very fine by an infusion of ground ivy, and called *gill-ale*. It yields its virtue most perfectly to water by infusion, and, on inspissating the filtered liquor, only the unpleasant smell is lost. See Lewis's Materia Medica.

HE'DERÆ GU'MMI. See HEDERA ARBOREA.

HEDER'ACEÆ, the forty-sixth order of Linnæus. Fragments of a natural method.

HEDERU'LA AQUA'TICA, (a dim. of *hedera*). See LENTICULA AQUATICA TRISULCA.

HE'DRA, from *ἑζομαι, to sit*). Synonymous with APUS, q. v.; sometimes with excrement; the basis of an abscess; or the part on which the matter rests: according to Hippocrates, a species of fracture.

HE'DRICOS, (from *ἑδρα, anus*). An epithet for remedies appropriated to the anus.

HEDY'CROON, (from *ἡδυς, sweet,*) a mixture of a number of aromatic ingredients, formed into troches, said first to be invented and described by Andromachus. Their composition is in some of the later dispensatories.

HEDYO'SMOS, (from *ἡδυς, sweet*, and *οσμη, smell*). See MENTHA.

HEDY'PNOIS, (from *ἡδυς, sweet*, and *πνεω, to breathe*). See DENS LEONIS.

HEDY'SARUM GLYCYRRHIZA'TUM. See GLAUX VULGARIS LEGUMINOSA.

HEDY'SMATA, (from *ἡδυς, sweet*). See STYMMATA.

HEL'CONIA, (from *ἑλκος, an ulcer*). An ulcer of the cornea.

HELCY'DRION, (from *ἑλκος, an ulcer*, and *ὑδωρ, water*). A small ulcerous pustule.

HELCY'STER, (from *ἑλκω, to draw*). A hook for extracting the fœtus.

HELE'NIUM, (from *Helene*, where it grew. See ENULA.

HELE'NIUM I'NDICUM. See BATTATAS CANAD.

HELEOSELI'NUM, (from *ἑλος, a fen*, and *σελινον, purslane;* from growing in marshy places). See APIUM.

HELIA'NTHEMUM, (from *ἡλιος, the sun*, and *ανθος, a flower;* because its flower turns to the sun). See CHAMÆCISTUS, BATTATAS CANADENSIS.

HELICA'LIS MA'JOR, HELICA'LIS MI'NOR, (from *ἑλιξ, the outer border of the ear*). See AURICULA.

HELICHRY'SUM, and HELIOCHRY'SON, (from *ἡλιος, the sun*, and *χρυσος, gold*). GOLDYLOCKS. See ELICHRYSUM, also GNAPHALIUM MONTANUM.

HELIDÆ'I PULVIS. See EUPHRASIA.

HELIOSCO'PIOS, (from *ἡλιος, the sun* and *σκοπεω, to behold;* because it turns to the sun). See TITHYMALUS.

HELIOTRO'PIUM, (from *ἡλοις*, and *τρεπω, to turn to*). TURNSOLE, or HELIOTROPE. The flowers are funnel shaped; their brims cut into ten unequal segments; collected into a long reflexed spike, resembling a scorpion's tail; each flower followed by four naked gibbose seeds. *Heliotropium Europæum* Lin. Sp. Pl. 187.

HELIOTRO'PIUM MA'JUS. The GREAT TURNSOLE. Its leaves are bitter; the petals are changed to a deep blue by alkalis, and to a red by acids, and are consequently the chemist's test for the presence of each. The juice of this plant destroys warts; and a decoction of it is said to be an active purgative.

HELIOTRO'PIUM TRICO'CCUM; *ricinoides;* FRENCH, or COLOURING TURNSOLE; *croton tinctorium* Lin. Sp. Pl. 1425. This species grows plentifully in France; the leaves are of a pale green; the flowers yellow: when the berries are expressed, linen rags are dipped in the juice, and exposed to the vapour of urine, which gives them a red colour. The colour of this species of turnsole is extremely susceptible of alteration by acids. See Raii Historia Plantarum.

HELIOTRO'PIUM I'NDICUM. See BATTATAS CANADENSIS.

HE'LITIS, (from *ἡλος, a nail;* because it was used to be beaten from nails and pins). See ÆRIS SQUAMÆ.

HE'LIX, (from *ἑλιω, to turn*). A SPIRAL LINE. See AURICULA.

HELLEBORA'STER, HELLEBORA'STRUM, (from *ἑλλεβορος, hellebore*). BEAR'S FOOT. See HELLEBORUS FŒTIDUS.

HELLEBORI'ZE. Hippocrates and his successors introduced hellebore into the rectum, both for vomiting and purging, altering the strength according to circumstances; and the effects were called *helleborizing*.

HELLEBOROI'DES, (from *ἑλλεβορος*, and *ειδος, likeness,*) *aconitum hyemale; aconitum luteum minus; aconitum unifolium luteum bulbosum; helleborus hyemalis* Lin. Sp. Pl. 783. The leaves resemble those of the aconitum; but in general it agrees both in appearance and virtues with the black hellebore.

HELLEBORO-RANU'NCULUS. The leaves are single, and roundly turned like those of the ranunculus, and of the same colour with the flower, which is rosaceous. It is said to be caustic, and is probably the helleborus hyemalis, mentioned in the preceding article.

HELLE'BORUS, or ELLE'BORUS, (*παρα το τη βορα ἑλειν*, because it kills if eaten,) *nicon;* the name of several rosaceous flowered plants, and of female sanicle. See IMPERATORIA NIGRA.

HELLE'BORUS FŒTIDUS. *Helleboraster; helleborastrum; helleborus niger fœtidus; elleborine; veratrum nigrum;* GREAT BASTARD and FETID BLACK HELLEBORE; SETTLE, or SETTERWORT; BEAR'S FOOT; *helleborus fœtidus* Lin. Sp. Pl. 784. This root is small, but surrounded by numerous dark coloured fibres, involved very intricately: the stem rises to about a foot and a half in height, towards the bottom is strong, round, firm, naked, and marked with alternate cicatrices, the vestiges of the former leaves; at the top divides into branches, producing many flowers, garnished with numerous scaly leaves, which stand upon long foot stalks, surrounding the middle of the stem. They are divided, as in the black hellebore, into simple leaves, commonly eight or nine, long, narrow, serrated, lanceolated, and of a dark green colour; and scaly leaves, placed at the ramifications of the flower-stem, smooth, trifid, alternate, often purplish; but those near the flowers are oval and pointed: the flowers are numerous, terminal, pendent, of a roundish shape, and stand upon peduncles, forming an umbel; the petals are five, oval, concave,

persistent, of a pale green colour, usually tinged with purple at their margins; the stamina are the length of the petals; the antheræ white; the germina three, hairy, and shaped like those of the black hellebore. The plant grows wild in many parts of England, and flowers about February. The smell of the recent plant is extremely fetid; the taste bitter, and remarkably acrid: it operates as a cathartic, sometimes as an emetic; and, in large doses, is highly deleterious. It is used chiefly as a vermifuge; the dried leaves, in powder, are given from five to ten grains. A single green leaf infused like tea forms three doses for a child of seven years old; but the plant bears in summer the leaves of the former year, and one of these of a middle size is meant. The dose is usually repeated for two, and sometimes three, successive mornings; the second has commonly a greater effect than the first, and never fails in young persons to expel round worms by stool. The best form for children is syrup. For this purpose the bruised leaves are first moistened with a little vinegar, then the juice is expressed from the leaves, and made into a syrup with coarse sugar. A tea spoonful is given at bed time, and one or two in the morning, for two or three successive days, increasing or diminishing the dose according to the strength of the patient. In the western counties, a tincture is sometimes made of the leaves with cyder, and said to be an useful preparation. It probably is so, if, as has been asserted, vegetable acids are correctors of this plant. In whatever way, however, it is employed, no medicine acts with more certainty than bear's foot as an anthelmintic. It always evacuates the round worms, but is less effectual in ascarides and tenia. Dr. Bisset speaks of the plant as also useful in some asthmatic and hypochondriacal disorders. See his Essay on the Medical Constitution of Great Britain. The powder also sprinkled on issues increases their discharge. See Tournefort's Materia Medica. Raii Historia Plantarum.

Helle'borus a'lbus. *Veratrum;* common white hellebore. *Veratrum album* Lin. Sp. Pl. 1479. This plant hath large, oval, ribbed leaves, placed alternately on a round stock, which they embrace by a tubular basis; in their axillæ towards the top appear clusters of hexapetalous, greenish white, flowers, followed each by three flat pods, containing whitish triangular seeds: the root is short, commonly near an inch thick, with numerous fibres hanging from it, externally of a brownish colour, internally more white. It is common on mountainous places in Germany and Switzerland. Our hellebore is probably not the same with that of the ancients, which seems, from the synonyms in Caspar Bauhine's Pinax, to be a species of anemone. Tournefort supposes his helleborus niger orientalis amplissimo folio caule prælto flore purpurascente to be the hellebore of the ancients, as he found it in the island of Anticyra, famous for the production of this medicine.

When the root of white hellebore is fresh, it hath a disagreeable smell, which is lost in drying; and a nauseous, bitterish, acrid, penetrating, and durable taste. When powdered it is used externally in cuticular eruptions, and particularly the itch; but if applied to any sore it excites vomiting, and other disagreeable symptoms: snuffed up the nose it proves a violent sternutatory. If the powder be taken from x. to xv. grains, it operates powerfully upward and downward; but except in maniacal cases it is rarely used. If, on taking this root, it does not operate freely, an emetic will evacuate it; otherwise convulsions will probably follow. Hoffman observes that it affects the fauces, producing strangulation and danger of suffocation, with great anxiety; which the juice of quinces will in his opinion relieve. Gesner infused half an ounce of this root in two ounces of water, two drachms of which produced considerable internal heat about the tongue, the throat, the head, and breast, followed by singultus and vomiting. It produces also violent nervous affections, as vertigo, tremors, syncope, spasms, convulsions, and death. In all these instances the internal coat of the stomach appears to be inflamed. Greeding found it useful in maniacal cases, and it seemed to act on all the different secretory organs, in some cases producing inflammation of the lungs. It has been given also with advantage in epileptic cases.

Tincture of white hellebore is made by digesting eight ounces of powdered white hellebore roots in two pints of proof spirit; and it is the best internal preparation; sometimes used to quicken cathartics, in apoplectic, lethargic, and maniacal cases. In chronical disorders it might be employed to great advantage, if small doses at first were gradually increased. A grain and a half added to a drachm of sneezing powder quickens its operation. It is also used in decoction, and an ointment. *Decoction of white hellebore* is made by boiling an ounce of the root in two pints of distilled water, till reduced to one: when cold, two ounces of rectified spirit of wine are added. This is used in cutaneous diseases; but chiefly the itch, herpes, and morbus pediculosus, which it frequently cures; and is more cleanly than the ointments.

Gesner says, the root in the form of an oxymel is a powerful expectorant and aperient. It is most indisputably a very powerful medicine, and should be given at first in very small doses, gradually increasing them. It is now omitted in the materia medica of the London college, as highly dangerous.

Helle'borus ni'ger; *melampodium;* by Paracelsus, *daura ectomon;* Christmas flower, black hellebore. It is the *helleborus niger* Lin. Sp. Pl. 783. The Christmas rose. Melampus is said to have observed its purging quality in the goats which fed on it, and introduced it into the materia medica, from whence it was styled *Malampodium;* but in reality the name is derived from its black colour, and the shape of its leaves. It is a low plant, without any stalk: the leaf is divided quite to the pedicle, into six, seven, or more, smooth round segments, resembling bay leaves, indented from about the middle to the extremity: the flower is large, naked, pentapetalous, of a pale rose colour, with numerous stamina in the middle, followed by five or six pods full of shining black seeds; the petala continuing and changing greenish: the root consists of numerous fibres, hanging generally from a knotty head, externally of a blackish colour, internally white. It is perennial, grows wild in the mountainous parts of Germany and Switzerland, and flowers in our gardens in January.

The root to the taste is bitter and pungent; if chewed for a few minutes it benumbs the tongue. Dr. Grew observes, that it is first felt on the tip of the tongue,

and then on its middle. The fibres are stronger and more active than the tuberous head, and the cortical part of the latter than the internal. It frequently loses its virtue by keeping; and with its smell its powers are lost.

The roots of the poisonous aconites resemble those of black hellebore; but the aconite is lighter coloured than the palest black hellebore roots. It is safe therefore to choose the darkest. In a dose of from fifteen to twenty grains it proves actively purgative.

Long coction destroys its activity; and water extracts, by boiling, and spirit by digestion, nearly all the virtue of the root. Rectified spirit takes up chiefly the irritating resinous part. After proper boiling in water it yields little to spirit; but after repeated digestion in pure spirit, it yields to water a large portion of mucilaginous matter, supposed to be diuretic.

In the present practice the black hellebore root is only used in small doses as an attenuant and deobstruent; chiefly in obstructions of the menses, when the habit is plethoric, where chalybeates would be improper. The emmenagogue virtues of this medicine are, however, doubtful; for Dr. Cullen never found them in many trials, nor had he met with any practitioners in Scotland who had better success: not one instance has occurred of the power of hellebore in producing hæmorrhage. It promotes urine and perspiration; in hypochondriasis it may be joined with chalybeates; and if the pulse be low, with the fetid gums, and a julep of volatile salt: in dropsies it is said to be useful, if joined with alkaline salts. In nervous cases which do not admit of chalybeates, its advantages are considerable; and when given so as to be powerfully cathartic, it is useful in mania. It is one of the principal ingredients in Bacher's famous tonic pills. See Ascites.

The London college directs a watery extract, (see Extract. Glycyrrhizæ,) and a tincture with proof spirit, made in the following manner:

℞. Rad. hellebori nigri in pulverum crassum tritæ ℥iv. coccinellarum in pulverem tritarum ℈ij. spt. vinosi tenuioris, m. ℔ij. digere leni calore per dies octo, et cola. Pharm. London. 1788. The extract is a good and safe preparation when designed as a cathartic; and it contains also the diuretic virtue: the irritating power is in a great degree destroyed by boiling. The dose is from gr. x. to ℥ ss.; that of the powder is the same, though the extract is thought milder; but as an alterative, the tincture is usually preferred, of which a tea spoonful twice a day may be considered a common dose. See Neumann's Chemical Works. Tournefort's and Lewis's Materia Medica.

HELMINTHIASIS. A disease in which worms are bred under the skin.

HELMI'NTHICA, (from ἑλμινς, *a worm*). Medicines which destroy worms.

HELOCAPO'LLIN. A sort of cherry. See Capolin Mexic. hernan.

HELO'DES, (from ἑλος, *a fen*). An epithet of fevers, generated from marsh miasma, attended in the beginning with profuse but not salutary sweats. The *sudor Anglicus* is of this kind. See Typhodes.

HELO'SIS, (from εἱλεω, *to turn*). A disorder of the eye, consisting in an eversion or turning up of the eye lids.

HELO'TIS. See Pliga polonica.

HE'LXINE, (from ἑλκω, *to draw;* so called because it sticks to whatsoever it touches). See Parietaria.

HEMALO'PIA, for Hæmalopia; q. v.

HE'MERALOPS, (from ἡμερα, *a day*, and ωψ, *the eye*,) by Rhazes *dorea*. A defect in the sight, which consists in being able to see in the day only, but not in the evening. See Nyctalops.

HEMEROCA'LLIS, (from ἡμερα, *day*, and καλος, *beautiful;* because its flower opens in the day and shuts at night). See Lilium rubrum.

HEMICERAU'NIOS, (from ἡμισυ, *in composition*, ἡμι, *half*, and κειρω, *to cut;* because it was divided half way down). The name of a bandage, in Galen, for the back and breast.

HEMICRA'NIA, (from ἡμι, *half*, and κρανιον, *the skull*). See Cephalalgia.

Hemicra'nia luna'tica. An erratic fever.

HEMINA, (ἡμινα,) an ancient measure which differed in its contents. That used in medicine was equal to about ten ounces.

HEMIOBO'LION, or HEMIO'BOLON. Half an obolus, or the twelfth part of a drachm; equal to five grains.

HEMIO'LION, is, according to Galen, twelve drachms; and in another sense it is the same as sesquialtera, the whole of a thing and half as much more, as sesquiuncia; sescuncia an ounce and a half.

HEMIONI'TIS, (from ἡμιονος, *a mule;* because, like a mule, it is sterile). Mule's fern. *Hemionitis lanceolata* Lin. Sp. Pl. 1535. It grows in Italy; resembles the hart's tongue in appearance and virtues. See Lingua cervina.

HEMIO'NIUM, (from the same; because it is supposed to make women steril, like the mule). See Asplenium.

HEMIOPSIA, (from ἡμισυ, *half*, and οπτομαι, *video*). An affection of the sight, in which a person sees only half the object.

HEMIPA'GIA, (from ἡμισυ, *half*, and παγιος, *fixed*). See Cephalalgia.

HEMIPLE'GIA, HEMIPLE'XIA, (from ἡμι, *half*, and πλησσω, *to strike*). Dr. Cullen arranges it as the second species of paralysis, in which one side of the body only is affected: of this he mentions two varieties. 1. When it occurs in plethoric, and 2. when in leucophlegmatic habits. It usually begins with, or follows, a paroxysm of apoplexy; and when the hemiplegia, after subsisting for some time, becomes fatal, it is commonly by passing again into the state of apoplexy. The relation, therefore, between the two diseases is sufficiently evident, and is further strongly confirmed by the hemiplegia coming upon persons of the same constitution, and being preceded by the symptoms of apoplexy. See Paralysis. London Medical Journal, vol. i. p. 323; vol. ii. p. 198.

HEMIRHO'MBION, HEMITO'MON, (from ἡμισυ, *half*, and ῥεμβω, *to revolve;* or τεμνω, *to cut*). A bandage mentioned by Hippocrates, called *semirhombus*, from its extending half way round the part to which it is fixed; and *hemitomon*, from its being cut half way down.

HEMISPHÆRA. Half of a globe applied to each half of the brain.

HEMITRITÆ'US, (from ημισυ, *half*, and τριτιαιος, *third*, or *tertian*). See SEMITERTIANA FEBRIS.

HE'PAR. HE'PER. Martinius and Gorræus derive it from επω, *to work*, and εαρ, *blood;* supposing its office was to prepare the blood. It has been also derived from the Hebrew *chebar*, *gall*. The LIVER. See JECUR.

HE'PAR. SU'LPHURIS. A sulphuret prepared by adding sulphur to a fixed alkali, chiefly employed in medicine as a counterpoison of hydrargyrus muriatus and arsenic. When an acid is added, the gas which escapes is called *hepatic*, and it is the peculiar ingredient in the Harrowgate water, to which its smell is owing. Three parts of filings of iron, and two parts of sulphur, mixed, separate a similar gas, which is only hydrogenous gas, containing sulphur in solution.

HE'PAR. UTERI'NUM. See PLACENTA.

HEPATA'LGIA, (from ηπαρ, *the liver*, and αλγος, *pain*). When pain affects the liver, as well as spleen, it is not often easy to distinguish them from bilious colic during the life of the patient: some practitioners think it unnecessary, since they require the same method of cure; but as they arise from different causes, it may not be useless to describe some of these; viz. scirrhosity of the liver; obstructions of the gall ducts, from very viscid bile; and biliary calculi.

When pain of the liver owes its origin to scirrhosity, it is attended with a tumour and hardness on the right side below the short ribs; a sense of weight, with a constant dull and tensive pain; difficult breathing; a dry cough; a sense of weight on the stomach after eating, with an increase of the difficulty of breathing; uneasiness from lying on the left side; the countenance yellow, or pale, and sallow; and the urine often of an orange colour, depositing a thick mucous sediment. If the complaint continues, as is too frequently the case, the feet swell, the body is emaciated, a dropsy of the belly, with a remittent fever, comes on.

When the cause is obstruction of the gall ducts, from viscid biliary matter, the symptoms of a scirrhous liver, which comes on in the beginning, are much slighter; to which are added a flushing heat of the face, with occasional redness and heat in the palms of the hands; an irregular thirst; dryness, and bitter taste in the mouth; a dry cough; viscid saliva; loss of appetite; heart burn; weariness and heaviness of the limbs; increase of pain on touching and pressing the left side, or the pit of the stomach; and costiveness. The hardness on the right side is not so firm as in the former case, nor do the œdematous swellings, or hectic symptoms, appear.

When it arises from gall stones, there is a deep seated and excruciating pain on the right side, or at the pit of the stomach, extending through the body to the back, not constant, but occasionally violent, and attended with faintness, sickness, and often vomiting: the patient complains of sickness; the right side and the epigastrium are tense; the belly costive; the excrements pale and whitish; the pulse weaker, but seldom quickened, even when the pains are very violent and continued. The violent pain without fever, or quickness of the pulse, is considered as the certain symptom of this disease. The patient, either in an erect posture, or laying on the left side, feels very uneasy; is restless; breathes with difficulty; is affected with heart burn, and sometimes convulsions. The urine is pale, afterwards yellow; and the skin and white of the eyes have a jaundice-like appearance: the pain at last vanishes suddenly, a looseness sometimes succeeds, by which the gall stones are discharged, and the yellowness disappears.

Pain in the liver from scirrhosity is apt to attack gluttons; hard drinkers; and those who have led indolent lives. It also arises from suppression of hæmorrhages, bruises upon the right side, general concussions from falls; and very often from long continued intermittent fevers. The disease generally proves fatal, when once formed; though, if attended to in the beginning, it might perhaps be prevented.

When scirrhous liver or viscid hepatic obstructions arise from hard drinking, we have explained its effect from ardent spirits destroying the irritability of the vessels; a change most severely felt, where the circulation is languid, and unassisted by the muscular coats found in arteries. The suppression of hæmorrhages throws the blood, as we have seen, on the internal parts; and in elderly persons, where this effect is chiefly conspicuous, the disease equally arises from a want of irritability in the vessels to propel the accumulated contents. When it is owing to general shocks, we have explained its action in the article CONCUSSIO, q. v.

Decoctions of vegetable aperients, as grass roots, and dandelion, are serviceable. Gum ammoniacum and myrrh have been recommended on the vague principle of attenuating; but the effects of these remedies are inconsiderable. We must chiefly depend on some stimulant which will act with steadiness on the minuter vessels, and this property is almost exclusively confined to mercury, assisted with the decoctions of guaiacum and mezereon. Small doses of calomel may be given, or, what is preferred, mercurial ointment may be rubbed in on the part affected. At the same time the circulation in the liver may be assisted by gently stimulating the excretory ducts of this organ by rhubarb, or the cathartic mineral waters. Chalybeates are also useful, and they are combined in the present fashionable remedy, the Cheltenham waters. Bath waters, in gouty habits, and when the disease has arisen from long residence in warm climates, are occasionally beneficial.

When spasmodic affections are the cause, which is known from their succeeding violent passions, sedatives and antispasmodics, as asafœtida, camphor, or opium, may be joined with the aperients; and when by these means the obstruction is removed, bitters and steel will complete the cure. In its course, however, the body must be kept open.

When the disease arises from gall stones, we must endeavour to promote their expulsion by the continued use of emollients and gentle cathartics, with warm bathing, interposing opiates.

Bleeding is sometimes premised to prevent inflammation in strong plethoric habits, and vomits are often useful; but they increase the pain, and are suspected of occasioning inflammation. If, however, they can be borne, they greatly facilitate the passage of a gall stone. As a combination of ether and spirit of turpentine has been found to dissolve gall stones out of the body, the same medicine has been recommended internally. We can scarcely understand how it can reach the object; but it has been said to have been useful.

In order to prevent a return of these complaints, gentle exercise, particularly riding on horseback, should be persevered in; light, easy digestible food taken, avoiding all that is viscid.

The heptalgia, however, has not been established as a genus by the latest and best nosologists; nor should any such be included in a regular system, for the distinguishing symptom, pain, is often absent; and we thus include diseases very different, viz. infarcted and scirrhous liver, chronic hepatitis, and jaundice from all its various causes. In this, as well as many other instances, we have not been able to alter the former arrangement, without disturbing numerous references, and inducing greater confusion than we should remove.

Many parts of this article will be, of course, repeated under these heads.

HEPATA'RIUS, (from ἡπαρ, *the liver*). Hepatic.

HEPA'TEROS, (from the same,) is an epithet for that kind of dysentery in which the discharge is of a dark yellow or sanious.

HEPA'TICA, (from the same). Belonging to the liver, is applied to medicines serviceable to the diseases of that organ; and to a pain in the region of this organ.

Hepa'tica vulga'ris, *fontana*, *terrestris*, *stellata*, *jecoraria*, *lichen petræus latifolius*; *marchantia polymorpha* Lin. Sp. Pl. 1603. Stone, or star liver wort; is a species of moss growing in stony places; perennial, and running to seed in March and April. It is said to be aperient and resolvent, but is scarcely known in practice.

Hepa'tica no'bilis, *trifolium aureuma* and *hepaticum*, *hepatica trifolia*, *herba trinitatis*, *ranunculus tridentatus vernus*; herb trinity, and noble liver wort; *anemone hepatica* Lin. Sp. Pl. 758; is a low plant, without any stalk; the flowers are commonly blue, sometimes reddish or white, followed by white seeds. It is perennial, grows in gravelly shady grounds in Germany, and other parts of Europe; and flowers in our gardens in February or March.

This plant is esteemed a mild restringent and corroborant, and infusions of it are used as tea. Its astringency is equally communicated to water or spirit, and wholly remains in the extracts. See Lewis's Materia Medica. Raii Historia.

Hepa'tica a'lba. See Parnassia.

Hepa'tica arte'ria. Hepatic artery. As soon as this artery leaves the cœliaca, where it is covered by the pancreas, it runs to the upper and inner part of the pylorus; sending off two branches, a small one called *pylorica*, and a larger one called *gastrica dextra*, or *major*. It then passes behind the ductus hepaticus, towards the vessica fellis, to which it gives two branches, called *arteriæ cysticæ*, and another called *biliaria*, which is lost in the great lobe of the liver. Afterwards this artery enters the fissure of the liver, and joins the vena portæ, with which it runs in the capsula Glissonii, and accompanies it through the whole substance of the liver by numerous ramifications, which may be termed *arteriæ hepaticæ propriæ*.

Hepa'tica bra'chii ve'na. See Basilica vena.

Hepa'tica mi'nor ve'na. A branch from the vena portæ ventralis; sometimes a branch of the cysticæ venæ.

Hepa'tica stella'ris. See Asperula.

Hepa'tica stella'ta. See Asperula.

Hepa'tica terrestris jecoraria. See Hepatica vulgaris.

HEPA'TICÆ VE'NÆ, arise directly from the vena cava inferior, as it passes down through the posterior part of the great fissure of the liver. Sometimes one branch from the vena cava divides into these which correspond with the vena portæ. The vena cava also sends others, which correspond with the hepatic artery.

HEPA'TICO-CY'STICI DU'CTUS. That side of the body of the gall bladder which lies next the liver, is connected to that gland by a vast number of filaments which run into the substance of the liver; and among these filaments are some ducts which form a communication between the pori biliarii and gall bladder. These ducts are the most numerous about the neck of the gall bladder.

HEPA'TICUS, (from ἡπαρ, *liver*). Hepatic; an epithet for any thing belonging to the liver. The ancients confined the word to an inflammation of the liver; but the moderns use it to signify those whose livers are, from any cause, diseased.

Hepa'ticus du'ctus. See Portæ vena.

HEPATIRRHŒ'A, (from ἡπαρ, *the liver*, and ῥέω, *to flow*). A species of diarrhœa. (See Diarrhœa.) The other hepatirrhœas are symptomical.

HEPATI'TIS, INFLAMMATIO HEPATIS, (from ἡπαρ, *the liver*.) An inflammation of the liver. An inflammation may be in different parts of the liver, as in its membranes or substance; in its concave or the convex side. Inflammation in the hepatic arteries is said to cause some symptoms not unlike those of the hydrophobia. See Hippocrates Coac. lib. cxxxix. Aretæus de Curatione Acutorum, lib. i. and Trallianus, lib. i. c. xv.

Dr. Cullen places this disease in the class *pyrexiæ*, and order *phlegmasiæ*, and defines it a febrile affection, attended with tension and pain of the right hypochondrium, often pungent, like that of a pleurisy, but more frequently dull, or obtuse; a pain at the clavicle, and at the top of the right shoulder; much uneasiness in lying down on the left side; difficulty of breathing; a dry cough; vomiting; hiccough. Sauvages and Sagar, he says, amongst the symptoms have placed a yellow colour of the face, of the urine, of the serum of the blood, and of the eruptions, which appear on the skin: but these symptoms of a regurgitation, and reabsorption of the bile, have been, he thinks, very properly omitted by Linnæus and Vogel; because such symptoms occur very rarely. Of this disease he makes two varieties, the acute, and the chronic. The pathognomonic symptoms of the first are above recited. The chronic often affords no signs by which it can be distinguished. It may, however, be suspected from some causes of the hepatitis having preceded; from a sense of fulness and weight, or from occasional pain in the right hypochondrium; from pain, on pressing the same part, or from lying down on the left side; and lastly, from a slight fever occasionally appearing.

Dr. Saunders, with great reason, supposes it owing to an inflammatory state of the system of the vena portæ; while the acute kind is owing to the same state of the hepatic artery.

Winslow thinks the seat of the inflammation is in the ramifications of the vena portæ, or the hepatic artery; Dr. Heberden that the liver is never primarily affected; and Dr. Cullen that the inflammation is only in the extremities of the hepatic artery.

The acute hepatitis may be seated either on the convex or on the concave side of the liver. In the former case, a more pungent pain and hiccough may be produced, and the respiration is more considerably affected. In the latter the pain is less, and a vomiting attends from the communication of inflammation to the stomach. The inflammation of the concave surface of the liver may be readily communicated to the gall bladder and bilious ducts; and this perhaps is the only case of idiopathic hepatitis attended with jaundice.

The disorder is most frequent in warm climates; it is produced by the common causes of internal inflammation, and is then preceded by fever, and by obstruction of the hepatic ducts. Hepatitis is sometimes communicated to the liver from the lungs, and it then follows peripneumony, and is apparently an exacerbation of the same disease, communicated to the adjoining membranes. Its remote causes are uncertain.

When the seat of the disorder is in the membranes, the pain is more acute. and resembles a pleurisy more than when the substance of the liver is the part affected. In this acute kind, the pain is pungent; the fever very considerable; the pulse frequent, strong, and hard; the urine high coloured.

In general, when the substance of the liver is inflamed, the pain is not very acute at first; but gradually increasing, it shoots up to the top of the right shoulder, and sometimes into the throat and about the clavicle. The pain darting into the throat is said to be a pathognomonic symptom. The pulse is not much altered in the beginning, if the disease be not very acute; and often inflammation is only known to have existed by the abscess. When the convex part of the liver is affected, a tumour is visible externally, and occasions a cough and a difficulty of breathing: the pulse is then quickened, and the patient cannot well lie on his left side. In all cases of inflammation in this viscus, the quantity of the bile thrown into the duodenum is increased, and the evacuations become bilious.

Dr. Cullen observes, that the acute hepatitis may be known by a pain in the right hypochondrium, increased by pressing upon the part. The pain is very often so pungent as to resemble that of a pleurisy; frequently, as in pleurisy, is increased on inspiration, and the patient can then only lie on the side affected. The disease is sometimes also attended with a cough, commonly dry, but sometimes followed by expectoration.

Inflammation in the liver when highly acute is short, and terminates by resolution; but when less active it more generally ends in suppuration, and proves fatal by inducing hectic, unless the matter can be discharged externally. If properly treated in the beginning, it is rarely mortal.

The resolution of the hepatitis is often the consequence of, or is attended with, evacuations of different kinds. A hæmorrhage, sometimes from the nose, sometimes from the hæmorrhoidal vessels, relieves the disease. More commonly a bilious diarrhœa or external erysipelas contributes to the same event; and the resolution of the hepatitis, as of the other inflammations, is attended with sweating, and with an evacuation of urine, depositing a copious sediment.

This kind of inflammation should be distinguished from inflammation of the pleura, of the diaphragm, of the stomach, of the muscles of the belly, and from spasmodic pains.

Inflammation of the pleura, or lungs, so often precedes or accompanies hepatitis, that the distinction is difficult, and fortunately of no great importance, as the same means of relief are employed. The incessant vomiting distinguishes inflammation of the stomach; but that of the diaphragm is often confounded with hepatitis, and sometimes accompanies it. The pain across the body is not easily distinguished from the shooting pain from an affection of the gall ducts; and it is not yet ascertained that either delirium or the risus sardonicus is the peculiar symptom of diaphragmitis.

Thes ymptoms in the beginning do not often alarm the patient; and early assistance is not always demanded. At any period before the fifth day, bleeding may be employed; the operation repeated if the pain is considerable, the patient young, strong, and plethoric. After a free bleeding, a large blister should be laid over the part affected; and if there is a free passage for the bile into the duodenum, the bowels kept freely loose with proper doses of antimonium tartarisatum, infusion of tamarinds, vitriolated natron, and rhubarb.

Dr. Curry, combining these ideas with the East Indian practice, which is not well adapted for the more acute hepatitis of this climate, recommends calomel as the most active laxative, and particularly adapted for emulging the glands of the diseased part. When it is rejected from the stomach, he advises washing it with lime water, and giving the powder which remains, joined with opium. In the very irritable state of the stomach which sometimes accompanies the disease, this form of mercury is, he thinks, more easily borne.

If these means fail, or if it is too late for their proper use, and symptoms of a beginning suppuration appear, the powder of bark in the dose of ʒ ss. four or five times a day may be given, and the quantity increased until ʒ ss. is taken every twenty-four hours.

If the abscess points externally, it must be encouraged by maturating cataplasms, and opened as soon as possible, particularly if, from its immobility, the liver seems to adhere to the peritoneum; and the bark may then be given to two ounces in twenty-four hours, if the stomach will retain it, and we may thus proceed until suppuration appears. If, from purulent or ichorous stools, it is evident that the abscess has burst into the duodenum, or, from other symptoms, that it hath discharged its contents into the cavity of the belly, the same methods may be used, though equally good effects cannot be expected.

Hepatitis, however, has lately pressed on our notice in very different forms, in consequence of our more extended connections in India. In hot countries, where the circulation is more languid, the liver particularly suffers from any cause of fever, nor can its infarctions be removed by the usual methods of blisters and laxatives. A medicine which gives tone and activity to the circulating system is necessary, and this medicine is mercury. Even in the early stages of the complaint it is administered both internally and exter-

nally, and the limits of its employment are the appearances of its action on the sanguiferous system, by the effect on the gums. Very large quantities, it is said, are often administered before this effect is produced; but as soon as it appears, all the symptoms are relieved.

The long residents in hot climates bring back to this country all the symptoms of chronic hepatitis, with a variety of complaints arising from an infarcted liver, which have apparently little connection with this disease. The peculiar symptoms of chronic hepatitis are, irregular fever, indigestion, costiveness, white stools, swelled legs, the complexion of a sallow yellow, pain or fulness of the hypochondria, dry cough, disturbed sleep, and dejected spirits. Many of these appearances are, however, sometimes wanting; and occasionally the cough only, indigestion, or irregular fever, are observed: but, in every instance where the patient has resided long in a warm climate, a diseased liver may be suspected; and whatever the complaint be, the state of the liver should be examined; and if fulness or tension, if pain or uneasiness, be felt, or experienced on pressure, the appropriate remedy, mercury, must be employed, to which gently stimulating laxatives must be added.

Powerful astringents are less useful than what are styled the aperient bitters, viz. the camomile flowers, columbo root, and quassia, which should be taken in moderate doses, continued for some time; and their use after a little intermission resumed. The Bath waters, formerly so much commended in this complaint, have yielded in credit to those of Cheltenham, whose laxative power is highly useful, and rendered less debilitating than it might otherwise prove by its chalybeate impregnation. Constant but moderate exercise; free air; cheerful society; frequent changes of scene, and tepid sea baths; are generally useful: but all our attempts relieve only—lateri adhæret vulnus!

See Pringle on the Diseases of the Army. Fordyce's Elements, part the second. Matthews on Hepatic Diseases. Cullen's First Lines, vol. i. p. 376, edit. 4. Bell's Surgery, b. v. p. 387. London Medical Transactions, vol. ii. p. 147. Saunders on the Liver; and Pemberton on Diseases of the Abdominal Viscera.

HEPATI'ZON, (from ἡπαρ, *the liver*, because it is of a liver colour). See MORPHEA.

HEPATOCE'LE, (from ἡπαρ, and κηλη, *a rupture*). RUPTURE OF THE LIVER. This complaint happens from the liver passing through the relaxed parietes of the abdomen, in the vicinity of the umbilicus, or through the umbilicus itself. This disease may be distinguished by tracing the liver to the part which the tumour occupies; from the parenchymatic firmness of the protuberance, which is sometimes livid; from the absence of those symptoms which point out the enterocele, epiplocele, gastrocele, and particularly the hysterocele. The species are distinguished by the situation of the tumour into hepatocele ventralis and umbilicalis. The mode of cure is similar to that of other ruptures, particularly the GASTROCELE; q. v.

HEPATO'RIUM, (from ἡπαρ, *the liver*). See EUPATORIUM.

HEPATO'RIUM AQUA'TILE. See BIDENS.

HEPSE'MA, (from ἑψω, *to boil*). A DECOCTION. See MUSTUM.

HEPTA'NDRIA, (from ἑπτα, *seven*, and ανηρ, *a husband*). The seventh class of Linnæus's system, including plants which have seven stamina.

HEPTAPHA'RMACUM, (from ἑπτα, *seven*, and φαρμακον, *a medicine* or *remedy*). A plaster or ointment, containing seven ingredients, viz. litharge, wax, colophony, fat, &c.

HEPTAPHY'LLUM, (from ἑπτα, *seven*, and φυλλον, *a leaf*). See TORMENTILLA.

HEPTAPLEU'RON, (from ἑπτα, *seven*, and πλευρα, *a rib*, furnished with seven ribs). See PLANTAGO LATIFOLIA.

HERACA'NTHA. See CARLINA.

HERA'CLEA, (from *Heraclea*, the city near which it grew). See MARRUBIUM AQUATICUM.

HERACLEI'OS, or HERACLEI'US. HERCULEAN. Names of epilepsy, mania, and loadstone; from the great strength and power exerted.

HERACLEO'TICUM, brought from *Heraclea*. See ORIGANUM.

HERA'CLIUM OLEUM; supposed to be the oil of box wood.

HERA'CLIUS LAPIS. See MAGNES.

HE'RBA, (from the Arabic term *erbah*, from *rabah*, *to germinate*). HERBS, or PLANTS whose stalks die to the ground every year. Those whose roots continue one year are called *annual;* if two years, *biennial;* and if durable, *perennial.* In common language, an herb is used in opposition to a tree. By Linnæus the herb is put for that part of a vegetable which arises from the root, is terminated by the fructification, and comprehends the stem, leaves, fulcra, and hybernacula.

Herbs are to be gathered when the leaves are at their full growth, before the flowers unfold, except those whose flowery tops are preferred. They should be quickly dried, in a room heated by a fire to a degree equal to the hottest day, from 75° to 80°. Aromatic plants should be collected from warm dry soils; fetid ones from those which are moist and rich. All herbs and leaves should be gathered in clear dry days, as soon as the morning dew is dissipated. When herbs are properly dried, they are good while their colour remains, both for decoctions and distillation; those that are good when dry are preferable to the same herbs in their green state.

HE'RBA PA'RIS, (from the Trojan youth,) this herb bearing but one seed; *uva lupina*, *solanum quadrifolium*, HERB PARIS, HERB TRUE LOVE, or ONE BERRY. *Paris quadrifolia* Lin. Sp. Pl. 527. It is a low plant; grows wild in shady woods; flowers in April and May; the berry is ripe in July. Gesner observes, that its juice is narcotic; but it is not now used. See Raii Historia. For the herba Paris alba, see ABSINTHIUM VALESIACUM.

HE'RBA ALEXANDRI'NA. See HIPPOSELINUM.

HE'RBA BENEDI'CTA. See CARYOPHYLLATA.

HE'RBA BRITANNICA. See HYDROLAPATHUM.

HE'RBA FE'LIS. See MENTHA CATARIA.

HE'RBA JU'LIA. See AGERATUM.

HE'RBA MELANCHOLI'FUGA. See FUMARIA.

HE'RBA PE'TRI. See PRIMULA VERIS, under PARALYSIS.

HE'RBA RE'GIA. See BASILICUM, and ARTEMISIA.

HE'RBA SA'NCTÆ BA'RBARÆ. See BARBAREA.
HE'RBA SA'NCTI PE'TRI. See CRITHMUM.
HE'RBA STE'LLA. See CORONOPUS.
HE'RBA TRINITA'TIS. See HEPTICA NOBILIS.
HE'RBA VETE'RIBUS IGNO'TA. See CARDAMINES.
HE'RBA VI'VA. See CAACO.

HERBA'TUM CANADE'NSIUM; *panaces moschatum;* SWEET SCENTED ALL HEAL OF AMERICA. *Aralia racemosa* Lin. Sp. Pl. 393. This plant is found in Canada; but is rather alimentary than medicinal.

HE'RCULEA MEDICAMENTA. Named from their supposed extraordinary powers.

HE'RCULES BO'VII. The name of a once famous emetic and cathartic preparation.

HERMA'NNIA. Denominated in honour of HERMAN BOERHAAVE. The name of an African genus similar in virtue to the marsh mallows. None are used in medicine; but if any have a claim to notice, it is the *hermannia althæifolia* Lin. Sp. Pl. 141.

HERMAPHRODI'TUS, (from Ἑρμῆς, *Mercury*, and Ἀφροδίτη, *Venus*). An HERMAPHRODITE; *andria;* a person supposed to be of both sexes; but the clitoris of a woman being of an extraordinary size, is all the peculiarity in this supposed species of the human kind. (See Cheselden's Anatomy.) In botanical language it is applied to flowers having both anther and stigma. Hence an hermaphrodite plant is that which has only hermaphrodite flowers.

HERMETICA MEDICINA. HERMETICAL MEDICINE, is the medical system adopted by the chemists, at present deservedly exploded and forgotten.

HERMETICUM SIGILLUM, the securest means of inclosing fluids in a glass tube, viz. by melting the neck, and closing or twisting it with a pair of pincers.

HERMODA'CTYLUS, (from *Hermus*, a river upon whose banks it grows, and *dactylus*, *a date*, which it resembles). *Hermodactyl; colchicum illyricum* of Forskell and Gronovius; *alsurengium; asaba; Hermes dactyletus; ephemeron;* is the root of a plant brought from the east; of the shape of a heart, and of a reddish, yellowish, brownish colour. When white and hard it is preferred. Each root is flatted on one side, with a furrow on the other. Though known from the time of Prosper Alpinus, it is singular that its species has not been accurately ascertained. It is highly probable that it is from the plant which furnishes the following medicine. It hath a viscous farinaceous sweetness to the taste, but no smell. The ancients say it is cathartic; but the dried ones which we receive are perfectly inert. Prosper Alpinus informs us, that the Egyptian women eat them as a means of becoming fat. They are not of any known use in medicine. See Lewis's Materia Medica. Neumann's Chemical Works.

HERMODA'CTYLUS FO'LIO QUADRA'NGULO, called also *iris tuberosa*, *iris bulbosa*, and SNAKE'S HEAD IRIS; *iris tuberosa* Lin. Sp. Pl. 58. The root of this plant hath a tubercle, which is both emetic and cathartic.

HE'RNIA, (from ἑρνος, *a branch*, because it protrudes forward). A TUMOUR, *ecrexis ramex*, and a RUPTURE, as occasioning a tumour. In consequence of some sudden effort, a portion of the contents of some cavity is forced through the interstices of the containing parts, usually confined to the abdominal contents forced through the interstices of the abdominal muscles, or those openings designed for the passage of nerves and blood vessels. Dr. Cullen defines it an ectopia, or displacing of a soft part, though still covered with the skin and other integuments.

From the situation of these tumours, their contents, or both, they obtain their respective denominations; occasionally taking their name from attending circumstances. 1. Those from the situation are the umbilical, femoral, labial, scrotal, or ventral. 2. Those from the contents are the enterocele, epiplocele, entero-epiplocele, pneumatocele. 3. Those from attending circumstances are, the incarcerated hernia, &c. True and false hernia have been distinguished; but each is a tumour of the scrotum, and the former are from the abdominal viscera, beginning from above and descending downwards to the groin or scrotum; while the latter begin from below and ascend upwards; as the hernia humoralis, hydrocele, hæmatocele, and sarcocele. These are diseases in the part where the tumour appears; from the Greek term κηλη.

The inguinal is the most frequent hernia; and the next to this is the femoral. The umbilical seldom occurs except in elderly women, who have been often mothers. A hernia of any other viscus, besides the intestines, is peculiarly rare.

When the intestines fall down from the cavity of the abdomen, or rather of the peritonæum, it is evident that this latter membrane must be carried with them, unless it should be ruptured or wounded, which is seldom the case. When independent of wound, the gut usually falls through those apertures, originally formed for the passage of the spermatic cord; and in women of the round ligaments of the uterus, or for the femoral arteries. These apertures are imperfectly closed with fat only; for they are not muscular, and therefore do not admit of contraction. It sometimes, however, happens that the intestine is forced through the fibres of the abdominal muscles; and one case is recorded in which the colon was pushed through the fibres of the diaphragm; in others, the intestines have passed by the side of the œsophagus, by the vena cava inferior, or more rarely by the aorta into the thorax; the general cause is whatever contracts the capacity of the abdomen, or violently forces the intestine against the apertures mentioned. Violent coughing, crying, laughing, costiveness, dysury, pregnancy, or whatever produces a deep inspiration, occasions this contraction, by the united exertions of the diaphragm and abdominal muscles. Suddenly lifting a heavy weight, which produces a deep inspiration, the jumping of a rough horse, and any other violent exertion, have been followed by the same consequences. Independent of these causes, in weak persons the weight of the intestines will produce a similar effect. It is, therefore, common in warm climates; after long fevers in old persons; those who, with poor diet, have laboured hard; and it has been said, that those who eat large quantities of oil are subject to this complaint. This, however, can scarcely happen but in the warmer regions; and increased temperature alone predisposes to it. Hernia sometimes appears to be hereditary.

There are other apertures through which the intestines sometimes, though very rarely, pass; as between

the bladder and rectum, or the uterus and rectum, when the tumour appears in the perinæum; by the ischiatic notch; or by the side of the sciatic nerve, when they are seated under the glutæi muscles. Mr. Cooper mentions a singular hernia, where the intestine passed into the labia pudendi, falling under the branch of the ischium along with the internal pudendal artery, but continued into the pelvis, by the side of the vagina. In one case they passed between the laminæ of the peritonæum into the mesentery; and, in another, into a bag formed by a separation of the laminæ of the mesocolon. When the formation of the muscles is defective, the intestines may even protrude at the loins.

Other viscera are occasionally displaced. The brain is sometimes protruded through the skull, when the bones of the head are deficient; the lungs will occasionally pass through the fibres of the intercostal muscles; and the uterus or bladder has been protruded through the parietes of the abdomen. These herniæ are, however, uncommon.

The sac which contains the intestines is, therefore, the peritonæum, and the contents are most commonly the omentum and the ilium; less frequently, in succession, the colon, the cœcum, and the jejunum: sometimes only the appendix cæci vermiformis. The peritonæum in this situation is generally thickened; though, when the weight has been considerable, it has been found peculiarly thin. The rupture of the peritonæum, which was supposed always to happen, and which gave a name to the disease, rarely occurs. The sac, however, has occasionally burst, particularly in one instance, by a blow; and where the intestines escape, from defective organization of the muscles, they are seldom in a sac, for the peritonæum also is usually defective in the corresponding portion. The hernia congenita and hernia cystica are equally destitute of the peritonæal covering; and, in one instance, the umbilical hernia was without it, a circumstance which should suggest extreme caution in the operation. The size of the sac differs from different circumstances, chiefly from the duration of the disease. The symptoms, however, are not in proportion to the size. We have seen the most violent ones occasioned by a rupture not equal in size to a filbert.

In general there is a pain and uneasiness in the tumour; and, when it has been long down, the pain is often extremely violent, felt not only in the tumour itself, but over the whole abdomen. If the discharge of fæces is suppressed, inflammation soon comes on, the gut is thickened, the aperture through which it passed becomes too small for its return, and what is called a strangulation ensues. Herniæ are consequently divided into reducible, irreducible, and strangulated. Reducible herniæ are those in which the intestine on lying down spontaneously returns into the abdomen, or, at least, with the assistance of very gentle pressure, and may be retained there by the bandage styled a truss. Herniæ are often irreducible from their size in consequence of inflammation; from the intestines containing hardened fæces, or flatus, which, from some obstacle at the ring, cannot be forced back. Sometimes membranous bands form across the sac, preventing the free motion of its contents; or the intestine is united by adhesions to the side of the sac. In each case the hernia is irreducible. The reducible hernia is more subject to strangulation than the irreducible; but the latter is much exposed to accidents, which are soon fatal.

The strangulated hernia is a disease of the greatest danger. When the omentum only comes down, the symptoms are those of inflammation and mortification. In this case it seldom happens that the fæces are retained; yet we have seen inflammation communicated from the prolapsed omentum to the intestines, and produce all the symptoms of complete hernia. In general, however, the pain and tension are not so great; the hiccough is less violent and constant. When the intestine, as well as the omentum, is strangulated, a violent pain is felt in the tumour, and a stricture round the body, about the navel, or somewhat above; frequent vomiting follows, succeeded by the evacuation of fæculent matter. All evacuation downward is checked; the pulse is quick, and at first hard; the tumour red and painful, often œdematous; the abdomen tense and sore; hiccough soon follows; great anxiety appears in the countenance; the pulse sinks; and the patient appears to be expiring. Yet these violent symptoms will diminish, though the disease remain unchanged; and a flattering remission will come on, again to be succeeded by the distressing symptoms just described. These, at last, appear to yield almost suddenly: the patient is apparently easy, but the abdomen becomes more tense, the tumour of a darker colour; and death soon follows.

The symptoms of the true herniæ apply in a considerable degree to prolapsed intestines in every part; and when we consider, in this detail, symptoms of prolapsed intestine, we shall scarcely fail to recognize the appearances wherever the accident happens; if, with these, we combine the injured functions of the part, and the chances of the intestines escaping into the cavity of the organ affected. See Bubonocele.

This accident being unattended with any division of the containing parts, the whole of the disease must be considered as a change of situation of the parts within. Were these immediately returned and kept in their place, the disorder would entirely cease; but in that preternatural situation they are pressed upon by the tendons through which they pass, and inflammation, with mortification, supervenes. This, however, is not owing to any change of state in the tendons, but merely to their natural elasticity, acting upon an increased and yielding subjacent bulk. The obstacle to the reduction of the prolapsed contents is, therefore, the increased bulk which they have acquired from inflammation in consequence of stricture, by which they are incapable of returning through the same passage at which they escaped.

If assistance is called in time, the return of the protruded parts must be attempted by such means as produce a contraction of the vessels and diminish the bulk of the solids: viz. cold, astringent, and stimulating applications. Emollients cannot relax the tendons, but often enlarge the bulk of the hernia, and render its reduction more difficult. Cold astringents should be immediately applied, and cold itself is an useful remedy. Ice, iced water, cold produced by the evaporation of vinegar and ether, are highly useful applications: at the same time these may be assisted by gentle but continued compression on the part with the fingers, or with small bolsters of soft linen cloth. By continuing these

efforts for some time, the vessels are visibly less diminished, the swelling grows flaccid, the stricture gives way, and the disorder is removed.

When all proper attempts fail to reduce the contents of an hernia, the sooner the operation called *celotomia* is performed (see Bubonocele), the better; but when there are evident signs of the intestine being in a mortifying state; when the pulse and countenance sink; and when the tumour has lost its elasticity; Mr. Gooch recommends making an incision into the tumour, ample enough to evacuate the fæces freely, which may effectually remove the strangulation of the intestine at the abdominal ring, and then to treat the wound as a mortification, allowing nature to throw off the mortified slough. If it is doubtful in what condition the parts contained in the tumour are, the operation must be cautiously proceeded on, till we can see the state of the intestine: if that is mortified, it may be opened; and if the evacuation of the fæces do not effectually make way for the return of the parts, the abdominal ring must be opened by incision.

But, after replacing the hernial contents, to retain them requires very often the assistance of a bandage, or a proper compress. Mr. Pott observes, "All that can be done by surgery towards the cure of the hernia is, to replace the prolapsed body or bodies in the cavity of the belly, and to prevent them from slipping out again. When whatever formed the tumour is replaced, the surgeon hath done his part; the rest is nature's: whether the tendinous aperture will so contract as to prohibit a future descent or not is matter of uncertainty, and not to be known but from the event."

When a rupture happens, and is unattended with any signs of stricture, or other violent symptoms, a bandage or a truss will be the most eligible means of relief. The modes of operation when the knife is necessary will be afterwards explained.

He'rnia aquo'sa. See Hydrocele.

He'rnia bronchia'lis. See Bronchocele.

He'rnia carno'sa. See Sarcocele.

He'rnia ce'rebri. A rupture of the brain; a protrusion of the cerebrum, or cerebellum, through an opening of the bones of the cranium not perfectly ossified, discoverable by a protuberance, differing with respect to magnitude, figure, and place of the cranium which it occupies, covered with the common integuments, preserving their natural colour, unless a gangrene has supervened. The protuberance is soft and indolent, resisting the touch, and painful only when inflamed, usually fluctuating, surrounded at the circumference of its basis by a bony circle, which may be traced by the fingers, and discovering a defect of ossification: it is peculiar to infants, attended, at least, in the beginning, with no violent symptoms, if the tumour is small, and situated in the vertex, or sides of the head; but palsy, stupor, and convulsions come on if it be large, or if in the occiput. The disease must be carefully distinguished from a spurious aneurism, which often in infants arises from a blow, or violent pulling of the hairy scalp. Trew, and Le Dran, cured this complaint by placing thick compresses, moistened with spirit of wine, or aqua vitæ, upon the part affected, for several weeks, renewing them every twenty-four hours. See Sauvages' Nosologia, vol. i. p. 217. Warner's Observationes Chirurgicæ, xi. 59.

He'rnia conge'nita, is a rupture where the intestine and testicle are in contact. The testes are originally situated in the abdomen, just below the kidneys, and gradually descend near the time of birth through the sheath of the spermatic chord into the scrotum, each carrying along with it an external coat, which in each is the tunica vaginalis. This discovery was made by Dr. Hunter, in the year 1755, and demonstrated in his public lectures that year.

Soon after the birth of the child, the communication between the tunica vaginalis and the abdomen is obliterated by a stricture of the parts, and an accumulation of fat; but if the intestine falls very soon, these defences are not formed.

In the treatment of congenital ruptures, the management is nearly the same as in the bubonocele. See Bell's Surgery, vol. i. p. 340.

Dr. Wrisberg observes, that, in his dissections, he several times found a part of the omentum or intestines adhering to the testicle in the abdomen of the fœtus, and in such cases a hernia congenita must take place. The same, he adds, will occur, when the peritonæum, in its course over the seminal vessels to the mesentery, sends off a minute process to the ilium or cœcum, and by means of it draws down the intestines on the right side, which is the common seat of the hernia congenita. See the London Medical Journal, vol. i. p. 376. White's Surgery, p. 332.

He'rnia crura'lis. See Hernia femoralis.

He'rnia cy'stica. See Hernia vesicalis.

He'rnia femora'lis, crura'lis femoroce'le. This species of rupture is the same in both sexes, and formed by the falling of the omentum or intestines, or both, into the inside of the thigh, through the arch made by the os pubis and ligamentum Fallopii, where the iliac vessels and tendons of the psoas and iliacus internus muscles pass from the abdomen. (See Bubonocele.) The methods proposed for ruptures in general will often succeed; and if the operation is necessary, it is the same as for the bubonocele, with the difference of dilating the ligament instead of the rings of the muscles: the dilatation must be made obliquely outwards, instead of perpendicularly upwards, to avoid dividing the spermatic vessels in the male, or the round ligaments in the female; but the pressure must be made directly upwards. Authors, however, are by no means clear respecting the means of avoiding the division of the spermatic vessels and round ligaments. Indeed it seems very difficult, and almost impossible.

The directions of Mr. Borret in the Medical and Physical Journal are the most clear and precise. When the fascia and sac are laid bare, he observes, that Poupart's ligament is seen binding down the sac, which must be divided; but to avoid injuring the parts mentioned, he advises making a small incision between the fibres of the external oblique about half an inch above the ligament, and to pass a director *under* the ligament, and *over* the artery, on which the operator may safely cut. The stricture must then be divided inwards to the pubes, inclining Pott's knife rather obliquely downwards. See White's Surgery, p. 324.

He'rnia flatule'nta. See Pneumatocele.

He'rnia fora'minis ma'gni i'schii. In this hernia the intestines or omentum fall through the great hole of the ischium into the internal part of the thigh,

between and under the two anterior heads of the triceps muscle. It is owing to a great laxity of the ligament, and the intestine must lie behind the pectineus; so that no pressure can be employed, and no operation can be successful, because the orifice cannot be dilated, on account of the vicinity of the vessels.

HE'RNIA GU'TTURIS. See BRONCHOCELE.

HE'RNIA HUMORA'LIS; *inflammatio testium;* though often an inflammation of the tunica vaginalis only. Dr. Swediaur thinks that the testicle itself is never swelled, or in the least affected, in the beginning of this complaint, and that the only affected part is the epididymis. He adds, if the testicle ever swells, it is from the inflammation extending in consequence of bad treatment. It usually is owing to a venereal inflammation, though it may also happen from irritation, or external injuries; and is subject to the usual termination of inflammation.

This disease is often induced by a stoppage of the venereal gonorrhœa, not from the poison itself, but from the inflammation extending to the mouth of the excretory ducts of the seminal vesicles; in which case, brisk purgatives, if they produce a return of the discharge, are useful, for this is the quickest method of relieving the complaint. Vomits, when the constitution can bear them, are useful while the tumour is in the inflammatory state; but are best given when the inflammation begins to yield. The ipecacuanha would be as useful as the hydrargyrus vitriolatus, if its activity were equal.

Whatever be the cause, bleeding, according to the strength of the patient, is necessary; and an active purgative must follow. Goulard's saturnine water should be applied cold by means of rags folded several times, and repeated as often as they grow warm; a mixture of vinegar and brandy, or any other discutient lotion, will be nearly as effectual. (See LOTIO.) If these remedies do not succeed in a few days in removing the violent pain, or diminishing the tumour, leeches must be applied to the part; and in every stage opiates, in large doses, alternated with laxatives, given.

The patient should lie on his back, in a large room, with little external covering; and even in this state the swollen testicle should be supported. Mercury may be employed if any induration remain, but the tumour itself is wholly inflammatory, and does not require this remedy.

Thus, if the part is suspended properly, and if the patient can conform to lie much on his back, this tumour will be removed in a short time, without the usual violent pain, or the hardness remaining afterwards, which is almost the constant effect of emollients. If, notwithstanding all our care, a suppuration come on, an emollient cataplasm must be applied warm, and continued until the matter is discharged. The knife is usually preferred for opening the abscess, but great caution is necessary that the testicle be not wounded: the dressing may be the same as directed for abscesses in general. On abscess in the testicles, see Kirkland's Medical Surgery, vol. ii. p. 256.

Dr. Swediaur proposes in cases of virulent gonorrhœa to prevent this disease, that the patient avoid exposing himself to cold, violent exercise, or venery, and that he keeps the scrotum duly suspended. If hernia humoralis occurs, he attempts, first, to allay the irritation, and then to recall the poison to its former original seat. If the pulse be quick, full, and strong, he advises bleeding immediately. If costive, a clyster should be administered, and the patient sit half an hour in a warm bath, or on a perforated chair over the steam of hot water, previously suspending his testicles. He must then go to bed; a warm dry bag truss should be immediately put on; a warm bread poultice applied to the penis; and a full dose of opium given by the mouth, or in a clyster with lintseed oil. The opiate must be repeated every twenty-four hours, and the parts exposed two or three times a day to the steam of hot water. The design of the poultice to the penis, and the hot steams, is to reproduce the discharge; but though this be useful, it is not essentially necessary, for the disease is evidently not a translation of the poison, but of inflammation only. See Dr. Swediaur's Observations on Venereal Complaints. Aikin's Observations on the Preparations of Lead. London Medical Observations and Inquiries, vol. iii. p. 152.

HE'RNIA INCARCERA'TA. It is styled an incarcerated or confined hernia when the protruded intestine cannot be returned; from its adhesion, or from the bulk of its contents. The symptoms of the disease are, a swelling in the groin, and upper part of the scrotum, very painful to the touch, and resisting the pressure of the fingers; the pain is increased by coughing, sneezing, or standing upright; frequent vomiting; and a fever, with obstinate costiveness, presently comes on, which is soon fatal.

Very copious or repeated bleeding, and a proper posture, are the principal helps; the patient should be laid with his hips much higher than his shoulders, and thus by gently raising the scrotum, and a light pressure on the tumour, the intestine may return. The tobacco clyster is highly beneficial; made by infusing two drachms of dried tobacco in one pint of boiling water, for the space of ten minutes. It acts by producing nausea, and diminishing irritability. See BUBONOCELE. London Medical Journal, vi. p. 118, 259. Edinburgh Medical Commentaries, v. 270.

HE'RNIA INGUINA'LIS. See BUBONOCELE.

HE'RNIA INTESTINA'LIS. See HERNIA SCROTALIS.

HE'RNIA LACHRYMA'LIS. When the tears pass through the puncta lachrymalia, but stagnate in the sacculus lachrymalis, the tumour is styled *hernia lachrymalis*, with little propriety or precision. It is with equal impropriety called by Anel, a *dropsy of the lachrymal sac.*

If the inner angle of the eye is pressed, and an aqueous humour flows out, the disease is the FISTULA LACHRYMALIS, q. v. Kirkland's Medical Surgery, vol. ii. p. 135.

HE'RNIA OMENTA'LIS. See EPIPLOCELE.

HE'RNIA SCROTA'LIS, HE'RNIA OSCHEA'LIS, and HE'RNIA ENTEROSCHOCE'LE; also *intestinatis*, *ecptoma*, *enterocele;* by Paracelsus, *crepatio*, or *crepatura.* When the omentum, the intestine, or both, descend into the scrotum, it has these appellations; when the omentum only, it is called *epiploscheocele.* It is styled a *perfect rupture*, in contradistinction to a bubonocele, which is the same disorder; but the descent is not so great. The hernia scrotalis is distinguished into the true and false; in the former the omentum, or intestine, or both, fall into the scrotum; in the latter, an inflammation, or a fluid, causes a tumour in this part, as in hernia

humoralis, or hydrocele. Sometimes sebaceous matter is collected in the scrotum; and this hernia is called *steatocele*.

He'rnia umbilica'lis; *epiploomphalon*, *omphalocele*, *exomphalos*, *omphalos*; and when owing to flatulence, *pneumatomphalos*. In this disease the omentum, intestine, or both, protrude at the navel, and it can, in general, only be palliated. White's Surgery, p. 323.

He'rnia u'teri; hysterocele. Instances have occurred of the uterus being thrust through the rings of the muscles; but this is scarcely to be discovered, unless in a pregnant state, when the strugglings of a child would discover the nature of the disease. In that state, however, it could scarcely ever occur. It is the ecrexis of Hippocrates.

He'rnia vagina'lis. There is naturally a deep cavity between the rectum and the back part of the uterus, from the peritoneum descending pretty low, and forming a kind of sac, in which a portion of the small intestines in the unimpregnated state lies. The intestines, by pressing occasionally against the peritoneum at this depending part, deepen this cavity, and separate the back part of the vagina from the fore part of the rectum, thus forming the tumour in the vagina, called a *hernia vaginalis*.

He'rnia in vagi'na. See Colpocele.

He'rnia varico'sa. See Cirsocele.

He'rnia vento'sa. See Pneumatocele.

He'rnia ventra'lis, hypogastrocele. This may happen in almost any point of the fore part of the belly, but most frequently between the recti muscles, either above or below the navel; and is only to be relieved by returning the protruded parts, and preventing the recurrence of the hernia by a proper bandage. The tumour which requires this operation is seldom bigger than a walnut; so when there are the symptoms of a hernia, and yet no appearance of one in the groin, the belly should be examined. In obstinate cases of ileus, also, it is proper to examine every part of the abdomen, for the most violent symptoms may arise from a very small hernia of this kind. The stricture must be relieved by dilating the part, as in other cases; but after the operation a bandage must always be worn, as the cicatrix may be ruptured. White's Surgery, p. 324.

He'rnia vesica'lis, seu cy'stica. In this species, the urinary bladder is the part protruded, either in the groin or scrotum, through the opening in the external oblique muscle of the abdomen; in the fore part of the thigh under Poupart's ligament; or in the perinæum. Through some of the muscular interstices of that part, the bladder has been pushed into the vagina, and formed hernial tumours of no inconsiderable magnitude. The common attendant symptoms are, a tumour with fluctuation, either in the groin, the fore part of the thigh, or perinæum. The tumour subsides on pressure, and occasions either a desire to make water, or an involuntary discharge of urine. When the swelling is large, it is necessary that the tumour should be elevated as much as possible before the urine can be discharged; but when small, and no stricture occurs, water is generally made with great ease. When this complaint is simple, and no part of the intestine has fallen down, it commonly proceeds from a suppression of urine; so that every cause of suppression ought to be guarded against; and when no adhesions take place, if the protruded portion of the bladder can be reduced, a truss, properly fitted, should be worn for a considerable time. When the bladder cannot be reduced, while no symptoms occur to render the operation necessary, a suspensory bag to support the prolapsed parts, without producing severe pressure, is the only probable means of relief. When a portion of the bladder happens to protrude into the vagina, after reduction, future descents may be prevented by the use of a pessary; and the same means will be successful in preventing a falling down of part of the intestinal canal into the vagina: a species of rupture which now and then occurs. But should the protruded parts be attacked with pain and inflammation in consequence of stricture, so as to render the operation necessary, we must proceed, as in similar cases, to divide the parts occasioning the stricture; but if the bladder adhere to the rupture of an intestine, great caution is required, should the operation become necessary, to avoid wounding the bladder. See Le Dran's Operations. Memoires de l'Academie Royale de Chirurgie. Sharp's Operations. Sharp's Critical Enquiry. Arnaud on Ruptures. Pott on Ruptures. Gooch on Wounds, p. 427, &c. Aikin's Observations on Preparations of Lead, p. 91, &c. Bell's Surgery, vol. i. p. 369 to 377.

HERNIA'RIA, (from *hernia*, *a rupture*). Rupture-wort; (from its supposed efficacy in curing ruptures). *Polygonum minus*, *millegrana major*, *herniaria glabra* Lin. Sp. Pl. 317, is a small spreading plant, found in sandy ground; flowers in June and July; supposed to be diuretic and astringent.

HE'RPES, vel E'RPES, (from ἑρπω, *to spread* or *creep*, from their quickly spreading). Tetter. Dr. Cullen places this disease in the class *locales*, and order *dialyses*; and defines it, phlyctenæ, or a great number of small ulcers crowding together, creeping and difficult to heal.

These ulcers in the skin are sometimes divided into five species. The *simple*, which consists of single sharp-pointed pustules of a yellowish white colour, inflamed about their bases, and naturally dry. They burn, itch, and smart a day or two, and then disappear.

The *tetter*, *ring worm*, or *serpigo*; *darta*; are the same in appearance, except that they accumulate in little masses; they are more permanent, for they contain more corrosive matter; they smart and itch more violently, penetrate the skin, and spread considerably, without forming matter, or coming to digestion. The cure is frequently difficult; and they sometimes return at certain seasons. If the disease is constitutional, slight mercurials are necessary; and a solution of hydrargyrus muriatus in lime water, in the proportion of sixteen grains to a pint, may be used as a lotion, or the white calx of mercury, combined with common ointment, may be rubbed on the part. About two scruples may be added to an ounce. When serpigo is constitutional or scorbutic, the great water dock root may be employed, either with or without the mercury, in the form of a diætetic decoction.

Shingles, or *zona aurea*, *herpes zoster*, synonymous in Dr. Cullen's system with his erysipelas phlyctænodes, as sometimes accompanied with inflammation and fever. It appears in large clusters, on the neck, breast, loins, hips, or thighs: the heads are white and watery, and succeeded by a small round scab resembling a millet seed,

and called from thence *herpes miliaris*. In general the treatment is the same as in erysipelas: the chief indication is to take off the irritability of the system; and for this purpose the cortex Peruvianus and camphor are the best remedies. The prognostic of death from its surrounding the body is false; the malignity of the disease alone affording the only ground of fear. There is a chronic kind peculiar to old people, troublesome from the itching it excites, and sometimes dangerous. The bark internally, and externally, the lime water, occasionally with a small proportion of the muriated mercury, often succeed.

These two kinds were called by the ancients *vermis repens; vermis mordicans; formica miliaris*. Wiseman calls them *ambulativa*.

Herpes depascens, noma, noli me tangere, ulcus depascens, esthiomenus, formix; and by Celsus *ignis sacer*, because, like the ulcerated erysipelas, it penetrates to the flesh, raising the skin, chiefly on the scalp, into scales of different thicknesses, and leaving a hard swelling on the part. Dr. Cullen thinks it an erythematous inflammation. It resembles an ulcerous erysipelas of a most corrosive kind. The hydrargyrus muriatus, as directed in the lues venerea, with a decoction of the woods, or sarsa, is useful in this complaint; and the sores may be washed with a solution of hydrargyrus muriatus in aq. calcis.

A dose of jalap every fourth day, with an electuary containing two parts of the bark to one of sassafras, has been successful. The mineral acids are sometimes very advantageous; and in this species the tincture of cantharides, recommended by Dr. Mead, we have found useful.

Mr. Bell, in his Treatise on Ulcers, places the tinea and the herpes, as varieties of that species of ulcer, which he denominates cutaneous; adding that the cutaneous ulcer, in all its varieties, may be included in the herpes farinosus, or dry tetter; herpes pustulosus, including the crusta lactea; the tinea capitis (see Achor); herpes miliaris; formica miliaris, cenchrius, of which the ring worm is a variety; and the herpes exedens, including the ulcers called depascent and phagedenic.

The *herpes farinosus* is the most simple kind. It appears on any part of the body, most frequently on the face, neck, arms, or wrists; comes out in broad spots, consisting of very small red pimples, attended with a troublesome itching, which soon fall off in the form of a white powder resembling fine bran: they leave the skin perfectly sound, but the pustules return in the form of a red efflorescence, fall off, and are covered with bran as before.

The *herpes pustulosus* occurs most frequently in children, generally in the face, and behind the ears; often on other parts of the head, but rarely on the body. It appears in the form of pustules, which are originally separate and distinct, but afterwards run together. At first they seem to contain nothing but a thin watery serum, which afterwards turns yellow, and, exuding over the whole surface of the part affected, at last dries into a thick crust or scab: when this falls off, the skin below frequently appears entire, with only a slight degree of redness on its surface; but when the matter is more acrid, on the scab falling off, the skin is found slightly excoriated. See Achores.

The *herpes miliaris* generally appears in clusters, though sometimes in distinct circles of very minute pimples. These are at first perfectly separate, and contain only a clear lymph, which, in the course of the disease, is excreted upon the surface, and forms small distinct scales, that fall off, and leave a considerable inflammation. From hence fresh matter exudes, with the same consequences. The itching in this ulcer is always troublesome, and the matter discharged so tough and viscid, that whatever is applied to the part adheres so as to be removed with difficulty. The whole body is subject to this disorder, but it most frequently appears on the breast, perinæum, scrotum, and loins.

The *herpes exedens* discovers itself on any part of the body, but mostly about the loins, where it sometimes spreads to such a degree as to encircle the waist. At first several small ulcerations appear collected into larger spots of different sizes and various figures, with always more or less of an erysipelatous inflammation. These ulcerations discharge a thin, sharp, serous matter, which sometimes forms into small crusts, that soon fall off; but the discharge is often so thin and acrid, as to spread, and produce similar sores around. Though these excoriations, or ulcers, do not in general proceed further than the true skin, yet the cellular membrane, and, on some occasions, the muscles themselves, are destroyed.

Dr. George Fordyce describes a variety of this disease under the name of *herpes rapiens;* and adds that it arises upon the head in small ulcers, covered with a brown, moist, shining crust, similar to venereal ulcers. It is cured, he observes, by the same methods which remove venereal ulcers.

In these cuticular diseases the fluids have been supposed vitiated, and repellents generally unsafe. This is certainly in a great measure true; and in young persons, as well as in robust habits, topical remedies must be employed with caution. In such cases the neutral salts are generally useful; and mercurials, antimonials, or both combined, are necessary at night, assisted in their operation on the skin by opium. In the more debilitated habits, bark with the warmer diaphoretics, particularly the mezereon, are proper, with the mineral acids, and a more generous diet. In all cases, bathing in the warm bath, and the utmost cleanliness in every respect, will be salutary.

In the weak habits, and in old persons, external remedies are most effectual. Simple lime water will be often useful; and about ten grains of hydrargyrus muriatus to a pint of distilled water, with a small proportion of muriated ammonia, is often a beneficial external remedy. In all cases, saturnine applications are either useless or injurious. Mercury must be sometimes continued with the warmer diaphoretic alteratives for a long time; and this has given credit to Spilsbury's drops, which are only a solution of muriated mercury. When the disease recurs, which is not uncommon, a milk and vegetable diet, with issues, and frequent doses of neutral salts, are the best prophylactics. If the disease has produced a deep foul ulcer, the preparations of zinc are the most useful applications.

See Tulpius, lib. iii. Marc. Aurel. Severinus, lib. iv. de Abscessibus, cap. 9. Turner's Diseases of the Skin. Bell on Ulcers, article Cutaneous Ulcer, edit. iii. p. 345. White's Surgery, p. 26.

He'rpes. See Purpura scorbutica.

HE'RPES FACIE'I. In some constitutions, especially in females, the face is particularly liable to a species of herpes, peculiarly distressing to practitioners. Mercurials, with decoctions of sarsa and mezereon, sometimes succeed; occasionally the Dover's powder, with a small proportion of muriated mercury. Frequently all fail; but the following composition has sometimes been effectual. ℞. Sulphuris præcipitati ʒ ij. cerussæ acetatæ ʒ i. aq. rosarum ℥ viij. m. nocte maneq. utendum, phiala prius agitata. See Bell on Ulcers, p. 373.

HE'RPES FE'RUS. See ERYSIPELAS.

HE'RPES SERPIGO. The RING WORM; a cutaneous affection common in India, in which the eruption is circular, with a cavity in the middle, apparently surrounded by a ring. The remedy is the cassunda vinegar. An ounce of the fresh bark, roots, tops, or flowers, of the cassunda (*cassia sophera* Lin. Sp. Pl. 542) are boiled in a pint of vinegar to eight ounces, and a drachm or two applied two or three times a day, previously cleaning the part with soap and water. When this does not succeed, a mild mercurial course, interposing purgatives, with a milk and vegetable diet, has removed the disease.

HERPE'TON, (from ἑρπω, *to creep,*) a creeping pustule or ulcer. Hippocrates.

HERRING. A species of *clupea*, a rich, oily, and sufficiently wholesome food in strong stomachs. When dried in the smoke, they are very indigestible. The regular migration of herrings has been lately doubted, and their successive appearance on different shores accounted for from their coming to the shallower water for the purpose of depositing their spawn.

HE'RVA DE A'NIL LUSITA'NIS. See INDICUM.

HE'SPERIS, (from ἑσπερα, *the evening*, so named because it smells most in the evening). *Hesperis matronalis* Lin. Sp. Pl. 927. It is said to be diaphoretic and antiseptic; but is unknown in modern practice.

HE'SPERIS A'LLIUM. See ALLIARIA.

HETEROGE'NEUS, (from ἑτερον, *alterum*, and γενος, *kind*). See ANOMŒOMERES.

HETERORRY'THMUS, (from ἑτερος, *another*, and ῥυθμος, *number*). See ARYTHMUS.

HE'TICH I'NDIS, AMERICANUM, vel ÆTHIOPICUM. A species of turnip in America, with leaves like those of briony: the root is as thick as two fists, and a foot and a half long. It is agreeable food, and aperitive.

HEUD, or HEUDE'EN, (*heud*, Arabic). See AGALLOCHUM.

HEXAGY'NIA, (from ἑξ, *six*, and γυνη, *a woman*). A class of plants, so named because they have six pistils, or female organs.

HEXA'NDRIA, (from ἑξ, *sex*, and ανηρ, *vir*). The name of the sixth class of Linnæus's system, comprehending those plants which have hermaphrodite flowers, with six equal stamens.

HE'XIS, ἑξις, (from ἑχω, *to have*). A HABIT. It is a permanent habit, in opposition to diathesis, or a transient disposition, which may more easily be removed. See CONSUETUDO.

HIBE'RNICUS LA'PIS, (from *Hibernia*, *Ireland*). IRISH SLATE, *tegula Gallis*, *ardesia Hibernica; lapis fissilis Hibernicus; argille schistense tabulaire* Haüy, iv. 447; *argillite* of Kirwan; is a kind of slate, or soft stone, found in Ireland and other countries, of a bluish black colour, staining the hands. When powdered it is whitish at first, but soon grows blacker; yielding in the fire sulphureous fumes, and acquiring a pale red colour. It is an argillaceous earth, with flint, lime, magnesia, and iron in a very small proportion. It is supposed to be an astringent, and was formerly given in hæmorrhages, and to prevent the bad effects of bruises. It is now totally neglected. See Lewis's Materia Medica. Neumann's Chemical Works.

HIBI'SCUS, (from ἱβις, *a stork;* said to chew and inject it as a clyster). See ALTHÆA and KETMIA.

HIBI'SCUS ABELMO'SCHUS. See ABELMOSCHUS.

HIDRO'A, (from ἱδρως, *sweat,*) pustules appearing in some constitutions, from sweating. It is the symptomatic kind of miliary fever called BOA, q. v. See DESUDATIO and PHLYCTIS.

HIDROCRI'TICA, (from ἱδρως, *sweat*, and κρινω, *to judge*). Signs taken from sweat.

HIDRONO'SOS, or HIDROPYRE'TOS, (from ἱδρως, *sweat*, and νοσος, *morbus*, or πυρετος, *fever*). See SUDOR ANGLICUS.

HIDRO'TES CENCHROI'DES. See CENCHROS.

HIDRO'TICA, and HIDROTO'PSEA, (from ἱδρως, *sweat*). See SUDORIFICA.

HI'DRUS. See ÆRIS FLOS.

HI'ERA DIACOLOCY'NTHIDOS. An electuary formerly prepared under this name, which hath long been neglected.

HIERANO'SOS, (from ἱερος, *holy*, and νοσος, *a disease*,) supposed to be the disorder which our Saviour cured in those who were said to be possessed of devils. (See CONVULSIO.) A continued kind of convulsion, without pain or loss of sensibility.

HI'ERA PI'CRA, (ἱερος πικρος). HOLY BITTER; now called *pulvis aloeticus;* formerly *hiera logadii*, and made in the form of an electuary, with honey: the species are now kept in dry powder, prepared by mixing socotorine aloes, one pound, with three ounces of white canella.

HIERABO'TANE, (from ἱερος, *holy*, and βοτανη, *an herb*). HOLY HERB. A species of verbena. Dioscorides. See VERBENA.

HIERA'CIUM, (from *hierax*, *a hawk*). *Hieraculum*, HAWKWEED. See ACCIPITRINA.

HIERA'CIUM LO'NGIUS RADICA'TUM. LONG ROOTED HAWKWEED. *Hypochæris radicata* Lin. Sp. Pl. 1140. The stalks of each species are full of branches, slender and elegant; the leaves disposed alternately; the calyx thick, firm, and expanded; the seeds smooth and angulous, or striated.

The root of this species strikes deep into the ground; is long, thick, and but little branched; the leaves lie flat on the ground, are rough and hairy; the flowers like those of the dandelion, but less yellow and downy; the seeds long and slender. It grows in fields and meadows, and flowers from May to September. It is supposed to be cooling, aperient, and diuretic.

HIERA'CIUM ALPI'NUM, *pannonica*, *costa herba*, *costa pulmonaria*, *pilosella major*, *dens leonis*, *pulmonaria lutea*. BROAD LEAVED HUNGARIAN HAWK WEED. *Hypochæris maculata* Lin. Sp. Pl. 1140. It grows on chalky hills, flowers in June, and is extolled in pulmonary disorders.

HIERA'CIUM MI'NUS, *hieracium leporinum*, LESSER HAWKWEED; *hyoseris minima* Lin. Sp. Pl. 1138; grows in pasture ground, flowers in June and July: its virtues the same as those of the hieracium majus, but supposed to be more considerable.

HIERA'CIUM MA'JUS, also called *sonchus repens*. GREATER HAWKWEED; *sonchus arvensis* Lin. Sp. Pl. 1116; is found in fields; flowers in July; the leaves are cool, and moderately astringent. See Raii Hist.

HIERA'CIUM MONTA'NUM, et PULCHRUM. See CHONDRILLA.

HIERA'CIUM PILOSELLA, Lin. Sp. Pl. 1125; is bitter and astringent, used internally in diarrhœa, and externally in itch and herpes.

HIERA'CULUM. See HIERACIUM.

HIERA'TICUM, (from ἱερος, *sacer*). The name of a malagma, formerly appropriated to disorders of the abdominal viscera; named from its divine virtues.

HIERO'PYR, (from ἱερος, *sacer*, and πυρ, *fire*). An erythematous inflammation.

HIGHMORI'ANUM A'NTRUM. See ANTRUM GENÆ.

HIGUE'RO. The CALABASH TREE; *crescentia cujete* Lin. Sp. Pl. 872; is a large tree common in America, and the American islands; but one species was known to Linnæus, of which he has noticed three varieties; but later authors form three species, viz. the *crescentia cujete*; the *c. cucurbitina*; the variety α of Linnæus, and the *cujete* with hard fruit, var. γ. The plant belongs to the solanaceæ. The first is a small tree with a twisted trunk, extending horizontally on every side, and furnished at each knot with oblong, undivided leaves collected in bundles. The flowers resemble those of a lily, are of a white and greenish colour, but a disagreeable smell. The fruit of various sizes and figures, is green at first, but when ripe it is black and hard, containing seeds like a gourd, and a yellow kernel. The unripe fruit contains a white juicy pulp, smelling like nasturtium, but of a sweetish taste; and is preserved with sugar, and used in fevers. The ripe affords a shell for cups, &c. The pulp of the ripe fruit is employed in dropsies and diarrhœas; as a remedy for burns and diseases of the head. In the French islands it is employed in diseases of the breast, and in contusions after violent falls. The other species are not remarkable for any pecular medicinal powers. See Raii Historia.

HIMANTO'SIS, (from ιμας, *a thong of leather*). Relaxation, or lengthening, and smallness of the uvula, when it hangs down like a thong.

HI'MAS. Properly a leather thong, or strap; but in medicine it is a laxness of the uvula, when it becomes long and slender, called also *cion*. It differs from the clonis, which is a thickened uvula.

HIN, HI'NDISCH, and HING, Indian and Persian names of ASAFŒTIDA, q. v.

HIN AWA'RU. See INDICUM.

HI'NKA. See CARYOPHILLUS AROMATICUS.

HI'PPACE, (from ἱππος, *equus*, *a horse* or *mare*). The rennet of a colt; and cheese made of mares' milk.

HIPPOCA'STANUM, or HIPPOCA'NTANUM, (from ἱππος, *equus*, and κυσταινον, *a chesnut*; from its size). The HORSE CHESNUT TREE, *castanea equina*, *pavina*, *æsculus hippocastanum* Lin. Sp. Pl. 488; natural order *trihilatæ*. This tree frequently grows to a great height, and from the upper part of the trunk usually sends off numerous spreading branches, covered with a rough brown bark; the wood is white and soft, but soon decays, and is of little value. The fruit in appearance resembles the Spanish chesnut, and is eaten by sheep, goats, deer, oxen, and horses; the latter are fond of it, and it is said to cure their coughs and pulmonary disorders. Starch has been made from it; and could its bitterness and acrimony be separated, it has been supposed that it would make a wholesome bread. It has been recommended as a sternutatory in powder, or by drawing the steams of a decoction up the nostrils, and has consequently been employed to produce a discharge from the nose in ophthalmy, head ach, &c. On the continent the bark is held in great estimation as a febrifuge, and considered to be a medicine of considerable efficacy. Jo. Jac. Zannichelli affirms, that, after many trials, he has found the bark of these trees to have the same effect as the Peruvian bark. By some practitioners it has been substituted for the latter, and said to be attended with equal if not superior advantages. For medical purposes it is to be taken from those branches which are neither old nor young, and exhibited as the Peruvian bark. Buchholtz prefers dissolving a drachm of the extract in an ounce of cinnamon water, giving sixty drops of the solution every three hours. It rarely disagrees with the stomach, but its astringent effects generally require the administration of laxatives. See Raii Historia Plantarum. Woodville's Medical Botany.

In England we have the white, yellow, and scarlet flowering chesnut trees, which are cultivated in gardens and walks, and flower in May and June.

HI'PPOCRAS. See CLARETUM.

HIPPOGLO'SSUM, (from ἱππος, *a horse*, and γλωσσα, *a tongue*; from the resemblance of the leaf to a horse's tongue). See LAURUS ALEXANDRINA.

HIPPOLA'PATHUM, (from ἱππος, *equus*, and λαπαθον, *a dock*). See LAPATHUM HORTENSE.

HIPPOLA'PATHUM, ROTUNDIFO'LIUM. See LAPATHUM ALPINUM.

HIPPO'LITHUS, (from ἱππος, *a horse*, and λιθος, *a stone*). A calculus found in the stomach or intestines of a horse. See CALCULUS.

HIPPO'MANES, (from ἱππος, *a horse*, and μαινομαι, *to be mad*,) a name of the *cynocrambe*, *apocynum*, or *cynomoron*, because, when eaten, it seems to produce madness in horses. It sometimes means the juice of tithymalus, and occasionally the secundines of a mare, or the fleshy substance which adheres to the forehead of a foal.

HIPPOMA'RATHUM, (from ἱππος, *a horse*, and μαραθρον, *fennel*. HORSE FENNEL; and ENGLISH SAXIFRAGE. See Raii Hist. Plant. SAXIFRAGA ANGLICA.

HI'PPONE. The name of a malagma described by Ætius.

HIPPO'PHÆS, HIPPOPHÆ'STUM, (from its juice purging horses). Dioscorides describes it in lib. iv. cap. 162; but it is not known to modern systematics. The synonyms, according to Dale, are the cnaphos rhamnus, lappago, hippomanes; and it is probably the *hippophae rhamnoides* Lin. Sp. Pl. 1452; the *rhamnus salicis folio angustiore fructu flavescente of* C. Bauhine. The PURGING THORN. It grows in the Morea, and the juice is an active purgative. Though the rhamnus

catharticus and the tithymalus maritimus vel spinosus have also been considered as synonyms, they seem to have different properties specified under their separate titles.

HIPPOSELI'NUM, (from ἱππος, *a horse*, and σελινον, *purslane;* so named because it resembles a large kind of purslane). Alexanders; *Smyrnium*, *macerona*, *herba Alexandrina*, *grielum*, *agrioselinum*, *Smyrnium olusatrum* Lin. Sp. Pl. 376; an umbelliferous plant, with leaves like smallage, but larger. It is a large kind of parsley, and was formerly blanched in gardens for culinary use. The seeds, macedonensium semina, are bitterish, aromatic, and carminative, yielding their virtue to rectified spirit of wine, but not fully to water. The roots are bitter, and recommended as resolvent, diuretic, and emmenagogue. On incision they yield a whitish juice, resembling myrrh; whence the plant hath been called, from one of the names of that gummy resin, *Smyrnium*. See Raii Historia Plantarum.

HI'PPUS, (from ἱππος, *equus*, *a horse*). A trembling and twinkling of the eyes, supposed to be usual with those who ride on horseback. Gorræus thinks it is an affection contracted from the birth, owing to a convulsion in the muscle which sustains the eye.

HI'RA, (from *hir*, *the palm of the hand;* because it is usually found empty,) sometimes supposed to mean the jejunum; at others extended to all the intestines, or even all the contents of the abdomen.

HIRAPITA'NGA. BRASILIE'NSIBUS. See Brasiliensium lignum.

HI'RCUS BEZOA'RTICUS, (quasi *hirtus*, from his shaggy hair). The goat which affords the oriental bezoar. See Bezoar orientalis.

HI'RQUUS, (from ἱρκος, *a hedge*). The great angle of the eye.

HIRSU'TIES, (from *hirsutus*, *hairy*). Unnatural hairiness of the body.

HIRUDO, (quasi *haurudo*, from *haurio*, *to draw out*). The Leech; *sanguisuga*, *exos;* first noticed by Themison. Those whose backs are striped, and bellies spotted, which are taken from clear running waters over a sandy bed, are preferable.

The hirudo is a genus of aquatic vermes, characterised by an oblong body, very contractile; having each extremity capable of being expanded into a fleshy disc, by which they adhere to the body, with a kind of suction similar to that of a cupping glass; a triangular mouth situated under the anterior extremity.

The body of a leech is composed of numerous rings, or rather circular muscles, by which the particular motions of the animal are performed. Their skin is unequal and tuberculous in different degrees, in the different species, but always feels smooth to the touch, because it is covered by a slimy fluid, designed to facilitate its motions. Their head, in a state of contraction, is more pointed than the opposite end: but each extremity is equally enlarged when they fix. The mouth of the leech is a triangular aperture, placed at the bottom of what may be styled the anterior cupping glass, armed with three very sharp, strong teeth, which can pierce even the skins of horses and oxen. It is an instrument with three cutting edges, each of which is furnished with sixty little teeth. At the bottom of the mouth is a nipple of a firm fleshy consistence, which sucks the blood that exudes from the triangular wound by exhausting the air. In this operation the nipple fixes on the skin, and when drawn back a vacuum ensues. After the wound is made, the action is apparently repeated, and the power is so considerable as to fill the vessels around; a circumstance from which both advantages and inconveniences arise.

We next find the larynx, whose strong fibres contract the diameter of the canal, and carry the blood, which has been drawn, into the stomach. This viscus consists of a series of membranous sacs, furnished with valves, which can retain the blood for many months without coagulating. In a leech of a moderate size there are about twenty-four of these sacs. As the blood which they draw contains no heterogeneous particles, they require no aperture to carry off the excrementitious parts, and have consequently, it is said, no anus. M. Morand, from whose Memoir on Leeches much of this description is drawn, thinks that the slimy moisture on the surface, which is thrown off in blackish filaments, found in the water they inhabit, may form the whole of the excrementitious fluids of the constitution.

On each side, under the belly of the leech, are two longitudinal vessels which divide into branches; contract and dilate; carrying a grey fluid. In the middle is a nervous cord, composed of twenty-three ganglia; and on each side glands filled with a clear liquor. These glands have several vessels, which are lost in the body of the animal. So distant from the truth are those physiologists who deny that the Galvanic power acts on the nerves, because leeches are affected by it, supposed to have no nerves.

Leeches seem to breathe by the mouth, but have no organs which correspond to lungs. Insects which breathe by lateral spiracula are killed when covered with oil. When the leech is put into oil, it lives many days, and a slough separates from it, so tenacious, when taken out, as to retain the form of the body. The greater number of leeches have eyes, and some species have so many as eight; but in others no such organ has been observed. These animals swim, like eels, by a vermicular motion; but this is more generally in a longitudinal than in a lateral direction. When they walk they fix the fore part of the body by the mouth, and then draw the back part. They then fix the latter, and extend the former.

When the greater number of the species of hirudo are cut transversely, the two parts do not immediately die, for the head lives considerably longer than the tail. If the section is not complete, the animal raises the wounded part above the water, and keeps it in the air, till each end is cicatrised, for the parts never unite; and the fluids, usually carried downwards, are discharged in abundance from the wounded part. The operation greatly weakens them, and they soon become a prey to those with whom they are placed, after the cure has been completed.

Leeches are hermaphrodites, and generally viviparous. The organs of generation, according to Redi, resemble those of a snail. The penis lies under the œsophagus, and the aperture of the vagina immediately below it. Their young are born in the earliest part of the spring. As the animals are semitransparent, the young are seen in the body of the mother, in the form of round seeds, and seventy have been counted in a single leech. In

their progressive state they seem to grow not only by evolution but by augmentation, as the number of the rings seems to increase. They are found in fresh and salt water. The former prefer lakes or ponds where a great quantity of vegetables grow. They are common in every part of Europe; but less so in the southern regions. They appear to live for many years; but, independent of the danger of the lakes being dried, or the waters putrifying, they are devoured by fish, water fowl, by the larvæ of insects, and by the insects themselves. They also devour each other; and Vauquelin found that the hungry leeches bled without mercy those which were full. When in want of blood, they suck the larvæ of insects, worms, and other animals, which live or are found by accident in the water. They can live with little nourishment for many months, and pass the winter, often a great part of the summer, involved in the mud, when the lakes are dry, without eating.

Sea salt, tobacco, and every salt or acrid substance, kill these animals, and this is the method of disengaging them from the body; for if torn off, the head is left in the wound, and a troublesome suppuration ensues. If cut in two, the head continues the suction, while the blood is discharged from the wound, and all the consequences of an hæmorrhage follow.

The hirudo medicinalis Lin. is the species chiefly employed; and the hirudo sanguisuga, or black leech, is accounted poisonous. It seems, however, only to make a larger wound, and to suck with more violence. They must be collected in the spring, kept in pure water, which must be frequently renewed, in a place not too warm. It is advised that some clots of blood should be occasionally thrown into the water, while a certain proportion should be kept hungry, for immediate use. Some years since, leeches were supposed to be useful barometers, and it was said that they lay at the bottom of the vessel when the following day would be clear and warm; but that when rain would come on before the noon, they mounted to the surface, and continued there till the fine weather returned. When a storm of wind approached, they were said to run round their prison with considerable celerity, and to stop only when the wind began to blow. When a tempest approached, the leech was said to rise out of the water, and continue above it many days, appearing restless and agitated; that it remained at the bottom of the bottle, contracted to a round ball, during a frost; and during snow and rain it fixed itself to the stopper of the bottle, remaining at rest. These phenomena may be correctly stated, and a single leech may appear to feel the variations of the atmosphere; but whoever has observed many of these animals in a glass vessel, will have perceived that, in any circumstances, they have appeared sometimes still, occasionally restless, some at the bottom, others at the top, of the vessel, some unquiet, others at rest. They are certainly very susceptible of the effects of lightning, and often killed by it. A small species was found in Egypt, not larger than a hair when not gorged with blood. They often fixed in the throat of the soldiers, and were only removed by forceps. In medicine we employ only the two following:

1. *Hirudo medicinalis*, long, blackish, with lines of different colours, spotted with yellow below, and without eyes. 2. *Hirudo sanguisuga*, the horse leech, long, black, of a greyish green colour below. About fourteen or fifteen species are known, one of which is described in the first volume of the Linnæan Transactions, p. 188, and said to breathe by gills; but should the latter be true, the animal must be referred to another genus. The author, however, Mr. Menzies, is not explicit on this part of his subject: the setæ he describes may not be, or may not lead to, gills. Another leech is described in the same volume by Dr. Shaw, p. 93, hirudo viridis. It is oviparous, and, like some other species, is reproduced by cutting.

We have enlarged more fully on this subject because we have no accurate description of this useful animal in our own language. We must now return to what is more strictly our object, their medical use.

Leeches have lately become a fashionable remedy in every topical inflammation, in topical pains, and in the greater number of tumours, internal bruises, and obstructions. In scirrhi and incipient cancers they are highly commended; in the white swelling of the knee, in swellings of the periosteum, in the inflammatory state of buboes, they are supposed to be highly useful. In fact, they have been so much employed that our ponds and lakes have been, in a great measure, depopulated; and in many parts of the kingdom they are with difficulty procured. The mode of their operation must be afterwards considered, but the principles are sufficiently explained under the article of Blisters, q. v. The peculiar advantages which result from their use seem to be owing to their exhaustion. They fill the vessels around, and not only relieve from the quantity of blood which they draw, but from that which they accumulate in the subcutaneous vessels. By this effect they are often singularly useful; but from the same circumstance, the bleeding, if a bone be not subjacent, is with great difficulty stopped. Equal advantages may be often obtained by cupping with scarifications, without the same disadvantages; and this operation should, in many instances, be preferred.

The leech, when full of blood, drops off; but should it not do so in time, a little salt will always induce it to quit its hold. Salt has been thrown on the animal to make it disgorge the blood which it has sucked, but the leech is generally killed in the experiment. A more easy way to discharge the blood, and save the animal, is to hold it in the hand, and gently squeeze it in a napkin from the head downward. The blood flows copiously from what may appear the anus, or through the ruptured extremity of the intestinal canal, and the worm is not essentially injured.

Leeches must be kept hungry, and the part to which they are to be applied must be wetted with warm milk, blood, or syrup. If a sufficient quantity of blood is not drawn, cloths wrung out of warm water must be applied on the orifice, or the part may be put into warm water: in either way the bleeding may be prolonged.

Leeches are sometimes applied to the anus when the hæmorrhoids are suppressed, and to the gums in inflammations from teething. In each case they may escape into the intestine or the throat; but an injection of salt, dissolved in the infusion of tobacco, will destroy them in the former instance, and gargles or draughts of salt water in the latter. In general a healthy leech will suck about an ounce of blood; but warm cloths

will continue the evacuation for some time after the animal is satiated.

The curious may consult the following writers on leeches, viz. Aldrovandrus, Gesner, Swammerdam, Redi, and Stahl. Among the moderns, the Memoirs of Morand, Bosc, and Vauquelin.

HIRUNDINA'RIA, (from *hirundo, a swallow;* so called from the resemblance of its pods to a swallow). Swallow wort. See Asclepias.

HISPA'NICUM VI'RIDE. See Ærugo æris.

HISPI'DITAS, from *hispidus, rough, hairy*). Hairiness in general; but sometimes limited to the diseases called *phalangosis*, or *distichiasis*.

HISPI'DULA, (from the rough woolly surface of its stalks). See Gnaphalium montanum.

HISTO'RIA, (from ἱστορια, *a case*). An history. In medicine it is a medical case, or in the French idiom an observation.

HOACHE. A Chinese earth resembling, it is supposed, steatite, or soap rock, but fusible, and more probably argillaceous, with a mixture of silex.

HOA'XACAN. See Guaiacum.

HOCIA'MSANUM. See Agrimonia.

HOITZILO'XITL. See Balsamum Peruvianum.

HO'LCIMOS, (from ἑλκω, *to draw*). An epithet applied to what may be drawn out, and still preserve its continuity. It sometimes means a tumour of the liver. See Galen de Loc. Affect.

HO'LCUS, (from the same). See Milium Indicum.

HOLI'PPÆ. Thin cakes made with flower and sugar, poured upon a hot iron, figured, and then set on the fire. The name is now appropriated to sweetmeats; occasionally to such as are laxative.

HO'LLI. The Indian name for what the Spaniards call *alli*, a resinous liquor, distilling from the tree called *chilli;* used in dysenteries. See Raii Historia.

HOLO'CYRON. See Chamæpitys.

HOLOPHLY'CTIDES, (from ὁλος, *whole*, and φλυκτις, *a pustule*). See Phlyctænæ.

HOLOSCHŒ'NOS, (from ὁλος, *whole*, and σχοινος, *a bulrush*). See Juncus odoratus.

HOLO'STES, HOLO'STEUM, (from ὁλος, *whole*, and οστεον, *a bone;* from their use in restoring broken bones). See Osteocolla.

HOLOTHU'RION, according to Bontius, a poisonous substance; but its nature is unknown.

HOLOTO'NICOS, (from ὁλος, *whole*, and τεινω, *to stretch*). An universal convulsion, or rigor of the whole body. See Tetanus.

HOLQUAHU'ITL. See Cortex Peruvianus.

HOLYWELL WATER. A simple cold water, remarkable for its purity, similar to Malvern.

HO'MA. An anasarcous swelling.

HOMO. Man. In a work, the object of which is to detail every thing which relates to the human body in health, or disease, an article under this title will perhaps not be expected. No such occurred to our predecessors; and had we found appropriate places for many of the subjects which will now claim our attention, we should not have introduced the subject in this connected and comprehensive view in one article; where, as already remarked, we purpose to collect all those circumstances relative to his structure and constitution, both mental and corporeal, which cannot, with advantage, be displayed in distinct, independent disquisitions.

Man stands supereminent among created beings, the first of the Almighty's works, the link probably between other animals and beings of a diviner nature. Man alone looks towards heaven: he only, by the excellence of his mental powers, can guard against the accidents to which his imbecility and the inferiority of his senses would subject him: he only can correct by his own reason the moral imperfections implanted in his nature. Gloomy philosophers delight to magnify his inferiority in many respects to the animals around, to sink him even below the monkey, which he appears, at first sight, to resemble in form; and Linnæus has given a sanction to their misrepresentations by his arbitrary classification of man with the ape; and, what more strictly shows the weakness of his system, with the bat. The Swedish naturalist had once determined to class animals, like plants, from the organs of generation. In this respect the distinction would have been very striking, for a most complicated apparatus is required to build up the first of nature's works. Had Linnæus followed this plan, he would have found the ape truly a beast, from the deficiency of the scrotum, the bone of the penis, and the want of the vesiculæ seminales. In the female, the cornua uteri, which are found in every species of ape, except the pithecus; the length and direction of the vagina would have been very striking marks of distinction, which the teeth scarcely furnish. Various other discriminating appearances will soon occur.

The form of man is perhaps alone sufficient to distinguish him from other animals; and in the comparative view we now propose to take, we shall chiefly attend to the peculiarities of structure connected with form. The position of the head establishes the station of each animal. In man it is short and rounded; nearly balanced on the atlas, it scarcely falls on either side. In the Negro, the weight inclines forward, and the loins are thrown back to retain the equilibrium. In the ape the occipital hole is still farther back, and the balance only preserved by a still more oblique position. The other animals rest on the ground in an horizontal posture, and the weight of the head is supported by what is styled the cervical ligament. This is not found in man, as he wants not its assistance. It has been said, that men, found wild, have walked on their hands and feet. This is not probable, for the wild girl of Champagne, the Hanoverian wild boy, the two wild men of the Pyrenees, and the savage of Aveyron, walked upright; and we shall find that the structure of the muscles of the feet is not adapted for walking both on them and the hands: in this position also the eyes would be turned downward, and man could neither avoid danger nor discover his food.

The size of the head equally distinguishes man from animals. Almost universally the brain of man is larger, in proportion to his bulk, than that of any other animal. If there are some exceptions, the medullary part seems designed to compose the very large nerves sent to the muscular organs, in which the whole appears exhausted. These in man are comparatively small, so

that the brain has evidently some other use, besides affording the source of activity to the muscles; an use denied to animals. We consequently find, that wherever the brain is large, and the nerves proportionally small, the intellectual powers are considerable, the strength of the body comparatively little, and the contrary. In the Negro the nerves are larger in proportion to the mass of the brain than in the white man; and his skull is less, though his face is more extensive. One method of determining the size of the face is that of Camper, formerly mentioned, viz. drawing the line from the chin to the forehead, which forms, with an horizontal line, a larger angle in an European than in a Negro and an ape, successively. Another method is to place the head in its natural position on the atlas, and to measure the angle, formed by a line drawn from the chin to the foramen occipitale, with one which passes through the vertebral column. The more obtuse this angle is the more contracted is the skull, and the more distant the foramen. The distance between the chin and the chest is of course greater in the Negro than the European; proportionally more distant successively in the dog, the hare, the sheep, the horse, the hog, and the whale, where the face is parallel to the vertebral column. On the contrary, the more the animal reflects, the more the face is sunk and the front advanced. "A Negro to look forward raises his head above his breast: an ape still more: philosophers depress the chin; and the Jupiter of the ancients, with his eyes bent, seriously looking downwards, has the chin depressed on his breast."

The clavicle is a bone of which many animals are deprived, and varies in its form and its length. The more the chest is contracted, the shorter is the clavicle, if it at all exist. The organs of deglutition are influenced by the diet.

In the larynx of apes we find a sac, into which the air passes when breathed, so that it can neither affect, with the necessary vibrations, the ligaments of this organ, nor be influenced by the aperture of the glottis. We cannot expect, therefore, in these animals any articulation, but only a sharp indistinct noise, expressive by its acuteness of anger, or by its graver tones of satisfaction.

The more distant the animal is from man, the more deep are the indentations of the viscera to yield to the more rapid movements. The heart is situated almost transversely in the human diaphragm, but inclines in the apes, approaches the sternum in the palmated animals; in the hoofed and the cloven-footed animals it is suspended almost vertically on this bone; and from the man to the horse its position varies nearly a quarter of a circle. The size and bulk of the nipples are proportioned to the extent of the horns of the uterus, since each is connected with the number of the young ones.

By means of these characters we can ascertain the discriminating forms of man, and determine what are common to him and the quadruped. He only is a biped. He only has two thumbs on his hands, without any on his feet, while quadrupeds have one only on each extremity, as the apes; on the two inferior extremities, as the sariga and the marmot; or are wholly deprived of them, as the greater number of quadrupeds. In man the body rests on the feet, and the talus makes a right angle with the leg. The apes, the makis, the dogs, and even the elephant, walk neither on the ankle nor the talus, but on the toes. As we recede from man, the more the part on which the animal rests diminishes, and the talus becomes proportionally more acute. Many animals rest on the sciatic tuberosities, and on the bottom of their feet: they then raise the body, and employ the superior extremities like hands; but though several apes have an additional little bone in the carpus, they do not possess the dexterity of man, as the thumb is small, and not capable, as in the human body, of counteracting the power of the other fingers.

From the muscular structure of the extremities, it is obvious that the ape can only move many of the fingers at once; that it cannot bend the thumb without at the same time bending the other fingers. Of course it does not possess those motions in which the action of the thumb is combined only with that of the fore and middle finger, so useful in the arts. In fact, the hand of the ape is made only to hold. The inferior extremities, from their peculiar structure, are calculated for the same purpose.

In man, the flexor muscles of the leg terminate in slightly rounded projections towards the most elevated part of the tibia. In the ape these muscles extend far on the internal surface of the same part, where they form a cord, which prevents their perfect extension on the thigh. The flexor muscle in these animals, passing under the heel bone, is a decisive argument against the idea of their standing erect. In man the bone is naked, which shows that he was designed to rest on it, which is compatible only with an erect position.

In man the vertebræ form the column which supports the head, and fixes the different viscera in their situation. The cervical vertebræ, in all animals, are constantly seven. The dorsal vertebræ are the same in number as the ribs. The lumbar vertebræ, usually five, are more numerous in proportion as those of the sacrum diminish. Carnivorous animals have six, sometimes seven; the sloth four, and the elephant three. As we recede from the human race, the coccyx extends. In some animals the pieces even amount to thirty-two. The sternum in man is broad and extensive; in the greater number of animals narrow. Man alone has the bold projecting chest, which, increasing the resistance to the air, diminishes the rapidity of his motions. The number of its bones is proportional to that of the ribs. The latter varies. In the elephant they amount to forty; in the sloth to forty-six. The smallest number is twenty-two. The trichectus has but four true ribs.

The thigh bones and the pelvis of the human race are larger and flatter than those of other animals, which add to the solidity of the upright position, by giving a firmer hold to the muscles attached to it. The direction of the female vagina is nearly transverse from the sacrum to the pubes, while it is in the axis of the pelvis in quadrupeds. This allows the latter to produce their young with little pain or trouble; but if it had been the same in the human race, who walk erect, abortion would be frequent. Thus the female pays a heavy penalty for the distinction of the upright position.

Man differs from other animals in many respects, which do not influence very essentially the form. The teeth, though the same in number and form with those of some animals, are more closely set; nor, in the human jaw, are there any intermaxillary bones. We differ

also by the palpitating fontanelle at birth; by our long and feeble infancy; by the menstruation of the female, which renders conception equally easy in different seasons; by the delicacy of our skin; by wanting the suspensor muscle of the eye, the panniculus carnosus, the arterial net-work, the pancreas of Asellius, the corpus highmorianum, the hepato-cystic ducts, &c.

Man is defined a naked animal with two hands and two feet, who walks upright, is capable of reason, and susceptible of civilization. By his organization and structure he belongs to that class which has a double nervous and vertebral system, and ranks with animals whose blood is warm, whose heart is double, and who suckle their young at their breasts. Our peculiar advantages place us at the head of the animal kingdom. The complication of our organs multiplies in the same proportion as our functions, and equally extends our faculties.

It has been doubted whether *man, in his different forms and different situations, is of one species only.* Scripture informs us that one man was created; but has not limited the creation to a single individual. Religion is not, therefore, affected by the discussion or the decision. We have seen the distinctions in form which separate man from the brute, and we have found that the Negro is a connecting link between both. The Negro has the narrow retreating fore head and hind head, the flat bone of the nose, the retreating chin, the occipital hole far beyond the centre of the cranium, the long and strong under jaw, large bony orbits, and a wide meatus auditorius, the long fore arm, small calves of the leg, long tendo achillis, with a manner of walking between the motion of the ape and the man. He, therefore, forms the link which unites man to brutes, while man may possibly connect animals with angels. Naturalists have distinguished different species of brutes from this circumstance, that they do not copulate, or that the offspring is not fertile. Yet more attentive observation has found that those hybrid productions will sometimes be productive; but they are soon lost. By this test also the African Negro would scarcely appear of the same species with ourselves; for were he so, it is calculated that the West-India islands would long since have been inhabited by mulattos, or people of colour. On the contrary, *their* children, if any, as Mr. Long remarks, are very few, and in the second generation they are childless. There seems to be little doubt, then, that there are two species of the human race, at least; and when we examine the inhabitants of different regions, we find distinctions equally striking; the copper-coloured American, for instance, appears in no less a degree to differ from the two others. It is in vain to argue that the Negro is black from the heat of the sun, for the Ethiopian, the Hindoo, and the Arab, are equally exposed to high temperatures; or that the European is bleached in a colder climate, for this would not change his structure. M. Virey has proposed a division of the human race into those whose facial angle is from 85 to 90°, and those in whom the angle is from 75 to 85°. The first species comprehends the Arabs, the Gentoos, the Celts, and Circassians, who are white; the Chinese, the Mongol-Kalmuck, and the Ostiack Laplander, who are sunburnt; and the American and Charib, who are red. The second species comprehends the deep brown, the black, and the blackish; containing the Malay, the Caffre and Negro, the Hottentot and Papou respectively. The Europeans are, in this arrangement, styled *Celts*: he should rather have called them a Gothic race. The Hungarians, the Asiatic Russians, and the Laplanders, are included under the Mongols. We are not prepared to contend that these are different species. The three which we have pointed out seem to be so; and the Gentoo, the Hottentot, and the Papou, have some claims to this distinction, which will be better ascertained when their forms have been more accurately examined.

Of the constitutions of the first species, the Europeans, we need not speak. The Negro is like the brute, whom he approaches in form, rapid in his movements, quick, violent, and savage in his passions and resentments, with little active energy or sensibility. He bears heat with ease, is not susceptible of the action of the remote causes of fever, but with little activity of constitution when diseased, soon yields and dies in situations where the European would be in little danger. The American is patient, steady, and persevering; with great acuteness of perception, and a soundness of judgment; but possessing little sensibility, and not very susceptible of civilization. The Hottentot and the Hindoo of the lowest cast, which we call the *gypsie*, if he be a Hindoo, approach most nearly the brute in their manners. Imitation is a striking trait in all the lower races of mankind, as well as in the ape. The frequent repetition of the action of particular muscles occasions a habit which renders the subsequent repetitions more easy, and the action more certain. We cannot consider the monkey without being astonished at the rapidity and the uninterrupted succession of his motions. "It seems as if an irresistible power eternally torments him: he is agitated; he advances and retires; he is eager to mount, and as hasty to descend. This restlessness is undoubtedly a great obstacle to his improvement. What can we teach him, who is always in motion, since there is no study without reflection, and to reflect he must stand still?" This elegant and judicious reflection of M. d'Azyr is applicable to other races besides monkeys.

If we were to be more minute, we might remark that the happy proportion of solids and fluids which composes the sanguine complexion of the Celt, or Goth, of Europe, and which becomes bilious among the Vandals and Sclavonians, appears still stronger in the extensive ramifications of the Mongol tribe, as we find from the observations of Pallas and the learned Russian travellers. It takes, however, a nervous shade in the southern races. The Malays have constitutions still more irritable and nervous, which renders all the inhabitants of the torrid zone pusillanimous and melancholy. The temperament of the Charib, like the American, is concentrated in muscular energy, with little sensibility; and the phlegmatic constitution of the Negro is still more striking in the Hottentot.

The different races of man differ in minuter parts of their form. The Hindoos, the Hottentots, the Peruvians, the Chinese, Esquimaux, the inhabitants of New Holland, and some others, have very small hands in proportion to the rest of the body. The Hindoos have very long legs and thighs: they are very short in the Mongol races; large in the inhabitants of New Zealand; deformed and bent in the Negro. The last deformity has been observed from the remotest ages, and was

noticed by Aristotle (Problems, No. 5—14). The ears are large and projecting in all savage nations; placed higher in the Hindoo than the European head, and sometimes moveable. The inhabitants of the east of Asia have the eyes placed diagonally. The general proportions of the head to the height are variable. The whole length of the Kalmuck is not equal to six times the head; while the elegant Grecians made their most beautiful statues, as the Pythian Apollo, and the Venus Pudica, equal to seven or eight. The Esquimaux and Samoides are only about five times the length of the head. All the barbarian races of the north have very large heads, thick and short necks, large and raised shoulders, a square shape, and a harsh outline. The dwarf has short stinted limbs, an enormous head, and a thick body; while the giant is thin and weak, with legs peculiarly slender. But to this point there are exceptions, to be afterwards noticed.

The colour of the different races has excited greatly the attention of naturalists. It has been attributed to heat; and numerous are the authors who have laboured to prove, that in a higher temperature we should have been all black, or, as already hinted, that we were once black, and become white only by effeminacy, or a degradation of our nature. This subject has furnished the credulous Volney (for even deists can be credulous when in opposition to religion) with a subject of declamation, that we now oppress the Negroes, to whom, as the reputed ancestors of the Egyptians, we owe all arts and sciences. Neither position is true. The ancient Egyptians were not Negroes, and our sciences and arts were derived from Asia. If we examine the human race, as scattered over different parts of the globe, with the discriminating accuracy of Zimmerman, we shall find that the Negro is not confined to the hottest regions; and we have shown that he is distinguished from the white more pointedly by structure, in which temperature has no concern, than by colour, which we know not that temperature can influence. Were farther evidence wanted, we might adduce that of Mungo Park, who found the brown Mahometan intermixed, in similar climates, with the black Negro. The copper coloured American is equally distant from both the Celt or Goth, and the Negro; nor can we see, either from historical record or observation, how we can escape from considering him as a distinct species.

There are indeed varieties of the human race connected partly with climate and in part with local circumstances. The *Albinos* are white Negroes; and we have seen a female Albino, with an European, produce mulattos. These are sometimes styled *Chacrelas*, sometimes *Dondos*, and, by Blumenbach, *Luco-Æthiopes*. They are of a pale, dead white; the edges of the eye lids are red; their hair woolly and white; their voice feeble; their hearing dull; their skin soft; and their muscular power weak. They occasionally appear in Europe as varieties; but they are said to be numerous in the isthmus of Darien; sometimes found in the Brasils, in Sumatra, and among the Mongol Tartars, or rather in Hungary. Yet, from comparing the descriptions of Klein and Pallas, we doubt whether the latter are of the Negro race; and we think it rather probable that, like the Cretins of the Alps, they are varieties of the race of their respective countries, weakened from climate or accidents, as we produce variegated leaves, by weakening the plant, either by confining its roots or other means. We are told by Lorry that the Albinos are not sensible of electrical shocks. The swollen throats of the Cretins constitute only an inconsiderable variety. The long handed Quimos of Madagascar we should suppose to be a species of apes, did not the testimony of Rochon lead us as least to hesitate on the subject. Other varieties from customs, as the long flat heads, elephant's legs, the *juncea puella* of Linnæus, when strait lacing was fashionable, with similar deformities, need not detain us.

In various circumstances we find other aberrations from the usual form. In size, men greatly differ; and the diminutive Laplander differs from the mountaineer of Chili (Patagonia) in a far greater degree than the difference of climate will explain. In temperate regions, the size of the human race sometimes greatly varies, and nature sports in a circle whose limits are not very contracted. Dwarfs, we have already observed, have been often stinted in their growth from disease or confinement; but Borulawski, who was only twenty-eight inches high, possessed a perfect form, and mental powers in sufficient perfection. He has been styled a man of sound judgment. He may have been so; but of this we have no evidence: in the lighter graces and accomplishments, and in the more elegant parts of literature, he was well accomplished. Jeffery Hudson scarcely exceeded eighteen inches in height at the age of thirty, and is said to have been lively, witty, and well proportioned. Bebe, who was thirty-three inches, was scarcely a rational creature. The Wottacks, a Lapland race, are said, by the Abbé de la Chappe, not to exceed four feet, and in intellectual powers they are very deficient. On the whole, we have little evidence of the evolution of intellectual powers in bodies whose bulk is limited, or whose growth is stinted by accident or disease. The materialist may employ it as an argument in his own favour, but it is a weak one; for if the body is the instrument of the soul, the agent by which the immaterial principle acts, it will be evident that the display of the faculties of the latter must be limited by the state of perfection which the former has attained.

We must not, however, look for perfection in the overgrown beings which occasionally astonish us by their magnitude. Beyond a given proportion, bulk and height are sources of weakness; for a greater exertion is required to raise a longer lever to an equal height, or to support an equal weight. It is not, indeed, necessary to limit the muscular power, since we know that it differs in different persons; but we seldom find a vast bulk connected with great strength. When it thus happens, the monster is truly formidable. Goliah of Gath could wield weapons of considerable size and weight, but the Irish giant was comparatively weak; and the strongest men have been only of a moderate size. Giants have certainly existed of eight, perhaps of ten feet; but when bones are shown, which, according to their proportion, must give a height of eighteen, or even thirty-six, feet, we may reasonably conclude that the bones of other animals must have been mistaken for human. The greater number of the Patagonians did not exceed nine feet, though some were said to be nearly equal to twelve.

The sexual varieties are most singular, though, fortunately in the human species, less common. In the lower orders of animals the sexes are often united in a

single individual; and, as we rise in the scale, anomalies in these respects are more uncommon. We shall only mention, in the quadrupeds, the circumstance of the free martin. When twin calves are produced, and the one is female, she never breeds. It is the "taura" of the scriptores rei rusticæ, fattens freely, is of a more delicate fibre than the bull, and bellows like the ox. Mr. Hunter found it, on dissection, of neither sex. We mention this chiefly to add that it is not an universal rule, for we have known a free martin breed; and this peculiarity is not found in the human race, for the twin female is always perfect. Indeed anomalies in these organs are very rare among mankind, and we have said that the reputed hermaphrodites are generally female. The variations in individuals, the lusus naturæ, do not belong to the history of the human race, and are scarcely the objects of this work, as they admit of no practical application. A full account of these misfortunes of mankind may be found in Cheselden's Anatomy, Dr. Parson's Essay, and the first numbers of the Edinburgh Medical and Surgical Journal, to which the reader who is curious on this subject may be referred, and in these works he will receive full information.

Climate, though it may not influence the colour of the skin, greatly varies the forms of mankind. We have, in part, anticipated this subject, in the article Cold, q. v.; and have already mentioned the diminutive form of the Lapland race, though naturalists do not give full credit to the Abbé de la Chappe's descriptions. The most general source of the population of the globe, the family that escaped from the general destruction of the deluge, was placed in the high mountains in the centre of Asia; in a climate temperate from its height; fertile from the numerous rivers derived from its elevated plains; in short, a spot in which the human race may be expected to reach, and in which it apparently did reach, all the perfection of which the species was susceptible. Asia was the parent of the Goths, the Greeks, the Arabs, who attained successively the dominion of the world, and established their power in every region where they carried their arms. Heat or cold has not greatly changed them; but there are apparently other races, in different circumstances, greatly affected by their situation, either as it is cold or hot, wet or dry.

Moderate cold, alternating with a more temperate air, gives firmness and solidity, increases the muscular power and the mental energy; gives animation, ingenuity, and activity. It is not, however, the temperature best adapted for the more perfect evolution of the form. From the thirty-fifth to the forty-fifth degree of northern latitude, in features, stature, and proportion, mankind appear most perfect, at least those of the Asiatic or Gothic race. When we approach nearer the equinoctial line, men lose their energy and activity, while the spirits and imagination appear to be animated to a degree which occasions uncommon, and often irregular, exertions of fancy, new, unexpected combinations.

Every race, however, is not equally affected by heat or cold. The Asiatic, we have said, seldom loses his pre-eminence, wherever he is placed. The Negro bears with impunity the greatest heat, and the tropical sun seems his natural climate. The Ethiopian feels no inconvenience from the burning sun, but becomes torpid in a temperate climate.

The differences in the human race occasioned by dryness or moisture vary as these are connected with heat or cold. Dry countries render the fibres rigid, the inhabitants thin, active, laborious, irritable, but courageous, and capable of the greatest enterprises. When combined with heat, the active spirit, the enterprise, is less, but the ingenuity apparently greater. Such were the Greeks, on the barren rocks of the Archipelago: such were the Moors in Spain, the Arabs on the banks of the Euxine. Humidity, on the contrary, softens the fibres, renders the body flaccid, the mind dull and inactive, but capable of much labour, cool and persevering. The inhabitants of such countries receive an impulse slowly; but, when impelled, steadily persist. Such were formerly the Bœotians: such are now the inhabitants of Holland, the Low-countries, and the Swiss of the valleys. When heat is united with humidity, the inhabitants are softened and weak, incapable of labour or active enterprise, as the slightest motion is highly inconvenient. They are indolent and contemplative; but their meditations are seldom directed to important purposes, and they have never made any improvement in science. Their utmost efforts are exhausted in patient industry, in works of imitation, and which require little exertion. Such are the inhabitants of Bengal, of Ava, of Guiana, &c

Extreme humidity, with cold and a stagnant atmosphere, produces swellings of the lymphatic glands, goitres, and cretinism. The Cretins are an insensible race, with little pretensions to the character of rational creatures, whose organs are generally relaxed. The glands of the neck are enlarged, and hang down in the most disgusting bags. They are of a yellow paleness: their limbs are pendulous; their look stupid; they cannot stand upright, nor speak; and continue in a lying or sitting posture through their whole lives. They must be attended, fed, and dressed like children. They are, however, reverenced as the favourites of Heaven; but are chiefly distinguished by their gluttony and lasciviousness. This affection is not conveyed to their children; but they are usually disposed to it. Cretins are found in the defiles of all the high mountains, even the Cordelieras and the Andes.

The qualities of the air correspond with those of the ground; and, in general, fertile lands produce handsomer, more active, and more intelligent men than those which are barren. Yet the latter have more spirit, activity, and independence than the former, who are generally indolent, effeminate, and the slaves of despotism. It has been fancifully said that there is an analogy between the inhabitants of every country and its animals. Thus the Laplander is supposed to be analogous to his reindeer; the Muscovite to the bear; the Tartar to his horse; the Samoeide to the phoca, or sea-cow; the Malay to the tiger; the Negro to the ape; the Bedouin to the camel; the Indian to the cow; the Papouan to the hog; the Moor to the hyena; the Chinese to the cat; the Peruvian to the lama; the Canadian to the weasel (Virey). Perhaps the peculiar manners may, in each instance, be influenced by climate.

The nature of the food produces some change in the constitution and on the mind of man. We have spoken on this subject, as it relates to individuals, under the

article Diæta. We must now speak collectively of its effects on the different races of mankind. The great outline of distinction is between the northern and southern race; those who live principally on animal food, or those whose nourishment is chiefly taken from the vegetable kingdom. Man, we have said, is calculated for a mixed aliment, and such he uses when both can be easily procured; but the savage of the woods will not patiently wait for the growth of his corn, when he can pursue and kill the deer; and the inhabitant of the arctic circle is from necessity obliged to devour his rein deer. The inhabitants of the northern regions, who eat large quantities of animal food, are consequently robust, active, enterprising; those of the south, timid, weak, and indolent. The climate, in each case, influences the character; but we generally find, even in this country, warmth induce a dislike for animal food, and render vegetables more pleasing. It is remarked by curious observers, that food differs with the latitude. The Greenlander, the Canadian, and the Kamtschatdale eat with greediness the rancid fat of their whales; the Swede, the German, and the Englishman, use a large proportion of flesh. The Frenchman eats less of animal food, with a larger proportion of bread; the Italian his legumina, his polenta, and macaroni; the Turk his rice; the Moor his figs; the Negro his millet and durra; the South American his maize; the white African, on the shores of the Mediterranean, his dates, figs, and lotus (ziziphus lotus); the Malay his sago and bread fruit; the maritime races their fish; the Caffres, the Hottentots, and Arabs, principally their milk, adding occasionally the flesh of their numerous flocks; the Mongols and Calmucks the flesh of their horses, with their milk sometimes mixed with blood; the Persians and Egyptians their dates and water melons; the inhabitants of the Archipelago their figs and chestnuts; the Californians the fruit of the nopal, or cactus; the Brasilians the acajou apple (anacardium occidentale); the Peruvians and Mexicans the cassada, potatoes, and yams; the Abyssinians the seeds of the sesamum; and the Cingalese the cynosurus coracanus. In Africa millet is so cheap, that it is computed a hundred men may be maintained during a whole year for less than nine pounds sterling. The form of the teeth and jaws differs with the food. The teeth of the Negro are thick, large, and distant; the muscles of mastication weak; the jaws elongated. The Tartars, a carnivorous race, on the contrary, have smaller, sharper teeth, strong jaws, and powerful muscles. The powers of digestion are strong in the higher latitudes, and the inhabitants can digest easily the fat of their whales, and the blood of their sea calves, while the Indian bramin requires aromatics to assist the digestion of his fruit and rice.

The natural drink of the human race is water; but every nation is eager to attain a state of intoxication. In the north only it is most easily and safely borne. In the south it produces madness; and Mahomet and Zoroaster have consequently forbidden, by the most positive precepts, the use of fermented liquors. The inhabitants of the south calm their too great sensibility and activity by cooling and acid, or by narcotic, drinks. The tea of eastern Asia, the coffee of Arabia, and the beer of the northern nations, in which they infuse the agaricus muscarius, are of the latter kind: the opium and the bangue of India are similar in their effects, and employed in the same way. The cooling, diluting drinks temperate the too great heat of the warmer regions, while the narcotics check the too great irritability, though they leave the nervous system more peculiarly susceptible of irritation, till the excitability is wholly destroyed.

Having traced the varieties of the human race in every circumstance and situation likely to influence them, we must more particularly attend to minuter distinctions. The chief of these is sexual. Man has, in general, superior stature, larger and stronger muscles, a larger brain, stronger bones, a deeper voice, a browner and a more hairy skin. Women have long, fine, and flexible hair, a delicate white skin, soft flesh, a rounded form, a soft voice, a lively sensibility, though often irregular, and a very irritable system of nerves. The body of a man is larger and more expanded above, that of a woman below, the waist: each is thus adapted to their several offices. The infant resembles a woman in its constitution and characters: a woman beyond the change of life comes nearer the man. A woman has the sanguine complexion, the nervous irritability, and the weak muscles of the child. She is also variable, credulous, subject to the influence of imagination, and to nervous diseases. Man is proud, naturally harsh, firm, and independent. Woman, soft, gentle, gaining by address rather than violence, yielding to conquer. Though we should not consider, observes M. Virey, the females divided into as many races as man, yet we shall find considerable variations in the beauty of women. "In the north they are fairer than the men, and their dazzling whiteness often becomes insipid. All the southern women are brunettes, more or less poignant; but the most beautiful of the sex inhabits the temperate climes of Europe and of Asia. The most beautiful French women are found about Avignon, Marseilles, and in the ancient Provence, formerly peopled by a Greek colony of Phocæans. The most beautiful Spanish women are found, it is said, about Cadiz; the most agreeable Portuguese in the city of Guinamarez. Beautiful women are found in many parts of Italy: the Sicilian and Neapolitan women, descended from the ancient Greek colonies, are also charming. The Albanese are well made; the Chian women delightful; those of the Ægean Archipelago are fair, lively, and agreeable; and, like all the Greeks, have large and very beautiful eyes." The Circassian, the Mingrelian, the Cashmirian, and the Georgian women are, however, admitted to be the most perfect models of the female form, though surrounded by the most ugly races of mankind, the Calmucks and the Nogais Tartars, whose women are equally disgusting, though the air, the situation, and manner of living, are the same. The race is, however, essentially different. The female slave merchants of the east assert, that the women are always plain where the ground is sterile, and the water bad. The Persians, it is said, were a mean ugly race, until meliorated by the beautiful slaves of Cashmire and Georgia. The common people still continue to possess little dignity or beauty.

The manners of women are dignified and correct where they are less numerous than men, as in the northern regions; less so when they are more numerous. In the latter polygamy usually prevails, which has been occasionally considered as a cause, and sometimes as the effect, of a greater proportion of females. It is asserted, that, among a stronger race of men, the proportion of

male children is greater; but this is by no means certain: and it is more probable that the extraordinary female population of the east is an unexplained effect of polygamy. In Cairo we find one sixth more of women than of men; in India one fifth; in some countries of Asia, one fourth; at Bantam and in the islands of the eastern ocean, there are said to be six women to one man. In Thibet the proportion is probably reversed; since we are informed, by the latest travellers, that a woman has usually many husbands, on whom she revenges the injury her sex sustains in the harems of Turkey.

The want of any essential organ in generation wholly changes the peculiar sexual form. This we know, by frequent experience among animals, and it occurs in the human race. We had lately a record of this kind, where a woman experienced none of the changes which usually take place about the time of puberty; and it was, on dissection, found that the ovaries were wanting. When the form in either sex approaches to that of the other, there is generally some defect either external or internal, and sterility is often the consequence. Divorces on account of sterility are consequently justifiable in the eye of reason; though, from political views, they are countenanced in few of the more polished nations. Indeed, we have seen in the late distracted state of France, that the facility of procuring divorces occasioned the most infamous, disgraceful scenes.

Fertility is in proportion to the general health and the regular moral conduct of married people. The number of children, from one marriage, is computed in Iceland to be from fifteen to twenty; in Flanders from ten to twelve; in Germany eight, and England six to eight; in France from four to five; and in Spain from two to three. Women of a sanguine temperament, of a gay affectionate temper, are the most fruitful: those of a thin dry habit, of a warm eager temper, violently passionate; or, on the other hand, indolent, phlegmatic, and void of affection, less so. Nearly the same differences are observable in men. The end of the winter or the spring is most favourable to conception; for the greater number of births occur in autumn or the early period of winter.

Maritime countries have been usually most prolific, it is said, on account of the fish diet. Cold and moist air are supposed to be favourable to conception, while dry and hot countries are the opposite. Yet the negresses in Africa are reported to be prolific; but their constitution is peculiarly sanguine. The use of the baths in women, and the constant sitting on a horse in men, are said to be equally unfavourable to generation. Too great fatness or leanness, too violent passions, an exhausted constitution, intemperance, excess of venery, and unnatural indulgences, are equally causes of sterility. Women who have had many children are usually healthy and long lived: the single women affected with a variety of diseases. Women are more frequently barren than men impotent.

The various observations of travellers have shown that the multiplication of the human species proceeds more rapidly in cold, poor, less civilized countries, and probably in republics; while, on the contrary, a temperate climate, a high degree of civilization, with a moderately fertile soil, despotically governed, are less favourable to it; and it is still less rapid when these circumstances exist in a greater degree. In the first case the men are laborious and active; their manners simple: in the second, they are ingenious and industrious; but, from a more sedentary and a more debilitating course of life, less vigorous and active. In warmer climates, and a more luxurious state of society, they are indolent, weak, and their powers in a great degree exhausted.

The lists of births in the different countries of Europe have shown, that villages and cities, where the population is numerous, and riches equally distributed, are more fertile than opulent cities; and that seasons of scarcity are injurious to population. Thus early Rome furnished numerous armies: under the emperors the armies were supplied by mercenaries. Russia and Sweden abound more in strong, active men, than Spain and Portugal. In Russia, it is said, the births are nearly one twelfth or one fifteenth of its population, and the deaths only about one in forty-five. Perhaps, if the whole of England be considered in one view, the deaths will not be more considerable; or, at most, will amount to one in forty.

The life of man is said, by the psalmist, to be threescore years and ten. Various are the instances in which, even in these times, it has been supposed to have extended beyond the hundredth year; but the greater number of these are fallacious: and, as we were once told by a woman whom we had detected in a fallacy in this respect, old age is a profitable profession. Many ages have been extended by vanity, some by the neglect of registers, or the mistake of persons; and, in general, we can scarcely rely on the accounts of any who are said to have exceeded a century. Prior to the deluge the age of man seems to have been more considerable; but the great object of the Mosaic narrative seems to have been the preservation of the genealogy of the children of Israel from Adam, and we may reasonably conclude that, in continuing this succession, families or dynasties may have been represented as individuals. No change in the constitution of the globe, in the lives or situations of inferior animals, are recorded: we have no reason to suppose that the descendants of Noah were in any respect different from his parents. In these times we are told by Buffon that one fourth of those who are born die before the end of five years; one third before the age of ten; half before they have completed the thirty-fifth year; two thirds before the fifty-second; three fourths before the sixty-first. He adds, that the mean life of a child of three years is thirty-three years; that of a man of twenty-one is nearly the same. The life of a man of sixty-six is nearly of the same value with that of an infant just born. Many other observations of this kind might be suggested, if it were a proper subject of this work; but, in general, the probabilities of human life are taken from the records of great cities, where life is much more precarious than in the country. The insurers and the calculators of tontines and benefit societies have fatally experienced the fallacy of such statements, when their members are promiscuously taken from large cities, towns, villages, and the country. The lives of women are said to be shorter than those of men, and of single women than of single men.

The commencement of spring and the end of autumn are supposed in Europe to be the most fatal sea-

sons; but Dr. Heberden has shown that in England a larger proportion of mankind die in the winter months. It is probable that the cold in winter, so fatal to the weak and aged, may occasion the difference. When a thaw succeeds a severe and continued frost, deaths are more numerous, chiefly confined to the aged, and those labouring under chronic diseases of the lungs. In Asia there are two fatal periods, viz. the change of the seasons.

The ages most fatal are the changes of life, viz. the appearance of the teeth, the period of puberty, the period between twenty-one and twenty-eight, when the constitution has not yet attained its firmness; the time of the cessation of the menses in women; and the period when the generative faculty decays, or is lost, in man, about the age of sixty-three. On this foundation the ancients established their doctrine of climacterics; a system not wholly visionary, though refined too far, and mixed with numerous fancies.

Cold and dry countries are most favourable to the duration of life; and when moderately fertile, so as to require steady exertion, still more so. Some races and some families seem to have a peculiar claim to longevity, while the inhabitants of hot climates, who soon ripen, decay prematurely; and, in many families, we have known it a rare occurrence to find a person of the age of sixty. Those whose minds and bodies evolve slowly, are more often long lived than those who astonish by an early vigour and spirit; so that the usual axiom is not wholly without foundation—"so wise so young, will not live long." Hermogenes, Crichton, and Barratier, are instances of premature genius, with short lives. The early and astonishing acquisitions of very young men in different arts and sciences, also, seldom lead to acknowledged excellence in more advanced age. Sanguine temperaments are said to be longer lived than the bilious or melancholic; but this we suspect leans too much on a doubtful theory. Very tall or very short people seldom reach, it is said, to a great age; but a person rather short than tall, rather thin than fat, muscular, firm, and with a full chest, has apparently the fairest claim to longevity. An active life, with little uneasiness, a dry free air, early hours, a mind occasionally engaged, but not exhausted, a cheerful disposition, frequent changes from country to town, a diet regular, rather in times than always in quantities, with moderate passions, seem chiefly to contribute to an extended healthy old age.

Yet every thing must have a termination: each living being is born, grows, decays, and dies. In living bodies we find two principal forces which regulate their existence; the power of expansion and decay. The youth expands in bulk; his arteries are daily fuller, larger, longer; his nerves gradually firmer; his functions more active and powerful. When old age approaches, the veins are filled, and the arterial system acts more weakly; the irritability is less; the functions more weak; the glands are diminished in bulk; the fat absorbed; the fluids more thin and more acrid. The arteries can no longer conquer the accumulated load in the veins, the brain is overloaded, or serum exhales in the abdomen or under the skin; the vessels of the glands cannot propel their fluids, and these are infarcted; the nerves no longer possess their former irritability; and the senses decay. From all these causes the limbs grow stiff, the arteries ossify, the whole system is oppressed with a load which it cannot overcome, and man sinks to mix with his parent dust. Such is the lot of all! Noctes atque dies patet atri janua ditis!

See Buffon's Natural History (edit. de Sonnini). Herder on Man. Virey Histoire Naturelle du Genre Humain, 2 vol. 8vo. Vicq. d'Azyr Traité d'Anatomie, Introduction. Camper's Works, translated by Cogan. White on the Gradation of Man. Halleri Elementa Physiologiæ. Cuvier Anatomie Comparée, 4 vol. 8vo. Bell on the Expression of the Passions. See Fœtus, Generation, Hæmorrhois.

HOMOGE'NEUS, (from ὁμος, *like*, and γενος, *kind*). An uniform body, or mixture.

HOMOLI'NON, (from the same, and λινον, *flax*). Crude flax, or coarse cloth, of which towels were formerly made in the public baths.

HOMONOPA'GIA. See Cephalalgia.

HOMOPHA'GIA, (from ὠμος, *a shoulder*, and φαγω, *edo*). A sacrifice; from the shoulders being assigned to the priests. The shoulders of the deer are still the privilege of the keepers; and an execution is, with an indecorous levity, still called a *shoulder feast*.

HOMOPLA'TA, (from ὠμος, *the shoulder*, and πλατη, *the blade bone*). See Scapula.

HOMORU'SIA. A medicine mentioned by Avicenna.

HOMO'TONOS, (from ὁμος, and τεινω, *to extend*). Equable; an epithet for a continued putrid fever, which preserves the same tenor through all stages.

HOMU'NCULUS PARACE'LSI, (a dim. of *homo*, *a man*). See Adolescens.

HOPLOCHRI'SMA; Χρισμα του ὁπλου; the salve of the weapon, said to cure wounds by sympathy, that is, by anointing the instrument with which the wound was made; a ridiculous fancy, scarcely even in the last century obsolete.

HORÆ'OS, (from ὡρα, *season*). According to Hippocrates and Aurelianus it means in proper time; τα ὡραια signifies the catamenia observing a regular period: a similar phrase was not long since retained in Scotland, the *ordinary*. Strictly, the fruit ripe about autumn; but in modern authors any ripe fruits.

HORDEA'CEUM VI'NUM, (from *hordeum*, *barley*). See Alla.

HORDEO'LUM, Stian, (from *hordeum*, *barley*,) crithe, which see. A tubercle on the eyelids, resembling a barley corn in shape. It is small, red, hard, painful, encysted, and immoveable; containing a thick matter, and seated either in the in or outside of the eyelid. Dr. Aitken styles it a wen; but Dr. Cullen places it as a variety of *phlogosis phlegmone*. See Wallis's Nosology. Bell's Surgery, vol. iii. p. 264.

Hordeo'lum hydatido'sum. See Aquula.

HO'RDEUM, (ab *horrore aristæ*, from the unpleasantness of the beard to the touch). Barley. In the shops barely occurs in two forms, viz. *hordeum distichon* Lin. Sp. Pl. 125; *hordeum Gallicum* vel *mundatum*; and common or scotch barley, and *hordeum*. The common or Scotch barley is the *hordeum vulgare* Lin. Sp. Pl. 125.

Barley is less nutritious, less glutinous, and more cooling than either wheat, oats, or rice. It was the principal aliment and medicine amongst the ancients in acute diseases; but the common barley, freed from the

shell in mills, and called *French* or *Scotch barley*, is generally used. A sort of shelled barley is formed into small round grains in Holland and Germany, and called *pearl barley;* of which are three preparations, made in the following manner:

Decoctum hordei. Barley water.—R. Hordei omni cortice nudati. p. ʒ ii. aquæ distillatæ m. ℔ iv. The barley is first to be washed, and cleared from all adhering substances, in cold water: about half a pint of water is next to be poured upon it, and boiled for a little time.—This liquor is to be decanted, and to the barley the distilled water added, boiled to two pints, and strained for use.

Decoctum hordei compositum, olim decoctum pectorale. Compound decoction of barley, or pectoral decoction.—R. Decocti hordei m. ℔ ii. uvarum passarum acinis exemptis: caricarum incisarum, singulorum, p. ʒ ii. Glycyrrhizæ incisæ et contusæ, p. ʒ ss. Aquæ distillatæ, m. ℔ i. Decoque ad libras duas, et cola.

Decoctum hordei cum gummi. Decoction of barley with gum.—In two pints of the decoctum hordei, whilst warm, one ounce of gum arabic is to be dissolved.

The decoction of barley with gum is an useful diluent and demulcent in strangury and dysury; for the gum mixes with the urine, and sheaths the urinary canal from the acrimony of this excrementitious fluid.

Decoctions of barley in water contain their lighter and more agreeable parts, and are useful as an article of diet in acute and inflammatory disorders; but are most useful when accompanied with mucilaginous medicines, to assist their union with the blood. Barley, in its malted state, is also antiseptic, and an useful alterative. See Brasium.

Ho'rdeum cau'sticum. See Cevedilla.

HORIZONTA'LIS, (from ὁρίζων, *the horizon*). In botany it is the epithet of a flower, whose disc grows parallel to the plane of the horizon.

HO'RMINUM, (from ὁρμαω, *to excite*,) from its supposed qualities in provoking venery. Clary; *gallitrichum; sclarea; orvala;* garden clary; the *salvia horminum* Lin. Sp. Pl. 34; is a whitish, green, slightly hairy, plant, with square stalks, on the tops of which are long spikes of bluish flowers; perennial; a native of warmer climates; cultivated with us in gardens; and flowering in July and August.

The leaves are bitterish, have an aromatic, but to many a disagreeable, smell; and are recommended as antispasmodic. Their active part resides in resinous matter, which is wholly taken up by spirit of wine; and, on inspissating the tincture, remains in the extract. Water takes up a part of their virtue by infusion; and in distillation carries it wholly over. The seeds possess the same qualities as the leaves. The flavour of the clary, in a small proportion, communicates to sweet wines that of frontiniac.

Ho'rminum sylve'stre. Wild clary; *sclarea Hispanica* and *oculus Christi*. *Salvia sylvestris* Lin. Sp. Pl. 34. This species resembles the former in appearance, but in quality is much inferior. See Raii Historia.

HORN. See Cornu.

HO'RROR, (from *horreo, to shake with cold*). A tremor is the vibration of one limb only; refrigeration a great coldness; perfrication when coldness is accompanied with a gentle unequal motion of the skin, or shivering, called *phricasmus;* an horror is, when the coldness of perfrication is considerable, and attacks by fits, affecting the skin only. (See Febris.) A rigor is an irregular agitation of all the body. See Rhigos.

HO'RTUS, a garden, (from *orior, to arise;* the source of vegetation). See Pudendum muliebre.

Ho'rtus læti'tiæ. See Crocus.

HO'SPITAL. See Noso comium.

HO'UI POUN. See Tincal.

HUAXACE'NSIS, HUCIPO'CHOTL; *Ricinus Novæ Hispaniæ;* a species of either croton or jatropha not easily ascertained. Hernandez describes it as a shrub which creeps like a vine, with a fruit like a hazel nut, the kernels of which operate gently upwards and downwards, but not violently.

HUILE DE GRANDE BAYE. See Cetus.

HUMERA'LIS ARTERIA, (from *humerus, the shoulder*). The humeral artery arises from the lower and fore side of the axillaris, and runs backward between the head of the os humeri and teres major, surrounding the articulation, till it reaches the posterior part of the deltoides, to which it is distributed. In its course it gives off several branches to the neighbouring parts. A puncture of this artery, near the shoulder, though the hæmorrhage may be restrained by ligature, will probably, it is said, be followed by a fatal mortification unless the arm be amputated at the joint.

Humera'lis mu'sculus. See Deltoides.

Humera'lis ne'rvus. See Cervicales.

HU'MERI OS. The bone of the arm; *adjutorium;* is articulated by its head, which in children is an epiphysis, to the scapula: immediately below the head is the neck of the humerus. This bone grows broader at its lower extremity; and at the end is formed into two condyles, on the external of which the head of the radius moves; and, in the cavities, between these condyles, the ulna.

HU'MERUS, (from ὠμος,) *omos; adjutorium;* the shoulder, or joint which connects the arm to the body; the head of which is the *olecranon*. In Hippocrates it is called Brachium, q. v.

HU'MILIS, Rectus musculus, (from *humi, on the ground*, because it turns the eye downwards). See Depressor oculi.

HUMIRU'BUS. Dewberry, (from *humi, on the ground*, and *rubus, a bramble*). See Rubus idæus.

HU'MOR, (*ab humo*, because moisture springs from the ground). Humour. A general name for any fluid; particularly applied to the fluids of the human body, and often to these in their morbid state. The term is used without any reference to disease, in speaking of the fluids of the eye; and popularly employed as synonymous with disposition; in the time of Shakspeare and Jonson greatly abused by an indiscriminate application. The ancients seem to have called the nutritious juices the radical *humours*.

HUMORA'LIA, (from *humor, a fluid*). In Linnæus's Nosology it is an order of diseases in the class *vitia;* and signifies disorders attended with vitiated or extravasated fluids.

HUMORA'RIA, (from the same). A continued fever, in Sagar's system, apparently inflammatory, attended with a vitiation of the fluids.

HU'MULUS, (from *humus, the ground*). See Lupulus.

HU'MUS NI'GRA PICTO'RIA. See CRETA NIGRA.

HUNGA'RICA A'QUA, vel 'HUNGA'RICUS SPIRITUS. See ROSMARINUS.

HU'NGER. See FAMES.

HU'RA, (from *hura*, in Spanish, a knob, from its round fruit). The SAND BOX TREE; JAMAICA WALNUTS; *warnelia* and *havelia*, *hura crepitans* Lin. Sp. Pl. 1431, is a native of the Spanish West Indies; the leaves of which are full of a milky juice, and the seeds purge upwards and downwards. The shell, after the seeds are taken out, is used as a sand box.

HU'SO. See ICHTHYOCOLLA.

HUTZO'CHITL. See PERUVIAN. BALS.

HYACI'NTHUS, (from ἰον, *a violet*, and ανθος, *a flower*, from its colour). It is poetically said to be named from the friend of Apollo, who was turned into this flower. HARE BELLS. *Hyacinthus non scriptus* Lin. Sp. Pl. 453. The roots are bulbous; the flowers agreeably scented, and of a purple or blue colour. The plant is found in woods and hedges, and flowers in May. Galen thinks the roots anticteric; and they are sometimes supposed to be astringent.

HYACI'NTHUS STELLARIS. See LILIO HYACINTHUS.

HYACI'NTHUS RACEMO'SUS MOSCHA'TUS. See BULBUS VOMITORIUS.

HYALO'DES, (from υαλος, *glass*). An epithet applied to urine which deposits a white, shining sediment.

HYALOI'DES, (from υαλος, *glass*, and ειδος, *likeness*,) the vitreous humour of the eye; or rather its capsule. See OCULUS.

HYA'NCHE, (from υς, *a swine*, and αγχω, *to strangle*). A quinsey, accompanied with an external tumour on each side the throat, like the swellings on the necks of swine.

HYBERNA'CULUM, (from *hyberno*, *to winter*). That part of the plant which encloses and secures the embryo from injuries during the winter, expanding in the form of buds on the approach of summer.

HYBOUCOU'HU AMERICA'NUS. The name of an American fruit, of the size of a date, but not eatable; whose genus is unknown. The oil expressed from it is kept in the shell of a fruit called *carameno*, and has sometimes the same appellation. It is chiefly used against an American disorder called *tom*, which seems to be the same with *chigres*, or a collection of very small worms in the flesh.

HY'BRID. A monstrous production from two different species of plants or animals; generally barren.

HYDA'RTHROS, (from υδωρ, *water*, and αρθρον, *a joint*,) a clear water which issues from wounded joints; and a name of the *synovia*.

HYDA'RTHRUS, (from the same). A WHITE SWELLING. Dr. Cullen places this genus in the class *locales*, and order *tumores*, which he defines a tumour of the joints, chiefly of the knee; at first the swelling is slight, of the same colour of the skin, very painful, diminishing the mobility of the part affected.

Mr. Bell, in his Treatise on Ulcers, speaks of this disease under the name of white swellings of the joints, and distinguishes two species, viz. the *rheumatic* and the *scrofulous:* each is more frequent in the large than in the smaller joints. The first species begins with an acute pain in the joint, and frequently the tendinous aponeurotic expansions of the muscles connected with it. There are, from the beginning, an uniform swelling and tension of the surrounding teguments; but, in this period of the disorder, the skin is discoloured. The patient, from the beginning, suffers much pain from motion; and finding it easier in a relaxed posture, keeps it bent; which, especially in the knee, renders the flexor tendons of the limb rigid, and in time stiff. The swelling gradually often increases to thrice the natural size of the part. The cuticular veins become turgid and varicose; the limb, below the swelling, decays, or becomes œdematous; the pain increases, especially if the patient is warm in bed; and abscesses form in different parts of the swelling. In these abscesses a fluctuation is evident on pressure; but the swelling is elastic, and rises when the pressure is removed. These different collections, when they break or are laid open, discharge matter; at first of a good consistence, but soon degenerating into a thin fetid sanies, without apparently diminishing the size of the swelling. The orifices, if not kept open, soon heal, and new collections, forming in different parts, again break out and heal as before: at last the whole surrounding teguments are covered with cicatrices; but the patient's health hath suffered considerably in the interval, first from the pain, which destroys both sleep and appetite; and secondly, from the absorption of matter, producing a quick pulse, night sweats, and diarrhœa. These changes occur independnet of any affection of the bones of the joint; but when by a continuance of the complaint the ligaments are eroded, the cartilages, and even the bones, soon suffer. Though such are the appearances recorded, and usually confined to the first species, yet we are confident that they are peculiar to the second; and though they sometimes occur in hydarthrus from rheumatism, yet it is only when the rheumatic inflammation has produced the scrofulous. The causes of this species are strains, affecting the ligaments of the joints, so as to produce inflammation; bruises, luxations, or rheumatic disposition. This species of white swelling occurs most frequently in young plethoric people: the swelling is confined to the soft parts, and is from the beginning evident. When such swellings occur in young, strong, plethoric persons, and especially those who have been subject to rheumatism, they are generally of the rheumatic species. The rheumatic white swelling is always inflammatory, and bleeding will be the best remedy; at first from the arm, and afterwards from the part affected. Cupping and scarifying are useful remedies; and at least eight or ten ounces of blood should be discharged from each side, repeated at proper intervals, according to the violence of the symptoms and strength of the patient. Cupping is preferable to leeches; but when the swelling of the joints is considerable, it is impossible to procure a sufficient quantity of blood by this operation, and leeches must be applied. On the anterior part of the joint, where the cupping glasses or leeches have not been placed, a blister should be put; and the part be kept open, till the wounds from whence the blood was discharged are so far healed that a blister may be laid on one side of the joint; and, as soon as this is nearly healed, the other side should be also blistered. By thus alternately applying them, first to one side, and then to the other, almost a constant stimulus is kept up; from which the greatest advantages are derived. Cooling laxatives are necessary at proper

intervals; as well as a strict antiphlogistic course of diet. In the first stages only this or any other plan can be beneficial; and in these cures are sometimes effected. When the original inflammatory disease is removed, the drains should be stopped, and while there are yet no appearances of the formation of matter, mercury has been sometimes recommended for a few weeks, to keep the mouth merely sore. This medicine can, however, be only useful in the case just suggested, of the inflammation exciting the action of scrofula; and indeed the mode in which it is advised shows that the friction is of as much service as the remedy; for the proportion of mercury in the ointment is so small, that two drachms of the ointment must be used three times a day; and in order to rub in this ointment with advantage, an hour should, it is said, be spent each time in rubbing. Falls of warm water on swellings of this kind are strongly recommended by Le Dran, &c. By a proper use of the several topical evacuants in the first or inflammatory state of the disease, and afterwards, previous to the formation of matter, of mercurials and friction in the second stage, many have been cured. When by the bent position in which the limb has long been kept the use of the joint is lost, pure olive oil may be applied warm: as much as can be easily consumed by an hour's gentle friction should be rubbed in, three times a day, extending the friction over all the muscles around. Gentle action of the parts as soon as it can be borne, as recommended by Mr. Pugh, on the Utility of Muscular Motion, is highly beneficial. Should suppuration come on, opening the different abscesses soon after their formation may probably prevent the matter from injuring the capsular ligaments of the joints; the destruction of which renders amputation necessary.

In the second species the pain is usually more acute, but more confined to a particular spot, about the middle of the joint. The swelling is at the first inconsiderable; and little difference is seen in the size of the affected joint. The least motion gives great pain; so that stiffness and rigidity are equally produced by the position. As the disorder advances, the pain is more violent, the swelling increases, and the ends of the bones that compose the joint grow large. A very peculiar elastic swelling at last is felt; varicose veins appear over its surface, and collections of matter occur in different parts of it: these, when they burst, or are laid open, discharge considerable quantities of a glairy or purulent matter, but more frequently a thin fetid sanies; and, if a probe can be passed down to the bottom of the sores, the bones are found carious, and pieces are often discharged at the openings. As the disorder continues, the constitution suffers; a diarrhœa, with night sweats, comes on, and the patient is reduced to extreme weakness. From every symptom, and appearance on dissection, this species seems evidently to be an affection of the ligaments, and next of the bones; the surrounding soft parts only suffer from their connection. This species sometimes appears to be the consequence of an external accident; but generally begins without the patient's being able to account for it. From the effects usually produced on the bones which it attacks, it would appear to be a species of the real spina ventosa, and truly scrofulous. This species of white swelling is indeed often either attended with other evident symptoms of scrofula, or occurs in those descended from scrofulous parents. When any perceptible swelling appears, the bones are found to be the parts chiefly affected, and the surrounding teguments suffer only in the progress of the disease; and when in such patients as are evidently of scrofulous dispositions, if the disorder has begun without any, or from a very slight, external cause, we need not doubt its being of a scrofulous nature. In the small joints, when the diseased parts of the bone begin to cast off, a cure may be sometimes promoted by assisting the efforts of nature; but in all the large joints, particularly in the knee and ankle, amputation will often afford the only means of relief.

The remedies usually employed are those of scrofula, with topical stimulants to the part, to increase the action of the vessels, and to promote the absorption of the matter. We shall not anticipate the article scrofula by enlarging on its causes and the manner in which its remedies relieve, but merely remark that the applications of marine plants, sea bathing, and drinking salt water, are the most effectual remedies. They act slowly, but are more successful than any other plan. The burnt sponge, which consists of alkaline or neutral sals, with animal oil, is often serviceable; and the burnt cork has had its advocates, though a remedy of inferior powers. Small doses of calomel are sometimes useful, and the bark is occasionally given, when fevers come on, or the night sweats appear to exhaust the patient. Neither of these latter remedies, however, is peculiarly adapted to the complaint.

The topical applications of most service are blisters frequently repeated; and sometimes the mercurial ointment, in the manner already described, has been found useful. Hemlock has been more frequently applied externally than given as a medicine; but in either way it seems of little benefit, and, when joined with the arum root, its utility is but little increased. A variety of other applications are recommended, but of inferior efficacy.

Practitioners have differed respecting the opening of the tumours of the joints, and, in general, it seems to be decided that they should be left to nature. It is at least certain that the wounds are with difficulty healed, and that the disease is sometimes removed without the discharge of the glairy matter, which fills the place of pus. We have had occasion to doubt the propriety of this decision; and though we allow that the cavities of joints should on no occasion be exposed, we greatly doubt whether the constitution would not be spared by the early discharge of matter which is never salutary, but, when retained, produces hectic, and symptoms of the greatest danger.

Amputation, in cases of white swelling, ought never to be advised till the complaint is far advanced; it has been observed, that amputation has more frequently succeeded when the patient was previously much reduced by diarrhœa. If this be true, we should never have recourse to the operation, until every probable means of saving the limb has been tried in vain.

On dissection of the joint, a great thickening of the ligaments, which confounds the several parts, is observable, together with sinuses, formed by crude matter, through this distinguishing mass; and generally an erosion of the cartilages at the end of the bones.

Edinburgh Medical Essays, vol. iv. p. 242 and 246. Reimarus de Fungo Articulorum. Leyd. 1757. Bell

on Ulcers, ed. 3. p. 435, &c. London Medical Transactions, vol. i. p. 104. White's Surgery, p. 66.

HYDA'TINON, (from ὕδωρ, *aqua*). The name of an ancient collyrium, made of rain water.

HY'DATIS, (from the same). See Aquula.

Hy'datis. A hydatid. (See Phlyctænæ.) Hydatis, considered as a genus of disease, has been placed by Dr. Cullen among the local diseases in the class *tumores*. It has been found, however, to possess an independent life, and has been referred to the vermes intestinales, characterised as a vesicular body, at least posteriorly; and terminated anteriorly by a head furnished with three or four antennæ, with or without fangs. These lymphatic vesicles have been long known, and observed on the liver, the brain, the ovaria, and the other viscera; but it is lately discovered that they resemble in nature and almost in form the tænia.

This genus differs from tænia in the membranous vesicular expansion, which appears to constitute its whole form, and in which the head is generally concealed. It differs also in its habitation, for it is never found in the intestines, but on the surface of the viscera, on the membranes, and sometimes enveloped in the fat. In every other respect they are the same; and we remark in them four suckers, and in *their* centre either a corona of fangs or a depression, apparently the mouth of the animal. It is not surprising that its nature has so long been overlooked, since many trials must be made to discover the head, often the only organic part of its system.

Dr. Tyson first discovered hydatids in the livers of sheep; Bartholine observed them in the livers of goats, and Pyerus in hogs. To Pallas, however, we are indebted for the first correct and connected account of these animals, which he has described and figured in his Miscellanea Zoologica. Since the period of his publication, Goèze, Batsch, Bloch, and others, have added to the stock of facts, though much remains to be known. Mougeot, a young physician, has collected in the form of a thesis, entitled "A Zoological and Medical Essay," what has been hitherto published; to which he has added some new facts, and the treatment necessary in one of the species, viz. the hydatids of the uterus. This essay, unfortunately, we have not been able to obtain. Dr. Adams also has endeavoured, with some success, to show that cancer is owing to the introduction of an animal of this kind. But if cancer is owing to an animal, its structure forms the septa so often described in such ulcers. These are, in fact, the animal, not the residence of its formation.

Hydatids are, in general, superficial; that is, some portion is enveloped in the substance of the liver, for instance, and a part rises above it. Yet this is not an universal rule; for, as they are very numerous, some must be wholly concealed. Those species which burrow in the fat are entirely covered, and can never change their place. Their size differs according to the species, the age and temperament of the animal at whose expense they live. Pallas speaks of some as large as the fist, and others are mentioned still more bulky. Such we have ourselves seen. Their figure is infinitely varied, but very generally approaches that of a flatted sphere. Their colour is generally white, or semitransparent, sometimes of an amber colour; their substance composed of different membranes, conglutinated and formed of circular fibres, visible by means of a lens; but in many animals, particularly in sheep, susceptible of an evident contractile power. Internally, on the part opposite to the head, we can observe a disc, somewhat thicker than the membrane, with often a number of fatty tubercles, which have been supposed eggs. They are filled, though not wholly, with lymph, usually transparent, of an oily, salt taste, which becomes cloudy by heat. These vesicles have a motion of their own, which may be styled peristaltic, and is often very lively. The head is not always at the termination, but often concealed by the reduplication of its skin; and from this part the hydatid acts on the viscus in which it lives, and sucks its lymph. The animal is best seen by separating the vesicle, and placing it between two panes of glass, taking care that they press very gently on the anterior part. The head, in that case, pressed forward by the lymph, projects; and even with a lens, the suckers and fangs, if it has any, are observable. This part may be preserved dry for a considerable time.

Hydatids, in the human race, are found chiefly in the liver, the spleen, the uterus, the ovaria, the kidneys, the placenta, the lungs, and even the muscles. Those in the accumulated fluid of dropsies are accused as the cause of the disease; and those in the head are supposed to occasion insanity. Hydatids exist occasionally in the human viscera, without occasioning any inconvenience; but acute pains, either continual or temporary, are supposed to be sometimes owing to them. Their existence may, it is said, be suspected by weakness, emaciation, and oppression at the stomach; but these symptoms are owing to many other causes, and were the existence of hydatids ascertained, there is, we fear, no remedy that would reach them. Hydatids of the liver are often found in a cyst of a cartilaginous firmness, composed of different laminæ, and thicker, in some instances, than in others. The laminæ are white, and apparently lined with coagulable lymph. In one body, Dr. Baillie saw the cyst divided by a pulpy substance. A cyst often contains various hydatids, some floating loosely in the fluid, and some attached to its sides; of very different sizes, from a pin's head to that of a walnut. The largest are generally found floating in the cavity of the abdomen when distended by dropsy.

In animals they are more common than in man. They are generally found in the livers of hares, especially those which have fed in marshy ground. In rats they are equally numerous; and in sheep they occasion vertigo when in the brain, and the rot when they burrow in the liver. In the hog they produce the appearance sometimes called measles; and they are found also in the rein-deer, the goat, and the ox. The remedy in sheep is to change the pasture from the marshes, where the disease is caught, to high gravelly soil, where it seldom appears, and to give the animal a portion of salt; for in salt marshes the hydatids are not found. An author whom we have mentioned, but whose work we have not seen, recommends, we are told, injections of salt water into the uterus when hydatids exist in that organ.

The hydatids of hogs are found in the substance of the fat and in the muscles. They are sometimes so numerous as to be almost contiguous. The disease,

besides measles, is sometimes called lepra; and on this account it seems to have been forbidden to the Jews, among whom the lepra was an endemic disease. The hydatids of hogs are most commonly lodged under the tongue; and, from inspection of that part, the probability of their existence in the flesh may be ascertained.

It has been doubted whether the hydatid of the human body is really a living animal, since its head has not been observed, and no motion is perceivable in it. We, must however, reflect, that the human body is seldom dissected soon after death; and that hydatids, whose heads are not naturally observable, may, by the management already described, be compelled to exhibit them. The hydatid of man is apparently more simple than that of sheep, but its general similarity is so striking that the analogy may be safely transferred; and who shall limit the simplicity of structure consistent with animation? The subject is yet in its infancy, and this must be our apology for the extent of the present article. There are eighteen species described, the more important of which we shall describe.

1. The *globular hydatid* is cylindrical, terminated by a globular, very large, vesicle, found on the liver, the spleen, and other viscera of man. It is the largest species yet discovered.

2. The *visceral hydatid* is globular. Its vesicle is large anteriorly, and pointed posteriorly; it is described and figured by Goèze, found in the liver, the uterus, and the hydropic sacs of the human race; and probably a more frequent cause of dropsy than pathologists have suspected. The vesicles are often lined with an opaque, pulpy coat, but are more usually transparent. It is said that they are frequently contained in each other. This, however, we believe is not true; but we have seen numerous hydatids contained in a sac compressed, without any containing fluid, and apparently without life. When in the ovaria, their most frequent residence, they sometimes appear to occasion a false pregnancy. Treutler has described and figured, in a separate treatise, a visceral hydatid, which, instead of a head, had a small tubercle not retractile. The author thinks, with some reason, that many distinct species have been confounded under this title.

3. The *cellular hydatid* is contained in a cartilaginous vesicle, which has two appendices on its posterior part. It is described and engraved by Werner in an excellent work on the vermes intestinales. It is found in the integuments of the muscles of the human race, and has been supposed to be the same species with that which infests hogs.

4. The *hydatic hydatid* has an elongated body, large anteriorly, with a small vesicle, and a sessile head. It is found in the livers of rats.

5. The *vervecine hydatid* has a large vesicle, with a short body, rough, with an imbricated appearance, and found in the peritonæum of sheep.

6. The *cerebral hydatid* is furnished with retractile tubercles, but has no visible vesicle. It is the animal which causes vertigo in sheep; and, by some naturalists, has been supposed to occasion mania in man.

7. The *hydatid of the hog* is conical, inclosed in a double sac, the interior of which adheres by its base. It has lately been removed to another genus, under the name of *finna*. Werner and his editor, Fischer, represent little pedunculated globules in the room of the corona of fangs; but Bosc, from frequent examination, asserts that he has always found the latter in this animal.

Three species are found in the viscera of the hare; three in those of a sheep, one in the ox, and one in the dolphin, which are not accurately distinguished. The granulated hydatid figured in Goèze, found in the liver of a sheep, is separated by Rudolph to a different genus, *echinococus*.

We must add, that Treutler has published, at Leipsic, a dissertation on many intestinal worms found in the human body, among which he has described a new species of hydatid (*tænia alba punctato*), found in the plexus choroides of a man who died in an idiotic state. The individuals of this species, instead of being inclosed like those of the cerebral hydatid in a common sac, are united by their base through the medium of a membrane. Their form is globular; the largest about half an inch, the smallest $\frac{1}{12}$ in diameter; their colour grey, spotted with black, with six fangs on their heads.

The more important part of the work remains, viz. to point out the means of removing the diseases by destroying the animal which has produced them. But this part of the task naturalists have overlooked; and, in general, hydatids lie out of the course of the circulation, so that little expectation can be formed of the success of any medicine. Mougeot may have given us some information on this subject; but the only hint we can collect from those who have quoted his work is, the injection of a solution of common salt into the uterus, when the hydatids are known to exist in that viscus, from some being occasionally discharged. The circumstance of sheep being relieved, when placed in salt marshes, may suggest the use of common salt; but we must recollect that, in this case, the animal is generally diseased from a known cause, and that in case of plants, the insects which accompany or cause the complaint may be removed by restoring the health and strength. If we apply this to the human body we shall discover an excess of saline nourishment itself a cause of disease; and the prudent physician, who would pursue the hint, will probably find it necessary to be cautious how far in pursuit of a remedy for one disease he may produce a worse. There may be some reason to suspect, that, when alkalis have relieved dropsies, and more certainly when mercurials have had a similar effect, they may have destroyed these animals which are, we fear, often an unsuspected cause of this disease. One other remedy we would suggest, viz. the sulphurated ammonia. We know that sulphur penetrates very minutely into every vessel of the system: we know that sulphurated hydrogenous waters are useful in cases of tænia, and it is highly probable that this may prove a valuable remedy in diseases which arise from hydatids; that it has really proved such, where the cause was unknown. Whatever may be the result, we have, at least, reason to think that medicines of this kind will not injure the constitution which they are given to relieve.

See Tyson, Philosophical Transactions, vol. xvii. p. 506, et ejusdem Tentamen Act. Eruditorum Lipsiæ, 1692, p. 435; Schroeder de Hydatidibus; Pallas Miscellanea Zoologica; Werner, Vermes Intestinales; Goèze, der Lingeweidewürmer Thierischer Rorper; Mougeot, Essai Zoologique et Medicale; Medical Com-

munications, vol. i. p. 101.; London Medical Journal, vol. i. p. 125; vol. vi. p. 139.

HYDATOI'DES, (from ὑδατος, the genitive case of ὑδωρ, *water*, and εἰδος, *a shape*.) Watery; an epithet for wine much diluted; for limpid urine; for the aqueous humour of the eye; and for the fluid of anasarca.

HY'DEROS, (from ὑδωρ, *water*). See Hydrops and Anasarca.

HYDRAGO'GOS, (from ὑδωρ, *water*, and αγω, *to bring away*). *Hydroticus; aquiducus.* Hydragogue. Medicines that evacuate much water. In Hippocrates, Epidem. lib. vi. it imports a person affected with dropsy from drinking water.

HYDRA'RGYRUM, HYDRA'RGYRUS, (from ὑδωρ, *water*, and αργυρος, *silver*; from its having the appearance of fluid silver.) Quicksilver. This term the college of physicians of London have adopted for the argentum vivum, in their Pharmacopœia of 1788, and use it for the word mercurius in all the preparations of which this metal forms a part. See Argentum vivum.

HYDRELÆ'UM, (from ὑδωρ, *aqua*, and ελαιον, *oleum*). A mixture of oil and water. Oribasius and P. Ægineta.

HYDRENTEROCE'LE, (from ὑδωρ, *water*, ενλερον, *an intestine*, and κηλη, *a tumour*). A dropsy of the scrotum. Vogel describes this disorder as compounded of a dropsy and hernia.

HYDRO'A, (from ὑδωρ, *water*). See Boa and Phlyctis. It sometimes means a pustule called *alhasef* and *asef*.

HYDROCA'RDIA, (from ὑδωρ, and καρδια, *the heart*). Hildanus invented this word to signify a serous, sanious, or purulent tumour of the pericardium.

HYDROCE'LE, (from ὑδωρ, *water*, and κηλη, *a tumour*). This term is employed when water is contained in ruptures; but particularly is applied to a dropsy in the scrotum; *hydrops testis*, *hernia aquosa*, *oscheocele*, and *oscheophyma*. By oscheocele Vogel means a rupture which descends into the scrotum; Dr. Cullen places this genus in the class *cachexiæ*, and order *intumescentiæ*, which he defines a soft, fluctuating, pellucid tumour of the scrotum, not painful.

There are two kinds: in the first the water is lodged in the cells of the membrana cellularis scroti; and it is a symptom of anasarca. The second, and only proper species, is formed by water lodged within the tunica vaginalis of the testicle. The first tumour retains the impression of the finger, the second is elastic.

The second, our only object at present, is a morbid accumulation of the water separated on the internal surface of the tunica vaginalis, to moisten or lubricate the testicle.

From its first appearance it seldom disappears or diminishes, but generally continues to increase, sometimes rapidly, at others more slowly. In some it grows to a painful degree of distention in a few months; in others it continues many years, with little disturbance. As it enlarges it becomes more tense, and is sometimes transparent; so that if a candle is held on the opposite side, a degree of light is perceived through the whole bulk of the tumour; but the only certain distinction is the fluctuation, which is not found when the disease is a hernia of the omentum or intestines, or an inflammatory or a scirrhous tumour of the testicle.

If the water is lodged only in the cellular membrane, scarifications may be made in the legs, as in an anasarca; but if it is a proper hydrocele, and occasioned by no other disorder, a lancet, or the trochar, may be employed to discharge the fluid; and as the testicle lies always on the posterior part of the tumour, the perforation must be made into the anterior and lower part of it. This is, however, only a palliative remedy.

Mr. Bell proposes the use of a flat trochar in preference to a lancet. The patient being seated, the operator, with his left hand, should grasp the tumour on its back part, so as to push the contained fluid into the anterior and under part of the swelling. An opening must then be made through the skin and cellular membrane, about half an inch long, with a lancet; the trochar introduced through the tunica vaginalis, and the stillette withdrawn, that the water may be discharged. After this the canula may be also withdrawn, and a piece of adhesive plaster should be applied to the orifice. A compress of soft linen may cover the scrotum, and the whole may be firmly supported by a T bandage.

Mr. Pott proposes a radical cure, by exciting an artificial inflammation in the tunica albuginea, and the tunica vaginalis, by means of a seton, which will produce an obliteration of the cavity, in consequence of the inflammation. Mr. Else prefers the application of a caustic (see Causticum opiatum) to the fore and lower part of the scrotum; and Mr. Bell recommends an incision into the upper and fore part of the scrotum, to be directed downwards. We shall add a general account of these three methods, referring to the works of the respective authors for further particulars.

Mr. Pott's method, by a seton.—The object of this is to excite the necessary degree of inflammation, if possible, without producing slough or abscess, the hazard of a gangrene, or that alarming degree of symptomatic fever which sometimes attends both the caustic and the incision. The seton requires confinement to bed only for a few days, after which the patient may lie upon a couch to the end, which will be in about a month; and during the whole time the common remedies of inflammation are only necessary. The manner of performing it is as follows:—"Choose a time when the vaginal coat is moderately distended; and having pierced it with a trochar of a tolerable size, draw off the water; when that is done, introduce into the canula a probe armed with a seton, consisting of ten or twelve strings or threads of silk; pass the probe as high to the upper part of the vaginal coat as you can, and on the end of that probe make an incision of such a size as to enable you to to pull it out easily, together with a part of its annexed seton; then cut off the probe, and tie the silk very loosely, covering the orifices with pledgets. By the next day the seton will be found to have contracted such an adhesion to the tunica albuginea as would cause a great deal of pain to detach; but this it is perfectly unnecessary to do, and it should be suffered to remain without molestation. In about forty-eight hours the scrotum and testicle begin to swell and inflame; the patient should then lose a little blood, and have a stool or two, and the whole tumefied part should be

wrapped in a soft poultice and suspended in a bag truss. The disease from this time bears the appearance of a large hernia humoralis, and must be treated in the same manner, by fomentations, cataplasms, &c. The adhesion of the seton to the albuginea generally continues firm, and I never meddle with or move it till it becomes perfectly loose, which it seldom does for the first fortnight, or until the inflammation is going, and the humours subsiding. By the time the seton becomes loose, the coalition of parts is universally and firmly accomplished. I then withdraw it, and heal the orifices with a superficial pledget."

Mr. Else's method, by a caustic.—"My method is this:—to lay a small caustic upon the anterior, inferior part of the scrotum, taking care to avoid the testicle: a large caustic is quite unnecessary, and every advantage may be derived from one whose eschar will be no bigger than a shilling. The loose and pendulous situation of the scrotum renders the application of a bandage so very inconvenient, that we cannot easily prevent the caustic from spreading somewhat; for this reason, I cover no more than the size of a sixpence, on a presumption that it may make an eschar as broad as a shilling, though it commonly makes one of the size of a half crown. The intention is, that it shall affect, and, if possible, penetrate through the tunica vaginalis; so that the time it is suffered to lie on is proportioned to the supposed thickness of the cyst. The caustic should never remain on less than five hours; but if it be suffered twenty-four hours, it can do no mischief when properly guarded. On the removal of the caustic, digestives may be applied to the eschar, or the common cataplasm of white bread and milk. The scrotum must be suspended in a bag truss; and the patient had best be confined to his bed, though even this circumstance is sometimes omitted without detriment. Sometimes, immediately after removing the caustic, at other times within twelve or twenty-four hours, or even at the distance of two or three days, the patient begins to complain of a pain in the scrotum and loins, has now and then some colic pains, and the pulse a little quickened, and the tongue whitish. At different periods of time, from the removal of the caustic, but generally within forty-eight hours, an alteration is perceptible in the scrotum; the tumour, upon grasping, feels more tense and hard than it was before, and this hardness answers to the figure of the tunica vaginalis in its whole extent; and a little attention will convince an observer, that it is this membrane alone which gives the sensation of tension and hardness, and no other part. The colic pains and febricula seldom continue more than twenty-four or forty-eight hours; and very frequently are so inconsiderable as to require neither evacuation nor any internal medicines. If, however, the pulse be quickened a little, the pain of the back and the colic distressing to the patient, they will be speedily removed by one or two bleedings, and the injecting one or two clysters. As soon as the pain of the back (except what arises from the weight of the scrotum), the febrile heat, and other symptoms are removed, for they commonly go off altogether, the patient need no longer be confined to his bed, but may be suffered to get up and walk about the room, provided the scrotum be suspended. In a few days the eschar of the scrotum will loosen and come away, exposing to view the tunica vaginalis, which bears evident marks of its having been affected by the caustic, and prepared to slough off; and when pressed with the finger, the undulation of the water may be felt within it. As the cure proceeds, the sloughy tunica vaginalis will project more and more through the orifice of the scrotum; and when it appears ready to burst, it may be punctured with a lancet, and for this reason only, that it will relieve the patient from the weight of the tumour; for no other advantage can be derived from it. If the water is discharged by a puncture, the scrotum by degrees collapses, and the orifice in it is filled up with slough; which prevents the access of external air to the testicle. These sloughs continue to come away with the dressings daily for about four, five, or six weeks; and in proportion to their discharge, the hard tumour of the scrotum lessens. Upon casting off the last slough, the hardness is entirely gone, the wound immediately cicatrizes; and the cicatrix being about the size of a finger's end, adheres strongly to the body of the testis, which has never come in sight, nor has had any application brought in contact with it during the whole process."

Mr. Bell's method, by incision.—"The patient being placed upon a table of a convenient height, and being properly secured by two assistants, with the scrotum lying nearly upon the edge of the table, the operator with one hand should grasp the tumour so as to hold it firm, and make it somewhat tense on its anterior part; and with a common round edged scalpel in the other, he is is now to divide the external teguments by one continual incision from the superior extremity of the tumour, all along its anterior surface, down to the most depending point of the swelling. By this means, as the divided scrotum retracts a little, the tunica vaginalis is laid perfectly bare, for the breadth of half an inch, or so, from one extremity to the other. An opening is now to be made with a lancet into the vaginal coat, just at its upper extremity where the first incision commenced. This opening should be of such a size as to receive the operator's finger, which being inserted, the probe pointed bistoury is to be conducted upon it, and by means of it the sac is to be divided to the very bottom, all along the course of the first incision. By making the first opening into the sac at the upper end of the tumour, much trouble and inconvenience are prevented, which making the first orifice below is sure to occasion: for, as we have before remarked, when the tumour is first opened below, the water is instantly evacuated; and as that produces an immediate collapse of the tunica vaginalis, the passage through its cavity is not afterward easily discovered; whereas, by making the first opening above, as the water is thereby evacuated gradually, as the incision is extended downwards, the vaginal coat continues distended to the bottom till the incision is completely finished. The incision being completed in the manner directed, the testicle, covered with its tunica albuginea, comes into full view. Sometimes the testis protrudes from the wound altogether; in which case it must be replaced with great caution, and it ought by all means to be covered as quickly as possible from the external air; and, provided none of the tunica vaginalis is to be removed, this may be always done immediately, by finishing the dressing directly on the

sac being opened. When the sac is not too much thickened, there is no necessity for removing any part of it; but when it is discovered to be otherwise, to be thick and very hard, the removal of a portion of it on each side of the incision makes the cure of the remaining sore more easy and expeditious. As in this hardened state the sac generally separates with great ease from the surrounding teguments, any quantity of it may be easily taken away with the scalpel, without the least hazard of wounding the scrotum." As soon as the incision has been made, Mr. Bell inserts, between the tunica vaginalis and the body of the testis, slips of soft linen, smeared with some simple ointment, which causes much less irritation than dry lint, and is much more easily removed.

Mr. Earle's method, by injection.—Professor Alexander Monro, of Edinburgh, having supplied the hint of curing the hydrocele by inflammation, Dr. Monro, surgeon to lord Hume's regiment, attempted to make a radical cure by letting out the water of a large hydrocele, and injecting a little spirit of wine into the scrotum, which raised a violent and dangerous inflammation. When this was relieved by the usual remedies, he never had any return of the hydrocele. This violent inflammation induced him to try a milder remedy. Having let out the water, he injected some claret into the scrotum, by which means only a slight inflammation was raised; but still succeeded to his wish, by completing a cure. He has since made several radical cures by this remedy alone. See Monro on the Dropsy, p. 165, note (w), London, 1756.

Mr. Earle's method is so similar to this, that it can scarcely be doubted from whence his ideas were derived. If the tumour be very large, it should, he observes, be emptied, and the water afterwards suffered to accumulate till about six ounces are collected. The cyst is then to be tapped in the usual mode, and as much of a mixture of red port wine, with one third of water made blood warm, is to be thrown in through the canula of the trochar as will distend the tumour to its original size. It is to be allowed to remain there for four or five minutes, and then to be pressed out: should the subsequent inflammation prove considerable, a common bread poultice may be applied.

Perhaps neither Dr. Munro nor Mr. Earle can claim the discovery; for the same method has been recommended by M. Lambert above a century ago, in his Œuvres Chirurgicales, published at Marseilles. A strong solution of corrosive sublimate in lime water was the composition of which he made use; and he gave a variety of cases in which success was the consequence.

See Monro, on the Tumours of the Scrotum, in the Edinburgh Medical Essays, vol. v.; Pott's Account of the Method of obtaining a radical Cure of the Hydrocele; Else, on the Hydrocele of the Tunica Vaginalis Testis; Bell's Surgery, vol. i. p. 403, &c.; London Medical Journal, xi.; White's Surgery, p. 328.

Hydroce'le cystata resembles the common hydrocele; but the tumour does not extend to the testicle, which may be felt below or behind it, while in the hydrocele of the vaginal coat, when large, the testicle cannot be discovered. In this disease also the penis is not buried in the tumour. Sometimes the fluid is contained in two distinct cells; and this is discovered by little contractions in it. It is distinguished from the anasarcous hydrocele by a sensible fluctuation, and the want of the inelastic pitting; from hernia, by its beginning below, from its not receding in an horizontal position, and not enlarging by coughing or sneezing. The cure is the same with that of hydrocele of the vaginal coat: in children it is often removed by spirituous applications.

Hydroce'le funiculi. An hydrocele of the spermatic chord is usually a symptom of ascites; but is sometimes an anasarcous swelling of the surrounding cellular substance. It is owing to the usual causes of dropsy, and occasionally to the pressure of a truss. In an erect position it is oblong; in a recumbent posture flatter, and somewhat round. The swelling is generally confined to the groin, though it sometimes descends to the scrotum, and enlarges it to a considerable size. When a local complaint, the water may be discharged by a trochar or lancet.

Hydroce'le peritonæ'i. See Ascites.

Hydroce'le spina'lis. See Spina bifida.

HYDROCELO'DES ISCHU'RIA, (from *ὑδωρ*, *aqua*, and *κηλωδὴς*, *attended with tumour*). A suppression of urine from a rupture of the urethra opening into the scrotum. See Ischuria.

HYDROCE'PHALUS, (from *ὑδωρ*, *water*, and *κεφαλη*, *the head*). Dropsy of the head. This disease has been divided into two species, external and internal. In the first, water is confined between the skull and the integuments. In the second, the fluid is within the cranium, between it and the brain; between the membranes; or distending the ventricles. Dr. Cullen places the hydrocephalus externus, including those cases where the fluid is between the skull and the dura mater, as a genus in the class *cachexiæ*, and order *intumescentiæ*, which he defines a soft, inelastic, intumescence of the head, with the sutures of the cranium gaping. This complaint is so obvious, that it requires not any description for its discovery. In general, it is necessary to establish some drain from the head by a continued blister from the neck; free copious evacuations by stool must be procured; and we think the cure expedited by a grain of calomel every night. This medicine seems to give tone and energy to the circulation, which, in this disease, is apparently deficient. With the same view, after the vessels of the head are emptied, the bark, with cold bathing, is highly useful; and even when the head has been peculiarly large this plan has succeeded. See London Medical Observations, vol. v. p. 13; Medical Transactions, vol. ii. p. 18; Edinburgh Medical Essays, vol. ii. p. 22.

The hydrocephalus internus is placed as a species of apoplexia hydrocephalica in Dr. Cullen's system. In a nosological work, he remarks, it is difficult to arrange accurately diseases which assume in their course different appearances; but he prefers placing this disease under the title apoplexy, because the tumour is not evident to the senses; and because it greatly differs in its symptoms from the external hydrocephalus, which is clearly perceptible. In its proximate cause, also, and at length in its symptoms, it is nearly allied to apoplexy. Dr. Fothergill names the internal hydrocephalus the dropsy of the ventricles of the brain, for the ventricles are the proper seat of the disease. Dr. Macbride names it the febris hydrocephalica; others cataphora hydrocephalica.

The internal hydrocephalus arises gradually, affecting

chiefly infants of a fair light complexion from the early months to about the age of ten. Between seven and ten the disease is rare. The first symptoms are irregular fever, with symptoms of considerable irritation of the bowels, so as to induce a suspicion of worms. The discharges from the bowels are procured with difficulty; the urine is often scanty. In general an obstinate costiveness gives the first symptoms of alarm; but the complaint still proceeds so insidiously, that the most cautious observer can scarcely fix on any appearance to justify alarming the parents. Sometimes slight wandering pains about the nape of the neck or the upper extremities precede, and are considered as febrile. When the disease appears in a more pointed form, a violent pain, deep seated in the head, seems to extend from temple to temple, and across the forehead; sickness is at times considerable; the patient occasionally doses and sighs; the breathing is interrupted; the pulse unusually slow, often irregular; at times the sleep is apparently sweet and easy, but in general disturbed, and interrupted occasionally by a violent scream, often a pathognomonic symptom of the disease. The pupil of the eye is dilated, and scarcely contracts, even by a strong light. The eye itself is often turned upward; but more commonly contracted by a spasm, which occasions squinting. A little before death's approach, feverishness sometimes attends, especially towards evening; at last the pulse quickens, the breathing is very laborious and difficult; the heat excessive; the patient is averse to the light, takes things greedily, and cannot bear any but an horizontal posture; the excrements are insensibly voided; the hands are commonly kept about the head; the eye lids become paralytic, and the iris immoveable; a great heat and sweat spread all over the body; the pulse trembles, and strength soon fails, if a sudden convulsion does not bring on the catastrophe.

Many of these symptoms are common to worms, teething, and other causes irritating by sympathy the brain, so that it is difficult to fix upon any which particularly characterize the disease. In general, in the early stages, the costiveness, with marks of irritation in the bowels, are the first appearances which lead to a suspicion; but the screaming, the slow pulse, and the squinting, are the only pathognomonic symptoms. The pulse sometimes sinks to forty in a minute.

There is a spurious kind of hydrocephalus, similar to the spina bifida. It appears on the lower part of the occiput like a bladder of water, and underneath the bone is deficient. Opening it would be as fatal as the opening the tumour of the spina bifida.

The disease both in its pathology and cure is still defective. The more obvious cause on dissection is an accumulation of water in the ventricles, generally attended with considerable fulness of the vessels; but the quantity of fluid is by no means in proportion to the violence of the symptoms; and in many instances where there is no considerable degree of compression from the accumulated water, the worst consequences often follow. These circumstances have led practitioners to suppose, with great reason, that the dropsy is only the effect of a previous disease of the brain; and those, who have brought this opinion into any distinct shape, have thought it to be inflammatory, or an apoplectic fulness of the vessels. The author who supposes it to be inflammatory is Dr. Rush of Philadelphia, and he thinks early and active bleeding a certain remedy. In this idea, he was preceded br Dr. Quin of Dublin, and has been followed by Dr. Garnett; though these authors have not been equally confident of the success of the remedy. It is necessary therefore to examine the subject more closely.

There is little doubt but that a diseased state of the brain exists previous to the accumulation of the water, and the great question is respecting the nature of this state. We have little reason to suppose it inflammatory, for the disease does not attack strong, healthy children, those over fed, or rendered plethoric by too great care. If there are any children peculiarly subject to hydrocephalus, it is the weak, the pale, and the debilitated. These indeed may suffer from venous plethora; but we ought to reflect that this is not a disease of their time of life. An accumulation of blood in the arteries, in a degree greater than the veins can carry off; veins, as we have seen, tortuous, and in which the motion of the blood is peculiarly slow, may occasion increased exhalation: but to this may be objected, that the early symptoms are not those of compression but of irritation only, of irritation not in the brain, but in the bowels. If we pursue the series of symptoms, we shall find that the consequences of compression are combined with those of irritation, but that the former are by no means in proportion to the quantity of fluid found in the ventricles after death. In this argument we lay no stress on the effect of remedies, for we believe all remedies equally ineffectual.

It is indeed probable that symptoms of irritation and compression may be relative to the constitution of the patient; that, as in the former case, a slighter cause may in a very irritable habit produce violent symptoms, so, in a more torpid system, a little degree of compression may produce insensibility or spasm. Yet these views will not lead us far, and very certainly will not assist us in the cure. The first symptoms show, as we have said, irritation in the bowels, which may be readily supposed to originate from an affection of the brain: the second train are the effects of compression, which may be probably accounted for from the accumulation of fluid.

If, however, we apply these views to practice, we shall find their fallacy: the means of relieving irritation or compression are equally useless; and we see no means of accounting for the symptoms, but from supposing an original defect in the organization of some portion of the brain itself,—a cause which will be supported by its being often confined to particular families, and its often affecting the children of the same parents. What this defect is we cannot explain: but we have seen that a free communication between different parts of this organ is peculiarly necessary; and if we suppose this communication interrupted, the usual consequences of increased action will follow. We see this deficiency of communication in the spina bifida; and children live for some time till the necessity of the free circulation of the nervous power is felt. A want of this free circulation in the brain itself may not be so soon experienced as in the nerves which supply the voluntary muscles; and according to the part where the deficiency occurs, the disease may appear sooner or later. This idea is not supported by dissections; but,

in general, if the vessels are found peculiarly turgid, or the ventricles preternaturally filled, anatomists have been contented with the success of their researches.

We rest with more complacency on this opinion, because it explains the want of success which we think has attended every plan. As authors, however, have had their favourite modes of relief, which they have sometimes thought effectual, it is necessary to describe them.

Bleeding, according to the idea of Dr. Rush that the disease is inflammatory, has been practised; but on this subject Dr. Rush is certainly prejudiced. Wherever he finds bleeding useful, he sees inflammation. It has escaped us if his practice has been imitated in this country, so that its success is equivocal. Topical bleeding, either by the cupping glasses or by leeches, under the influence of Dr. Quin and Dr. Garnett's ideas, we have employed with scarcely even temporary advantage. Blistering either on the vertex, the nape of the neck, or behind the ears, has been more useful, but has never effectually removed the complaint. Purging, in all its forms, has only afforded a slight and temporary relief. We have been told of the effects of mercurials, and have employed them actively, so as to raise a ptyalism; or more slowly to give permanent tone, or as purgatives. It has been said that they have succeeded; but we have unfortunately failed, though when a slight ptyalism has been produced, we have found the symptoms in some degree relieved: the fatal event, however, has scarcely been retarded, or retarded only. In one case, where we suspected the source of the previous complaints, we early employed calomel as a purgative. A very slight soreness of the gums ensued, and the disease even came on during the action of the mercury.

Digitalis, doronicum, and cicuta, have been mentioned; but, on examining the accounts of authors who have recommended these remedies, we have found little foundation for their employment, and cannot therefore speak of them from experience. The children subject to the complaint are, we have said, inactive and debilitated; and we should not, *à priori*, expect any considerable advantages from narcotics. As the water is usually contained in the ventricles, an operation is wholly inadmissible.

When we consider the confident assertions of some authors, and compare them with the effects of the most careful trials, we shall find it highly probable that they have mistaken other diseases for hydrocephalus. We have certainly done the same, for we once thought mercurials effectual. In advanced life there are affections of the head not strikingly apoplectic, though similar to apoplexy, which require large doses of mercury, and are relieved by it.

See Whytt on Hydrocephalus; Quin on the Apoplexia Hydrocephalica; Fothergill and Watson, London Medical Observations and Enquiries, vol. iv. and vi.; Withering on the Digitalis Purpurea; London Medical Transactions, vol. ii.; Monro's Observations on the Structure of the Nerves; Edinburgh Medical Commentaries, vol. v. vii. viii.; Medical Communications, vol. i. p. 404; London Medical Journal, vol. i. p. 357; Memoirs of the Medical Society of London, vol. i. p. 165 and 169.

HYDROCI'STIS, (from ὑδωρ, *aqua*, and κυστις, *a bladder*). Encysted dropsy, or dropsy of a particular part.

HYDROCERATOPHY'LLON, (from ὑδωρ, *water*, κερας, *a horn*, and φυλλον, *a leaf*). See Ceratophyllum.

HYDROGA'RON, (from ὑδωρ, and γαρον, *pickle*). Garum diluted with water.

HYDROGE'NIUM, (from ὑδωρ, *water*, and γινομαι, *to become*, or γενναω, *to produce*,) hydrogen is one of the constituent parts of water, and perhaps of muriatic acid. (See Aer, and Chemia.) Though its gas is unfit for respiration, it is not poisonous. Its effects on the animal economy are not peculiarly striking, but it appears to affect the irritability of the muscular fibre in a considerable degree; and animals killed by it are supposed to putrefy quickly. The latter opinion seems, however, from Chaptal's Experiments, to be founded on a mistaken observation.

HYDROLA'PATHUM, (from ὑδωρ, and λαπαθον, *dock*). See Lapathum aquaticum.

HYDROME'LI, (from ὑδωρ, and μελι, *honey*). Hydromel; *mulsum*, *aqua mulsa*, *melicratum*, *braggat*. Water impregnated with honey. After it is fermented, it is called vinous hydromel, or mead.

HYDROME'LON, (from ὑδωρ, and μηλον, *an apple*). Is made of one part honey, impregnated with quinces, and two parts of boiled water, set in the sun during the dog days.

HYDROME'TRA, (from ὑδωρ, *aqua*, and μητρα, *matrix*). Dropsy of the womb. See Hydrops uteri.

HYDRO'MPHALUS, (from ὑδωρ, *water*, and ομφαλος, *a navel*). A tumour of the navel, containing water. See Hydrops umbilicalis.

HYDRONO'SOS, (from ὑδωρ, *water*, and νοσος, *a disease*). See Sudor Anglicus.

HYDROPE'GE, (from ὑδωρ, and πηγη, *a fountain*). Spring water

HYDROPEDE'SIS, (from ὑδωρ, and πιδαω, *to break out*). See Ephidrosis.

HYDROPHO'BIA, (from ὑδωρ, *water*, and φοβεω, *to fear*). A dread of water; *aquæ pavor*, is a symptom of the disease caused by the bite of a mad animal; but not peculiar to this disease, nor always attendant on it. (See Dyscapatotia.) The disorder has usually had the same appellation, and is called also *canina rabies*, *cynanthropia*, *cynolesia*. Dr. James observes, that this kind of madness properly belongs to the canine genus, viz. dogs, foxes, and wolves, to whom only it seems innate and natural; scarcely ever appearing in other animals, except communicated from these. Dr. Heysham defines it to be an aversion and horror at liquids, as exciting a painful convulsion of the pharynx, occurring at an indetermined period, after the canine virus has been received into the system.

The hydrophobia is a nervous disorder, though attended with some appearances of inflammation. Dr. Cullen places it in the class *neuroses*, and order *spasmi*, defines it a loathing and great dread of drinking any liquids, from their creating a painful convulsion of the pharynx, occasioned most commonly by the bite of a mad animal. This definition, however, scarcely includes the full idea of the disease; and we would suggest the following as more complete: melancholy, a dread of

cold air, of any thing shining, and particularly of water, often arising from the bite of a mad animal. He distinguishes two species.

1. Hydrophobia rabiosa, when there is a desire of biting, from being bitten by a mad animal.

2. Hydrophobia simplex, without rabies, or a desire of biting.

The principal and original seat seems to be about the stomach, and parts contiguous to it. Dr. Seleg thinks that it is seated in the par vagum and intercostal nerves; for most of the symptoms happen where these nerves are interspersed.

The smallest quantity of the saliva of a mad dog produces the disease. The infection may lie dormant for a period, differing according to the habit of the patient, the time of the year, the degree of the disease in the animal, or the place in which the wound is made. If the patient is not of a strong inflammatory habit, and no circumstances intervene, which otherwise affect his health, it seldom takes effect till after about forty days: if in six weeks, or two months, no sign of disorder appears, the patient is usually concluded to be safe. It has been observed, that the nearer the place bitten is to the head, the sooner the symptoms appear. If the part bitten is covered with woollen or leather, the bite is harmless. The dread of water is a symptom in some fevers, and in some particular inflammations (Edinburgh Medical Commentaries, vol. xi. p. 331); and it is highly probable, that in those cases where the poison is said to lie dormant for six or nine months, or even a year, the disease was connected with fever rather than the rabid poison.

When a dog is affected with madness, he becomes dull, solitary, and endeavours to hide himself, seldom barking, but making a murmuring noise, and refusing all kinds of meat and drink. He flies at strangers; but, in this stage, he remembers and respects his master: his ears and head hang down; he walks as if overpowered with sleep; and a bite at this period, though dangerous, seldom conveys the disease. After these symptoms, the dog begins to pant; he breathes quick and heavy; hangs out his tongue to discharge a great quantity of froth from his mouth, which he keeps perpetually open; sometimes he walks slowly, as if half asleep, and then suddenly runs, but not always directly forward: at length he forgets his master; his eyes look dispirited, dull, full of tears, and red; his bark is hollow and hoarse; his tongue of a lead colour; he grows faint, thin, and weak, often falls down, again rises, attempts to fly at every thing, and soon grows furious: this second stage seldom continues thirty hours, death by that time putting an end to the disease, and a bite received at this time is the most dangerous.

When the human species are the subjects of this disorder, a slight pain in the wound is first felt, sometimes attended with itching, but usually resembling a rheumatic pain: it extends into the neighbouring parts, and the cicatrix begins to swell, inflames, and at length discharges an ichor; this pain is considered as the primary invariable mark of a beginning hydrophobia. There are more general pains, of a flying, convulsive kind, which are said to affect the patient in the neck, joints, and other parts; often a dull pain seizes the head, neck, breast, belly, and along the back bone: towards the conclusion of the disorder the patient complains of this pain shooting from the arm towards the breast and region of the heart. A lassitude, a dull pain in the head, and a vertigo, soon come on: the patient is melancholy, mutters, is forgetful, and drowsy; his mind seems disordered; his temper irritable and irregular; his slumbers disturbed, and convulsive agitations immediately follow his waking; a deafness is sometimes complained of; the eyes are watery; the aspect sorrowful; the face pale and contracted; sweat breaks out upon the temples; an unusual discharge of saliva flows from the mouth, though the fauces are dry; the tongue becomes foul, and the breath occasionally fetid. The fetor is often only perceived by the patient; and sometimes it attends the discharge from the wound, the dressings of which are said to be frequently black. Besides these, from the beginning, there are a peculiar stricture and heaviness on the breast, a struggling as it were for breath, a sighing, a nausea, and often a bilious vomiting. This oppression of the precordia is one of the constant symptoms of this disorder; it begins, increases, and ends with it. As the above symptoms increase, the second stage advances; a fever comes on, which at first is mild, and attended with momentary horrors, though there is sometimes no fever; sleep is lost, the mind is more and more disturbed, a delirium approaches, and an aversion at first to polished bodies, then to light, afterwards to fluids, is perceived. The air offends if it touches the skin, and the slightest sound is very painful. A constriction of the gullet, with difficulty of swallowing, first occurs; but as yet liquids are freely taken; afterwards, however, they are refused. This symptom augments so visibly, that on the sight of any liquid a horror seizes the patient; and if he strives to drink, spasms, anxiety, and loss of sense, follow. As soon as the surface of the liquid is touched, a strangulation in the throat is felt; the stomach is inflated; the larynx is suddenly swelled externally, though the swelling quickly disappears. While liquids are thus rejected, solids are swallowed with tolerable ease; yet this symptom may become so violent as totally to prevent solids also from being swallowed. The patient now mourns bitterly; at times loses all knowledge of his intimate acquaintance; but reason returns at intervals, and he laments his own calamity: the thirst excites a desire of drink, but he strives in vain to swallow, and soon sinks into the most affecting despondency; he advises his friends to keep at a distance, and it is supposed that he feels an inclination to bite; but this is suspicion only, and it is highly improbable that, with the disease of a dog, he should adopt his manners: biting is the common method by which that animal shows his resentment. The barking like a dog is equally imaginary. A priapism and involuntary emissions of semen and urine sometimes attend this stage; and as the conclusion approaches, the fever and thirst increase; the eyes are bright and furious; the urine is high coloured, acrid, and in small quantities; the tongue hangs out; the mouth foams; the pulse throbs, strength fails, cold sweats come on, the tightness of the breath increases, and the patient soon expires in spasms, often losing the difficulty of swallowing liquids, for many hours; so that the dread of water is by no means a pathognomonic symptom.

On dissection, the brain, the medulla oblongata, and all the muscles, are said to be drier than usual: the membranes extenuated; the pericardium dry; the blood coagulates slowly, if at all; and putrefaction soon comes on. The fat appears completely wasted; the gall bladder full of greenish bile; and the stomach covered with a glary matter of a brown colour, and its villous coat livid. The liver, contiguous to the stomach, is livid, and the trachea and œsophagus inflamed.

The poison of rabid animals is, like that of the small pox, secondary in its operation. It lies concealed till, perhaps, by an assimilatory process, its quantity is increased, or from the heat of the body it becomes more active. It is sufficiently certain, that, if the part is extirpated soon after the bite, the patient is safe: it is highly probable that the same operation at the first commencement of the inflammation would be equally advantageous. When absorbed, like other poisons it is carried to some excretory; and that which from chemical affinity or some other cause is preferred, we find to be the salivary and the mucous glands of the fauces. Previous, however, to this determination, it shows deleterious effects on the nervous system by the melancholy, the increased sensibility, and the affection of the precordia, which precede. These are the natural and genuine effects of the poison, which prove sometimes fatal without any others following. Mead.

When the poison is determined to the excretories, it shows a powerful and active stimulus. Inflammation, which is the consequence, in the mouth and fauces, seems to occasion the difficulty of swallowing. The increased sensibility, however has some influence; for if the patient does not see the fluid, or it is not given in a shining vessel, the convulsions are much less violent. The sensation of cold water to the inflamed fauces contributes to the effect. In all these respects, solids will be less offensive than fluids; and in general they are swallowed by a less effort.

The disease in dogs is not owing to heat, but is probably produced by their confinement in kennels. In man the disease is exclusively owing to the poison introduced by the wound; but its action is said to be accelerated, probably increased, by fear, grief, or any of the depressing passions. The prognosis is always unfavourable.

If, in a disease where remedies are so uncertain, we were to draw any prophylactic indications, they would be, first, to prevent the poison from acting, though it exists in the body; secondly, to evacuate it by the most speedy methods.

This disease is peculiarly rare. Some practitioners of the most extensive experience have never seen it; and some have boldly denied its existence. In general, very few of the dogs reputed to be mad are really so; and but a small proportion of those bit by a dog, really mad, receive the infection, as the parts are usually defended by the clothes, and the teeth of the animal are consequently wiped clean before the wound is inflicted. This circumstance has given a delusive credit to many trifling preparations employed as prophylactics. None are to be trusted except excision; but it is necessary to state, according to the indications laid down, what has been proposed.

We have already remarked, that nature is able to evacuate morbid poisons, if the animal power is supported, or at least no cause of debility gives the poison activity. The first indication is, therefore, answered by avoiding whatever may depress or weaken, and employing every plan to give a tone to the system. The depressing passions are consequently to be counteracted; and should the patient's mind rest on the circumstances of the bite, it should be cheered by every encouraging representation. Perhaps the ridiculous specifics, as eating the liver of the dog broiled, or tying the skin of an hyæna about the arm, may have been useful by inspiring confidence; and avoiding cold and excesses of every kind must be advantageous in every view. Stimulants are useful with the same design; and numerous are the remedies of this kind recommended by the ancients, though condemned by Boerhaave; viz. Galen's theriaca; Scribonius Largus' opiate, a preparation containing opium with large quantities of aromatics; the cibi acres of Dioscorides; the wine of Celsus; the garlic and theriaca of Palmarius and Mayerne, who added occasionally the scordium, the snake root, and the flowers of hypericum; and the pepper of Mead; are of this kind. Tonics have been also employed, the chief of which is cold bathing. The ancients used it with every mode of exciting terror; and when they used the warm bath in this complaint, the patient on coming out of the water was plunged "in piscinam." Other tonics have not been employed, though we find the filings of tin in Mayerne's remedy; and in some formulæ, the varvain, the lesser sage, plantain, and polypody; and in others, the wormwood, mint, betony, hypericum, and lesser centaury—medicines which, if they have any power, must act as tonics.

In following the second indication, we may evacuate the poison from the wound by sucking, by washing it with hot water, by cutting it out, by bleeding with cupping glasses, by enlarging the wound, increasing the discharge with suppurating applications, by burning it with gunpowder, or destroying an absorbing surface by a caustic. Each has been employed, and each has had its partisans; but to cut out the part is the only certain remedy, and it is certain at any period previous to the inflammation. If the wound is inflicted so deep that the bitten part cannot be separated, a caustic must be applied to what remains; and though we thus lessen the chance of relief, we should reflect that, at the depth of the wound, the tooth has already lost its venom. Yet such are the horrid consequences, that even the loss of a limb would, in the event of a violent wound from a dog certainly mad, cheaply purchase security.

When our attention has been paid to the wound, we must look to the other excretories for the evacuation of the poison: those most commonly preferred are the skin, the urinary organs, the salivary or intestinal glands. Mercury given in small doses, and long continued so as very slightly, if at all, to affect the mouth, may be considered as a diaphoretic. Sauvages has collected a variety of cases in which those who took mercury in this way escaped, while others bit by the same animal died hydrophobic. Desault, James, and others, have added their testimony to the success of the same measure; but we must add, with regret, that later experience does not support their decision. It is painful to be obliged so often to oppose positive assertions; but it would be injurious to mankind to support a delusive security. We have already observed that a dog, supposed to be

mad, seldom is so; and that of ten bitten by an animal really mad, not above one or two are infected with the disease. Of the same kind is the famous Chinese remedy, which consists of ten grains of mosch, with twice the quantity of factitious cinnabar, for the dose is ordered to be repeated, if sleep and sweat do not follow; and Hillary has observed that it is useful in proportion as it proves diaphoretic. The warm bath has been highly commended, particularly by Lieutaud; but later experience has not confirmed its utility.

The principal diuretic is cantharides, but they have been seldom employed. The chief authority we can find for their utility is Baccius de Venenis and Antidotis, and some cases in which they appeared to be useful are recorded in the first volume of the Bologna Transactions. The ashes of the river cray fish, burnt by twigs of bryony; the sponge of the dog rose; the alyssum or mad wort; and the lichen cinereus terrestris; have been considered as diuretics. They may be such; but they are useless in this disease.

The cathartics employed in hydrophobia have been the rhubarb, the hiera picra, the colocynth, and hellebore; but we have received no positive accounts of their utility, and have reason to think them of little importance.

It has been supposed that the organs may be sheathed with oil, and absorption prevented, or the acrimony of the poison covered. This plan too has flattered and disappointed practitioners; and the Ormskirk medicine, which is principally an antacid, has had no better success.

When the disease has come on, it has been the object of practitioners to sooth the early symptoms of irritation by opium, or to assist the natural discharge by the more active exhibition of mercurials. Dr. Rush, in his reveries respecting inflammation, thought this disease also inflammatory, and proposed active bleeding. We can trace this remedy in the History of the Academy of Sciences at Paris for the year 1699, p. 58, recommended by Poupart; and we find it also mentioned in the Medical Essays of Edinburgh, vol. v. part ii. § 51. This also has failed. Later authors have called hydrophobia a putrid fever, and given bark in large quantities, but with the same success.

Opium seems to rest on more rational principles, and two grains, or even a larger dose, given every three hours, seem to have relieved the symptoms, but have done no more. A ptyalism, rapidly excited, and steadily continued, has scarcely succeeded better; and the vinegar, of which four ounces have been directed three times a day, has equally failed. *In short, full, effectual, and* COMPLETE EXCISION *of the wounded part is the only certain means of relief;* AND THIS IS CERTAIN.

See Ætius, Cœlius Aurelianus, Lommius, Sauvages sur la Rage, Desault; James on Canine Madness; Mead on the Bite of a Mad Dog; Seleg, Nugent, and Hamilton on the Hydrophobia; Medical Museum, vol. ii. p. 97, &c.; London Medical Transactions, vol. ii. and London Medical Observations and Inquiries, vol. iii.; Edinburgh Medical Commentaries, vol. v. p. 42; Vaughan's Two Cases of the Hydrophobia; Cullen's First Lines, vol. iv.; White's Surgery, p. 102; Memoirs of Medical Society of London, vol. i. p. 243; Memoirs of the Royal Society of Medicine in Paris, Supplement to vol. iv.

The second species arises without any contagion, in some fevers from topical inflammations of the thorax or neighbouring parts; from the accession of an epilepsy; from the bite of an epileptic patient; the bite, it is said, of persons in violent fits of passion: an inferior degree of it will be observable in some hysteric cases, when, from the difficulty of swallowing, patients are fearful of taking liquids, and sometimes cannot be prevailed upon to make the attempt. In all these cases, musk and opium appear to be chiefly efficacious.

HYDROPHTHA'LMIA, (from *ὑδωρ, water*, and *ὀφθαλμος, the eye*). See PROPTOSIS.

HYDROPHTHA'LMION, (from the same). It is the part under the eye which swells in cachectic and hydropic cases.

HYDROPHYSOCE'LE, (from *ὑδωρ, water*, *φυσα, a flatus*, and *κηλη, a hernia*). A HERNIA proceeding from a mixture of water and flatulence.

HY'DROPIPER, (from *ὑδωρ*, and *piper;* from its pungency, and growing in marshy places). See PERSICARIA URENS.

HYDROPNEUMOSA'RCA, (from *ὑδωρ, water*, *πνευμα, wind*, and *σαρξ, flesh*,) a tumour, from a mixture of flatulent, aqueous, and carneous substances.

HYDROPOI'DES, (from *ὑδωρ, water*, and *ειδος, a resemblance*). Aqueous excretions, common in dropsies.

HY'DROPS, (from *ὑδωρ, water*,) *hyderos;* a DROPSY. In reality there is but one kind of this disease, for all the various dropsies differ only in their seat. As this circumstance suggests a variety of practice, we have distinctly considered the peculiar circumstances under each head, and shall now add only a few general remarks.

All dropsies are chronical diseases from debilitated fibres; but this debility may be general or particular. It is, however, always attended with an accumulation of serosity, either in the whole of the cellular texture, or in particular cavities. In the anasarca the water is clear and limpid, but in the ascites often more thick and gelatinous, or sometimes mixed with hydatids or coagulated lymph.

Each age and sex is liable to this disorder; but generally it happens to men advanced in years, and to women after child bearing; those who live in low wet situations; whose life is sedentary, and who have indulged in spirituous liquors.

The general or immediate causes of all dropsies are increased exhalation or diminished absorption. The former, in anasarca, is, according to Dr. Hunter, owing to transudation. This, however, makes little difference in the present view of the subject; and it is useless to engage in an examination of the distinction, as it will not apply to any practical improvement.

Increased exhalation often arises from an interruption to the return of the venous blood; and this interruption may arise from diseases of the right ventricle of the heart, or its valves, from an upright posture, when the force of gravity opposes the return; scirrhi, or other obstructions in the liver or spleen; polypous concretions in the veins; aneurisms in the arteries; abscesses; scirrhi or steatoms in the neighbourhood of the arteries or the veins; the gravid uterus, &c.

A general debility and laxity of the whole system are a common cause of increased exhalation, and dropsies

are, in this way, occasioned by repelled eruptions or suppressed evacuations; by general causes of debility, as palsy, long fevers, excessive evacuations, and intemperance.

A preternatural quantity of watery fluids taken into the system, or absorbed by the skin, has been considered as a cause of dropsy; and a preternatural tenuity of the blood from saline acrimony has been said to produce the same effect. Each, however, is, we believe, rare. Nature easily disposes of the superabundant fluids, if the secretions are free; but when suppressed, as in cold watery situations, by an ischuria renalis, &c. dropsy will probably follow.

A rupture of the thoracic duct, of the lacteals or lymphatics of the kidneys, ureters, or vesica urinaria, may produce dropsy; but these causes are peculiarly rare. Hydatids, on the contrary, we suspect to frequently induce this disease.

Absorption may be diminished from loss of tone in the absorbing extremities of the lymphatics, and by obstructions to the passage of the absorbed fluids in their course. See Lacteals and Lymphatics.

These causes of dropsy, though separately stated for the sake of distinction, are frequently combined; and we must confess that the great outline will not admit of practical application. Our chief object is to evacuate the water by increasing the secretions, while we support the general tone of the system by a warm cordial diet, cordial and tonic medicines, which do not possess too great a degree of astringency. The bitters called aperient are, in general, best adapted for this purpose. The general evacuants we have noticed in the articles of Anasarca and Ascites, q. v. We shall now add the means of obviating some of the more troublesome symptoms.

Dropsies are not quickly fatal, except when produced by polypus concretions in the heart or pulmonary vessels; a scirrhous liver; tumefied mesenteric glands; a scirrhous or otherwise disordered uterus. Bleeding of the nose, ulcers, or gangrene, appearing in any part, are highly dangerous. Great thirst, the upper parts greatly extenuated, febrile horror with external heat, an erysipelas on the legs, livid streaks or spots on the skin, are among the most dangerous symptoms.

Thirst.—We see no reason for the rigid abstinence so often enjoined: the patient may, in general, drink in proportion to his inclination. Acid liquors, as cyder, or in want of it vinegar imperial, with a small proportion of the spirit of juniper, or rhenish wine and water, may be allowed; and thirst is often prevented by holding nitre in the mouth.

Difficulty of breathing.—In this case the loss of a few ounces of blood has been recommended; but though a momentary relief is thus obtained, the injury will be considerable. The safest method is, if possible, to obtain relief by expectoration; and for this purpose a mixture of the gum ammoniac with the acetum scillæ may be repeated as the occasion requires. The infusion of garlic is often useful, and the asafœtida relieves the dyspnœa when it is connected, as is often the case, with flatus in the stomach, occasioning hysteric affections. In this situation also a warm plaster or liniment, with a large proportion of opium, may be applied to the pit of the stomach.

Spasms often arise in particular parts, especially about the chest, frequently awaking the patient out of a sound refreshing sleep. In such cases opium, with camphor, is the only effectual remedy; and even in hydrothorax, when the dyspnœa is considerable, is often a safe remedy. It is only contraindicated when there is a considerable and apparently necessary discharge from the mucous glands of the bronchiæ.

Vomiting is relieved often by the chalk julep, with a slight warm opiate, or by a saline draught in the act of effervescence.

Purging requires regulation only, for it is often a salutary discharge.

See Hoffmann, Boerhaave, Lister, and Lysons, on this disease; Le Dran's Operations; London Medical Transactions, vol. ii.; Cullen's First Lines, vol. iv.; Monro on Dropsy.

Hy'drops ad ma'tulam. See Diabetes.

Hy'drops arti'culi. See Hydrops genu.

Hy'drops cy'sticus. The encysted dropsy is a collection of water enclosed in a cyst, which is sometimes from a collection of hydatids, and generally in the abdomen. See Hydatis and Hydrops ovarii. Le Dran's Observations, edit. 2. p. 129.

Hy'drops ge'nu. A dropsy in the knee; water collected under the capsular ligament of the knee. Dr. Hunter observes, that if the synovia is separated in too large a quantity, and the absorbents fail in their action, an hydrops articuli succeeds, causing relaxation of the ligament. Mr. Sharp recommends a tight bandage, leaving the superfluity to be absorbed by the lymphatics. To this might be added some attenuating and discutient embrocation, such as the aq. ammoniæ acetatæ; or a solution of crude sal ammoniac in sharp vinegar: their proportion may be ℥ ss. to ℔ i. See Gooch's Cases and Remarks, vol. ii. p. 259—266; Edinburgh Medical Commentaries, vol. vi. p. 132.

Hy'drops medu'llæ spina'lis. See Spina bifida.

Hy'drops ova'rii. A dropsy of the ovarium. This species of encysted dropsy most frequently happens to barren and superannuated, sometimes to pregnant women. It usually begins without pain, and the health is unimpaired. It is not perceived until it is much enlarged, and commonly appears but on one side. It is known by its being moveable when the patient is laid on her back, and by passing the finger up the vagina the orifice of the uterus is found to move with the tumour, which distinguishes it from the ascites. But it seldom happens that the tumour rises above the pelvis, till general dropsy has come on and obliterated the situation of the tumour. In this species, the fluctuation is indistinct, and the disease is generally, and indeed we believe constantly, occasioned by hydatids. When there are several cysts, there are sometimes inequalities in the tumour, and it has the feel of scirrhus. Internal medicines are of little efficacy: tapping may relieve for a time, and the operation is as safe as in the common ascites; but the resistance to the instrument is considerable, for the cyst thickens by pressure. Diuretics, purgatives, and mercurials, are equally inefficacious. Dr. Percival gives an instance of a cure being effected by a spontaneous vomiting; see his Essays, Medical and Experimental. But to assist the general health of the patient is almost the only means in our power.

Hy'drops pe'ctoris, also Hydrotho'rax. A dropsy in the breast. Dr. Cullen places it in the class *cachexiæ*, and order *intumescentiæ;* defining it a difficulty of breathing, pallid countenance, œdematous swelling of the feet, difficulty in lying down, a sudden and spontaneous starting out of sleep with palpitation, and water fluctuating in the chest. The water may be on only one or both sides of the mediastinum: it is usually on one side only; but sometimes this fluid is contained in hydatids, whose situation may be on the diaphragm, the pleura, on the external surface of the lungs, in their substance, on the surface of the heart, or in the pericardium. In this case the knowledge of the case and cure are alike uncertain.

Any of the causes of dropsy may produce this species; it sometimes happens from increased exhalation in consequence of a disorder of the lungs, or from an infarction of the bronchial glands, occasioning obstruction to the passage of the blood; often from debility only, seldom from hydatids.

The symptoms, particularly when the water is extravasated on the diaphragm, are an oppression of the precordia, a very irregular pulse, and an extraordinary shortness of breath, sometimes relieved by a supine posture: in this it is distinguished from fits of asthma when the patient cannot lie down. A distinguishing symptom of this disease is, the starting from sleep with a sense of suffocation; and though this may sometimes attend obstructions in the thorax, from other causes, it almost constantly attends every hydrothorax when in a considerable degree. In the dropsy of the breast, also, œdematous swellings are not only observed in the feet but also in the hands, which Baglivi says is a pathognomonic sign; and it certainly is so, when united with a coldness of the hands, and a livid colour of the lips. Inspiration is more easy than expiration; and if there is much water on one side, the face, arm, and leg on that side are sometimes swollen.

Instances have occurred in which the water hath been absorbed; but, for the most part, the patient falls a victim to the disease. As a palliative, when the water is perceived to fluctuate, it may be drawn off by a canula and trochar, introduced betwixt the fourth and fifth of the false ribs, and about four fingers breadth from the spine. The seat of the disease, however, can seldom be so accurately ascertained as to admit of this operation, and we must, in general, rest on the remedies of dropsy. Blisters on the legs will, however, often relieve the complaint by evacuating much water, and drawing it downward. Digitalis is supposed to be a remedy peculiarly adapted to this complaint, and it sometimes appears to be useful in obstructions of the chest from any cause. The ether of Mr. Tickell, which contains a proportion of the oleum vini, is said also to be a very useful remedy; but we have seldom found any particular advantages from it. As an antispasmodic, it may be supposed to relieve what are styled the symptomata ephialtica, the startings from the sleep; but in this respect its efficacy is doubtful, and opium succeeds more certainly and more effectually. When the load of water is partly taken off, this is a safe remedy. Vide Hydrops, Ascites, and Anasarca. See Le Dran's Operations, edit. 2. p. 117, 118; Cullen's First Lines, vol. iv; Bell's Surgery, vol. ii. p. 356.

Hy'drops perica'rdii. Dropsy of the pericardium, a superabundance of watery fluid collected within the pericardium. There are no symptoms by which the disease can be certainly discovered in the living body; cases can only be referred to, in some of which the cause has been suspected, in others ascertained, by dissection. In general, there are great oppression and anxiety, a labouring irregular pulse, with the other symptoms of hydrothorax. The treatment does not differ from that of hydrops pectoris. See Sauvages' Hydrothorax Pericardii, Morgagni de Causis Sedibusque Morborum, xvi. 34, 36; Senac. de Cœur, tom. ii. p. 349; Bouillet, Dissert. 1758; Edinburgh Medical Essays, vol. v. p. 56, 58, 59.

Hy'drops pulmonum. The dropsy of the lungs is seated in the cellular membrane of the lungs. Sometimes it attacks suddenly, from an hydatid bursting, and filling the cellular membrane.

The diagnostics are very obscure: the difficulty in breathing is constant, and increased by the least motion, though not much varied by different attitudes and situations; the anxiety about the precordia is considerable; and, on attempting a deep inspiration, the patient finds it impossible to dilate his chest, and his breath seems to be suddenly stopped: the pulse is small, languid, and oppressed; the face pale and bloated; the legs swelled, and the whole body leucophlegmatic.

A brisk mercurial cathartic will often give very quick relief. After this, the seneka root, in large doses, will be useful, as it operates powerfully by expectoration, urine, and perspiration. Besides these the usual diuretics and sudorifics may be administered. If the case is desperate, an operation, as in the empyema, may be tried. See Edinburgh Medical Essays, vol. vi. p. 126; Percival's Essays, Medical and Experimental, p. 172; Bell's Surgery, vol. ii. p. 356, &c.

Hydrops sa'cculi lachryma'lis. See Hernia lachrymalis.

Hydrops scro'ti, and Hydrops te'stis. See Hydrocele.

Hydrops umbilica'lis; umbilical dropsy; *exomphalus aqueus Platneri; hydromphalus* of Ægineta, Heister, Dionis.

It occurs in pregnant women, from severe labours; infants who labour under ascites and hernia umbilicalis. According to Platner, it scarcely can ever happen without an umbilical rupture and ascites; the tumour is soft, fluctuating, permanent, and pellucid, when examined by the light of a candle. The treatment is that of hydrocele.

Hydrops u'teri. Dropsy of the womb, is seated in the cavity of the womb, and the collection of water there is so great, that the belly appears as if affected with an ascites: on pressure, a fluctuation is perceived. It may take place during pregnancy, but is not usually an attendant. Dr. Cullen defines it a tumour of the hypogastric region, slowly and gradually increasing, resembling the figure of the uterus, yielding to, or fluctuating on, pressure; without ischury or pregnancy. From Sauvages he enumerates seven species, which cannot, however, be distinguished by external signs, viz. *Hydrometra ascitica; hydrometra gravidarum; hydrometra hydatica; hydrometra sanguinea; hydrometra*

puriformis; hydrometra ascites uterinus; and *hydrometra sanguineo-uterinus.*

The diagnostics are not distinct; for many fallacious sings of pregnancy accompany this disorder. It is distinguished from the ascites by its being confined to the region of the uterus, and by the thinness of the os tincæ. If the tumour is from a scirrhus, it is never in the middle, nor is it round, like the dropsy. This disease is soon followed by an anasarca, a slow fever, and a marasmus.

A canula introduced into the uterus is the best and speediest remedy; but sometimes a scirrhus, a cicatrix, or tubercles prevent it. If the canula cannot be introduced, hard riding, violent shocks, with emetics, sternutatories, and brisk cathartics, may be employed.

HYDROPY'RETOS, from ὑδωρ, *water*, and πυρέτος, *a fever*). *Sudor Anglicus.* Blanchard.

HYDRORACHI'TIS, (from ὑδωρ, *water*, and ῥαχις, *the spine*). See Spina bifida.

HYDRORO'SATON, (from ὑδωρ, *water*, and ῥοδον, *a rose*,) a drink made of water, honey, and the juice of roses. Se Paulus Ægineta, lib. vii. c. 15.

HYDRORHO'DINON, (from ὑδωρ, *aqua*, and ῥοδινον, *the oil of roses*,) water mixed with the oil of roses; given by Galen as an emetic in cases of poison.

HYDROSA'CCHARUM, (from ὑδωρ, *aqua*, and σακχαρον, *sugar*,) a composition of sugar and water, which answers to the hydromeli by changing honey for sugar.

HYDROSA'RCA, (from ὑδωρ, *water*, and σαρξ, *flesh*). A tumour or abscess containing water and flesh. M. A. Severinus.

HYDROSARCOCE'LE, (from ὑδωρ, *water*, σαρξ, *flesh*, and κηλη, *an hernia*). See Sarcocele.

HYDROSELI'NUM, (from ὑδωρ, and σελινον, *purslane*). See Apium.

HYDROTHO'RAX, (from ὑδωρ, and θωραξ, *the chest*). See Hydrops pectoris.

HYDRO'TICUS, (from ὑδωρ, *water*). See Hydragogus.

HYGI'DION. A collyrium described by P. Ægineta, lib. vii. c. 16; called *ammonii collyrium.*

Hygi'dion hygie'ia, Hygi'dion hygie'ia, (from ὑγιης, *sound*). Health or soundness. The name of a plaster called *panacea*, and the plaster of the three brothers, described in Ætius. Health, however, a more extensive sense, comprehends a great variety of considerations, which, in the Leyden school, formed a considerable and important part of the institutions of medicine. We cannot attend to it with equal care; and indeed its doctrines comprehend a variety of subjects treated of under distinct heads. We must not, however, pass it over lightly.

It will be at once obvious that health is a relative term; for the changes consistent with it in some constitutions would be morbid in others. It is equally obvious that there is some latitude in its use, and that many changes may take place, without inducing a lesion of the functions, and, of course, a disease. Authors have, therefore, used the expression, "within the limits of health," to imply some deviation from the most perfect, but not sufficient to constitute a morbid, state.

Health depends on the management of what has been called the *non naturals*, a fanciful term, comprehending air, food, exercise, the passions, retenta and excreta, sleep and waking. Yet the regulation of these depends on the constitution, what has been styled temperament or idiosyncracy: the former a generic term, comprising peculiarities of constitution, common to many persons; the other the peculiarity of each individual's structure. We must not now anticipate the subject of temperaments, but may remark that the ancients, in subservience to their doctrine of humours, distinguished four; the sanguine, the bilious, the phlegmatic, and the melancholic. The distinction is not wholly theoretical. The supposed sanguine temperament is that of youth, where the vessels are full, the fibres firm and active, quickly excited to motion, and often to excessive or irregular action. The bilious is distinguished by equal strength and activity; but by a yellow hue on the skin, red hair, with a constitution often more acutely sensible, always more irritable. The phlegmatic temperament is pale in complexion; languid in its exertions; the vessels, if full, torpid; the constitution inactive; the mind not easily excited to exertion. The melancholic has a greater degree of torpor, with a dark yellow hue; the mind dull, abstracted, but persevering. In such constitutions the plethora is chiefly venous.

The *sanguine* temperament bears evacuations with great ease; but they soon constitute a habit which is seldom broken with impunity. Health, with such persons, is best preserved by low living, avoiding excess of every kind, particularly cold after active bodily exertions. The *bilious* requires the same precautions; but the evacuations best adapted, which are indeed almost indispensable to this kind of constitution, are the free and frequent use of the milder laxatives. The warm cordial diet, and the stimuli, which suit the *phlegmatic temperament*, would induce fever in the sanguine or bilious. Free air, regular and constant exercise, with every means of strengthening, without constriction, are adapted for persons of this class. They will not bear evacuations, particularly loss of blood; and, at the same time, must not indulge too freely in high living or inactivity. In the *melancholic*, every thing which accumulates the blood in the internal organs must be avoided. Exercise, which determines to the skin; purgatives, which can rouse the torpid fibres into active exertions; amusements, which can interest the mind; are peculiarly necessary in such habits. A sameness of exercise and of objects, mental or corporeal, must be avoided; for the bent which the body or mind takes, is with difficulty counteracted.

Health is also a relative to different ages, to different sexes, and different occupations. Infancy is the period of peculiar irritability, and of peculiar sensibility. It is the sanguine temperament of manhood, with the mobility of the female constitution. As the body increases in size and in bulk, the mobility lessens, the strength and the activity of the sanguiferous and nervous systems augment. The power is at its height from about twenty-eight to thirty-five, and then gradually declines, assuming, by slow degrees, some of the more distinguishing appearances of the melancholic temperament, but not so acutely marked. In the early and later periods, the limits of health are more narrow; in the middle period, extensive; and the means of preserving it in both will

be sufficiently obvious from what has been already remarked.

Different sexes differ also in the means of preserving health. The constitution of women is that of youth: in advanced age the sexes approach very nearly in temperament. Women are generally distinguished by a plethora, and this is often a cause of apparent debilty. The circulation is also balanced with peculiar nicety, so that the equilibrium is soon destroyed. The two distinguishing eras in a woman's life are, when the catamenia first appear, and when they cease. In each, before the equilibrium is established, either a morbid, irregular mobility, or a torpor, takes place. In the latter case the temperament approaches the phlegmatic. We have no appellation for the former; and another temperament should be added to express it, which may have the hackneyed appellation of the *nervous*.

The health as adapted to different occupations also differs. The sturdy strength of the husbandman would be torpor in the watchmaker; and the delicate feelings, the acute eye, and minute exactness of the latter, would be morbid sensibility in the sailor. Habit, in these instances, forms the constitution; but the limits of health are in each peculiarly his own. The diet of the one would be injurious to the other: the robust exercises of the sailor would bring on a morbid tremor in the artist. For active exertions and continued labour the diet should be chiefly animal, but not in excess: the vessels must be full, not distended. This is the training of the pugilist and the game cock, whose contests require the most vigorous exertions; and sometimes their continuance.

Health is also relative when there is any constitutional disease. In gouty habits it is necessary often to reduce the stronger state of the constitution; but it must be done with caution, lest the atonic form of the disease should follow. Scrofula, the disease of the phlegmatic constitution, will also not admit of stimulants; and, in each, we must keep to those extreme limits of health, which in many constitutions might be called debility. In nervous complaints we often find plethora at least a remote cause, and to lower the tone more may increase the irritability, and consequently the disease. We must here also keep to the extreme limits, and cautiously regulate our evacuations, lest the patient sink too low.

Idiosyncracy is, in part, constitutional, but often induced by habit. It can be taught only by observation, and generally by the observation of the individual. No prudent physician will, therefore, employ an active medicine, until, from the patient or his friends, he has attempted to ascertain any peculiarity of constitution, which should render him cautious in this respect, or wholly forbid its being given.

The more general rules for the preservation of health we have already considered. See Aliment and Diæta; for the remainder of the subject, see Æora and Climate.

HYGIEI'NE, (from *υγιαινω, to be in health*). The doctrines of health. See Hygieia and Medicina.

HYGIENI'STES, (from the same). *Hygienists*; physicians who only attend people in health, to prevent diseases. The temperaments, the constitution, the air, the food, the habitations, the changes in the functions of the body, and those from different ages, seasons, and climates, were the objects of their attention.

HY'GRA (from *υγρος, humid*). Liquid plasters. See also Colophonia.

HYGROBLEPHA'RICUS, (from *υγρος, humid*, and *βλεφαρον, an eyelid*). *Hygrophthalmicus*. An epithet of some ducts discovered in the extreme edge or inner part of the eyelids, leading probably from glands.

HYGROCIRSOCE'LE, (from *υγρος, humid, κιρσος, a varix*, and *κηλη, a tumour*). A species of hernia, from a varicous spermatic vein, while the scrotum is at the same time filled with water.

HYGROCOLLY'RIUM, (from *υγρος, humid*, and *κολλυριον*, a *collyrium*). A liquid collyrium, or consisting chiefly of liquids.

HYGROLO'GIA, (from *υγρος, liquid*, and *λογος, a discourse*). Hygrology, which treats of the various humours of the body. The best works are Plenck's Hydrologia, and Johnson's Animal Chemistry.

HYGRO'METRUM. The Hygrometer, (from *υγρος, humid*, and *μετρον, a measure*,) an instrument which shows the different degrees of moisture in the atmosphere. Wedelius gives this name to those diseased parts whose susceptibility of impressions shows different states of the air, with respect to its moisture, more exactly than any instrument. As, the cicatrices of old wounds are painful when the weight of the atmosphere is less, or rheumatic pains exasperated by a change of weather. The hygrometer has never been applied to medical purposes.

HYGROMY'RON, (from *υγρος liquid*, and *μυρον, ointment*), a liquid ointment described by Ætius.

HYGROPHO'BIA, (from *υγρος, liquid*, and *φοβεω, to be afraid*). Synonymous with Hydrophobia, q. v.

HYGROPTHA'LMICUS. See Hygroblepharicus.

HYME'NEA, corrupted from anime, or animæa, Courbaril. (See Anime.) The seeds are covered with a saccharine substance, which the Indians eat greedily; and at the roots is found a yellowish resin, which, dissolved in alcohol, makes an excellent varnish. It is the gum anime of the materia medica.

HY'MEN, *υμην*, a membrane; from *Hymen*, the god of marriage, as by it is usually understood the membrane which appears in the form of a crescent, situated at the entrance of the vagina, called also *claustrum virginitatis*, *eugeos*, and *bucton*; supposed to be torn in the first intercourse with man. When this membrane is ruptured, it is shrivelled up, and forms the *caruncul æ myrtiformes*. (See Caruncula.) It naturally shrinks with years, or is torn by straining, and sometimes disappears before the age of twenty: it can, therefore, be no proof of virginity.

In infants this membrane is shrivelled, and appears a mere rugosity, so that De Graaf thought it wanting: in others it closes up the urethra, that the urine cannot be voided; or the vagina, that the menses cannot flow and an operation is necessary.

When the mark of perforation cannot be seen, the cure was thought impracticable; but a trochar and canula have been found to succeed, though a passage of four inches was perforated before the end was obtained. See Heister's Surgery; Edinburgh Medical Commen-

taries; Dr. Sherwin's Account of an Imperforated Hymen Successfully Treated; Medical Records and Researches, 1798.

HYOGLO'SSUS, (from ὑοειδὴς, *the hyoid bone*, and γλῶσσα, *the tongue*). The name of the muscle of the tongue. It rises from the basis, but chiefly from each cornu of the os hyoides, running laterally and forwards, to shorten the tongue. This muscle is sometimes divided into three: *basio glossus; hyfsilo* or *yfisioglossus*, or *hyfsiloides;* the *chondro glossus;* and the *ceratoglossus*. Douglas observes, that it rises fleshy from three different places; its first origin is broad and carnous from the cornua of the hyois; this is properly the *ceratoglossus:* its second head comes from part of the basis of this bone, and its name is *hasioglossus:* the third beginning is derived from the cartilaginous appendage of the hyoides, sometimes called *chondroglossus:* these three unite, and, their fibres running in the same direction, they are inserted broad and thin near the root of the tongue laterally. The use of each is to draw the tongue obliquely to one side; but if both act at once, the tongue is pulled directly backwards into the mouth. Douglas adds, that in some subjects he hath observed a great part of the muscles to arise from the basis of the bone, and in some others few or none of their fibres originated from that part.

HYOI'DES OS, (from υ, and εἶδος, because formed like the Greek letter upsilon,) *yoides*, *hyfsiloides*, and *ufsiloides; bicorne*, and *lambdoides*. It is situated in an horizontal position between the root of the tongue and the larynx; convex on its anterior part, and hollow on the posterior: the cornua become smaller as they run back, and diverge a little; at the end of each cornu is a graniform appendicle, from whence a ligament runs to the styloid process of the os temporis, and another ligament connects the bone to the larynx. These ligaments are sometimes in part or wholly osseous, and the os hyoides is joined to the temporal bone by anchylosis. In the fœtus it is almost wholly cartilaginous, only a small osseous point appearing in the middle of its body and in each of its cornua. The appendicles are not observable at birth, and remain cartilaginous for many years, it is the basis and support of the tongue, and the muscles of the larynx and fauces.

HYOPHARYNGÆ'US, (from ὑοειδὴς, *the hyoid bone*, and φαρυγξ, *the fharynx*). The hyopharyngæi muscles, in general are those which on each side are inserted into the os hyoides; and they may be reckoned three pair, viz. the *basio fharygæi*, *cerato fharyngæus major et minor;* coming from the basis and the horns of the os hyoides. Innis calls it *constrictor fharyngis medius*. It arises from the appendix of the os hyoides, from the cornu of that bone, and from the ligament which connects it to the thyroid cartilage; the fibres of the superior part, running obliquely upwards, and covering a considerable part of the superior constrictor (i. e. *cephalo fharyngæus,*) terminate in a point. It is inserted in the middle of the cuneiform process of the os occipitis, before the foramen magnum, and jointed to its fellow at a white line, in the middle back part of the pharynx. The fibres at the middle part run more transversely than those above or below. Its use is to compress that part of the pharynx which it covers, and to draw it with the os hyoides upwards. See PHARYNX.

HYOPHTHA'LMOS, (from ὑς, *a swine*, and ὀφθαλμος, *an eye*). HOG'S EYE; so named from its resemblance. See ERYNGIUM.

HYOSCI'AMUS, (from ὑς, *a swine*, and κυαμος, *a bean;* from hogs eating it as a medicine; or from the hairy and bristly appearance of the plant). HENBANES; HOG'S BEANS, and *dens caballinus*. The plants have hairy, oblong, deep indented leaves, and bell shaped flowers, followed by irregular cup like capsules, which contain the seeds. It is also a name for tobacco. See NICOTIANA.

HYOSCI'AMUS A'LBUS, Lin. Sp. Pl. 257. WHITE HENBANE. Its leaves are smaller and more woody than those of the black henbanes; the plant is a native of the southern parts of Europe; is similar, but not equally powerful, with the common sort. Sauvages observes, that the daily use of the hyosciamus albus, beginning with the third part of a grain, and gradually increasing it while the œsophagus and fauces are moist, is the most efficacious remedy for a cataract. A priest, affected with this complaint in his right eye, after the use of this medicine for eight days, in which time the dose was increased to three grains, could read small print, who before could only perceive large letters. The crystalline lens was at first white, afterward became bluish and nearly pellucid; the myodal suffusion, under which he laboured, vanished, but the appetite and sleep, at first languid, were perfectly restored. From the use of this medicine he saw another cured by *D. Caulas*, whose crystalline lens became perfectly diaphanous. Sauvagesii Nosologia Methodica, vol. i. p. 724.

HYOSCI'AMUS LUTÆ'US. See NICOTIANA MINOR.

HYOSCI'AMUS NI'GER, *apollinaris altercum*, *faba suilla*, *agone*, *altercangenon*, COMMON OR BLACK HENBANE; *hyosciamus niger* Lin. Sp. Pl. 257; is one of the poisonous vegetables of Great Britain. The root is long, tough, white, and, when recently cut through, smells like liquorice: the stalks thick, round, woody, irregularly branched, and covered with a hairy down. The leaves surrounding the stalk at their base stand irregularly; are large, soft, and downy, pointed at the ends, and very deeply indented at the edges; of a greyish green colour, with a virose disagreeable smell. The flowers are monopetalous, divided into five obtuse segments; large, of a dirty yellowish colour, reticulated with violet coloured veins. The seed vessels follow, one after every flower: they are large, and contain a great quantity of seeds of a brown, rough, and irregular figure.

This is the only species a native of Great Britain; and the seeds, leaves, or roots, if received into the stomach, are poisonous. The root produces various disorders, and particularly madness. If the stomach does not reject what it has received, a stupor and apoplectic symptoms, terminating in death, are the usual consequences.

Henbane, in its external appearances, much resembles parsnep, the use of which is said to be dangerous; the latter has probably been mistaken for parsnips.

The symptoms in consequence of swallowing this species of henbane, besides madness, are apoplexy, or an appearance of intoxication. Swallowing the seeds has been sometimes followed by thirst, giddiness, dimness

of sight, with a dilated pupil, raving, and profound sleep. The effects of henbane are similar to those of opium, when taken in large quantities; and, like opium, if administered with skill, it is a valuable sedative, moderating excess of irritability. With the advantages of opium, it is said to keep the bowels lax, especially if exhibited in large doses. It has been given in the form of extract as far as twenty-four grains; but the dose has been gradually increased from one or two grains: it seldom produces any anodyne effect till it has amounted to eight or ten grains. Dr. Cullen has extended it to thirty grains a day.

Its ill effects are relieved as directed in the article AMANITA, q. v.

Dr. Stork is said to have relieved by this remedy palpitations of the heart, a tendency to melancholy, coughs, with other spasmodic disorders and convulsions after other means had failed. But Greeding tried it in forty cases of melancholia, mania, and epilepsy, without advantage. In cancers and scrofula it has been tried with various degrees of success. In chordees, which have resisted the use of opium, Bell used it with advantage, giving the extract from one to three grains, sometimes a larger dose, three times a day. See Stoerck de Hyosciamo, and Lewis's Materia Medica.

The author of this article, led many years since by circumstances unnecessary to mention, tried the seeds of the hyoscyamus in different cases of hysteria, and other convulsive diseases of the stomach. Either alone or mixed with aromatics he found it a valuable sedative, without the deleterious or the constipating effects of opium, and only neglected it from omitting to procure the seeds in proper time. He began with a grain, and seldom found it necessary to proceed beyond three or four.

Lewis's Materia Medica, p. 315; Wilmer's Observations on the Poisonous Vegetables in Great Britain; Withering's Botanical Arrangements; Memoirs of the Medical Society of London, vol. i. p. 310; Cullen's Materia Medica.

HYOTHYROI'DES, (from *υος, the hyoid bone*, and *θυρεοειδης, the thyroid cartilage*). *Thyro hyoides.* These muscles run from the thyroid cartilage to the os hyoides: they are attached to the knobs of that cartilage, and the line between them, for the purpose of bringing them nearer to each other.

HYPALEI'PTRON, (from *υπαλειφω, to spread*). A spatula for spreading ointments.

HYPALEI'PTON, (from the same). See LINIMENTUM.

HYPERÆ'STHESES, (from *υπεραισθω, to feel in excess*). See DYSOREXIA.

HYPERARTETI'SCOS, (from *υπερ, above*, and *αρτιζω, to compose*). Supenumerary parts or members.

HYPERCATHA'RSIS, (from *υπερ*, a preposition signifying *excess*, and *καθαρσις, purgation,) hypercinesis*, and *hypercinos;* excessive purging from medicine; a variety of the *diarrhœa mucosa* of Dr. Cullen. It is not only produced by the irritability occasioned by the too violent action of purging medicines, but from any other cause of irritation in the bowels. The cure is similar to that of violent diarrhœas. Gentle anodynes, frictions, and diaphoretics, were much depended on by the ancients. See Oribasii Medic. Collect. lib. xiv. cap. 42. P. Ægineta, lib. vii. cap. 7. Ætius Tetrabiblicon serm. 3. cap. 118.

HYPERICOI'DES, (from *hypericum, St. John's wort*, and *ειδος, likeness*). See HYPERICUM SAXATILE.

HYPERCORYPHO'SIS, (from *υπερ, above*, and *κορυφη, the vertex*). A PROMINENCE, or PROTUBERANCE. See JECUR and PALMO.

HYPERCRI'SIS, (from *υπερ, above*, and *κρισις, a crisis*). An HYPERCRISIS, or SUPER-EXCRETION; such excessive critical evacuations as endanger the patient.

HYPEREPHIDRO'SIS, (from *υπερ, excess*, and *ιδρως, sweat*). IMMODERATE SWEATING.

HYPE'RICUM, (from *υπερ, above*, and *εικων, image*, or *spectre;* because it is supposed to drive away evil spirits). ST. JOHN'S WORT, *perforata, fuga dæmonum, androsæmum, hypericum vulgare; hypericum perforatum* Lin. Sp. Pl. 1105. PERFORATED or COMMON ST. JOHN'S WORT.

This plant has slender, round, reddish, woody stalks; small, obtuse, oblong leaves, set in pairs, which, when held to the light, seem to be perforated; numerous gold coloured pentapetalous flowers on the tops of the branches, followed by blackish husks, full of small seeds. It is perennial, grows wild in the hedges and uncultivated places, and flowers in June and July.

The flowers abound with resin, but with the aid of its abundant mucilage, water dissolves all its active parts. The leaves also contain much resin. Distilled with water, an essential oil is obtained, resembling that of turpentine. To the taste the leaves and flowers are bitterish and subastringent; but though not much used at present, it was in great repute with the ancients; internally in hysteria, hypochondriasis, mania, ulcers hæmoptysis, bloody urine, gravel, dysentery, agues, worms, wounds, and bruises; and, outwardly, as an anodyne and a discutient. In the London Pharmacopœia the flowers are preferred, as containing the greatest proportion of the resinous matter, in which the medical efficacy of the plant is supposed to reside. The dark puncta of the petals, which are vesicles or glands, afford the essential oil of this plant, and give a red colour to rectified spirit and to expressed oils; the latter of which has been long known by the name of *oleum hyperici.* See Lewis's Materia Medica; Neumann's Chemical Works.

It is the name also for the spiræa and coris.

HYPE'RICUM SAXA'TILE. &c. BASTARD ST. JOHN'S WORT; *hypericoides; coris lutea*, and *coris legitima Cretica.* The seeds are said to be diuretic, emmanagogue, and powerfully antispasmodic.

HYPERINE'SIS, and HYPERI'NOS (from *υπερ, in excess*, and *ινεω, to purge*). Synonymous with HYPERCATHARSIS, q. v. and the person who suffers from it.

HYPERO'A, (from *υπερ, above*, and *ους, os*). See PALATUM.

HYPERO-PHARYNGÆ'I, (from *υπερ, above*, and *φαρυγξ, the pharynx*). See PERISTAPHYLO PHARYNGÆI.

HYPEROSTO'SIS, (from *υπερ, upon*, and *οστεον, the bone*). A swelling of the whole bone. In Cullen's Nosology it is synonymous with *exostosis.*

HYPERSARCO'MA. A fleshy excrescence. See also POLYPUS NARIUM.

HYPERSARCO'SIS, (rom *υπερ, excess of*, and *σαρξ, flesh*,) a fleshy excrescence, or proud flesh.

HYPE'XODOS, (from *υπερ, under*, and *εξοδος, a passing out*). See DIARRHŒA.

HYPE'ZOCOS; membranes spread under other parts, as the pleura.

HYPNO'BATES, and HYPNOBA'TASIS, (from *υπνος, sleep*, and *βαινω, to go*). See SOMNAMBULO.

HYPNOLO'GIA, (from *υπνος, sleep*, and *λογος, a discourse*,) instructions relative to the due regulation of sleep and waking.

HYPNOPŒ'OS, and HYPNO'TICUS, (from *υπνος, sleep*, and *ποιεω, to cause*). HYPNOTICS, medicines which procure sleep. See ANODYNA.

HY'PO, *υπο*. A preposition signifying *under*; but, in composition it imports not only inferiority with respect to situation, but a remission or diminution.

HYPOCAPNI'SMA, (from *υπο, under*, and *καπνιζω, to smoke*). See SUFFIMENTUM.

HYPOCAROD'ES, and HYPERCARO'THIS, (from *υπο, sub*, and *καρος, carus*). One who labours under a low degree of a carus.

HYPOCATHA'RSIS, (from *υπο, sub*, and *καθαιρω, purgo*). A SLIGHT PURGING.

HYPOCAU'STUM, from *υπο, under*, and *καιω, to burn*). See CALADARIUM.

HYPOCERCHNA'LEON, (from *υπο*, and *κερχνος, an asperity of the fauces*,) an asperity of the fauces and aspera arteria, occasioning a stridulous breathing.

HYPOCHEO'MENOS, (from *υποχεω, to suffuse*). One who labours under a cataract.

HYPOCHO'NDRIA, (from *υπο, under*, and *χονδρος, a cartilage*). The hypochondria are those viscera on each side, which lie under the spurious ribs, extending to the ilia, and comprehending not only the muscles, but the internal parts; because they are subjacent to cartilages. Celsus, from several places in Hippocrates, renders the word præcordia. Cœlius Aurelianus does the same. The state of tension in the hypochondria should be examined in every fever.

Affections of the hypochondria, according to Hippocrates, are, *hypochondrion anespasmenon*, a retraction of the hypochondrium inwards, without any proper disorder of the part; *hypochondria diaborborizonta*, a rumbling of the hypochondria; *hypochondrii entasis*, a softish tension of the hypochondria; *hypochondria catexeraasmena*, the hypochondria dried up and contracted inwardly; *hypochondria meteora*, raised by flatulencies; *hypochondria xyntasis*, a distention of the hypochondria from inflammation; *hypochondria scolitoes*, an inequality of the hypochondria; *hypochondrium chronium*, an hypochondrium affected with an obstinate disorder: and

HYPOCHONDRI'ACUS MO'RBUS, (from *υποχονδριον, the hypochondrium*). The HYPOCHONDRIAC DISEASE; *affectio hypochondriæ, passio hypochondriaca*, HYPOCHONDRIASIS, VAPOURS, SPLEEN, &c.

Hoffman, with great propriety, contends, that *hypochondriasis* is not the same disease as *hysteria*. He observes, that a strangulation of the fauces, a quick and difficult respiration, endangering suffocation, loss of speech and motion, are the proper and essential symptoms of the hysteria: that the hypochondriasis is inveterate, and rarely so effectually relieved as not to be again easily excited; that though many of their symptoms are the same, yet they each have such as is essential to it. Many others comprehend these two disorders under the general title nervous; and think that they only differ as affecting different sexes, or by the flatulence of the stomach, which distinguishes hysteria. Dr. Cullen places hypochondriasis in the class *neuroses*, and order *adynamiæ*; and defines it indigestion, with langour, sadness, and fear, from uncertain causes, in a melancholic temperament. One idiopathic species is only known. The state of mind peculiar to hypochondriacs is thus described by Dr. Cullen. "A languor, listlessness, or want of resolution and activity, with respect to all undertakings; a disposition to seriousness, sadness, and timidity; as to all future events, an apprehension of the worst or most unhappy state of them; and, therefore, often upon slight grounds an apprehension of great evil. Such persons are particularly attentive to the state of their own health, to every the smallest change of feeling in their bodies; and from any unusual sensation, perhaps of the slightest kind, they apprehend great danger, and even death itself. In respect to these feelings and fears, there is commonly the most obstinate belief and persuasion." He adds, that it is only when the state of mind just described is joined with indigestion, in either sex, somewhat advanced in years, of a melancholic temperament, and a firm and rigid habit, that the disease takes the name of *hypochondriac*. The seat of the hypochondriac passion is in the stomach and bowels; for, first, these parts are disordered, then the others suffer from the connection. In this Hoffman agrees, by saying the peristaltic motion in the bowels is retarded by spasms.

The causes are, sorrow, fear, or excess of any of the passions; too long continued watching; irregular diet. Those habitually disposed to it—and these causes have little effect in other constitutions—have generally a sallow or brown complexion, and a downcast look, a rigidity of the solids, and torpor of the nervous system. Whatever may occasion nervous disorders, in general, may be the cause of this in particular.

The signs of this complaint are so various, that to describe them is to describe almost every other disease; but in general there is an insurmountable indolence, dejected spirits, dread of death, costiveness, a slow and somewhat difficult inspiration, flatulencies in the primæ viæ, and various spasmodic affection. It is seldom fatal; but if neglected, or improperly treated, may bring on melancholy, jaundice, madness, or vertigo, palsy, and apoplexy.

The hypochondriac disease is very difficult to cure: it rarely occurs early in life, generally in more advanced years only; and when once it has taken place, it increases as life advances. Indigestion, accompanied with vapours, distinguishes the disease when the temperament is of this peculiar kind.

If the disease admits of a cure, it is by means slow and steady in their operation; for the whole constitution must be corrected before any expectation of relief can be obtained. In these cases the mind must be cheered by every pleasing prospect; by assurances of a cure; by change of place and objects; by engaging it in any employment which will interest without fatiguing. For these purposes the fashionable mineral waters may be drunk on the spot, and they should be of the

mildly cathartic kind, as those of Cheltenham, Seltzer, or Tunbridge; but the cathartic waters are, on the whole, preferable to those which contain steel among their impregnations, though this medicine is not particularly injurious.

If these plants cannot be admitted, an active emetic should be given, and repeated every three or four days; a small blister applied to the neck; and the bowels kept freely loose by the pillulæ ex aloe cum myrrhâ, or the tinctura aloes. Dr. Cullen observes, that in the hypochondriasis there is a want of activity, not a loss of tone, in the fibres, but, on the contrary, a rigidity in them; and he recommends warm bathing; drinking tea and coffee; exercise, not merely to excite the activity of the stomach, but to divert the mind from its despondency.

Astringents are generally improper. As there is usually an acid in the stomach, bitters may be given with the alkaline salts and rhubarb: but chalybeates are of more uncertain efficacy; and bark, in general, is injurious; though, when attended with flatulence, aromatics may be sometimes allowed.

In managing the minds of hypochondriacs, any intimation that their complaints are imaginary, must be avoided, and neither raillery nor reasoning in addressing them employed. Their attention should be engaged with any object but their own feelings; diverted with any employment not attended with emotion, anxiety, or fatigue. Diversion, in which some skill is required; exercise in the air, which requires some dexterity, are both to be admitted: riding is better than either walking, sailing, or travelling in a carriage; and a distant journey is the best. The study of botany, which combines exercise with employment, has been highly salutary.

If pain and flatulence, accompanied with an headach, attend, a slight anodyne may be admitted; and if spasmodic symptoms are considerable, tending to convulsions, relief may be obtained by means of opiates, joined with fetid gums, or with musk.

Warm bathing in pure water, heated sufficiently to raise Fahrenheit's thermometer to ninety or ninety-two, should be continued until some relief is obtained, and then gradually the cold bath may be substituted. Cheerful company conduces much to relief; but boisterous mirth, or any exercise carried so far as to fatigue, are injurious. A dry warm air is almost universally proper. See Nervous diseases; Hoffman on the Morbus Hypochondriacus; Cullen's First Lines, vol. iii. edit. 4.

HYPOCHONDRI'ASIS. See Hypochondriacus morbus.

HYPOCHY'MA, and HYPOCHY'SIS, (from ὑπο, and χυω, *to pour;* because the ancients thought that the opacity proceeded from something running under the crystalline humour). See Cataracta.

HYPOCI'STIS, (from ὑπο, *under*, and κιστις, *the cistus*). The rape of Cistus; *orobanche; cytinus hypocistis* Lin.; not inserted in the last edition of his species, but formerly referred to the genus asarum; *asarum hypocystis* Lin. Sp. Pl. 633. The inspissated juice of this plant is of a firm consistence, and a bright black colour; of a mild astringent taste; and of similar medical virtues with the Egyptian acacia, though differing from it by almost totally dissolving in rectified spirits of wine. See Raii Historia Plantarum; Lewis's Materia Medica. Both this and the acacia are equally disused; and both were employed in checking profluvia.

HYPOCLE'PTICUM VITRUM, from ὑπο, *under*, and κλεπτω, *to steal;* because it seems to steal away the water from the oil. See Separatorium.

HYPOCŒ'LON, (from ὑπο, *under*, and κοιλον, *a cavity*,) a cavity under the lower eye lid. See Rufus Ephesius, lib. i. cap. 4.

HYPOCOPHO'SIS, from ὑπο, *under*, and κοφωσις, *deafness*). A less degree of cophosis.

HYPOCRA'NIUM, (from ὑπο, *under*, and κρανιον, *the skull*). An abscess seated under the cranium, between it and the dura mater.

HYPOCRATERIFO'RMIS, (from ὑπο, κρατηρ, *a cup*, and *forma*, *likeness*). Botanically it is applied to a corolla, when it extends horizontally, like a salver, or, in a small degree, like a cup.

HYPO'DERIS, (from ὑπο, *sub*, and δερις, *the skin*). In Rufus Ephesius, it is the extremity of the fore part of the neck.

HYPODE'RMIS, (from ὑπο, and δερμα, *the skin*). See Clitoris.

HYPOGALA, (from ὑπο, *under*, and γαλα, *milk*). A collection of white fluid in the eye, supposed to be sometimes a lacteal deposition in women who give suck; sometimes owing to the wounding a milky cataract in the operation of couching.

HYPOGA'STRICA SE'CTIO, (from *hypogastrium*). See Lithotomia.

HYPOGA'STRICÆ ARTE'RIÆ. See Iliacæ arteriæ for the external hypogastric arteries. The hypogastric or internal iliac artery sinks into the inside of the pelvis, just over the edge of the sacrum: when it arrives there its branches extend to the contents of the pelvis, and then go through the sciatic notch. In the fœtus the internal iliac is larger than the external, because it supplies the placenta. After birth it consequently shrinks, and makes the chord, which was before the umbilical vessels.

Hypoga'stricæ ve'næ. These veins run the same course with their corresponding arteries, except that they do not send off the vena umbilicalis. The hypogastric veins are the internal iliac branches.

HYPOGA'STRIUM, (from ὑπο, *under*, and γαστηρ, *the stomach*). *Aqualiculus; etron;* sometimes *imus venter;* is the lower external region of the fore part of the belly, extending from the lower extremity of the regio umbilicalis, to the bottom of the ossa innominata. It is divided into the pubes before, and the groins on each side. When the integuments are removed from this region you discover the linea alba, the lineæ semilunares, and the lineæ transversæ.

HYPOGASTROCE'LE, (from ὑπογαστριον, *hypogastrium*, and κηλη, *tumour*). See Hernia ventralis.

HYPOGLO'SSI EXTE'RNI vel MAJO'RES, NE'RVI, (from ὑπο, *under*, and γλωττα, *a tongue*,) *linguales* and *gustatorii;* the ninth pair of nerves, which arise just above the foramen magnum, and pass out at the holes on its sides above the condyles of the os occipitis. As soon as they have passed out of the cranium, they run betwixt the carotid artery, and the internal

jugular vein, to the tongue, on the side of the digastric muscle.

HYPOGLO'SSIS, and HYPOGLO'SSUM, (from ὑπο, *under*, and γλωσσα, *the tongue*,) is that part of the tongue which adheres to the lower jaw, and the seat of the disease called *rana*, whence Ætius names it ὑπογλωσσιος βαλραχιος, *the frog under the tongue*. See Ranula.

HYPOGLO'TTIDES, (from ὑπο, *sub*, and γλωτ῎α, *the tongue*,) a lozenge to be held under the tongue until dissolved. It sometimes is the appellation of the glands under the tongue.

HYPOGLU'TIS, (from ὑπο, *under*, and γλουτ῎ος, *the breech*,) the fleshy part under the nates towards the thigh. The flexure of the coxa, under the nates, has sometimes this apellation.

HYPO'MIA, (from ὑπο, *under*, and ωμος, *the shoulder*,) the part subjacent to the shoulder. Galen.

HYPO'NOMOS, (from ὑπο, *under*, and νομη, *a phagedenic ulcer*,) a deep sinuous phagedenic ulcer.

HYPOPE'DIUM, (from ὑπο, *sub*, and πους, *pes*, *the foot*). A cataplasm for the sole of the foot.

HYPOPHA'SIA, (from ὑποφαινομαι, *to appear a little*,) winking when the eye lids are nearly closed.

HYPO'PHASIS, (from the same). A symptom which consists of closing the eyes during sleep, but partially, so that a slight motion of the eye and a portion of the organ are perceived.

HYPO'PHORA, (from ὑποφερομαι, *to be carried* or *conveyed underneath*). A deep fistulous ulcer.

HYPOPHTHA'LMION, (from ὑπο, *sub*, and ὀφθαλμος, *the eye*). The part under the eye subject to swell in a cachexy or dropsy.

HYPOPHYLLOSPE'RMI, (from ὑπο, *under*, φυλλον, *a leaf*, and σπερμα, *seed*). Such plants as bear their seed on the back part of their leaves.

HYPO'PHYSIS, (from ὑπο, *under*, and φυω, *to produce*). See Trichia.

HYPO'PIA, (from ὑπο, and ωψ, *oculus*.) Sugillations in the part under the eye.

HYPOPLEU'ROSIS. See Pleura.

HYPOPYON, (from ὑπο, *under*, and πυον, *pus*). *Pyosis*, and *abscessus oculi*. The disease has been considered to arise from a collection of pus under the cornea; but this idea is, at least, imperfect, if not erroneous. The matter is not confined to the anterior chamber of the eye, nor is it purulent. It sometimes collects in the posterior chamber, and is never truly pus, but that kind of sebaceous mucus which is found between the eye lids of diseased eyes, or of a consistence between this and what is found effused on inflamed membranes after death. The hypopyon is, at least, never the consequence of the real ulceration which takes place between the laminæ of the cornea.

It is the exudation of the gluten, in consequence of inflammation, which first falls to the bottom of the aqueous humour, appearing there in the form of a crescent, from the capillary attraction of the sides of the coats. It gradually fills both chambers, passing through the pupil, and conceals the iris; but, after the active period of inflammation ends, seems to increase no further. After this period, also, it gives little pain; and common people, as well as children, bear it as an unavoidable effect of ophthalmia, with little uneasiness, and as little complaint.

As the hypopyon is with difficulty removed, it should be with the utmost care prevented. When therefore it is threatened, the remedies of ophthalmia should be employed with augmented rigour and activity, to prevent its occurrence or increase. When it has taken place, friction has been employed to promote its absorption, or we have been directed to puncture the cornea to discharge it. It is easy to direct both; and the surgeon, after he has given these directions, seems to rest in security. Nothing is more fallacious than such indiscriminate advice.

Friction, in a supine posture, as recommended, is often injurious by increasing the inflammation, and consequently the exudation. It is at the same time highly painful, and cannot be continued.

The division of the cornea to discharge the matter is a more obvious measure. Many inconveniences, however, attend this operation; and not the least is the inflammation which the operation excites, by which the disease is exasperated. If, according to Richter's advice, the aperture is small, the time required for the discharge of the viscid fluid is so long, that the edges of the wound suppurate, the iris is prolapsed, and the crystalline often discharged. At best, we substitute an ulceration of the cornea to the hypopyon. There is, indeed, one case in which the operation may be risked, with all its inconveniences, where the distention is so great as to bring on inflammation, and destroy the organ. In general, it is better to trust to absorption, which Janin supposed to be accelerated by decoction of mallows, and others by an infusion of sage; but these act as emollients only.

Other practitioners have employed, to promote absorption, bags of tepid mallows, with some camphor, or the vitriolic collyrium, with mucilage of quince seeds, varying the proportions according to the degree of sensibility; for, though it should be always *felt* to irritate, the irritation should not be so considerable as to produce inflammation.

When the distention is so great as to destroy the organ, and to be near bursting, it may be opened, the crystalline suffered to escape, and the ball of the eye to sink, so as to admit of an artificial one. In this case the sight cannot be recovered: the pain may be relieved, and deformity prevented. When a natural opening occurs at an earlier period, so as to admit of a discharge, it may be allowed to proceed; for natural openings are not so injurious as artificial ones. In such cases, when the matter is evacuated the ulcer may be healed by touching its edges with the argentum nitratum in a diluted state.

See St. Yves on the Diseases of the Eye; Heister's Surgery; Bell's Surgery, vol. iii. p. 313, &c.; White's Surgery, p. 232; Scarpa on Diseases of the Eye; Richter Observationum Chirurgicarum, fasciculus i. cap. 12; Janin Memoirs, &c. sur l'Œil 99, p. 405.

HYPORI'NION, (from ὑπο, *sub*, and ῥις, *the nose*,) the parts of the upper lip, below the nostrils.

HYPOSA'RCA, and HYPOSARCI'DIOS, (from ὑπο, *under*, and σαρξ, *flesh*). See Anasarca, and Physconia.

HYPOSPADIÆ'OS, (from ὑπο, *sub*, and σπαω, *to draw*). The urethra terminating under the glans.

HYPOSPATHI'SMUS, (from ὑπο, *sub*, and σπαθη, *a spatula*). An operation formerly used in surgery for

removing defluxions in the eyes; named from the instrument with which it was performed. See P. Ægineta, lib. vi. cap. 6.

HYPOSPHA'GMA, (from ὑπο, and σφαζω, vel σπαττω, *jugulo*). A suffusion of blood, and sugillation in the tunica adnata of the eye. This disease differs from an ophthalmia, though it proceeds from a blow, as it is not inflammatory. It sometimes arises from internal causes, as scurvy, and then antiscorbutics alone are necessary for the cure: if from a blow or contusion, bleeding must be employed, and repeated, in proportion to the pain, inflammation, and violence of the blow; leeches may also be applied to the eye lid, with the other remedies of ophthalmia.

HYPOSTAPHYLE, (from ὑπο, *sub*, and σταφυλη, *the uvula*,) *procidentia uvulæ; columella; craspedon;* is an elongation of the uvula, from relaxation, inflammation, or ulceration, attended with uneasiness and difficulty in swallowing, cough, nausea, commonly a continual spitting, sometimes a difficulty of breathing, and a stammering or faulty articulation. There are two species; one arising from inflammation, the other from relaxation. In the first, the uvula is swelled, hot, acutely painful, of a red or livid colour, and falls down in an altered form. Sometimes suppuration comes on, and the difficulty both of swallowing and breathing is more considerable than in the subsequent species. When this complaint is very violent, there is apparent danger of strangulation. It is cured by bleeding and purging; gargling with emollient and subastringent liquids, and sometimes scarification. In the second species, the uvula, preserving its natural colour, is relaxed, elongated, pale, cold, or œdematous. The cure then depends upon the application of spirituous, stimulant, and astringent stimulants, with the internal use of cathartics and tonics. The following gargle, called *gargarisma aluminis*, is an excellent restringent: R. aluminis ʒ ij. decocti hordei ℔ ij. mellis rosæ ʒ iij. misce. It is not only useful in cases of relaxed uvula, but wherever the topical use of astringents is required; in ulcerations of the throat, fauces, or gums. If it yields not to proper stimulant applications exhibited internally, as well as externally, the part must be amputated, and the hæmorrhage, if necessary, stopped by styptics.

HYPO'STASIS, (from ὑφιστημι, *to subside*). The sediment in urine.

HYPOTHE'NAR, (from ὑπο, *under*, and θεναρ, *the palm of the head*). See Abductor minimi digiti manus. It is also that part of the hand which is opposite to the palm.

HYPOTHESIS, (from ὑπο τιθημι, *to suppose*). As the derivation implies, it is a gratuitous supposition employed sometimes to connect, sometimes to examine, the nature of facts; as the mathematician occasionally supposes an unknown number to be a given one, in order to try whether, when substituted, it will be found to solve the problem. If an hypothesis connects the facts, it is useful whether it be true or false, for it gives a facility of explanation by supplying language; and if given only as such will not mislead. A theory, on the contrary, is a fair philosophical induction from facts, leading to a ready and probable explanation.

HYPO'THETON, (from ὑπο, *under*, and τιθημι, *to put*). See Suppositorium.

HYPOZO'MA, (from ὑπο, and ζωννυμι, *to bind round*). See Diaphragma.

HYPSILOGLO'SSUS, i. e. BASIOGLOSSUS, (from υ, *the hyoid bone*, and γλωσσα, *lingua, the tongue*). See Hyoglossus.

HYPSILOI'DES, (from υ, *upsilon*, and ειδος, *likeness*). The os hyoides, and the basioglossus muscle. See Hyoglossus.

HYPTIA'SMOS, (from ὑπτιαζω, *to lie with the face upwards*). A supine posture, or a nausea, with inclination to vomit.

HYPPU'LUS, (from ὑπο, *under*, and ουλη, *a cicatrix*). An ulcer which lies under a cicatrix.

HYSSOPIFO'LIA, (from *hyssopus*, *hyssop*, and *folium, a leaf*). See Adhatoda.

HYSOPHY'LLUM, (from υσωπος, *hyssop*, and φυλλον, *folium, a leaf*). See Bupleurum.

HYSSOPI'TES, (from υσωπος, *hyssop*). Wine impregnated with hyssop.

HYSSO'PUS, (from the Hebrew word *azab, a holy herb*, or *a herb appointed for cleansing holy places*). Hyssop. *Symphytum petræum; hyssopus officinalis* Lin. Sp. Pl. 796, is a low shrubby plant, with brittle branched stalks, square when young, but round when old. The leaves are oblong, narrow, and of a dark green colour; the flowers in loose spikes, of a blood colour. It is perennial, cultivated in gardens, and flowers in July and August.

The leaves have an aromatic smell, and a bitterish, warm taste. Water extracts the greater part of their virtues, but spirit more perfectly; and the extract made by evaporating the spirituous tincture scarcely loses any degree of the virtues of the plant. From about six pounds of leaves an ounce of essential oil may be obtained by distilling in water.

This plant is esteemed as an attenuant, corroborant, and expectorant; useful in humoral asthmas, coughs, and other disorders of the breast and stomach, accompanied with inflammatory symptoms. These virtues are, however, much disputed by modern writers, particularly Cullen. In these cases an infusion of the leaves may be sweetened with honey, and drunk at pleasure by those who still entertain a favourable opinion of this medicine. In a fomentation and poultice, in contusions, and for removing the blackness occasioned by the ecchymosis, hyssop has been considered an efficacious remedy. See Lewis and Cullen's Materia Medica.

Hysso'pus capita'ta. See Serpyllum vulgare.

HY'STERA, (from υστερος, *behind*, because placed behind the other parts). See Uterus and Involucra.

HYSTERA'LGIA FEBRICO'SA. A quotidian fever, with pain in the womb.

HYSTERIA'LGIA, (from *hystera, the womb*, and αλγη, *dolor, pain*). Whatever excites pain in the uterus resembling labour pains, and called *false*. See Acetum.

HYSTE'RIA FEBRICO'SA. A tertian fever, with spasms and convulsions.

Hyste'ria, (from υστερα, *the womb*, from which the disease was supposed to arise). Hysterics; an appellation of the midwives of Greece and Italy who practised medicine among women. It is one of those

disorders that ranks among the nervous, and arises from a preternatural irritability, owing very frequently to some change in the uterine system. Dr. Cullen places it in the class *neuroses* and order *spasmi;* defining it a rumbling noise in the belly, with the sensation of a ball rolling in the abdomen, ascending to the stomach and fauces, and there producing a sense of strangulation, drowsiness, convulsions, profuse quantity of pale urine; the mind, though not spontaneously, fickle and mutable. The varieties arise from the remote causes; a retention, or too copious flow of the menses; leucorrhœa; obstruction of the viscera; a defect in the stomach; lasciviousness. The belly is often tumid, and the navel is drawn inward; a general shivering with coldness often attends; a frequent discharge of very pale or limpid urine; costiveness; anxiety; pain of the head, as if a nail was fixed in it; palpitation of the heart; a general tremor; an unequal and languid, or a quick fluttering pulse; coldness of the extremities; a pale countenance; convulsive twitchings, increasing to the most violent spasms; alternate laughing and crying, are the most common symptoms. When the fit goes off, though the patient seems ready to expire, and lies for many hours apparently dead, the whole of the disorder disappears, and, in some instances, a perfect health is apparently restored. Hoffman observes, that hysteric patients rarely die without the attack of an epilepsy or apoplexy; from both which, and from syncope, it should be distinguished. See Epilepsy and Apoplexy.

Girls, on the approach of the menses, and women who labour under a difficult menstruation, are subject to this disease, which often also attends pregnancy.

Every thing which weakens the constitution renders it more irritable. Among the causes of hysteria, therefore, may be mentioned excessive evacuations, particularly of the catamenia, late hours, depressing passions, continued anxiety, hope delayed, violent excitement, plethora, excess of drinking, &c. The causes of a fit are frequently surprise, apprehension, sudden grief, often indigestion; but the paroxysms occasionally recur without any obvious cause, particularly when occasioned by plethora, which, in a constitution where the balance of the circulation is nicely poised, often occasions convulsive paroxysms. See Convulsions.

During the fit, if the suffocation is violent, pungent acid spirits may be held under the nose, or rubbed round the temples, with moderate frictions about the præcordia, and on the feet. Stools may be procured by a clyster made of an infusion of camomile flowers and common salt, or of two ounces of soap dissolved in a pint and a half of water, if the flatus forcing downwards will admit of their injection; feathers may be burnt under the nose, or cold water dashed in the face. A fit, however, seldom proves fatal; and our chief attention must be directed to the management of the patient in the interval, to prevent a return of the paroxysm. Avoiding the remote causes, whatever they may be, is indispensable; but when owing to plethora, this part of our conduct is involved in difficulties. Bleeding for a time may lessen, but will ultimately increase, plethora; and a sudden abstraction of tension, in any respect, will induce a fit. When stays were worn tight, a delicate woman would often experience an hysteric spasm on taking them off. The regulation of the diet, and of the alvine excretions, are the only practicable means of obviating plethora: but even this requires delicacy in the conduct, for suddenly abstracting the rich nourishment, to which some hysteric women are accustomed, will produce syncope; and in every case, even the more gradual diminution occasions languor. The same effects follow discharges by stool, if in excess; and in each we must proceed with caution, meeting the inconveniences so far as we can. Obviating the other remote causes requires no particular management.

Our first object in the intervals is to obviate flatulence, which, though a symptom, seems, in some instances, to be a remote cause. For this purpose the fetid gums are highly useful; but opium is a more powerful medicine in this view, and, though in many respects inconvenient, is often indispensable. Where the head is not particularly affected by opiates, or where its exhibition is not followed by sickness and faintness, the only inconvenience resulting from it is producing costiveness. The seeds of the henbane, as we have lately had occasion to mention, unite the advantages of opium without this effect. With opium sometimes camphor may be joined, to correct its bad consequences on the stomach and head; sometimes castor; but there are many habits in which opium, however managed, is injurious. The warmer stimulants act also as carminatives; particularly the aromatics, the bayberries, ether, some of the essential oils, and the animal oil of Dippel.

With a view to correct the constitutional defect tonics of every kind are employed, and particularly such medicines or combinations as are at the same time antispasmodic. The chief of the vegetable tonics is bark, which, alone, proves very generally injurious. With rhubarb and aromatics it is more useful, and with valerian often a very effectual remedy, though too unpleasant to be continued for a long time. The cascarilla, as less astringent, is less injurious; and the bitters, with aromatics, are often valuable medicines in this complaint. The astringents, as the catechu and alum, are injurious.

Numerous tonics are derived from the mineral kingdom; but the remedy chiefly employed is the steel, and sometimes the zinc. Every preparation of iron has been given in this complaint with equal success, and perhaps there is no real foundation for a preference. The calcined and the vitriolated zinc have been sometimes useful. Copper and silver, in the forms of the cuprum ammoniacale and argentum nitratum, have been rather used as antispasmodics than as tonics, though they seem chiefly useful in the latter view. In general the mineral tonics, particularly the iron, are injurious, when any degree of inflammatory diathesis or plethora is present. See Hoffman and Wallis's Sydenham on the Hysterics; Cullen's First Lines, vol. iv.

Hyste'rico hypochondri'acus morbus. Hysterico hypochondriac disease. Authors have usually contended that hysteria and hypochondriasis were the same diseases, differing in the sexes which they attacked; the former particularly affecting women, and the latter men. This, however, was the result of carelessness and inattention. The diseases are peculiarly distinct in every respect; but, like other congeneres, though distinct, they may be united in the same individual. Thus the hypochondriac, who always suffers

from flatulence, may be occasionally attacked with true hysteric paroxysms; and the truly hysteric woman may have many of the symptoms of hypochondriasis. These combinations, however, are very rare, and would not have been noticed, but in respect to authors of credit, who have considered them as of more importance than they merit.

We mention this union also with another view. Dr. Wallis, in his publication on Disease and Health, thinks that he has discovered an hysterico hypochondriac disease, and the description he has introduced into the last edition of this dictionary. Nothing could show more clearly the want of discrimination which pervades every page of the former edition than the description of this supposed disease. It differs wholly from both; and is evidently a slow fever, from accumulations in the head, probably joined with acrimony in the fluids. The patient, he remarks, generally broods over some personal, but imaginary calamity. He does the same in nervous fever, in syphilis, and a variety of other diseases: they are not, therefore, to be reduced to hysteria, hypochondriasis, or a combination of both.

In this complaint this author found warm stimulants, a generous diet, with topical discharges from the head, the most useful remedies. They probably would be so, but the complaint is not on this account either of those which are the present objects of our attention.

Hysteria cataleptica. A farther investigation of the subject of catalepsy has led us to consider it, with some late respectable authors, as connected with hysteria, or hypochondriasis. It was necessary to point out these connections, though they do not greatly invalidate the former suppositions. The principle still remains of the connection of clonic and tonic spasms; and the disease still depends on a peculiar mobility and irritability of the nervous system. See Jebb on Paralysis of the lower Extremities; Edinburgh Medical and Surgical Journal, vol. i.; Swedish Memoirs, 1778; Petetin Electricité Animale, p. 140.

HYSTERI'TIS, (from *hystera*, *the womb*). See Inflammatio uteri.

HYSTEROCE'LE, (from κηλη, *a tumour*, and υστηρη, *the womb*). See Hernia uteri.

HYSTEROCY'STICA ISCHU'RIA, (from *hystera*, *the womb*, and κυστις, *the bladder*). A suppression of urine, from the pressure of the uterus against the neck of the bladder. See Ischuria.

HYSTEROLO'XIA, (from *hystera*, and λοξος, *oblique*). Obliquity of the womb; a supposed cause of difficult parturition.

HY'STERON, (from υστερος, *afterwards;* so named because it follows the fœtus). After birth. See Involucra.

HYSTEROPHY'SE, (from *hystera*, *the womb*, and φυσα, *flatus*). See Physometra.

HYSTEROPTO'SIS, (from *hystera*, and πιπτω, *to fall*). Bearing down of the vagina or of the womb. See Procidentia uteri, and vaginæ.

HYSTEROTO'MIA, (from υστερα, *the uterus*, and τομος, *a section*). See Cæsarea sectio.

HYSTRICIASIS, (from υστριξ, *a hedgehog*). A disease in which the hair is said to stand erect like the prickles of a hedgehog. See Philosophical Transactions, No. 424.

HYVOU'RAI BRASILIA'NIS. A large tree in America, supposed to be a species of that which produces the guaiacum, as its bark is used in Brasil for the same purposes as we use the guaiacum wood. The name hyvourahe signifies, in the Brasilian language, *a rare thing*. See Lemery des Drogues.

I.

IA'MBLICHI SA'LES; from IAMBLICHUS, the inventor. A preparation with sal ammoniac, some aromatic ingredients, &c.

IATRALEI'PTES, (from ἰατρος, *a physician*, and ἀλειφω, *to anoint*). A physician who cures diseases by ointments and frictions.

IATROCHY'MICUS, (from ἰατρος, *a physician*, and χυμια, *chemistry*). See CHEMIATER.

IATROLI'PTICE. The method of curing disease by unction and friction.

IATROPHY'SICUS. A philosopher who treats of medicine as a branch of philosophy.

I'BA. See ANINGA.

IBE'RIS, (from *Iberia*, where it flourishes). CARDIMANTICA, or SCIATICA CRESSES; *lepidium iberis* Lin. Sp. Pl. 900. See LEPIDIUM and CARDAMINES.

IBE'RIUS. See LEPIDIUM GRAMINIS FOLIO.

IBIBIRA'BA. A berry-bearing tree in Brasil: a water distilled from its flowers and leaves is used in inflammations of the eyes. See Raii Historia.

IBI'RA. A tree in Brasil, whose fruit, when dried, is used instead of pepper. Neither this nor the former plant is found in the modern systems. See Raii Historia.

IBIRA'CE. See GUAIACUM.

IBI'RA-PITA'NGA. See LIGNUM BRASILIUM.

IBI'SCUS, HIBISCUS, q. v. MARSH-MALLOW. See ALTHÆA, and ALTHÆA THEOPHRASTI.

IBI'XUMA, (from ἰβισκος, *the mallow*, and ἰξος, *glue;* from having a glutinous leaf like the mallow). See SAPONARIA.

ICE, used as a means of abstracting heat in hernia, hæmorrhage, and many other chirurgical diseases.

I'CHOR; (Greek ἰχωρ;) *sanies;* a bloody, thin, but acrid fluid, which distils from wounds.

I'CHTHYA, (from ἰχθυς, *a fish*). The name of a hook for extracting the fœtus; from its likeness to a fish hook; or *rasplings*, according to Erotion.

ICHTHYE'MATA, (from ἰχθυα, *the scale of a fish*). The scales of fishes, and the raspings of the bark of trees.

ICHTHYOCO'LLA, (from ἰχθυς, *fish*, and κολλα, *glue*). ISINGLASS; *colla piscium; alcanna;* and *huso;* FISH GLUE, is a solid glutinous substance, prepared in Muscovy from the sturgeon. The skins and fins are boiled in water; the decoction is inspissated to a due consistence, and poured out so as to form very thin cakes, which are either dried in that form, or cut while soft into slices, and rolled up into spiral and other shapes. A finer kind is, it is said, prepared by rolling up the air bladders of the accipenser struthio. That which is clear, thin, and almost transparent, is the best. See Philosophical Transactions, vol. lxiii.

It is one of the finest of the animal glues, without smell or taste. When beat into shreds, it readily dissolves in water or milk, forming a mild, nutritious, restorative aliment; as well as a remedy in the fluor albus, continued diarrhœas, and other evacuations from debility. Its solution in water or spirit, if nicely spread upon silk, is an elegant plaster for slight injuries to the skin; and, joined with some resins, it is called *court plaster*. (See EMPL. ADHÆSIVUM NIGRUM.) It is said to agree with the gum tragacanth in medicinal virtues; but, like all other animal mucilages, it soon runs into a state of putrefaction, and becomes more irritating than the vegetable mucilages. Hollow cylinders of isinglass are employed to support the sides of a divided intestine, when united by a suture. A passage is thus left for the contents, which by a solution of the isinglass is gradually enlarged till the wound is healed. See Lewis's Materia Medica; Neumann's Chemical Works; Cullen's Materia Medica.

ICHTHYOSIS, (from ἰχθυα, *the scale of a fish*, which it resembles). A harsh, dry, scaly, and almost horny texture of the skin, differing from leprosy by its not falling off in branny scales. Above and below the elbow and knee, Dr. Willan observes, that the scales are small, rounded, and papillary, of a black colour: the

papillæ have short narrow necks, with broad irregular tops. On the rest of the body they are large and imbricated, sometimes divided by whitish furrows. The soles of the feet are dry and rough; the palms of the hands thickened and brittle, with large painful fissures, and the face is covered with bran rather than scales. The inner part of the wrists and hams, the inside of the elbow, and the furrow along each side of the spine, the inner and upper part of the thigh, are usually free. Some perspiration is necessary; and this seems occasionally to produce inflamed pustules. The disease appears to be constitutional, not hereditary. Two cases of a horny ichthyosis impeding the motion of the muscles are described in the 68th volume of the Philosophical Transactions.

I'CICA, and ICICA'RIBA. GUM ELEMI. See ELEMI.

I'CON. A figure: the abbreviation of icones plantarum, botanical plates.

ICOSA'NDRIA, (from εικοσι, *twenty*, and ανηρ, *a husband*). The names of the twelfth class of the Linnæan system, comprehending those plants which have hermaphrodite flowers, with twenty or more stamina, growing on the inside of the calyx, not on the receptacle. The situation, and not the number, of stamina is chiefly to be attended to. The calyx is also monophyllous and concave in this class; and the claws of the petals are fixed into the inside of the calyx.

ICTERO'DES, (from ικτερος, *the jaundice*). The BILIOUS ARDENT FEVER. See BILIOSA FEBRIS.

ICTERI'TIÆ, (from *icterus*, *the jaundice*). DISCOLORATIONS, or diseases which occasion an unusual colour of the whole skin without acute fever.

I'CTERUS, (from ικτερος, *the golden thrush*, from the complexion of the patient resembling in colour the plumage of that bird. Pliny ridiculously observes, that if the jaundiced person looks on this thrush, the bird dies, and the patient recovers;) the JAUNDICE, *morbus arquatus*, *aurigo*, *morbus regius*, *cachexia ecterica*, or *icteritia;* by Paracelsus, *leseoli morbus*. It is owing to an obstruction of the discharge of the bile into the bowels, and its return into the blood by the absorbents. Dr. Cullen places this disease in the class *cachexiæ* and order *impetigines;* defining it a yellowness of the skin and eyes; white fæces; the urine of a deep red, tinging a white rag of a yellow colour when dipped into it. The species are:

1. I'CTERUS CALCULO'SUS, when there is acute pain in the hypogastric region, which increases after eating, and when bilious concretions pass through the intestines.

2. I'CTERUS SPASMO'DICUS, without pain, and the yellowness of the skin happening after spasmodic diseases or affections of the mind.

3. I'CTERUS HEPATICUS, without pain, following a disease of the liver.

4. I'CTERUS GRAVIDARUM, arises during pregnancy, and disappears after delivery.

5. I'CTERUS INFA'NTUM, happens soon after their birth. A yellowness of the skin sometimes arises from a deficiency of the red particles of the blood, or the effusion of the serum. The appearance deceives common observers, but may soon be distinguished by an experienced eye. The yellow tinge of the urine will at once decide any doubt. Infants have a yellowness often independent of bile from the red effusion under the skin, assuming a yellow colour, after being partly absorbed. The true jaundice of infants probably arises from the hardened meconium obstructing the duct.

The genuine jaundice arises from an obstruction of the duct, by gall stones, or viscid bile. Sydenham speaks of a symptomatic jaundice produced by hysteric symptoms; but this complaint is probably the icterus spasmodicus. The yellowness from the bite of a viper is not a species of jaundice. Women are generally more subject to this disease than men, either from a slower action of the intestines or from a more sedentary life.

The cause of the true jaundice is the bile mixing with the blood in consequence of its obstruction from gall stones, spasms, scirrhus, and sometimes even from flatulence or a gravid uterus. A scirrhous liver is the cause of the most fatal kind; and a jaundice is often a mark of a constitution wholly decayed: in such cases the liver is often scirrhous. In a late publication Dr. Gottlieb Richter thinks it probable, that "the most common cause of jaundice is a stimulus or irritation acting upon the hepatic system, which prevents the afflux, secretion, and excretion of the bilious fluids; or, rather so deranges the circulation in the hepatic system, that the several parts do not reach their destined places, according to the laws of health, but are again mixed with the general mass." In proof of which he recites a case of a high degree of jaundice, where no gall bladder was found; but, in its place, only a skinny substance of a very small size, without any cavity. "The whole liver was full of white concretions, apparently of the nature of calcareous earth, of different sizes, from that of a pea to that of a cherry, and which floated in water." In this case, however, though the bile formed was not collected, it was evidently obstructed, and of course absorbed. He confirms his opinion by the authority of Chaux, who, in the seventy-fourth volume of the Journal de Médecine, endeavours to show that the jaundice can be cured by sedatives alone; by that of Selle, who, in his Medicina Clinica, p. 292, imputes the jaundice to a stimulus; and of Vogel, who, in his Treatise on Jaundice, published at Wetzlar in 1791, has, he thinks, proved in a very convincing manner that the jaundice is occasioned by a state of irritation in the liver. See Richter's Medical and Surgical Observations.

These opinions were formerly common, but have long since been rejected; and jaundice is now very generally attributed to obstruction of the bile from the causes which distinguish the species. However, when the jaundice affects the habit, the skin and whites of the eyes are usually yellow, the excrements most frequently white, and the urine deposits a copious dark sediment. Besides these, an inactivity, anxiety, sickness, indigestion, uneasiness, or acute pain, at the pit of the stomach, itching in the skin, and other symptoms, occasionally attend. In general every function is disordered, for the bile mixes in part with every secreted fluid, except, perhaps, the milk; but the principal inconveniences arise from its obstruction, which prevents its action on the stomach and intestines.

When a scirrhus of the liver, or the gall duct, is the cause, a cure can scarcely be expected; and a hæmorrhage, which shows that the blood is both acrid and thin, is highly dangerous. In adults this disorder often

may continue many months without any considerable danger; but, in general, its duration for a long time shows that the obstructing cause is firmly impacted; and the injury which the bile, when again deposited, does to the digestive organs often occasions an incurable dyspepsia, or a chronic debility, with a general dissolution of the fluids. After a fit of jaundice has disappeared, another slight one will often follow, which yields with little difficulty, and the disease is not peculiarly liable again to recur.

During the whole of this disorder the patient should use frequent exercise, but without much fatigue; a warm bath and cheerful company greatly assist the cure: the diet should be attenuating and aperient.

Medicines in this complaint are of doubtful efficacy, and the disease often yields rather to the relaxation of the duct, when the continuance of the stimulus renders it habitual. Stimulating the mouths of the ducts by the most soluble laxative, as soap and the neutrals; compressing the duct by the joint action of the stomach, diaphragm, and abdominal muscles, as in the operation of vomiting; and alternating, with the emetics and cathartics, opiates, often in the most active doses, is the best plan. The operation of vomits has been supposed likely to induce inflammation; this consequence, however, we have never yet found; but should it occur, a large bleeding, with a blister externally, and cooling laxatives, are the best remedies. The castor oil has been preferred in those cases as a laxative, but it seems to possess no peculiar advantage. Mercurials have been lately given in jaundice and in hepatitis, it is said, with success. Calomel is undoubtedly often an useful purgative. The best exercise is riding on horseback.

If a viscid bile occasion this disorder, which is known by the absence of an acute pain at the pit of the stomach, shooting out from thence to the back, after bleeding, and an emetic, aloetic and mercurial purges are preferable; after these, the kali acetatum is the best remedy, for it hath all the advantages of soap without its disagreeable taste, and is at the same time an useful febrifuge. It may be given to a drachm, or a drachm and a half three times a day.

A redundancy of bile never produces jaundice, for the stools are highly coloured with the bile. In this case, the proper remedies are active purges, particularly the rhubarb and calomel, in doses adapted to the constitution of the patient. Acids and demulcents also contribute to the relief.

When the hæmorrhage is a troublesome symptom, acids and demulcents, the ol. ricini, made into an emulsion, or a decoction of hemp-seed in milk, are the best remedies; and if fever require it, which is scarcely in any instance the case, a little blood may be taken from the arm.

In case of a scirrhus, the extractum cicutæ may be given as an anodyne or palliative, but will do little real service.

As an attenuant, the rubia tinctorum is said to be useful, perhaps because it is yellow; and the waters of Bath and Harrowgate are highly esteemed. Bitters, and even the bile of animals, have been given to supply the place of bile; forgetting that much inconvenience arises from the bile secreted in the stomach when accumulated in the blood. After the disease is removed they may be useful to restore the strength of the stomach. See Calculus biliaris.

From the idea of jaundice arising from irritation, or spasmodic affections in the hepatic system, small doses of ipecacuanha, tartarized antimony and valerian, asafœtida, cataplasms of cicuta and hyoscyamus, with linseed tea for common drink, blisters, locally applied, in case of pain, with opiates, have been severally administered, it is said, with success. See F. Hoffman; Saunders on Bilious Diseases; White on Diseases of the Bile; Huxham de Aere et Morbis Epidemicis, p. 143, &c.; Sydenham; Heberden's Observations in the London Medical Transactions, vol. ii. p. 123; Medical Museum, vol. i.; Cullen's First Lines, vol. iv.; Coe on Biliary Concretions; Maclurg on the Bile.

I'cterus a'lbus. See Chlorosis.

ICTHYOSIS, (from *ιχθυς, a fish*). A species of lepra, in which the eruption appears like the scales of fish. See Lepra.

I'CTUS, (from *ico, to strike*). A stroke or blow. It signifies also the pulsation of an artery, and the sting of a bee or any other insect.

I'ctus sola'ris. A stroke of the sun; *insolatio;* and by the French *coup de soleil*. A disease arising from too violent an influence of the sun's heat, particularly on the head.

The diagnostics are a violent head ach, a hot dry skin, a redness and heaviness of the eyes, sometimes a continual involuntary motion of the eye lids, a loss of sleep, drowsiness, occasionally with delirium on awakening, a violent fever, faintness, loathing, and thirst.

Persons not accustomed to labour in the sun are sometimes struck by its heat while on journeys, and die on the spot; others fall into a lethargy, or die in a few hours with symptoms of raving madness. If a patient escapes, he is frequently attacked afterwards with violent head achs, which in some instances affect the eye lids greatly. In others a delirium without a fever, gutta serena, &c. are brought on.

In infants this disorder manifests itself by a heavy, deep drowsiness, which continues several days; frequent delirium; by convulsive twitchings, periodical head achs, and frequent vomiting.

The effects of too great a culinary fire are the same with that of the sun; sleeping with the head near the fire hath produced apoplexy during sleep.

The method of cure which has been pursued is the same with that of sanguineous inflammation; bleeding as freely as the strength will admit. The legs, or, if the disorder is violent, the whole body, has then been put into a tepid bath; emollient clysters frequently injected, almond emulsion, lemonade, and similar demulcent cooling fluids, freely drunk: linen cloths wrung out of vinegar and water are also applied on the face and scalp.

Such are the directions usually given. We have, however, great reason to think the nature of the disease has been misunderstood; at least as it occurs in this climate. The affection of the brain appears to us similar to that after concussion, viz. a state of atony from excess of excitement; and the increased action to be of short duration, and inconsiderable in degree. We have seen no instance in which bleeding has been

requisite; and if the slight increased action rendered leeches or blisters necessary, the period in which they were applicable was soon at an end. The vital functions then appeared to be greatly weakened, and tonics of every kind, with the most perfect rest of mind and body, were indispensable. The shock has not been soon recovered, and, for many months, the mind could not be readily exercised, or a close room borne without giddiness and confusion. After some time the cold bath has appeared highly useful; and, during the whole time, the state of the bowels and the diet should be cautiously attended to. See Tissot's Advice.

IDÆ'US DA'CTYLUS, (from *Mount Ida*, its native place). See Pæonia.

IDÆ'A. See Ophioscordon.

IDEA'LES, (from ἰδέα, *an idea*). A class of diseases consisting in a faulty judgment or alienation of mind.

IDIOPATHEI'A, (from ἴδιος, *peculiar*, and πάθος, *affection*). A primary affection of any part; as of the head in lethargy, and the lungs in pleurisy; but when these parts suffer by consent, or from disorders of other parts, they are then said to be affected by sympathy.

IDIOSYNCRA'SIA, (from ἴδιος, *peculiar*, σύν, *with*, and κρᾶσις). Idiosyncrasy; sometimes also *idiocracy*, *idiotrophia*. Every individual hath a state of health peculiar to himself; and different bodies vary from each other, though each may be in a healthy state. This peculiarity of constitution is called *idiosyncracy*. Idiosyncracy sometimes depends on the original organization; and diseases from this cause are often incurable. But when they arise frrm the state of the nervous power, it either respects its mobility or tone, and is shown by some peculiarity in the functions. It may then be readily corrected, if not wholly removed. See Hygieia.

IDIOTRO'PIA, (from ἴδιος, *peculiar*, and τρέφω, *to nourish*). See Idiosyncrasia.

I'DOU MOU'LLI. The name of a tall plum tree growing in the East Indies, whose fruit is cooling, and bark useful in many chronical diseases. Its place in the botanic systems is unknown.

IGA'SUR. See Nux Vomica.

IGBUCAI'NI BRASILIANO'RUM. A tree in Brasil, whose fruit resembles apples, and its kernels are a remedy in dysentery; unknown to modern botanists.

IGNA'ME. See Cara.

I'GNIS, (from the Hebrew term *aesh*). Fire. Bacon, Boyle, Newton, and their followers, consider fire not as an element but as an adventitious property, resulting from the intestine motion of the smaller particles of matter; and this opinion has been lately revived by Count Rumford and Mr. Davy. On the other hand, Homberg, Boerhaave, Lemery, Lavoisier, and Black, consider fire as a material principle or element. The motion of friction or percussion undoubtedly generates or elicits heat; and, if the supposition of the mere vibration of parts could adequately account for the effects, it would be more simple than to suppose a material substance endued with peculiar properties; for it is still an hypothesis, since we cannot show the existence of fire without combination, and all reasoning by analogy promises very little elucidation of a subject which can only be prosecuted by experimental research. So far as experiment has extended, the result is in favour of the existence of fire as a distinct body. The reality of fire seems evident, by the power we possess of increasing or diminishing it. In the living human body, whatever increases the quantity of crassamentum in the blood, increases the degree of heat also; as an animal diet, aromatics, sometimes iron, and the mineral acids; but nitre, crude sal ammoniac, carbonic acid gas, seem to diminish it, or at least prevent its evolution. In physics, fire is understood to be that subtile invisible cause by which bodies are expanded or enlarged in bulk, and become hot to the touch; fluids rarefied or converted into vapour; solid bodies fluid, and either dissipated, melted into glass, or scorified. It seems, likewise, to be the chief agent in nature on which animal and vegetable life depend; and without which it does not appear that nature could itself subsist for a single moment. See Caloric.

It has been doubted whether light is a modification of heat or a distinct principle. The greater number of facts show it to be distinct, and it has been lately supposed from induction, that they are antagonising principles repelling each other. See Lumen.

Many distempers have been named ignis, or fire, but principally the causus, or burning fever, which Hippocrates often calls πῦρ, *fire*.

I'GNIS CA'LIDUS. A hot fire. A violent inflammation hath been called a gangrene when about to degenerate into it; and has hence received the name of *ignis calidus*.

I'GNIS FRI'GIDUS. A cold fire. A sphacelus; because the parts affected become cold as the surrounding air.

I'GNIS PE'RSICUS. I'GNIS SA'CER. I'GNIS SA'NCTI ANTO'NII. See Erysipelas and Herpes exedens.

I'GNIS SYLVA'TICUS. See Impetigines.

Ignis is also a name of several medicines, as argentum vivum; the essential oil that swims on the top of distilled waters, &c.

The chemists use fire in different modes in performing their operations; whence their

I'GNIS SAPIE'NTIUM, OF HEAT OF HORSE DUNG.

I'GNIS REVERBERATO'RIUS. A reverberatory fire is made in a furnace covered with a dome, that the heat or the flame may be reverberated on the vessels immediately exposed to it.

I'GNIS RO'TÆ, OF FIRE FOR FUSION. Red hot coals, surrounding the vessel in which the matter is contained.

The chemists formerly regulated their fire by different degrees: the first was scarcely to be perceived; the second was when the heat was manifest, but not sufficient to give pain; the third, when the heat was painful; the fourth, when sufficient to destroy the body; and fifth, when the heat would cause gold to evaporate in fumes. Boerhaave was the first who regulated the heat of fires by means of a thermometer; and when the degrees of heat are mentioned in his writings, they are to be understood according to Fahrenheit's scale.

We have since learnt to regulate the higher degrees of heat, by means of Mr. Wedgewood's thermometer, which enables us to ascertain degrees of temperature so high as 32277° of Fahrenheit, could his scale be

extended so far; but, in electrical and galvanic experiments, we seem to experience a greater degree, since we can produce greater effects than can be attained by any fire; but perhaps some of the power must be attributed to the momentum.

On the contrary side, at 1500° of Fahrenheit, it is supposed no heat exists; but this is necessarily hypothetical, for it cannot be ascertained by experiment.

I'GNIS VI'VENS. See CIRCULATUM.

I'GNIS VOLA'TICUS. See IMPETIGINES.

IGNI'TIO, (from *ignis*, *fire*). CALCINING.

I'GNYE, I'GNYS, (from *ικτομαι*, *to supplicate;* because bent in supplication). See POPLES.

IKAN, a root apparently of the orchis tribe, brought from China in pieces somewhat oval and compressed; but we know nothing of the plant which produces it, and little of its nature, which is said to be nutritious.

I'LAPHIS. See BARDANA.

I'LECH, and I'LEI'DOS. A first principle, or elementary air. Paracelsus.

I'LEUM INTESTI'NUM, (from *ειλεω*, *to turn about;* on account of its many convolutions,) *eilion; ilion;* one of the small intestines, immediately following the jejunum. Its convolutions surround those of the jejunum, on the two lateral and inferior sides, and it winds about from the left side by the hypogastrium to the right side, where it terminates in a transverse manner at the fleshy brim of the pelvis, and forms the first of the great intestines, called *cæcum*. Winslow observes, that the ileum is of a paler red than the jejunum. Through the whole length of this intestine it is wide and easily dilatable; but where it enters the colon narrow, and its sides more firm and solid.

In the course of this intestine, the valvulæ conniventes gradually decrease in size and number. When it approaches the cœcum they become longitudinal. In this intestine also, as well as in the jejunum, there are single solitary glands or lacunæ; sometimes clusters of glands called *reticulated*, increasing in number near its extremity, and flatter than in the jejunum. The ileum is more closely tied down than the jejunum, and consequently less capable of dilating. The appendices digitales are denominated from their resembling the finger of a glove, and are little processes sometimes sent off from the jejunum and ilium: they sometimes form hernia.

I'LEUM CRUE'NTUM; described by Hippocrates in his work De Internis Affectionibus. In this disease, as well as in the scurvy, the breath is fetid, the gums recede from the teeth, hæmorrhages of the nose and ulcers in the legs occur; but the patient's general health is not greatly injured.

I'LEUS, (from *ileum*,) (see ILIACA PASSIO,) is an ancient name for the colic. (See COLICA.) The chief varieties are of colica spasmodica.

I'LEX, (from the Hebrew *alah*, or *alon*). A tree of the oak kind, of which two species are occasionally noticed, viz. *aquifolium* Lin. Sp. Pl. 181, (see AQUIFOLIUM,) and *quercus ilex* Lin. Sp. Pl. 1420. The SCARLET OAK. Its berries are the CHERMES, q. v.

I'LIA. The plural of *ile*, (from *ειλεω*, *to turn*). The FLANKS; the space between the lowest of the false ribs and the upper edge of the os ilium on each side; the two divisions of the regio umbilicalis.

ILI'ACA PA'SSIO, (from *ilia*, *the small guts*). The ILIAC PASSION, *ileus*, *convolvulus*, *contorsio*, *cileos*, *chordapsus*, *volvulus*, *tormentum;* a disease of the small intestines, generally from spasm: Dr. Cullen considers it synonymous with colica.

Considerable confusion has prevailed in describing the symptoms and cure of iliac passion, from inflammation being often attended with spasm, in consequence of increased sensibility and irritability; as well as from spasm producing inflammation. We shall, in considering this complaint, distinguish it wholly as a spasmodic disease, referring the inflammatory ileus to its proper head, under INFLAMMATION.

The disease is characterised by a violent pain in the abdomen, with an inversion of the peristaltic motion of the bowels, so that their contents are thrown up by vomiting. It is usually an acute disorder, but not essentially inflammatory. We know only of three species. The first consists of spasm from causes of debility. These are, gout, repelled eruptions, narcotic passions, particularly of lead, and the vegetable narcotics. In this case the disease is nearly in cause and cure the same with COLICA PICTONUM, q. v.

The second species is produced by an introsusception of the intestine, where a portion of the intestine falls down into the part below, generally doubling the intestine for the space of an inch or more, and thus constricting it. This is occasioned often by spasm, which contracting the diameter of a part of the gut admits of its introduction into that below. To this species the term of the true iliac passion is sometimes confined. Dr. Hunter takes notice of a disease to which children are more particularly subject, because their mesentery, having scarce any fat upon it, easily slips with the gut; and this he calls the *valvulus*, or *volvulus*, of which he observes there are two kinds: the first is when a part of a gut is received into the part next above it; the other is when a part of the gut is received into that below it. The last is, however, by far the most frequent.

The third species is a spasm of the intestines, excited by a mechanical body irritating or obstructing the intestines. A plumb stone or a calculus is of this kind; but the intestinal calculus is very rare in the human species. It will be obvious, however, that the first and third of these species properly belong to colica; nor indeed is it easy to separate these diseases. Much confusion would be avoided by abolishing the term altogether, or by confining it wholly to colic from introsusception. The latter, however, is seldom known till after death, and cannot properly form a distinct disease.

A costiveness usually precedes this disorder for some days, and pain is chiefly felt about the navel. With the pains, the belly is gradually inflated, and a hard tumour is felt in the umbilical region, surrounding the belly like a cord: not the least flatulence can for a time pass either upward or downwards. Inflammation, with its worst consequences, rapidly comes on.

The iliac passion should be distinguished from rheumatic pains in the muscles of the abdomen, and from inflammation of the peritoneum. In the first the external soreness is considerable, and the pain in moving the body much greater than in colic, even when inflammation has come on. The same circumstances distinguish peritonitis, and in both free motions do not procure considerable relief.

The cure of iliac passion differs in no respect from that of colic. If it arises from introsusception, we have said that it is seldom known. Practical authors have remarked, that if the gut has fallen into the intestine below, laxatives are injurious, and the cure must be attempted by clysters. The contrary practice is preferred in opposite circumstances. This is, however, a refinement which we cannot apply, as the existence of either is unknown.

Clysters of the fumes of tobacco will, in this species of disease, be particularly useful; and the warm bath is frequently salutary. A blister also to the abdomen, a remedy particularly adapted to INFLAMMATIO INTESTINORUM, q. v. is often useful in this disease.

The prognostics are favourable while inflammation is absent; while clysters can be thrown up, and returned by stool; while the pains shift, and the pain and vomiting occur only at intervals: it is still more promising, if a laxative, taken by the mouth, passes by the anus; but if little or no relief is obtained by stool for some days there is scarcely room for hope—indeed none, unless true fæculent matter is copiously discharged. An entire suppression of urine is a dangerous symptom, though some degree of suppression generally attends.

See Hippocrates de Morbis; Aretæus; Cœlius Aurelianus; Celsus; F. Hoffman; Sydenham; London Medical Observations and Inquiries, vol. i. p. 223, &c.; Edinburgh Medical Commentaries, vol. ix. p. 266, 278.

ILI'ACA MI'NOR, ARTE'RIA, is the most posterior branch of the hypogastric artery; sometimes the branch of the glutæ.

ILI'ACA VA'SA. The ILIACÆ ARTERIÆ and VENÆ, which see.

ILI'ACÆ ARTE'RIÆ; belonging to the ilia. The ILIAC ARTERIES are formed by the bifurcation of the aorta, at about the fourth vertebra of the loins. They descend nearly three fingers breadth from their origin; and when they arrive at the psoas muscle, on each side, or are upon it, each divides into two, an external and an internal: the external hath no particular name; the internal is called *hypogastrica*. See HYPOGASTRICÆ ARTERIÆ.

The external iliac, on each side, runs down to the ligamentum Fallopii, under which it goes out of the abdomen. In this course, it gives off a few small arteries to the peritonæum, and parts near it; but, as it passes out of the belly, under the ligament, it detaches two considerable branches, one internal, the other external: the inner is called EPIGASTRICA, q. v.; the external, INNOMINATA, q. v. The external iliaca also gives off a small branch internally, under the ligament, which runs to the vagina or the spermatic chord, and sometimes another from the outside of the os ilium.

For the internal iliac artery, see HYPOGASTRICÆ ARTERIÆ.

ILI'ACÆ VE'NÆ, (from the same). ILIAC VEINS, *titillares venæ*, are formed by the bifurcation of the vena cava, about the last vertebra of the loins. After their leaving the vena cava, each divides into two principal branches; the iliaca externa, or anterior; and the iliaca interna, or posterior: the external, which seems the true continuation of the trunk, is sometimes simply named iliaca; the internal hypogastrica: each follows the course of the respective arteries. The external iliac veins lie a little on the inside of the arteries, and, before they leave the abdomen, they accompany their corresponding arteries, both in their course and in their divisions into branches.

ILI'ACUS EXTE'RNUS, MUSCULUS, (from the same). See PYRIFORMIS.

ILI'ACUS INTE'RNUS, MUSCULUS, lies upon the concave part of the ilium, arising likewise from the anterior edge of the bone, and runs down before the psoas muscle: it then runs over the head of the bone, and passes inwards, to be inserted into the little trochanter; lifting, in its action, the thigh upwards.

ILI'ADUM. The three principles of Paracelsus. Sometimes, according to the same author, a mineral spirit, supposed to be contained in every element, and the cause of diseases.

ILIA'STER. The occult virtue of nature, whence all things increase. Paracelsus.

ILI'NGOS, (from ιλιγξ, *a vortex*). See VERTIGO.

I'LION. See ILEUM INTESTINUM.

I'LIOS. See PASSIO ILIACA.

ILI'SCUS. Madness occasioned by love. Avicenna.

I'LIUM, OS; *os innominatum*, but strictly its upper part. Its name is given from its supporting the ilia. The ilium forms the upper and posterior portion of the pelvis, extending to the transverse section of one third of the acetabulum. The external side is convex, called its dorsum; the internal part is its costa; the superior semicircular edge, the spine. The whole cavity is called *cholas*, or *cholago*. Between the os sacrum and the ilium is the sciatic notch, where the sciatic nerve and posterior crural vessels pass without being subject to compression.

ILLECE'BRA, (from ιλλω, *to turn*; because its leaves resemble worms,) *vermicularis*, *piper murale*, *sedum minus*. WALL PEPPER and STONE CROP. *Sedum acre* Lin. Sp. Pl. 619; is a very acrid plant, proving violently emetic and cathartic, so that the best authors have thought it unsafe. It has been employed, however, boiled in milk, as an antiscorbutic, and has been occasionally used in epilepsies. When employed in scurvy, a handful is boiled in eight pints of milk to four. Macquer recommends it in scrofulous and cancerous ulcers.

ILLEGI'TIMUS, (from *in*, and *legitimus*, *lawful*). ILLEGITIMATE; an epithet for the false ribs, and for some anomalous fevers.

ILLI'NCTUS, (from *illingo*, *to lick up*). See LINCTUS.

ILLI'SIO, (from *illidor*, *to dash against*). See ENTHLASIS.

ILLISIO'NES AQUA'RUM. See CATACLYSMUS.

I'LLOS, (from ιλλω, *to turn round*). See OCULUS.

ILLOSIS, (from the same). See STRABISMUS.

ILLUMINA'BILIS LA'PIS, (from *illumino*, *to shine*). See BONONIENSIS LAPIS.

ILLUTA'TIO, (from *in*, *upon*, and *lutum*, *mud*). ILLUTATION; besmearing any part of the body with mud, and renewing it as it grows dry, with the vague or ridiculous view of heating, drying, and discussing. The mud found at the bottom of mineral springs is chiefly employed.

I'LLYS, (from ιλλω, *to turn round*). A person affected with strabismus.

I'LYS, (from ιλυς, *mud*). The FÆCES of WINE;

and an epithet for the sediment in stools and urine, which resembles them.

IMAGINA'RII, (from *imagino, to conceive).* Diseases in which the imagination is principally affected.

IMAGINA'TIO, (from the same). Imagination. To the power of the mother's imagination many peculiarities in the fœtus have been ascribed. See Fœtus. Philosophical Transactions Abridged, vol. ii. p. 222. Medical Museum, vol. iii. p. 273, &c.

IMBECI'LLITAS, (from *imbecillis, feeble,) acratia* and *arrhostia*, generally means a debilitated state of the habit, and the latter word sometimes implies mental imbecility.

Imbeci'llitas oculo'rum. See Amblyopia. Nyctalops.

IMBE'RBIS, (from *in*, *not*, and *barba*, *a beard).* Beardless; botanically it is applied to the corolla.

IMBIBI'TIO, (from *imbibo*, *to receive into*,) a kind of cohobation, when the liquor ascends and descends upon a solid substance, until combined with it. Sometimes it signifies cohobation, and any kind of impregnation.

IMBRICA'TUS, (from *imbrex*, *a tile*). The leaves or scales of plants, disposed so as to lie one on the edge of the other, like tiles on a house. The term is applied to leaves, and their serratures in the bud: to the stem, when covered with scales; *tectus ut nudus non appareat;* to the calyx, as in the *hieracium*, *sonchus*, and other *syngenesia;* to the spike, when the flowers are so close as to press over each other.

IMME'RSIO, (from *immergo*, *to plunge in*). Chemical immersion is a species of calcination, when a body is immersed in any fluid, to be corroded. When any substance is plunged into a fluid in order to deprive it of a bad quality, or to communicate a good one, the same term is employed.

IMME'RSUS, (from the same). See Infrascapularis musculus.

IMPASTA'TIO, (from *in*, and *pasta*, *paste*). Impastation. The making dry powders into paste by means of some fluid. See Incorporatio.

IMPA'TIENS HE'RBA, (from *in*, and *patior*, *to suffer*, because its leaves recede from the hand with a crackling noise). See Momordica and Persicaria siliquosa.

IMPERATO'RIA, (from *impero*, *to command*, because its leaves extend, and overwhelm the lesser plants which grow near it). Masterwort. *Astrantia*, *magistrantia*, *ostritium*, *imperatoria major*, *astritium*, *struthium*, *smyrniom; imperatoria ostruthium* Lin. Sp. Pl. 371.

It is an umbelliferous plant, with large winged leaves, divided into three indented segments, producing thick, oblong, striated seeds, surrounded with a narrow leafy margin: the roots are oblong, thick, knobby, jointed with several lateral fibres, brown on the outside, and whitish within; perennial, a native of the Alps and Pyrenees; found in several places on the banks of the Clyde, in Scotland, by Mr. Lightfoot.

The root is warm, grateful, and aromatic, nearly of the nature of angelica; yielding to water, or spirit of wine, its smell, warmth, pungency, and bitterness. On inspissating the spirituous tincture, very little of its flavour exhales; but nearly the whole is carried off in distillation with water. If the root is held in the mouth it provokes saliva; if swallowed, purges; and is sometimes called the *countryman's purge:* an infusion of it in water, sweetened with honey, is said to be an expectorant. The roots should be taken up in the middle of the winter of the second year. It was considered as an alexipharmic and sudorific; and in some diseases employed with so much success as to be called *divinum remedium;* but, at present, it ranks only among the inferior aromatics. A name also for Angelica.

Imperato'ria ni'gra. Black masterwort, *astrantia nigra*, *sanicula fœmina; astrantia major* Lin. Sp. Pl. 339, is kept in the gardens of the curious, and flowers in July. Its black and fibrous roots only are used.

See Raii Historia Plantarum; Lewis's Materia Medica; Neumann's Chemical Works.

IMPERIA'LIS A'QUA. See Fluor albus.

IMPETI'GINES, (from *impeto*, *to infest*). Diseases which occasion blemishes on the skin; *terna*, *derbia*, *ignis sylvaticus*, *volagrius*, or *volaticus*, and *serpigo*. See Lepra, Pruritus, Herpes, and Mentagra.

In Dr. Cullen's system the impetigines are an order of the *cachexiæ*, defined disorders from a general bad habit, manifesting themselves principally by disfiguring the skin and other external parts of the body. The itch, though affecting the skin, is placed in the class *locales*, since it is unconnected with the general habit.

IMPETI'GO of Celsus, (from the same,) *lepra Græcorum*, Blanchard. In Celsus it is described as consisting of hard dry prurient spots in the face and neck, sometimes over the whole body, disappearing in branny scales.

Impeti'go Pli'nii and a'rabum; the *lichen* of Blanchard.

IMPLU'VIUM, a shower bath, (from *impluo*, *to shower upon*). See Embrocatio.

IMPOTEN'TIA, (from *in*, *not*, and *potens*, *able).* Impotence in men is the same in its effect as sterility in women, that is, an inability to propagate their species; but in the causes and the circumstances these states greatly differ.

In each case there is a failure of propagation; but, in each, there is by no means an unfitness for the venereal act. Sterility in women, indeed, often arises, like impotence in men, from a coldness of constitution, which admits not of due excitement; but it is also owing to the causes which separate the fœtus almost as soon as formed. From men who are impotent no impregnation takes place.

The great causes of impotence in men are organic defects and debility. We have shown, that in generation the semen must be carried to the uterus, and probably to the Fallopian tube; but in this ultimate destination it is apparently assisted by the action of the womb itself. To carry it to this organ requires a free passage through the urethra, no inconsiderable activity in the ejaculatory muscles, and the full distention of the corpora cavernosa. The free passage is sometimes prevented by strictures in the urethra, and sometimes, as in a case recorded by Petit, by a faulty direction of the orifices through which the semen passes. A natural phymosis has been found also an obstruction to the free discharge of the seminal fluid. A severe priapism seems occasionally to constrict the cavity of the urethra, or of the entrance of the vasa deferentia; for in this disease there is no emission, and the feelings are those of

violent pain rather than of pleasure. Intoxication, in some men, will produce this violent spasm, and unfit them for the completion of the venereal act. See PRIAPISMUS.

Debility, however, from too frequent or unnatural indulgences, is the most common cause, shown by an imperfect erection of the penis, or too weak a discharge of the semen: the latter is often a consequence of the former. In some weak habits the discharge immediately follows the slightest irritation, either of the parts or of the mind. Dreams so imperfect as scarcely to be remembered will occasion it, and this arises from the increase of irritability, in consequence of debility. From its remote cause, tonics, and the most stimulant nutriments, are employed; but the only remedies are those which lessen irritability, viz. camphor, opium, and henbane, or hemlock. Washing the penis and scrotum, morning and evening, with cold water, and dashing the water against these parts from a bidet, are often useful; but it is necessary to remove every alluring or enticing object; to guard against every lascivious thought. When impotence arises from so great a debility as to admit of the discharge of semen by the efforts to relieve the belly, the strongest tonics and astringents are required.

It has been supposed by some authors, that, in such cases, the semen wants its usual stimulating properties, as it is observed to be unusually fluid; but of this there is no evidence; and, as the discharge is so readily excited, we think it more probable that its fluidity depends on its not being allowed to stagnate.

Mr. Hunter has, we think, refined unnecessarily on this subject, by stating one cause of impotence to be a want of correspondence in the successive actions of secretion and discharge. If the first is too rapid for that erected state of the penis which renders the ejaculation effectual, it constitutes this disease as certainly as when the action of the muscles of the latter is too quick for the former. Debility, and its consequent state of irritability, are sufficient to explain all the circumstances of the case without such recondite researches. In general, where there are corresponding actions of two connected parts, it is very unusual to find them separated. Each may be weakened; but from habit each will partake of the disease, and will act together as before, but with diminished power.

A singular cause of impotency is recorded in the Medical Essays of Edinburgh, where each attempt was followed by an epileptic paroxysm. From what has been said on that disease, it will not be surprising, that, in a mobile habit, disposed to convulsions, a stimulus so violent should bring on a paroxysm. The reasoning and the cure were equally ridiculous; nor is this a single specimen where physicians have succeeded by accident, and have really taken a readier road for the relief of the diseased than they themselves suspected.

The state of the mind, it is observed, has a considerable influence on the powers of the body, particularly in the venereal act. The body, Mr. Hunter remarks, should not only be in a state of health, but the mind free from apprehensions, anxiety, and distress. The mere anxiety of excelling in this act has been no uncommon cause of disappointment. A state of hope, a consciousness of crime, a recollection of former failures, equally enervate the body. Such causes of impotence are to be clearly distinguished from real defects, since an alteration in circumstances, by which anxiety, distress, &c. are removed, will relieve the complaint. Greater confidence, from having once succeeded, will alone break the charm, and all will be well.

The mind is more intimately connected with the genital system, chiefly in men, though in a certain degree in the other sex, than has been imagined. The apprehension of weakness, in this most important of functions, really produces it. The imagination broods over fancied ills, till the whole system is really disordered. In this state every wall offers a certain remedy, and the *Solar Tincture*, the *Restorative Drops*, are eagerly bought. It is remarkable, that these diseases are distinguished by capitals to lure the unwary; but the medicines are sometimes truly restorative, for they restore confidence, and thus contribute to remove the disease. In general, however, each quack is tried in succession, till tired nature decays into a hectic, is overwhelmed in a dropsy, or the mind, sinking in imbecility, or mania, offers a melancholy spectacle of what degradation human nature can suffer. All this distress might be removed if the patient had the resolution to tell his grief to a friend, or a physician of character and judgment. A well regulated plan of medicine and diet would contribute to relieve the bodily complaint, while the mind, consoled with prospects of returning health, would assist in realizing the prediction. Many such instances we have known where the disease has been radically removed, and the desponding patient become a happy husband, and the delighted father of a numerous and healthy offspring.

We have so mixed the medical directions with the descriptions of the disease, that we have little to add on this part of the subject. We may, however, again repeat, that, except in impotence from great relaxation, tonics and astringents are of little avail. Where it arises from too great irritability, a cooling diet, abstaining from lascivious thoughts or objects, with sedatives, are the best remedies. In that case, which arose from epileptic paroxysms, the cure was effected by rendering the object of desire more familiar before the act was again repeated, and, of course, lessening the too violent stimulus. There is no opinion more inconvenient in its effects than that which dictates a full, nutritious, and stimulant diet. We have often had occasion to repeat, that no cause of weakness is so frequent and obstinate as that which arises from fulness of the circulating system, and no plan of medicine more injurious than constringing over distended vessels by tonics. It has been supposed that some medicines have a peculiar effect on the genital system; and the balsams have been given, as they are directed to the bladder, and, of course, may communicate a stimulus to the neighbouring parts. We have not found them particularly advantageous; and even the balsam of Peru, which unites a tonic with its stimulant power, has not produced any very salutary effect. If, as we have been informed, Geneva is not favourable to the active energy of these organs, we can hardly expect great advantage from medicines so nearly resembling this spirit. In every case, except where the fulness is considerable, cold bathing, both general and topical, is highly useful.

To abstain from, or to indulge, venereal pleasures, is equally injurious. A moderate use is salutary; and marriage, if the disease be not too far advanced, is to

be advised. It has often succeeded; and when the confidence that the power is not wholly lost be once established, the power itself is soon regained.

IMPRÆGNA'TIO, (from *imprægnor, to conceive*). Impregnation. *Ingravidatio.* The state immediately after conception, continuing till delivery. A woman usually perceives the child to move at different periods; the soonest at the end of forty days, the latest at the end of five months. But some women, without being pregnant, perceive a motion like that of a child. La Motte thinks that a large child and a small quantity of water may prevent a pregnant woman from perceiving the motion of the child. (See Generatio and Conceptio.) For the impregnation of plants, see Farina fœcundans.

IMPRE'SSIO, (from *imprimo, to press upon*). See Depressio.

I'MUS VE'NTER, (*the lower belly*). See Abdomen and Hypogastrium.

INA'IA GUACU'IBA. See Palma coccifera.

INCANTAME'NTA, (from *incanto, to charm*). See Amuleta.

INCA'NUS, (from *in*, and *canus, white, hoary*). The leaf of a plant covered with whitish down.

INCARNA'NTIA, (from *incarno, to bring flesh upon*). Medicines which assist the filling up wounds or ulcers with flesh. See Anaplerotica.

INCE'NDIUM, and INCE'NSIO, (from *incendo, to burn*). A burning fever; burning heat; sometimes a hot inflammatory tumour.

INCERA'TIO, (from *in*, and *cera, wax*). Incerration; the reduction of any dry substance to the consistence of wax, by the gradual admixture of oil.

INCERNI'CULUM, (from *incerno, to sift*) A strainer or sieve. In anatomy it means the pelvis of the kidney.

INCIDE'NTIA, (from *incido, to cut*). Medicines which divide the particles of fluids, supposed to cohere preternaturally, and induce disease.

INCINERA'TIO, (from *incinero, to reduce to ashes*). Incineration; *æstaphara.* Reducing any body to ashes by fire. See Calcinatio.

INCI'SIO, (from *incido, to cut*). Incision. The opening of abscesses by means of a lancet or scalpel. For the best modes of opening them, or extracting matter with the most ease and security, see Bell on Ulcers, edit. 4. p. 76, &c.

INCISO'RES DE'NTES, cutters, (from *incidere, to cut*). A name of the four anterior teeth in each jaw from their use in cutting, *Ctenes, dentes lactei, risorii, dichasteres.* The edges of the incisores, by use and friction, are blunt and thicker; though, from the form of the jaw, and direction of the teeth, they sometimes seem to sharpen each other, and become thinner. These teeth are convex externally, and concave internally; so that when they are worn, the internal concave surface of the upper ones, and the external convex surface of the lower ones, are wasted. See Dens.

INCISO'RII DU'CTUS; two canals from the bottom of the internal nares, across the arch of the palate, which open behind the first and largest of the dentes incisorii; their lower orifices are in the foramen palatinum anterius, called *nasopalatini ductus.*

Inciso'rii inferio'res Cowpe'ri, musculi, arise from the alveoli of the lateral incisores of the lower jaw, and are inserted into the middle of the semi-orbicularis of the lower lip.

Inciso'rii latera'les, musculi. *Canini minores.* A biceps muscle, which unites at the other extremity. It arises from the os maxillare, below the middle tendon of the orbicularis palpebrarum, and below the edge of the orbit in the os maxillare, near the union of this bone with the os malæ; the heads from each side unite about the lateral dentes incisorii.

Inciso'rii med'ii, musculi; *incisorii minores Cowperi*, or *incisores, minores, superiores;* are two small short muscles situated near each other below the septum narium: they rise from the os maxillare, on the alveoli of the first *incisores*, and are inserted into the middle and upper part of the upper lip.

INCISO'RIUM, (from *incido, to cut*). A table whereon a patient is laid in order to have an incision made on any part; or a body to be dissected.

Inciso'rium fora'men, lies behind the dentes incisores of the upper jaw, which divides into two, as it opens into the nose on each side of the septum nasi.

INCI'SUS, (from *incido, to cut*). A leaf whose edge is notched.

INCITABI'LITAS, (from *incito, to stir up to action,*) incitability. In a practical view it has appeared necessary to make a distinction between this term and irritability; because, though it is allowed that to those two powers the existence of a machine in a living state, and the action of its moving solids with respect to their continuance, are entirely owing; yet they do in some degree certainly exist independent of each other. By this knowledge, therefore, it is supposed that we shall sometimes be able to explain the different appearances of diseases, and the means of relieving them by medicines directed to either. By incitability is meant that power in the brain and nervous system, which may be excited to action by mental affections, as well as local irritation, and which produces those affections we call sympathy; by irritability, that power which may be put into action by material stimulus, locally exerted, yet is obedient to the influence of the nerves in general, and cannot in the living machine exist for any considerable time without this union. More strictly, incitability is confined to the nervous, and irritability to the moving, fibres. See Wallis on Health and Disease; Irritabilitas and Sensibilitas.

INCLINA'TUS, (from *inclino, to bend down,*) an epithet applied to a root of a plant which runs obliquely.

INCLU'DENS, (from *includo, to shut up*). The calyx of a flower which shuts up and conceals the corolla.

INCLU'SUS, (from the same). The stamen of a flower when shut up in the corolla.

INCONTINE'NTIA, (from *in, not*, and *contineo, to contain*). Incontinence. An inability in any of the organs of the human body to retain their contents, which are usually discharged by the exertion of volition.

INCORPORA'TIO, (from *incorporo, to blend together*). Incorporation. The union of oily or terebinthinate substances with water into one uniform fluid, by the mediation of a third substance.

INCRASSA'NTIA, (from *incrasso, to make thick,*)

pycnotica. INCRASSATING MEDICINES; such as reduce the blood and secreted fluids to a proper consistence when supposed to be too fluid.

INCRASSA'TUS, (from the same). The epithet of a stalk which increases in thickness as it approaches the flower.

INCRUSTA'TIO, (from *incrusto*, *to harden*). INCRUSTATION; forming a crust or eschar upon any wound.

I'NCUBUS. The NIGHT-MARE; (from *incubo*, *to lie on*; *ephialtes*, from ἐφάλλομαι, *to leap upon*; *epibole*, from ἐπιβάλλω, *to press on*; because the patient imagines that something leaps or presses upon him; and *babuzicarius*, from βαΰζω, *to speak inarticulately*, because, in his distress, he mutters indistinctly). There is also a species called *succubus*. The INCUBUS is synonymous with *oneirodynia* in Dr. Cullen's system.

This complaint always happens during sleep: the patient suddenly feels a sense of weight, a dread of suffocation, an oppression as from somebody falling upon him, with an intent to deprive him of life, not suffering him to cry out; hence it is usual with these patients to start up and exclaim with a confused inarticulate voice: they move with difficulty, but, on the first motion, the distressing feelings vanish.

This disorder hath been supposed to proceed from a stagnation of blood in the brain and lungs; but it is a nervous affection, chiefly from indigestion: and those whose nerves are weak, who lead sedentary lives, feed heartily, and sup late, are the most subject to it. Wind is a frequent cause: deep thought, anxiety, or any oppression of mind, equally produces it. It is said that none are attacked with the ephialtes but when laid on their backs. A sense of suffocation, rousing the patient from sleep, has been styled an ephialtic symptom, distinguishing hydrothorax; but, in this case, there is no sense of a heavy weight on the præcordia.

If the patient hath a sanguine plethora, bleeding, a spare diet, aloetic purges, relieve the complaint. Dr. Whytt says that he generally found a glass of brandy, if taken at bed time, would prevent the attack. A slight supper, cheerfulness before bed time, due exercise during the day, are the best remedies; but if these fail, the fetid gums, with camphor joined to opium, at bed time, will succeed.

See Cœlius Aurelianus de Morbis Chronicis, lib. i. cap. 3. Lommii Observationes Medicinales, iii. P. Ægineta, lib. iii. c. 15. Soranus's Aitiologoumena.

INCU'MBENS, (from *incumbo*, *to lean against*,) a term in botany.

INCURVA'TUS, (from *incurvo*, *to bend*). Bent, a term applied to a gibbous spine, and in botany to the stalk.

I'NCUS, (from *incudo*, *to strike upon*). The ANVIL. The name of one of the bones in the ear; named from its resemblance to an anvil. It is broader than it is thick; articulated with the malleus, behind the manubrium, from whence a short thick process projects backwards, and a long one downwards, which runs down parallel to the long process of the malleus, but rather more backward. The short process is thick at its beginning, but ends in a point, which is turned backwards, and joined to the edge of the opening of the cellulæ mastoideæ. The long process at its extremity is rather bent inwards, by which we may distinguish the incus of one ear from that of the other; for, turning the short process backwards, and the long process downwards, if the bending in of the long leg be towards the left hand, it belongs to the right ear, and *vice versa*. See AURIS.

I'NDEX, (from *indico*, *to point out*). See DIGITUS.

I'NDIÆ ORIENTA'LIS RADIX GENUINA. See GENSING.

INDIA'NA RA'DIX, from the West Indies, its native place. See IPECACUANHA.

INDICA'TIO, (from *endico*, *to show*, or *point out*). INDICATION; *delatio*, *endeixis*. The diagnostics of a disease, and its pathognomonic signs, are collections of particulars that occur to observation. Indications are conclusions that arise from reasoning on these particulars, called signs. The indication of cure, in all diseases, is to remove the proximate or immediate cause; but this is seldom known.

INDICA'TOR, (from the same). See EXTENSOR INDICIS.

I'NDICON. See MYRTIDANON.

I'NDICUM, (from the Arabic term *hindi*, India). The INDIGO BLUE PLANT; also called *indigo*, *anil*, *nil*, *isatis*, and *coronilla Indica*, *emerus Americanus*, *glastum Indicum*, *Ameri*, *coaachira Indorum*, *colutea Indica*, *herbacea*, *enger*, *gali*, *herva de anil Lusitanis*, *hin-awaru*; *Indigofera tinctoria* Lin. Sp. Pl. 1061, is a native of South Carolina, but was known to the ancients. It seems to have been indigenous in Malta, and was certainly produced in large quantities in Egypt; and the name *anil* (al-nil) seems to show that it was known to the Arabians. It requires a tropical temperature, but is found within forty degrees on each side of the equator. We are now supplied from the continent and islands of America, though some indigo is prepared in France. This substance is a fæcula, or starch, separated from the plant by the powerful action of fermentation. It is not agreed how far this process should proceed. It certainly goes beyond the spirituous, since ammoniacal salts are found in indigo, but, by complete putrefaction, it is spoiled. Some oil is used in the preparation, though with no very decided object. We suspect its chief advantage to arise from its power of moderating the too violent fermentation, or preventing the escape of the carbonic acid gas. Various species of this plant, and various processes for separating the fæcula, are employed, which it is not our object to detail. It is brought to us in flat cakes of a moderate thickness, moderately hard, of a deep violet colour: the best kind swims on water, and when broken hath no white spots in it. That which is reddish, on being rubbed with the nail, and hath dust and broken pieces in it, is far inferior. Such white spots are found in the common indigo of the shops, which is an adulteration of the genuine kind by the mixture of flour.

The plant is said to be detergent, of some use when applied to ulcers, or to kill lice.

There is another plant which is called *anil*, used by way of decoction in nephritic colics, and suppressions of urine; but we have not been able to determine the species.

See Raii Historia Plantarum. Neumann's Chem. Works.

I'NDICUM BA'LSAMUM. See PERUVIANUM BALSAMUM.

I'NDICUM LI'GNUM MONTA'NUM. See CAMPECHENSE LIGNUM.

I'NDICUS. See COSTUS.

I'NDIGA SPU'RIA. See COLINIL.

INDIGE'NI, INDIGENOUS; natives of the country in which they are found. The term is applied to plants and animals.

INDIGES'TIO. See DIGESTIO, APEPSIA, and DYSPEPSIA.

INDIGNATO'RIUS MU'SCULUS, (from *indignor, to scorn;* because this muscle assists in producing a scornful look). See ABDUCTOR OCULI.

I'NDIGO. See INDICUM.

INDU'SIUM, (from *induo, to put on*). A SHIRT or SHIFT. Clean linen promotes perspiration, and it may be renewed as often as the patient pleases, whether the isorder be of the acute or the chronical kind; except during a crisis in fevers, while the patient is in a sweat. Yet, even in this state, with proper precautions, the linen may be sometimes safely changed. See AMNION.

INEBRIA'NTIA. We have anticipated the more important observations on this class of medicines in our article ANODYNA, q. v. and we shall now only point out the more common inebriants, with some remarks on their action, for which our readers were not at that time prepared. The most common inebriant is OPIUM. It is employed among the eastern nations, very generally, to procure, not sleep, but serenity and cheerfulness; and its use, in this respect, may be traced to the earliest ages, for it was probably the nepenthe of Homer. TEA is equally general in the west, and in its native country, China, but it is mild in its effects, and, if not drunk unusually strong, or in too copious draughts, it is not injurious. There is some reason to suspect that the additions, which give it the flavour, are most hurtful; for the finest teas produce the worst effects. The BANGUE of the east, prepared from the leaves of the canabis indica, and not from those of the hibiscus abelmoschus, as has been asserted, is in general use (vide in verbo) in India, as an inebriant; but the BETLE, q. v. is rather a stimulant than a narcotic. The ASSYRIAN RUE, peganum harmala of Linnæus, was formerly used, as Bellonius informs us, for this purpose; but its very offensive and disagreeable smell prevents it from being any longer a luxury. The seeds of different species of datura have been also used to inebriate, as well as the roots of the black henbane, and the hyoscyamus, physaloides Lin. The Delecarlians employ the leaves of the millefolium to increase the intoxicating power of the beer; and the porter brewers of this country are said to use the canabis indicus and the cocculus indicus; but this has lately been denied on oath in the King's Bench. Tobacco; the darnel; the clary; the vanilloes; the hemlock; the spawn of the barbel; and the agaricus muscarius, have been all employed for this purpose. Fermented liquors and spirits are sufficiently known. See Linnæi Amænitates Academicæ Inebriantia, vol. vi.

All these medicines are sedative, and their effects on the nervous system are to produce an unequal excitement. We have explained, in a variety of articles (see INSOMNIA), that the regular discharge of the mental functions depends on a free, uninterrupted communication between the different portions of the brain. When from any cause this is prevented, delirium, in different degrees, takes place. If unequally excited, the delirium is of the violent kind: if unequally depressed, of the low, and often of the pleasing kind. Whether pleasing or otherwise, the effect is nearly similar, since the same medicine, in different constitutions, will excite the most soothing and the most horrible images. See MATERIA MEDICA.

INE'RMIS, (from *in*, *non*, and *arma*, *arms*). HARMLESS; applied to soft thorns, as those of the thistle.

INE'RTIÆ VIS, (from *iners*, *sluggish*). The power of inactivity. By this, apparently contradictory term, sir Isaac Newton means that passive principle in matter, by which bodies resist any change or alteration of their state, whatever it be, of rest, motion, or its direction; and this resistance, always equal in the same body, is, in different bodies, proportional to the quantity of matter they contain. Hence, in medicine, it means when the powers of the constitution are torpid or inert, and make no effort in the recovery of health.

I'NFANS, (*à non fando, from its inability to talk*). An INFANT or CHILD. Fred. Hoffman limits the period of infancy to the time when children begin to talk, and that of childhood to the age of puberty.

During infancy the parts are disproportioned, and the organs, from weakness, incapable of those functions which, in future life, they are designed to perform. The head, the liver, and pancreas, are much larger, in proportion, than in advanced periods; and their secretions more copious. The bile is very inert; the heart is stronger and larger than in future life; the arteries fuller and more active; the quantity of blood sent through the heart of an infant, in a given time, is also more in proportion than that in adults. Though these circumstances are not without utility and subservient to the growing state, yet the imperfection attending them subjects this period of life to many injuries and dangers, from which a more perfect state is exempted.

Infants are more acutely sensible and more irritable than adults; and the diognostics of diseases are consequently more uncertain. However, no very great embarrassment arises from these circumstances; for the disorders of infants are usually acute, less complicated than those of adults, and are more easily discovered than is generally apprehended.

The vigour of children's constitutions depends greatly on that of their mothers. Healthy women, who accustom themselves to exercise and air, and whose diet is firm and invigorating, alone bring forth children perfectly healthy.

As soon as a child is born, the mucus with which its body is covered is best washed off with soap and water. But the anxiety to render the infant perfectly clean produces inflammation, and considerable uneasiness; moderate cleanliness is at the first sufficient: and the next dressing will easily and safely complete the whole.

After examining the new born infants with a view to discover any accidental injury, or natural imperfection, wrap the navel string in a rag, sufficiently folded, to prevent its coldness from producing inconvenience. The heads of infants should be dressed loosely, and their future formation left to nature.

It was usual after dressing to give oil of almonds, with syrup of violets; sugar with butter, or other

slight laxatives, to discharge the meconium. These are at least useless. A little gruel with milk will alone bring it off; and the first milk of the mother will complete the necessary discharges. For this purpose the child is put early to the breast, usually within twelve hours, which solicits the secretion, and prevents its too violent current.

The general management of the infant state is directed too frequently by fashion, or rather by caprice. Modes and medicines used for centuries, handed down in successive generations, cannot always be combated by reason, but are sometimes wholly exploded by a fashionable physician, who aims at distinction by total overthrow of what has been long held sacred. Common sense must at last decide, and without engaging in controversy, we shall pursue its dictates.

The little being, when first introduced to this world, is brought from a temperature of at least 96°, and should therefore be cautiously guarded against sudden exposure to the air. His clothing should be light and easy; and, at first, warm. The tender skin would be chafed with flannel, and therefore old linen is preferred. Calico would be still better; but the whole must be covered with flannel, and fastened as much as possible by strings. For a long time cold excites uneasy sensations, and he is properly placed close to the mother; by her side, or that of a healthy nurse, he should lie till at least he has lived twelve months; but modern refinement, or modern apprehensions, place him alone in a crib by the side of the bed. On this subject we can only observe, that we have known infants, thus separated from the warm bosom, cry nearly a whole night; and, in general, they *increase slowly*, are weak and delicate, while those with a nurse, if not the mother, have appeared thriving and happy. But, though the child should be kept warm, the air around should circulate freely. A curtain against its head may prevent the current passing over him, but no other curtain should be drawn, and the room should be high, large, and airy.

On the food of children we cannot add to what we have said in the article Ablactatio; but may here remark, in opposition to a common and most ridiculous practice, that a child should not be accustomed to take its food at distant intervals. Digestion in children is rapid; and, if food is delayed, the child is uneasy; and, when brought, takes it greedily and too copiously.

A healthy child scarcely ever cries. This position will, we know, be disputed; and a child is said to be peevish, fretful, and uneasy, when the nurse is careless and inattentive. Dispositions undoubtedly differ; but the parent, who finds a child constantly crying, should suspect her nurse, and even herself. One cause of this fretfulness is the opinion that the nurse knows when the child should sleep, or eat, better than itself. It is forced to feed when not hungry, and to sleep when eager for play or amusement. We have often cured this disease, by correcting the attendant. It indeed happens that some children will not sleep by night, but even this may be conquered by management; for the healthy child may be amused during the day, and his amusements may be gradually protracted till night approaches. Disposition and fancies show themselves very early to the attentive observer; and, when reason has not yet attained its power, to correct them with violence, irritates without amending. Even at an early age, children may be soothed into regularity and obedience: they cannot be forced. If a child screams suddenly, he is undoubtedly ill, and should be carefully attended to.

A healthy infant is fond of exercise. He should be moved gently up and down, but without any shocks. On this account the modern cot is preferable to the cradle, for the child may be shook by the latter into a stupor, which a nurse will take care to do, as it saves her the trouble of attending to the infant's play. In dandling the child, great inconveniences arise from compressing the breast. The child sits on the left hand, and, to prevent accidents, leans forward against the right placed on its breast. If the nurse is timid, or if the child starts, the only security is to clasp the breast, by which the ribs are often compressed. If, however, the right hand is placed under the arm, with the thumb over the shoulder, an active child may even start from the other hand without danger. The right hand will support it, or convey it gently to the ground. Swinging seems to give children an uneasy feeling, and even being carried quickly down stairs will make them shrink to the nurse's breast. This is almost the only instinctive feeling that, after much observation of children, has occurred to us. Gentle friction is an excellent addition to exercise, and peculiarly grateful to infants.

The pathology of the infant state is slight and simple. From the disproportioned size of the head, accumulations in this organ are frequent, and almost every fever is attended with a considerable load in the brain. The only peculiar disease of the head is hydrocephalus, though apoplexy and palsy have, at times, attended the infant state. A great difficulty arises in distinguishing the accumulation of water from fever. This is not, indeed, easy, but often unnecessary, since the treatment does not greatly differ; free evacuations from the bowels being equally indispensable in both. Accumulations in the stomach and intestines are the great source of children's complaints. A considerable quantity of mucus is a part almost of their constitution, and it is this accumulation which occasions worms, diarrhœas, and convulsions. Emetics and cathartics are, therefore, the chief remedies, and the most active drastics are borne with ease, and even advantage. A child may more safely take five grains of calomel than an adult; and often two or three grains of gutta gamba will not produce a considerable discharge. Suffocation, considered as the disease of children, is, we fear, always the creature of art, the effect of indulgence arising from too great warmth, and more frequently from fulness.

The prophylactic management of children is not a very abstruse subject. Early hours, moderate warmth, exercise in the open air, to as great a degree as their strength admits, with a proper attention to their diet (see Diæta), and the due regulation of the alvine discharges, comprise the whole. The medicines for children should be few and simple. Their stomachs abound with acids, which change the bile to a green colour, and thus tinges the stools with the same hue. The anxious parent, on this appearance, flies to absorbents; but, while the child continues lively and cheerful, and the stools are neither too copious nor too few, no remedy is necessary. In early infancy a child has generally

from three to five motions in twenty-four hours. This number lessens; and, at the age of two years, there are seldom more than two daily. Constitutions differ in this respect, and we have known an infant continue in perfect health with one motion only in twenty-four hours.

See Percival's Essays, Medical and Experimental, ed. 2. p. 363—367; Armstrong on the Management and Diseases of Children. Cadogan's Essay on the Management of Children. Harris on the Diseases of Children, translated by Martin. Clark's Directions for the Management of Children. Moss on Nursing.

INFE'CTIO, (from *inficio, to infect*). See Contagio.

INFE'LIX LIGNUM. See Sambucus.

INFERNA'LIS LA'PIS, (from its burning and destructive property). Caustic made by evaporating strong soap leys almost to dryness. See Causticum commune fortius. It is sometimes used instead of the causticum lunare, and often is distinguished by the same name. See Argentum.

INFE'RUS, (from *infra, beneath*). Situated beneath another part.

INFIBULA'TIO, (from *infibulo, to button together*). Infibulation. This operation is the reverse of circumcision; for it confines the prepuce over the glans penis, to prevent its being drawn back. That part of the prepuce which extends beyond the glans is perforated by a needle armed with a waxed thread, which is moved backward and forward every day until a cicatrix is formed. After this the fibula is fixed.

The ancient Romans thus used to prevent in their singing boys premature venery, to preserve their voices. See Celsus, lib. vii. cap. xxv. The fibula seems to have been a kind of ring.

INFLAMMA'TIO, (from *inflammo, to burn,*) *Phlegmone; Phlogosis;* inflammation. *Phlegma*, Hippocrates; *oxyphlegmasia;* a topical pain, with an injury of the functions of an internal organ, attended with inflammatory fever, and the appearance of a buffy coat on the blood. External inflammation is characterised by a redness, heat, and a painful tension of the affected part.

The most obvious idea which the symptoms of inflammation suggest, is that of an accumulation of blood in the vessels, and its confinement in a given part. The conclusion, however, is too general; for the veins of the part are often swollen, and the secretions from the neighbouring glands sometimes increased in quantity. The accumulation has, however, suggested the idea of its arising from a stimulus, and the confinement of the fluids in the part the idea of obstruction. It is obvious, that a stimulus will produce inflammation; but when this is removed, the inflammation ceases. Obstruction then has been the leading principle in every theory of inflammation, especially when pathologists had remarked, that obstruction alone excites the action of the vascular system.

The source of this obstruction has differed according to the fancy of the enquirer. It was first supposed to be too great viscidity of the blood, and we were triumphantly shown the dense buffy coat on its surface, when drawn; but we now know, that the whole mass of the crassamentum is not preternaturally dense or viscid, for that the basis of the clot is loose in proportion to the density of the surface. Another opinion was, that, as there appeared to be a series of vessels of decreasing diameters, and evidently some into which the red globules were unable to enter from their size, inflammation might consist in these globules being impelled into vessels not adapted for them, where they were confined, occasioning, from their obstruction, inflammations. This is the famous *error loci* of Boerhaave, and there is no doubt of this "error" taking place; but we shall find it to be an effect, not a cause. Dr. Cullen considers the obstruction as owing to spasm. "That a spasm of the extreme vessels takes place in inflammation is presumed, he observes, from what is at the same time the state of the whole arterial system. In all considerable inflammations, though arising in one part only, an affection is communicated to the whole system; in consequence of which, an inflammation is readily produced in other parts besides that first affected. This general affection is well known to physicians under the name of *diathesis phlogistica*. It most commonly appears in persons of the most rigid fibres; is often manifestly induced by the tonic or astringent power of cold; increased by all tonic and stimulant powers applied to the body; always attended by a hardness of the pulse; and most effectually taken off by the relaxing power of blood letting. From these circumstances it is probable, that the diathesis phlogistica consists in an increased tone, or contractility, and perhaps contraction, of the muscular fibres of the whole arterial system."

Thus rested the state of opinions for many years, when a new opinion arose in the school of Edinburgh; an opinion, however, of private teachers rather than of the professors, that inflammation was owing to a debility of the vessels of the part affected, admitting of considerable distention; or, at least, to a disturbance of the balance between the action of the larger vessels and that of the capillaries, in which inflammation is seated. This opinion has been published by Dr. Wilson, in his third volume on Febrile Diseases, and attributed to Dr. Lubbock, or a Mr. Allen, who, we believe, gave a course of lectures on physiology in that university. We had, many years since, formed a similar opinion, when digesting the observations already offered on fevers, which attributes the phænomena of these to a change in the equilibrium of the circulation. We mention this circumstance neither to detract from these authors' credit, nor to add to our own; but, as some confirmation of the claim, we may suggest the consistency of this doctrine, with the view we have given of fever in general.

In our explanation of fever, we attempted to prove that debility was the first change which took place; and, in all the varieties and changes of appearances, debility, we remarked, was always the leading feature. With a view to inflammation, we observed, that, while there was a quiescence of the capillaries, probably a spasm, since debility is its general and principal cause, the action of the sanguiferous system was excited, but that the excitement was partial. If, then, from any cause, this action is excited in a peculiar degree, and if any debility in a given part concurs, inflammation will be the consequence. These are not hypothetical positions. Inflammations chiefly occur in the young, the robust, and sanguine, whose habit, or diathesis, is inflammatory, and from hence called *phlogistic*, a term derived, like

inflammation, from fire, before phlogiston had an existence in chemistry. The phlogistic diathesis consists in a strong action of the arterial system, and increased tone and vigour of the active powers of the circulation, which are evident from the strong, hard pulse, and the general firmness of the whole habit. If any of fever happens, it will be evident that the action of the arterial system will be, in such constitutions, inordinate. The partial debility is also equally conspicuous. No more certain cause of rheumatism exists than topical cold, after the part has been unusually heated; of peripneumony, than previously having breathed warm air; and of any inflammation, than from the same part having been formerly affected with the same disease. All these circumstances point out previous topical debility, quiescence which admits of accumulation, in which inflammation seems to consist.

This forms, however, the extreme case: various are the intermediate ones, in which, though the balance is disturbed, the vis a tergo is more or less violent in proportion to the debility, or the debility more or less considerable in proportion to the former force. When in a healthy state a part is rubbed or irritated, a redness comes on, which on the cessation of the cause again recedes. This can scarcely be called inflammation, for it is not a disease. In fact, the balance of the circulation is not disturbed; but if the motion of the fluids is interrupted, and their return by the veins impeded, the usual consequences of obstruction follow; the vis a tergo is increased, the vessels distended and weakened. If, on the contrary, a part is weakened, as by cold, the fluids accumulate without any increase of the vis a tergo, become red and livid, but by the gradual approach of warmth again recover their usual appearance. This again is not disease; but if the cold is farther continued, so that the power of the arteries behind cannot propel the fluids, chilblains and gangrene ensue.

The great subject of debate has been, whether obstruction really exists in inflammation. Dr. Wilson, from microscopical observations, is convinced that this is the case. We have said that the conclusion is too general. It seems to fulfil all the idea of inflammation, if, from a disturbed balance in the circulation, the blood is accumulated in a part faster than it is conveyed away by the veins or exhalants. Obstruction is not necessary to explain the phenomena; and in some instances, as we have said, the veins swell, and the discharge from the neighbouring exhalants is increased. Yet we are willing to admit, that in every violent inflammation obstruction does take place; but it is unnecessary to distinguish the circumstances with accuracy, as the explanation of the symptoms or the cure will not be affected by the decision.

The view of inflammation thus given will sufficiently explain almost all the varieties, and give a consistency to the method of cure. The only kind, whose pathology is less obviously derived from the foregoing remark, is erysipelatous inflammation. The only difficulty however arises from the inaccuracy of language. We are accustomed to call those internal inflammations erysipelatous, in which the action of the arteries, so far from being increased, is weakened, and which hastens to gangrene rather than suppuration. There is not, however, the slightest evidence that the state of inflammation internally resembles the external appearance usually denominated an erysipelatous eruption, for this is properly an exanthematous disease, except when in the fauces, where a similar appearance attends the gangrenous throat; but in this case the eruption is a symptom only, and the inactive inflammation hastening to gangrene, the real disease. All the additional explanation will appear from the ratio symptomatum, to which we proceed.

The leading symptom of inflammation is *redness*, which has been usually explained from the entrance of the red globules into vessels not adapted to their diameters. This error loci we believe really takes place; but, independent of this cause, the redness proceeds in part from slight extravasations in consequence of rupture, but chiefly depends on the greater quantity of the red globules from dilatation and accumulation. It appeared from the microscopical observations of Dr. Wilson, that slight irritation, instead of producing redness, occasioned paleness, in consequence of the more rapid circulation, and that the redness did not appear until the appearances of the blood's motion had ceased. It must be remarked, however, that these experiments are, in part, fallacious. The circulation cannot be observed but in transparent organs; and when vessels are distended so as to admit of considerable accumulation of blood, they are no longer transparent.

Increased heat is another symptom equally characteristic of inflammation, and this was easily explained by the pathologist from the increased circulation, and consequently increased friction. We know, however, that the change in the blood's capacity for heat, which takes place during the circulation, is equally going on during its stagnation, and when a larger quantity is accumulated in a part, the heat given out in consequence of this change must be necessarily greater. On the approach of gangrene the parts are cold; but this change never takes place till the blood has already assumed a livid hue, and of course has yielded all the heat which could be separated in consequence of this change of capacity.

The *pain* is more easily explained from the distention, and the spasm which also must take place in consequence of the distention. It will be obvious also, that where the vessels are closely confined in membranes, they admit of distention with difficulty, and the pain is proportionally increased. The pain is also in proportion to the sensibility of the organ and the diathesis phlogistica, where the disease in a great degree arises from the violent action of the vis a tergo. On both these accounts, the inflammation of the eye is attended with the most excruciating pain. Ligaments and tendons when inflamed are also acutely sensible, though their sensibility is inconsiderable in the sound state. The source of the only other symptom, *the swelling*, is sufficiently obvious.

The *remote causes of inflammation* are either general or topical. The general causes are those of fever, determined in their seat by some accidental cause, generally some debility of the part. Inflammations of this kind are usually inflammatory, arising from excess of action in the larger arteries; but in different states of the atmosphere, or rather in different epidemic constitutions, either a less degree of phlogistic diathesis will produce the accumulation, or the balance is destroyed by the loss of tone in the affected part; often not-

without suspicion of a morbid poison determined to the part, particularly in the putrid sore throat, which seems rather an exanthema than a phlegmasia.

Of the topical causes but a few only are direct stimuli. A thorn in the flesh is one of the most familiar instances of this kind; chemical acrids produce the same effects; but a more frequent cause in the human body is any extraneous body, or any portion of the body deprived of life which acts as such. These continued irritations seem to produce those inflammations, in which, as we have said, there is no decisive evidence of obstruction.

The other topical causes are those of indirect debility, as burning, overstretching, concussions, &c. which we have already shown, with a view to this subject, act by producing atony. The coup de soleil, at least in this country, appears to have a similar effect. See Ictus solaris.

The *terminations* of inflammation are said to be by *resolution*, by *abscess*, by *gangrene*, and *scirrhus;* but this offers a very fallacious view of the subject. In fact, the salutary terminations of inflammation are by effusion and abscess; the fatal ones most commonly by hæmorrhage and gangrene. Scirrhus is usually a previous disease, and excited to cancer by inflammation.

When an inflammation either by the operations of nature or the influence of remedies yields, an action is first perceived in the vessel, the dark colour assumes a brighter hue, the tumour lessens, and an effusion takes place from the adjoining exhalants. The effusion sometimes proceeds and relieves the over distended vessel, but there is scarcely an instance of resolution of inflammation, without some effusion, which occasions the adhesion of contiguous membranes. It consists of the serum of the blood, with its proportion of fibrin. This is commonly the termination of the febrile inflammations. In those which depend on the loss of tone, the effusion is of a different kind; and in these, though it relieves the original disease, yet it leaves one scarcely less dangerous. We allude to the effusion of a watery fluid which sometimes follows inflammation of the lungs, producing hydrothorax. When œdematous swellings follow gout or rheumatism, the danger is less.

When nature or art fails in relieving the inflammation by effusion, the texture of the part is destroyed by the continued pressure of the accumulated fluids, and the whole is melted down into one uniform, opaque, white, mild fluid, called *pus;* and an *abscess* is said to be formed. The appearance of an abscess is prognosticated by the cessation of the pain and the distention. But to these symptoms, which occur also on effusion taking place, must be added a throbbing pain, synchronous with the dilatation of the arteries, and irregular shiverings. After a short time a weight is felt in the part, the pain disappears, and, if on the surface, the tumour is soft, and an evident fluctuation is perceived by the touch. The skin gradually becomes thinner, and a little conical apex appears, generally about the centre of the tumour, which is called its pointing; though frequently the skin only becomes thinner, and the tumour softer in one particular part, above, below, or on either side, indiscriminately, and seemingly from accident.

The nature of purulent matter, as well as its source, has been disputed. We have called it a mild fluid, and undoubtedly to all the senses it is so; yet it seems to dissolve the cellular substance around, and to form for itself a cavity greater in proportion to the resistance it finds in its way to the surface, where it generally tends. When not the salutary termination of inflammation, it is sometimes highly acrid, as in venereal or scorbutic sores; but its reputed acrimony in other cases arises often from its pressure, which destroys the life of the part, and subjects it to the action of the absorbent vessels. An aneurism, in which there is not the slightest suspicion of acrimony, will do the same.

The source of the purulent matter is said to be the serum of the blood, changed to this form by the process of fermentation. This was the opinion of Gaber and Pringle; but De Haen and some modern authors contend, that it is a morbid secretion from the exhalant arteries. On this subject we find it difficult to form an opinion. Were we to offer any, we should say that it consists of the substance of the vessels and of the cellular membrane dissolved in the serum; but this is an opinion we are not prepared to defend. It is certainly an albuminous fluid, which has, however, a tendency to the putrid fermentation. To produce this fluid a certain degree of excitement of the vessels is requisite. When too considerable, it is sometimes bloody; when the excitement is in too small a degree, it is thin, acrid, and glairy; when in a still less, ichorous. In the latter cases we must apply stimulants and astringents respectively, for only when the pus is of a proper nature and consistence, in the language of surgeons laudable, does it contribute to healing the wound.

There is another fluid which certainly is not laudable, viz. that which is found in scrofulous glands, and which is discharged in consumptive cases. This is of a ragged cheesy kind, surrounded generally with streaks of proper pus, apparently from the inflammation of the coats of the containing cyst. It seems to consist of the gluten of the blood so hardened and condensed that it will not admit of solution. The distinction between pus and mucus is not easy to the inexperienced practitioner. In general, mucus is in rounded masses; pus flows more readily: the latter is softer and whiter, with little globules swimming through it, and, when mixed with a saturated solution of potash, a transparent tenacious jelly is separated, while the same solution produces no such change in mucus.

The fatal terminations are *hæmorrhage* and *gangrene*. We might have mentioned hæmorrhage among the salutary terminations, but they rarely prove so in this climate; yet occasionally a slight bleeding from the neighbouring glands, as a bloody tinge of the sputum in pneumonia, we have thought useful. In general, however, the salutary hæmorrhages are copious ones, generally from a neighbouring organ, as from the nose in phrenitis; but these are uncommon in this climate. The fatal hæmorrhages occur in the lungs, in the bowels, and bladder, but are not very common terminations.

Gangrene is a fatal termination in the very active inflammations, where the fever runs with peculiar rapidity; or in the very low ones, where want of tone readily admits of considerable dilatation, and consequently compression. In gangrenes the life of the part is destroyed, the redness assumes a livid hue, vesications appear on the surface, and the inflammation is external; pain is no longer felt, a peculiar serenity comes on, with a sinking of the features, which gives a ghastly

appearance to the countenance, and the patient dies with every feeling and every expectation of recovery. When a putrid acrimony occurs in the fluids, gangrene is more to be dreaded in inflammations of every kind: it is particularly common in those diseases which occur in jails and crowded hospitals. There is a kind of gangrene which follows considerable irritation and violent pain, independent of great inflammation. In this case the violence of the excitement seems at once to destroy the tone of the part, and it is in this kind that Mr. Pott has found opium so eminently useful. Some authors have supposed gangrene to be occasionally owing to blood effused; but we have no evidence that blood, if preserved from the access of air, is peculiarly disposed to putrefaction. See Erysipelas, Abscessus, and Mortificatio.

It may appear that, in this disquisition, we have omitted the inflammations of the mucous membranes. These, however, make no part of the present subject; for they arise very generally from a morbid poison, carried to the glands, and the inflammation excited in these organs is attended with an increased or a vitiated discharge. If it were necessary to reduce them to this head, they would be found to resemble the inflammations excited by mechanical or chemical acrids without obstruction.

The prognostics in inflammations are more or less favourable in proportion to the importance of the part affected, the constitution of the patient, the violence of the symptoms, and the coincidence of other diseases. Inflammations of the glands, of the ligaments, and the tendons, are tedious in their progress, and the two last leave a disposition for the future attack of a similar disease.

The cure of inflammation will, we think, be greatly elucidated by the former enquiries; and, for this purpose, inflammations must be divided into those attended with a phlogistic diathesis, and those in which distention and dilatation arise in a greater degree from atony than an increased vis a tergo. This distinction cannot be made with accuracy, for the two kinds pass into each other by almost undistinguishable shades. Yet the difference is real, and it will be only necessary to modify the treatment of each when it approaches the confines of the other.

The chief remedy of the active inflammations is *bleeding*, and blood must be often taken in large quantities from a large orifice, since the relaxation which it produces is in proportion to the quantity lost in a given time. If we peruse the writings of physicians in the early part of the last century, we shall perceive that they bled freely and repeatedly where we find a single evacuation only admissible. Constitutions are greatly changed in this respect; luxury has enervated our habits, and the changes in diet have greatly lessened that active constitutional power which forms the essence of the inflammations now before us. In the robust labourer, in a cold season, where the disease has arisen from cold to which the body when heated has been exposed, a large bleeding may be repeated; but in a crowded city, with a person whose constitution has been enervated by a sedentary occupation, or by luxury, whatever the appearances may be, bleeding must be cautiously employed. After a general bleeding, modern refinement, adapting the remedy to the change of constitution, has employed topical bleedings either by means of leeches or cupping glasses, which relieve the distended vessels, without too far debilitating the system. The inflammations to which copious and active bleeding are chiefly adapted seem to be phrenitis, carditis, pneumonia, rheumatism, and perhaps the psoas inflammation, when it is certainly known to exist.

Emetics we have seen producing relaxation through the whole system; and though they may appear to be contraindicated, when we recollect that a partial debility favours the inflammatory distention, yet any inconvenience which this may occasion is compensated by the freedom which they restore to the circulation in general. In conformation of this idea, we find, that, in the other class of inflammations, where the circulation is more languid, they are injurious; and if given in the ulcerated throat, it is rather with a view of emulging the glands of that part, an effect which renders them so useful in pneumonia, than of counteracting an inflammatory state. The nauseating doses of antimonials are peculiarly useful in such active inflammations; nor in diseases of short duration, in constitutions peculiarly strong, have we any thing to apprehend from their debilitating effects. In all inflammations of this kind, it must be remembered that the increased inordinate action of the arterial system is the chief disease.

Cathartics are not generally indicated in these complaints; yet, as they draw the fluids powerfully from the head, and from the chylopoietic viscera, they are useful in inflammations of these parts, as they act without increasing the phlogistic diathesis in general. They are most advantageous in the earlier stages; nor need we wait till the increased action of the arterial system is taken off by bleeding. As cathartics are peculiarly useful in phrenitis and enteritis, so are they injurious in pneumonia. As evacuants they are perhaps singularly advantageous in rheumatism; though the inconvenience of moving renders them less eligible to the patient than other remedies.

Diaphoretics are apparently well adapted to active inflammation, from the effects which we have already had occasion to explain. In general, however, their stimulant power renders them less advantageous in those cases where the vis a tergo is very actively increased. To this there is only one exception, viz. where the evacuation is from the neighbourhood of the organs affected, as in rheumatism; for it compensates for any disadvantage that would otherwise arise from the increase of the circulation. In general, however, the relaxing diaphoretics, as the nauseating doses of emetics, and the combinations of opium, with either the ipecacuanha in Dover's, the white hellebore in Ward's powder, or with the warmer preparations of guaiacum, are most effectual.

Opium, which we have styled the most certain and powerful diaphoretic, is not always admissible, it is said, from its stimulus, but this is generally inconsiderable, and sometimes unobserved. The chief disadvantage of opium arises from its checking the secretions, so essentially necessary in many of the active inflammations, particularly in pneumonia, hepatitis, and enteritis. When this inconvenience is obviated, as we shall find in speaking of each disease, opium is an useful remedy, and it is occasionally employed, in each, with advantage.

Blisters are of the highest importance in inflamma-

tions of every kind; but when the inflammatory diathesis is considerable, they fail of relieving; and it will be obvious, that, while the disease continues in consequence of the force of the arterial system, the advantages derived from topical depletion cannot be considerable. In the most active inflammations we have sometimes found it necessary to bleed previous to each application of a blister, particularly in rheumatisms, where blisters must be often repeated.

Sedatives of every kind are essentially necessary. A class of medicines, which we have styled *inirritants*, which we shall soon notice, and which consists of those diluents and demulcents which sooth and sheath the irritations of the nervous system, or inflamed membranes, are highly useful in these active inflammations. The other sedatives employed with advantage in such cases are nitre and camphor. The utility of the former is generally acknowledged, except in inflammations of the bladder, where large doses are supposed to produce some additional irritation. The latter is not so generally employed, as it is thought to prove occasionally stimulant, and by some practitioners to be useless. In small doses, however, we have repeatedly found it an advantageous medicine, particularly in those cases where nitre seems to produce too great an irritation. Some of the narcotics promise to be useful in such cases, particularly the hemlock, and the digitalis; but they have not been often employed and of their advantages we cannot speak from experience.

Cold, as a privation of heat, has been considered as an active remedy of inflammation, and employed very freely of late, in one species, the gout. (See Arthritis.) In general, however, it is a doubtful and uncertain remedy. When temporarily employed, it is followed by increased action, and will of course exasperate the disease; when continued it occasions torpor, and may produce or hasten gangrene. In external phlegmons it is of use in the early periods, and will sometimes contribute to their resolution; but in internal phlegmasiæ it is generally a dangerous remedy.

It may be questioned, however, whether, when we avoid cold, we should freely indulge a higher temperature. The reason for employing heat has been to promote perspiration, and consequently to relieve internal accumulations; but we have found reason to doubt whether the discharge from the skin, brought on by high temperatures, is truly salutary. In general it appears otherwise; and the warm diaphoretics, of which warm air and warm fluids are the principal, appear to injure more by increasing the circulation, than they relieve by the discharge they produce from the surface. When then we would avoid cold, we would not indulge heat. The temperature of the room should be moderate, and scarcely exceed 62°; the drinks tepid, somewhat about the heat of new milk, a degree peculiarly soothing to the irritated nerves. See Inirritantia.

As cold applications are admitted in phlegmons, it may be considered that they would be equally beneficial where the cold air is applied to the part, as in pneumonia and sore throat. In the latter, cold applications are sometimes useful; and nitre or sal prunellæ held in the mouth has been said to relieve the inflammatory angina. The lungs are, however, more irritable; and though great heat is injurious, extreme cold is equally so; nor can we sink the temperature of the room or of the drinks far below the degrees stated, though perhaps they may be somewhat diminished with advantage. Of this, however, the feelings of the patient are the proper criteria.

Phrenitis and pneumonia are perhaps the only inflammations which form an exception to the general rule, respecting the utility of a *recumbent posture*. In the former the erect position is highly advantageous, and it has been supposed equally useful in the latter; but the subject will be resumed when we speak separately of each.

Inflammations, as the habit is less inflammatory, and the circulation less actively excited, require these remedies in a less degree and diminished power. When we approach that low state in which inflammation proceeds from atony, with a very slight, if any, increased circulation, we must be cautious in all the evacuations. Great inconvenience has arisen from a want of caution in professors and lecturers, who generally remark, in every inflammation, that, should the patient be young and plethoric, some blood may be taken. Many epidemic pneumonias and cynanches occur in which this evacuation would be fatal in forty-eight hours. In the Breslaw epidemic, though attended with topical inflammation from atony, so debilitating was the cause as at once to take off rheumatic pains. The practitioner must consequently attend with care to the reigning epidemic; to the state of the pulse; to the countenance, and all the circumstances which indicate debility; and he must be particularly cautious not to mistake a pulse throbbing from irritation for a hard inflammatory one. The countenance often furnishes a very certain index: if the features are sunk, the eyes staring, the expression lost, whatever are the other symptoms, bleeding must be avoided. The warmer diaphoretics must be preferred also to the nauseating or relaxing ones; and cathartics, particularly the purgatives, carefully avoided. In the more asthenic inflammations of this kind, we must soon have recourse to bark, and the warmest cordials; nor will blisters, as we have had occasion to remark, be always safe. Many modifications of these directions will occur under the separate diseases.

External inflammation is more within the reach of the sight and touch; and to this the former directions are only applicable, when attended with general fever. If not in the vicinity of any large vessel, or in a situation peculiarly inconvenient, we are seldom anxious about its resolution, but suffer it to proceed to suppuration. If it arises from wounds or bruises, the remedies styled *discutient* are useful: these are warm and astringent applications, capable of exciting the torpid action of the vessels, and restoring the tone destroyed by the blow. If these do not succeed, and the accumulation is followed by increased action from behind, the vessels are depleted by topical bleeding, and our discutients applied with increased power, or more frequently repeated. In all such cases, practice gives the firmest support to theory, for emollients are constantly forbidden where resolution is attempted. The use of the preparations of lead rests on some uncertainty. This metal is an apparent exception to the general tonic powers of metallic substances: it seems to render the nerves torpid, and the muscular fibres less

irritable. It is not, therefore, always proper in inflammations where the action of the vessels is inconsiderable; but, in watery solutions, a valuable remedy where the circulation is pushed on with increased energy. When we aim at producing suppuration, gentle and continued warmth, sometimes with a slight stimulus, favours the dilatation of the arteries, and lessens the resistance of the skin. (See Furunculus.) In indolent tumours, the stimulant applications are most useful; in highly inflammatory states, the emollients, with anodynes.

Dr. Cullen has inserted, among the species of phlogosis (external inflammation), erysipelas; but apparently without due consideration, as its nature and symptoms differ essentially from phlogosis. When attended with fever, it is an exanthema; and, when without it, a cutaneous disease.

When inflammation attacks the glands independent of fever, the lymphatic glands chiefly suffer, and the treatment of these is not very different from that of phlogosis. In general, resolution is attempted by topical evacuations, by sedatives, or occasionally by those remedies which excite the action of the minuter vessels. We shall, however, enlarge on this subject, under the diseases where they chiefly occur, viz. Syphilis and Scrofula, q. v.

It might be expected that we should distinguish the inflammations, attended to the active energy of the whole arterial system, from those which are rather owing to atony; but in general these form varieties only, as the putrid peripneumonia, the ulcered throat, &c. Were we to make any approach to such distinction, we should arrange them in the following order, from the system of Dr. Cullen:

I. *Inflammations peculiarly active.*
- Phrenitis.
- Ophthalmia epidemica (Egyptian Ophthalmy).
- Cynanche.
  - Trachealis and Pharyngea.
- Pneumonia.
- Rheumatismus.

II. *Inflammations less active.*
- Phlogosis.
- Ophthalmia.
  - Membranarum and Tarsi.
- Cynanche.
  - Trachealis.
- Carditis.
- Peritonitis.
- Gastritis.
  - Phlegmonodea.
- Enteritis.
- Hepatitis.
- Splenitis.
- Nephritis.
- Cystitis.
- Hysteritis.
- Odontalgia.
- Podagra.

III. *Atonic Inflammations.*
- Anthrax.
- Cynanche.
  - Maligna.
- Pneumonia.
  - Putrida.
- Gastritis and Enteritis.
  - Erysipelatosa.
- Arthropuosis.
- Podagra.
  - Aberrans.

Bell on Ulcers, edit. 3, p. 17—36, 47—53; Cullen's First Lines, edit. 4, vol. i. p. 211; Kirkland's Medical Surgery, vol. i. p. 235; Pearson's Principles of Surgery, vol. i.; White's Surgery, vol. i.; Wilson on Febrile Diseases.

1. Inflammation in a joint. See Rheumatismus and Hydrarthus.

2. Inflammation of the heart, *carditis*. Dr. Cullen has placed the *inflammatio pulmonis Lommii*, and *pericarditis*, as synonyms, under this genus, included in the class *pyrexiæ*, and order *febres*, defining it to be fever, with pain in the region of the heart, anxiety, difficulty of breathing, cough, unequal pulse, palpitation, and fainting: in this case also the pulse is small, irregular, and intermittent; the patient frequently faints, and if not speedily relieved the disorder soon becomes fatal. The method of cure is not peculiar, but resembles that of other internal inflammations of the chest. Though the pulse is soft, bleeding, it is said, must be carried to a greater extent than in pneumonia or pleuritis; but in other respects the cure does not greatly differ from that of pneumonia. Where we have suspected carditis we have thought the camphor peculiarly useful. It often seems to succeed pneumonia, or rather the inflammation appears to be communicated from the lungs to the heart or pericardium. See Senac sur le Cœur; Lieutaud's Historia Anatomico Medica; and Inflammatio pericardii, No. 15.

3. Inflammation of the fauces. See Angina.

4. Inflammation of the thigh. Inflammation sometimes takes place under fascia lata femoris, followed by very unkindly suppurations. The usual remedies of active inflammation must be employed; but whenever matter is formed it should be discharged as soon as it is discovered.

The remedies of active inflammation do not always appear to be indicated by the violence of pain, or degree of fever, and the disease sometimes approaches in the insidious form of the psoas inflammation. It is distinguished, however, from the latter, by want of pain on bending the body. The diagnosis is, indeed, of less importance; as free bleeding and a sudorific regimen, with the relaxing diaphoretics, are useful in both. The inflammation of the thigh terminates more safely than that of the psoas muscle, though, as the matter falls down, the abscess does not soon appear, and then points at a very distant part. The sinus is, therefore, generally extensive, and requires a steady, though not a violent, pressure.

5. Inflammation of the liver. See Hepatitis.

6. Inflammation of the intestines; *enteritis*. Dr. Cullen places this disease in the class *pyrexiæ*, and order *phlegmasiæ*; defining it a typhus, attended with pungent, tensive, pain of the abdomen, chiefly felt round the umbilicus; a vomiting and obstinate constipation. He distinguishes two species.

1. Enteritis phlegmonodea, inflammation of the bowels, with acute pain, strong febrile affection, vomiting, and costiveness.

2. Enteritis erysipelatosa, inflammation of the bowels, with pain and fever, more mild than the former, without vomiting, but with an attendant diarrhœa.

The disease consists in an inflammation of the external coat of the intestines, and differs greatly from an inflammation of the villous coat, or mucous membrane, usually attended with aphthæ or a dysentery. (See Dysenteria.) According to the different parts of the intestine in which the inflammation is seated, different names have been assigned; but the treatment is the same in all.

If a sharp pain, with a fever and nausea, is felt above the navel, and below the stomach, the colon under the stomach is the probable seat of the inflammation: if in the right hypochondrium, under the spurious ribs, then that part of the colon which joins the ilium may be affected: if in the middle of the belly about the navel, the small intestines. The different parts affected need not, however, be accurately discriminated, since, as we have observed, the method of cure is the same.

The causes are either those of fever in general, obstructions of any kind in the intestines, intususceptio, or wounds. The usual causes, however, are those of fever.

The symptoms are, a shivering, with an uneasiness in the bowels soon increasing to a violent pain, occasionally, at first, remitting, but soon becoming continual. Generally the whole abdomen is affected at the same time with spasmodic pains, which extend to the loins, apparently owing to flatulency. The pulse is small, frequent, generally soft, but sometimes hard, and at last irregular and intermittent. The extremities are cold; the strength sinks rapidly. Costiveness, which has sometimes preceded, becomes unconquerable, or slight mucous discharges are brought off with great straining. After a short time the flatulency increases to vomiting, and every thing is rejected. The tongue is dry, thirst great, the urine often obstructed, or high coloured, and discharged with heat and difficulty. The breathing is quick. The patient bends forwards, because the abdominal muscles are spasmodically contracted; great tension and soreness are felt externally; the vomiting increases to violent and incessant retchings, in which at last the fæces are returned, and after this scene of distress has continued, without relief from stools, the whole commotion ceases; the pain goes off, and the patient appears to be relieved; but his face grows pale, the under eye lid becomes livid; the pulse continues soft, more regular, though small and weak; the extremities are cold; delirium and convulsions come on; and the patient expires, often discharging very fetid stools in the moment of death.

This disorder seldom terminates in an abscess. When this is the case, the pain abates, and is converted rather into a sense of distention, and irregular cold fits, with other symptoms of internal suppuration; the pain, the great frequency of the pulse, and other symptoms, go off. When this abscess bursts, the patient swoons, and seems relieved from a sense of weight in the part where it was, but soon expires in cold sweats.

Inflammation in the external membrane of the intestines is distinguished from the stone in the kidneys or in the ureters, from the pain in the latter cases shooting down the thigh, from spasmodic pains of the belly, from colic, and from other obstructions there in which no inflammation attends, by the external soreness and fever.

The disease, however, with which it is most easily confounded, is the inflammation of the peritonæum, in which there is equal external soreness, and often an equally obstinate constipation. But in the latter the pain is more pungent, the difficulty of raising the body greater, and when stools are procured the relief is inconsiderable. The passage of a gall stone sometimes puts on the appearance of enteritis; but in this case the pulse is seldom affected; the pain is confined to the pit of the stomach, and at last shoots through the body to the back, in a manner that cannot easily be mistaken.

If the pain shifts, the vomiting returns only at intervals, and clysters procure a truly feculent discharge, there is room to hope. If the pain abates suddenly, with chillness and shivering, a suppuration is forming. When every thing is rejected, the patient very weak, the pulse fluttering, the countenance pale, the breath offensive, danger is imminent. Clammy sweats, a small intermitting pulse, fetid or black stools, a total abatement of pain, are signs of mortification, and death soon follows.

In the treatment of enteritis there is much doubt. We are ordered to bleed freely, though the pulse is small, and to repeat it till the pulse rises. When the patient is a laborious countryman, and the disease induced by drinking cold fluids in a heated state, this advice may be useful; but it is not generally so. Perhaps bleeding is more seldom necessary in this disease than in any other inflammation, for it rapidly tends to mortification; and, should it not at once relieve, it soon proves fatal. The salutary termination is by a discharge of fæces. If this can be obtained, the patient is safe; but, unless free, copious, and truly feculent stools are procured, the most promising appearances in every other respect will deceive. These are procured by laxatives; but the operation of laxatives is assisted by clysters, blisters, and the warm bath. Emetics in this case are inadmissible; for vomiting soon comes on, and prevents the action of the only certain remedy. The cathartics, first used, are the milder kind, as castor oil, salts with infusion of senna and manna; but these are seldom sufficiently powerful, and are soon rejected. We must then have recourse to the more acrid purgatives, and the colocynth pill with calomel is substituted. This medicine is often given in considerable doses without effect; and the end is at last obtained by the former medicine, salts and senna.

In this period the operation of cathartics is greatly assisted by the frequent injection of clysters. These, to be effectual should be of the most active kind; and the decoction of colocynth with salts, the infusion of tobacco, and the vinum antimoniale, have been employed in this way, often without apparent advantage; but the frequent solicitations downward seem to assist the operation of medicines given by the mouth.

In this course we are almost constantly interrupted by the vomiting, and it has been usual to add opium to the laxatives, to check that irritability of the stomach

which discharges them. The disadvantage of this plan is, that it delays the cathartic effect of the medicine, till, by the powers of the stomach, its nature is changed. We have, therefore, preferred omitting for a time the laxatives, and giving the opiates freely. If pain is checked and the inflammatory state relieved by a blister, we have found no inconvenience if the stools are delayed for a day or two. It is said, indeed, that the disease is fatal in three days: but this is owing probably to the bleeding: where this is omitted, the disease has continued for six or eight days, and at last terminated favourably.

If then the usual laxatives, assisted by clysters, do not procure motions, and violent vomiting comes on, a grain of opium may be given in a single pill. If this is rejected, a tea spoonful of the tinctura opii camphorata may be taken alone, and repeated every hour till the stomach is quieter. This quantity is lost about the fauces, and its anodyne effect communicated to the stomach. We may, in the mean time, inject clysters; but should give nothing by the mouth, except a very small quantity of toast and water, or a very little peppermint tea. After about eight or ten hours the colocynth pill with calomel, or the infusion of senna with salts, may be cautiously tried, in small quantities, at short intervals; and stools are often in this way successfully procured.

At any part of this period, if the soreness and tension are considerable, a blister may be applied to the abdomen, or the patient put in the warm bath. Each remedy contributes to relieve the pain; but we have suspected that the warm bath hastens mortification. At least we have not been so successful, where it has been employed, as in those cases in which it has been omitted.

Dashing cold water against the legs and thighs, a remedy sometimes employed in the iliac passion, has been recommended in enteritis; but we suspect that it is not a safe remedy when inflammation has taken place. Bathing the abdomen with warm water, rendered more stimulant by camomile flowers and wormwood, generally precedes the application of blisters. Tartarised antimony, given in doses of a quarter or an eighth of a grain, and repeated every quarter of an hour, sometimes produces motions, when every other remedy has failed.

It often happens, that, in the moment of approaching mortification, a sudden resolution takes place, and stools are evacuated. The extremities have perhaps already begun to grow cold, and languor to come on. In such cases, wine, with warm generous cordials, will prevent the approaching death, if the stools are freely kept up; but, either in this case, or when the relief is obtained at an earlier period, the evacuations from the bowels must be copious, free, and unremitted, while the stools are dark. It is too common to fear the debilitating effects of purging, and, after a few motions, to interpose opiates; but the debility must be indeed great to justify this conduct, for a relapse frequently follows.

See Colica and Abscessus intestinorum.

The erythematic inflammation of the intestines may be treated as that of the stomach. See Inflammatio ventriculi; Cullen's First Lines, vol. i. p. 372, edit. 4.; Edinburgh Medical Commentaries, vol. iii. p. 722.

1. Inflammation of the mammæ, *mastodynia*. Dr. Cullen places this as a variety of the *phlogosis phlegmone;* and though it may happen at any time, it usually attacks those who give suck. A shivering most frequently precedes, and the inflammation with more or less fever; a quick pulse, thirst, head ach, and difficult respiration, follow.

As the usual methods to prevent the afflux of milk in the breast are uncertain, to guard against inflammation, the mother should consent to suckle her child, at least during the first month. After this time, by gradually discontinuing the sucking, keeping the bowels lax, and the breasts as empty as possible, by means of glasses, inflammation may be usually prevented. But if it should actually take place, bleeding, a thin spare diet, laxatives, and applying a sedative or discutient embrocation by means of linen rags, which should be moistened with it as often as they dry, will be generally successful. The lotio ammoniæ muriatæ of Mr. Justamond is prepared in the following manner: R. ammoniæ muriatæ ℥ i. sps. rorismarini ℔ i. In pulverem redige ammoniam, et in spiritu solvatur. In the early stage of this disease, the lotio ammoniæ acetatæ is recommended. ℞. aquæ ammoniæ acetatæ, sps. vin. rectif. aq. distillatæ āā ℥ iv. m. Some prefer the aqua ammoniæ acetatæ alone; or, a fomentation made of a decoction of poppy heads, in a pint of which an ounce of crude sal ammoniac is dissolved, will often succeed. To each of the lotions above mentioned the tinctura opii may be occasionally added. If the inflammation does not yield to this management, the best method is to encourage a suppuration without delay. See Abscessus pectoris, and Mammæ; Bell's Surgery, vol. v. p. 396.

8. Inflammation of the mediastinum, *mediastina*. The cause and cure are the same with those of pleurisy, and the symptoms are often similar. The pain, however, is more confined to the sternum, and shoots across to the back. There is a difficulty of breathing, with cough, but not always, attended with spitting. These symptoms are not so violent as in a pleurisy, nor is the pain on inspiration so much increased, or the inflammatory diathesis so great. Suppuration is with difficulty avoided, and generally fatal.

9. Inflammation in the mesentery. See Peritonitis.

In this disease there is a languid slow fever, without thirst or other violent symptom; a loss of appetite, a sense of tension, and weight below the stomach, without much hardness, and only discoverable by pressing on it. This tension is without much pain, because the mesentery hath but a small degree of sensibility. The stools are often chylous, and succeeded by a discharge of thin ichor, without any sense of pain; sometimes pure and unmixed, and sometimes mixed with the fæces. These symptoms are mild and gentle, if the mesentery only is inflamed; but if the liver, spleen, or any of the intestines, are also affected, they are more violent, and distinguished by the appropriate symptoms of each disease.

These inflammations generally terminate in abscesses; and the purulent matter is sometimes translated to other parts. The disorder, therefore, is often found to recur, and in this case sometimes the fever returns, or is occasionally changed into a colic. Inflammation of the mesentery is, however, very seldom an idiopathic

disease. It chiefly occurs when the glands are obstructed, and any cause of topical irritation combined.

When the presence of this inflammation can be discovered, the method of cure will be the same as that of an inflamed liver or spleen. Bleeding is, however, scarcely admissible.

Inflammation of the muscles of the belly, *myocoilitis* of Vogel.

When these muscles are inflamed, the skin is greatly distended; and if they are swelled, the figure of each is often preserved, and fever generally attends. Pain is considerably augmented in sneezing, straining at stool, breathing, or any exertion, and is often felt at the origin or insertion of the muscles, which distinguishes this inflammation from any internal one.

The rheumatism sometimes attacks these muscles; and they suffer from pressure, when patients from a stone in their bladder seek for relief, by resting their weight upon some hard body in a prostrate position.

This complaint is easily distinguished from a colic, an inflammation in the liver, or any of the subjacent viscera, by the considerable distention, the very early soreness, and the circumstance just mentioned, viz. the pain shooting to the false ribs and the spine of the ileum.

The myocolitis scarcely in any instance terminates in mortification or abscess. It is very commonly of the rheumatic kind, and yields to general and topical remedies, the latter of which may approach very near the seat of the disease. Fomentations are particularly useful; but the disease is rare.

If the hardness is considerable, and a throbbing pain perceived, an abscess is forming, and should be encouraged by emollients, that the discharge may be external. Heurnius observes, that these muscles are covered with so dense a membrane, that abscesses require the knife; and, if the opening is neglected, they sometimes become scirrhous. Hildanus thinks that these tumours should be opened more early than is usual in other instances, to secure an external discharge; for the matter is apt to pass betwixt the muscles, and form sinuous ulcers, as bandages cannot easily be applied. The cold air is particularly offensive, and the air in the room should be moderately warm, when the abscess is opened, or the wound dressed.

Bleeding, with purging, and such other means as are used in inflammations of the external parts, should be employed, and steadily pursued.

11. Inflammation of the eye. See Ophthalmia.

12. Inflammation of the œsophagus sometimes attends Angina, q. v.; but is occasionally an idiopathic disease. We have mentioned it under the title of *angina pharyngea*, described by Eller *de Cognoscendis, et curandis morbis*, p. 172. It is the *angina sine tumore* of the ancients, and is relieved by cooling subacid drinks. Eller recommends external cataplasms to draw any matter that may be formed outwardly, but no danger of this kind seems to impend. We have seen it occasionally as the effect of swallowing acrimonious fluids, and once from a pill of calomel sticking in the pharynx; but in each case the inflammation was followed by no disagreeable consequences; nor was the disease obstinate.

13. Inflamma'tio omenta'lis. See Peritonitis.

14. Inflammation of the bones. The blood vessels from the periosteum to the bones run between their laminæ, whilst others pass through particular perforations to the diploe of the cranium, and the marrow in the bones; from these arise the separation of the corrupted parts, and the restitution of such as are lost. Inflammation may, therefore, be seated in the bones, and is attended with obstinate and violent pains, seeming to the patient to be deep seated. Hence also arises a spina ventosa, &c. See Inflammatio periostei, N° 16.

15. Inflammation of the pericardium, *pericarditis*, which Dr. Cullen considers as synonymous with carditis, or inflammation of the heart; adding, that "the pericardium has been known often to be inflamed, without any other symptoms attendant, except those of a peripneumony." The pain, however, seems to be deeper seated, and is not so much increased upon inspiration. The cure is the same with that of pleurisy or peripneumony.

16. Inflammation of the periosteum. Besides the other usual causes of inflammation in other parts, the venereal disease and the scurvy induce it in this. The venereal poison is a frequent cause, when the periosteum within the bone is the seat of the disorder.

When the external periosteum is inflamed, a deep seated pain, heat, and sometimes a pulsation are felt; and, when the part is not thickly covered, the pain will be augmented by pressure; muscular motion, however, always increases it. That the membrane which lines the bone internally is the seat of the inflammation appears probable, from the want of pain on pressure, or motion; by the absence of pulsation; by receiving no relief from any position of the pained part; and particularly by a sensation of the bone outwardly, splitting from within.

Inflammations in both membranes of the bone proceed from the same causes, produce the same effects on the part of the bone to which they adhere, and terminate either in an abscess or a gangrene; but when the inner membrane is affected with gangrene, the marrow and bone are both destroyed.

If inflammations of these kinds are not speedily removed, the periosteum will be destroyed; and cannot be renewed until the bone exfoliates, and is restored. In this period the incumbent parts will be irritated by an acrid sanies, and malignant ulcers produced, especially if a large portion of flesh covers the bone, and hinders a decisive incision on the part.

The cure is as that of all other inflammations; but the matter must be directed outwards by fomentations and incisions, if the inflammation cannot be discussed by bleeding, purgatives, &c. For this purpose, after these general remedies, softening fomentations and poultices may be applied; but if these fail, it remains only to cut down through the flesh to the bone, if the part admits. Amputation is often, however, at last necessary.

When an abscess begins to form, it is known and treated as described in the article Abscessus periostei.

17. Inflammation of the rectum is rarely so acute as that of the small intestines, nor so apt to

affect the pulse or the stomach; nor is there such a stricture as to render the intestines impervious. The cure is the same as inflammation in any of the other intestines; purgatives are equally necessary, and ought always to be employed. Clysters, from the soreness, are inadmissible, and sitting over warm water useful.

18. Inflamma'tio re'num. See Nephritis.

19. Inflammation of the spleen, *splenitis*, and *pleuritis splenica*. Dr. Cullen places it among the *phlegmasiæ*; defining it febrile affection, attended with tension, heat, tumour of the left hypochondrium, and pain increased on pressure, without signs of a nephritis.

Lommius observes, that this disorder is rare; that it is attended with a hard and a throbbing tumour, a pain in the left hypochondrium, a continual violent fever, extreme heat, unquenchable thirst, a blackish tongue, a total loss of appetite, with a difficult, and, as it were, imperfect respiration, like that of children when they sob through anger. Aretæus adds, that the pain attending inflammation in the spleen is not considerable. If the distemper continues, not accompanied by an ulcer, the patients have an aversion to food, are swollen, have a bad habit, a disagreeable aspect, with many round, livid, hollow, foul, and incurable ulcers over the whole body, and die cachectic; but such as have only a small, hard, and scirrhous tumour feel little or no pain, and consequently live longer. A dropsy, a consumption, or a colliquation of the whole body, are its frequent consequences.

The cure is that of other violent internal inflammations; but the India punctures and scarifications are employed by the native practitioners.

20. Inflamma'tio te'stium. See Hernia humoralis.

21. Inflamma'tio u'teri, *hysteritis*, and *metritis*. Dr. Cullen defines this disease a febrile affection, attended with heat of the hypogastric region, tension, tumour, and pain; the os uteri painful on being touched, with vomiting.

Women, after child-birth, when the lochia are impeded, are sometimes subject to this complaint: but it does not often occur, except as in idiopathic inflammation; for bruises, external stimuli, obstructed menstrua, or obstructed lochia, in very few instances produce real permanent inflammation. The imprudent use of instruments, or violence in delivery, is not a very uncommon cause. When it occurs from any of the former causes, the symptoms are chiefly those of irritation rather than inflammation. The pain at the bottom of the belly is neither throbbing nor constantly acute; the pulse is, as usual after child birth, frequent, often small, sometimes irregular; in strong habits, and after early abortions, hard. Subsultus tendinum, and the other symptoms of irritation, come on; the womb mortifies, and the patient sinks. In the unimpregnated state the pain is more constant, circumscribed, and throbbing; the pulse hard, full, and strong, with other symptoms of general inflammation; or, if the disease rises to a greater height, the pulse is small and frequent, and suppuration is more frequently the consequence.

In both, as different parts of the womb are affected, there is a strangury, or a suppression of urine, and the urine discharged is fetid and hot; or a tenesmus attends, with a pain in going to stool; there is pain in moving the lower extremities, or swelling, with heat, to be felt at the os tincæ, which is usually shut. The belly is tense; a soreness is felt on pressure; a red stain sometimes extends up to the navel, and turns black when fatal: if it occurs in an impregnated uterus, an abortion follows.

It often happens that the woman can only lie on her back; and on turning on either side, she feels a painful heavy mass fall to that side; with an excessive pain in the loins, kidneys, and groin, of the opposite side. The pain sometimes extends to the thighs.

This disorder may be removed by a spontaneous eruption of the menses, or of the lochia; or, after an abortion, or child-birth, by the patient's falling into a constant, equable, gentle, long continued sweat. If it terminate in an abscess, or a mortification, both are fatal; but a metastasis may be a means of relief.

Bleeding is useful at the first attack, and if the discharge is then copious, it is found to be salutary; but, if at a later period, it sinks the patient with marks of debility, or hastens gangrene.

In abortions and labours, where the patient is not greatly debilitated, if the pulse is hard, and not very frequent, the loss of blood by the arm is borne with advantage; but it cannot be repeated; and the general method of cure will always depend on mild diaphoretics, as the pulvis antimonialis and haustus salinus, carefully avoiding irritating purgatives. To these may be added anodyne and antispasmodic fomentations.

In delicate or feeble constitutions, after child-birth, and where there is no hardness, but great frequency of the pulse, this disorder too often proves fatal. All that can be done is to keep the patient moderately warm, exciting, if possible, a gentle perspiration by farinaceous decoctions, in small quantities, frequently repeated, and applying fomentations and poultices, supporting the strength by the moderate use of wine, and occasionally the bark. All extraordinary evacuations are dangerous. Even the perspiration must be the gentle diapnoe formerly described.

Every irritation, as external pressure, urine in the bladder, or from fæces in the rectum, must be avoided. Urine, if necessary, may be drawn off with the catheter, and the bowels may be emptied by repeated clysters, which are useful also as internal fomentations, and these are particularly necessary when the irritation is communicated to the rectum. Blisters are dangerous remedies, as their irritation may be conveyed to the neck of the bladder. Opiates, however, may be freely given, and, indeed, to a considerable extent, if costiveness is avoided by mild laxatives.

If suppuration comes on, we are told to direct it to the perinæum. We may do so, but our success will be inconsiderable. Abscesses in the uterus are rare, but they are very generally fatal. See Fernelius; Fordyce's Elements of the Practice of Physic, part the second; and Hamilton's Outlines.

22. Inflamma'tio vagi'næ may occur from any cause which produces inflammation in other parts, and must be cured by the same means; but emollient, saturnine, and anodyne injections are particularly useful. When it happens after delivery, it is occasioned by the head of the child being long retained in the pelvis.

If the swelling and inflammation be not very great,

they are generally removed by the discharge of the lochia; but if the internal membrane of the vagina is inflamed, emollient injections must be thrown up from time to time, and a piece of prepared sponge should be introduced, to prevent the effects of the adhesive inflammation. Soak a piece of sponge, of a proper size, to keep the vagina open, when expanded, in warm water; then bind it tight with a string, cutting off any irregularities or lumps. When dry, take off the string, and the sponge will remain in the same form; anoint it with lard, and introduce it into the vagina, the moisture of which will expand it.

If the pressure was so long continued as to obstruct the circulation, a mortification will ensue, which if partial only, the mortified parts will slough off. This is probably the case, if the woman complains of great pain after delivery, a fetid smell, and a discharge of sharp ichor, or of pus and matter from the vagina. Emollient fomentations may be thrown up in such circumstances; dossils of lint, dipped in any warm balsam, may be applied; and when the sloughs are separated, great care should be taken to prevent the vagina from coalescing, either by introducing dossils of lint or pieces of sponge. Inflammation and sloughing of the vagina occasionally happens from violence of any kind.

23. Inflamma'tio ventri'culi, *gastritis*, *cardialgia inflammatoria*. Dr. Cullen places this, as usual, in the order *phlegmasiæ*, defining it a typhoidal pyrexia, attended with anxiety; heat and pain in the epigastric region, increased on taking any thing into the stomach; a propensity to vomit, and immediately throwing up what is taken, with a hiccough. He distinguishes two species:—1st, *Phlegmonodea*, when from internal causes, in which the pain is acute, and the febrile affection violent. 2d, *Erythematica*, when from external causes, and the pain with the febrile affection is of a milder nature, with an erysipelatous inflammation appearing in the fauces. He is certain, he adds, from many observations, that of the gastritis, as well as the enteritis, there are two species, of which one is phlegmonous, and the other erysipelatous; and, therefore, he has distinguished them: though he confesses that the symptoms of the erysipelatous inflammation of the stomach, and more so those of a similar affection of the intestines, are often obscure and uncertain; but of these he has spoken, that posterity may investigate the subject more diligently.

It is produced from nearly the same causes as the inflammation of the intestines, except introsusception and hardened fæces, and it is more liable to be excited by acrid substances. It rarely occurs from external causes, though we have seen three instances in which it has arisen from external cold.

When the stomach is inflamed, there is soreness externally; a pungent, fixed, burning pain, with a distention and tumour, sometimes a pulsation in it: the mildest drinks increase the pain, bring on sickness, vomiting, purging, or hiccough. A continual uneasiness is felt about the præcordia, a difficulty of breathing and swallowing, with a pain in sneezing: the pulse is small, quick, hard, and intermitting; the extremities cold, with clammy sweats and faintings: sometimes a temporary mania, and, in one case, a hydrophobia. When from a wound in the stomach there is frequently little or no pain; but the patient sinks with all the symptoms of irritation.

Inflammation in the stomach must be distinguished from a cardialgia, a circumstance by no means difficult, as neither vomiting nor fever attend; and from an inflammation in the convex part of the liver; which, however seldom occurs without some inflammation of the stomach.

This disorder is seldom so dangerous as is represented. Indeed it seldom occurs in its acutest form; but mild nutritious drinks, in very small quantities, nourishing clysters, with a blister externally, has generally relieved. Bleeding, we are told, must be freely used: it may be so, but we have never found it necessary. All stimulants are undoubtedly injurious. When highly acute, a metastasis takes place to the head, and violent phrenitis supervenes: in other circumstances it quickly terminates in gangrene, a change known by a cessation of pain, a coldness about the præcordia, a languid or an intermitting pulse, with a calm serenity, without hiccough.

The drink should neither be cold nor hot, but gently warmed. Demulcents and emollients are best adapted for the common drink, with small portions of nitre, or of the rob of currants.

A solution of gum arabic, or spermaceti made into draughts, in each of which may be gr. v. of nitre, and about a drachm of the syrupus e meconia, may be repeated as often as seems necessary for moderating the pain; and checking the vomiting.

If acrid poison, or an excess of eating, is the cause, an active emetic may be given; but on all other occasions avoided. The emetic preferred is sweet oil; but one that acts with effect and quickly is more effectual: of this kind is the vitriolated zinc.

If an abscess bursts, a milk diet, with the mildest food, in small quantities at once, is only necessary.

The erythematic inflammation of the stomach comes on insidiously; but sometimes it is evident by the inflammation appearing in the pharynx, as well as on the whole internal surface of the mouth. When, therefore, an inflammation of this kind affects the mouth and fauces, with a frequent vomiting, and an unusual sensibility in the stomach, we may suspect that the same affection extends downward. Even when no inflammation appears in the fauces, yet if a pain be felt in the stomach, with a want of appetite, anxiety, frequent vomiting, an unusual sensibility to acrids, some thirst, and frequency of pulse, we may suspect the existence of this disease in the stomach. The inflammation often extends farther, occasioning diarrhœa and mucous discharges from the rectum.

The treatment will vary according to the causes, &c. When from an acrid matter taken in by the mouth, it must be evacuated by a quick emetic; by large draughts of warm mild liquids; or by the proper antidote, if the nature of the poison is known. If symptoms of inflammation are manifest, bleeding, blisters, fomentations, and frequent emollient laxative clysters may be used. But as the affection often arises in putrid diseases, all that can be done in such circumstances is to avoid irritation, and to throw into the stomach as much of mild and of acescent aliments as it can bear. When the disease is a little alleviated, a light infusion of bark, with a few drops of any mineral acid, is borne with ease, and is highly beneficial. See Cullen's First Lines, vol. i. p. 356, &c. ed. 4.

24. Inflamma'tio ve'sicæ, *cystitis*, and *cystiphlogia*. This disease is also placed by Dr. Cullen in the order *phlegmasiæ*, and defined a febrile affection, attended with pain and tumour of the hypogastric region; frequent and painful micturition, or ischury and tenesmus. He distinguishes two species. 1. Cystitis from internal; and, 2. from external causes.

It is produced by the usual causes of internal inflammation, or from topical irritation; as acrid diuretics, or a calculus.

A pressing and burning pain, with external soreness, is perceived in the region of the bladder above the pubes, and in the perinæum, soon after a febrile attack. If the neck of the bladder be inflamed, the urine is retained, with frequent stimulus to its evacuation;—if the fundus, there is a continual discharge, with great efforts to throw out a larger quantity, which the patient conceives to be contained in a bladder. Frequent attempts to expel the fæces, with which the rectum appears to the patient to be always loaded, increase the pain very much, particularly when any hard fæces are contained in it. The pulse is frequent, but seldom hard; the extremities cold, with restlessness, sickness, vomiting; sometimes delirium, and other symptoms of irritation.

This disorder, if very violent, usually terminates soon, either in a recovery or death; frequently the latter, generally from a gangrene. So violent an inflammation of the bladder seldom, however, occurs. We have often seen it without considerable danger, chiefly from topical irritation, and once only from catching cold.

This disorder is sometimes relieved by an increased secretion of mucus from the internal membrane, resembling, in appearance, pus, but much lighter, and more uniform; or by a metastasis. When suppuration follows, pus is discharged with the urine, passes externally through the perinæum, or into the cavity of the abdomen, where it proves fatal. The ulcer in the bladder and perinæum are difficult of cure.

Inflammation in the external coat of the bladder should be distinguished from that of the internal; and inflammation in any part of the bladder should be distinguished from inflammation in the adjacent parts, as well as from that retention of urine which proceeds from other causes. The distinction is, however, by no means difficult, as, when the external membrane is affected, the pulse is hard, and the external soreness considerable; nor is the great irritation to make water so painful or frequent.

In the cure, bleeding is seldom necessary to any considerable extent; but the bowels should be kept freely open by such laxatives as do not irritate the rectum.

Relaxing medicines, such as the pulvis antimonials and haustus salinus, should be given early, and repeated frequently. Fomentations to the pubes and perinæum are highly useful; and mild clysters, which act as such, should be frequently injected.

If the urine is retained, decoctions of mucilaginous herbs may be taken; but we should always reflect, that, though we abate the acrimony of the urine in this way, we increase the disease. Such decoctions should not be drunk in too large quantities, and gum arabic kept in the mouth will sheath the inflamed parts without adding to the quantity of urine. If necessary, the catheter must be introduced; though much care is required in the attempt, which often fails.

If, notwithstanding due evacuations, spasmodic contraction with much pain continues, opiates in considerable doses, such as tinct. opii. gt. xx. every three or four hours may be given, taking care that no accumulations take place in the bowels.

The patient may be placed in the warm bath two or three times in the day. Blisters are sometimes applied to the perinæum, and with advantage; the plaster should, however, be covered with thin gauze, and removed as soon as a vesication has taken place. In this way we have often applied them with success. The rubefacients promise greater utility with less inconvenience, but we know not that they have been tried.

If by irregular shivers, and the diminution of pain, a suppuration is suspected, we must wait its progress, and the disease will then become an ulcer of the urinary passages, which must be treated accordingly.

25. Inflammato'ria fe'bris. Dr. Cullen places it in the class *pyrexiæ*, and order *febres*; and as a synonym of synocha; defining it heat, greatly increased; a frequent, strong, and hard pulse; high coloured urine; the functions of the sensorium somewhat disturbed. This fever is the *continua non putris* of Boerhaave; and the *febris acuta sanguinea* of Hoffman.

When fever is attended with an inflammatory diathesis, or when actual inflammation affects any part during the existence of fever, the patient is said to labour under one of an inflammatory kind; but, according to the different parts in which the inflammation is seated, different denominations are given to the disorder, as we have seen in the preceding articles.

In strong constitutions it is produced by any of the causes of fever; but it has been doubted whether inflammatory fever exists, independent of topical inflammation. There is little doubt but that it is most commonly attendant on topical inflammation, though it certainly exists alone. When we consider the distinctions of fever, we shall find that they have been too curiously subdivided; and that fever is a more simple disorder than pathologists have represented it. At present we shall only remark, that this disease is distinguished by a hard pulse and more considerable heat than usual, generally owing to the strength and tone of the habits it attacks.

The horror and rigor of the attack are violent, but short in their duration, and are followed by a violent hot fit, in which all the symptoms indicating increased action of the arterial system are very conspicuous. The fever is often terminated by topical inflammation, or a hæmorrhage, and is alone fatal, though it may become rapidly so, when the inflammation falls on the brain, lungs, or intestines. If none of these consequences happen in the second week, the strength diminishes, and the fever goes off with a perfect crisis, or changes to a typhus. When attended with local inflammation, and this is removed, the same change sometimes takes place, and the typhus is rendered more dangerous, by the weakness induced from the necessary evacuations. This has been the reason of nosologists introducing the genus *synochus*; but *synochus*, the real disease, is very generally a typhus, and the previous inflammatory symptoms are accidental only. The cause of symptoms so dissimilar is not easily assigned. In some cases the infectious miasmata are only excited to action by the

previous inflammatory fever, and in others the irregular action subsequent to the spasm is directed to a particular organ, and the irritation excited by its inflammation increases the force of the circulation, so as to produce the symptoms described. See FEBRIS and INFLAMMATIO.

The causes of inflammatory fever are chiefly cold when the body is heated; but it may also arise from accumulations in the stomach, or topical irritations. The stomach and bowels are the chief sources of this disease in children; and, indeed, the most common causes, when it appears independent of topical affections. The other sources of irritation are obscure.

Bleeding, the common remedy with indiscriminating practitioners, must be employed with caution. If an inflammatory fever attacks a young, strong, robust labourer, it may be employed with freedom; but we should always recollect that though pneumonia, phrenitis, or any active inflammation, may come on, a typhus may be also at the bottom. The pulse may direct; but, as we have often observed, it requires peculiar judgment to distinguish between a strong and an irritated pulse, as well as between an apparently low and a labouring one. We have found the countenance a good criterion; and if the features are sunk, with any apparent anxiety in the countenance, whatever are the other symptoms, bleeding must be avoided. On the contrary, strong rigor, soon succeeded by violent heat, flushed face, a sparkling and a full eye, will require a free and active evacuation from the arm, which may be repeated according to circumstances.

Emetics are remedies of the utmost importance, and in children, where a foulness of the stomach is the principal cause, they will often carry off the fever. In general, the headach and fulness of the vessels appear to contraindicate this remedy; but we have already observed, that the increased fulness is temporary, the advantages permanent. Yet where the determination to the head is very violent, and the vessels have not been depleted by venesection, emetics should be avoided.

Cathartics are still more necessary than emetics, and less dangerous. They not only relieve the head, but they prevent determinations to the lungs and liver, and lessen the violence of typhus, should its fomes be latent. The saline purgatives, with senna, are, in this case, preferable.

The cooling sedatives and inirritants must be freely employed. The antimonials, nitre, with all the other neutrals, are valuable remedies; and, where the head is affected, camphor, united to vinegar, has been employed with advantage. (See PHRENITIS.) Opiates are often necessary when violent irritation and restlessness prevent sleep. They should be given with camphor and the antimonial powder.

When local pains come on, they are occasioned by topical inflammation, and must be treated according to their nature. See INFLAMMATIO.

The diet should be chiefly gruel, or barley water, subacid fruits, water acidulated with lemon, the jelly of currants, or similar sharp fruits. It may be drunk warm or cold, as is most agreeable to the patient. Half a drachm of nitre may be dissolved in every pint of liquor in which no acid juice is mixed. The room should be high, large, and airy. The patient may sit up a little each day, according to his strength; for this will lessen the fever, headach, and delirium: but when a salutary perspiration comes on, it should be indulged in bed. The sheets may be changed every two or three days, and all putrid matters should be removed.

See Fordyce's Elements of Physic, part ii. Fordyce's Inquiry into the Causes, &c. of Putrid and Inflammatory Fevers.

INFLA'TIO, (from *inflo, to puff up*). See EMPHYSEMA.

INFLA'TUS, (from the same,) is applied botanically to the perianthium, when blown up like a bladder.

INFLO'RESCENTIA, (from *in*, and *floreo, to blossom*,) the mode in which flowers are joined to the plant by the foot stalk.

INFLUE'NZA. INFLUENCE. (Spanish.) See CATARRHUS EPIDEMICUS. The same principle which induced Hippocrates to attribute epidemics to the τὸ θεῖον, gave this general epidemic catarrh the name of *influenza*. From Sydenham, upwards to Hippocrates, it was known by the name of *catarrhalis febris epidemica*; but Sydenham chiefly calls it *tussis epidemica*: it hath been since variously named, but is now styled *influenza*.

In Dr. Cullen's system it is a variety of *catarrhus a contagio*.

In the year 1673 Sydenham treated of the nature and cure of the putrid fever, which he called *variolous fever*; he found that this fever returned every summer afterwards, and was succeeded by the *cholera morbus* and *bilious fever* (by him called the new fever). In 1675 these fevers were attended by a new symptom, viz. an uncommon degree of stupor, which frequently ended in a coma, and was for that reason by Sydenham called the comatous fever. In the beginning of November of the same year, this fever was complicated with a cough, and was described by Sydenham nearly as follows:

"The fever proceeded in this manner during the autumn, sometimes seizing the head, at others the bowels, every where raging under the appearance of symptoms peculiar to those parts till the end of October; when the weather, which till now had continued in a manner as warm as summer, changed suddenly to cold and moist; whence catarrhs and coughs became more frequent than I remember to have known them in any other season. But it is of most moment to observe, that the stationary fever of this constitution usually succeeded these coughs, and hence became more epidemic, and likewise varied some of its symptoms. For whereas, some little time before, it attacked the head and bowels, now it chiefly seized the lungs and pleura, whence arose peripneumonic and pleuritic symptoms; though it was still precisely the same fever that began in July 1673, and continued without any alteration of its symptoms till the rise of these catarrhs.

"These catarrhs and coughs continued to the end of November, after which they abated, but the fever still remained the same as it was before the catarrhs appeared: though it was neither quite so epidemic, nor accompanied with quite the same symptoms, these depending accidentally upon the catarrhs.

"1675, the season having continued unusually warm, like summer, till towards the end of October, and being suddenly succeeded by cold and moist weather, a cough became more frequent than I remember

to have known it at any other time; for it scarce suffered any one to escape, of whatever age or constitution he were, and seized whole families at once; nor was it remarkable only for the numbers it attacked (for every winter abundance of persons are afflicted with a cough), but also on account of the danger that attended it; for as the constitution, both now and during the preceding autumn, eminently tended to produce the epidemic fever above described, and as there was now no other epidemic existing, which by its opposition might in some measure lessen its violence, the cough made way for, and readily changed into, the fever. In the mean while, as the cough assisted the constitution in producing the fever, so the fever on this account attacked the lungs and *pleura*, just as it had affected the head even the week preceding this cough; which sudden alteration of the symptoms occasioned some, for want of sufficient attention, to esteem this fever an essential pleurisy or peripneumony, though it remained the same as it had been during this constitution, i. e. since July 1673.

"For it began now, as it always did, with a pain in the head, back, and some of the limbs; which were the symptoms of every fever of this constitution, except only that the febrile matter, when it was copiously deposited in the lungs and *pleura*, through the violence of the cough, occasioned such symptoms as belong to those parts. But, nevertheless, as far as I could observe, the fever was the very same with that which prevailed to the day when this cough first appeared: and this likewise the remedies, to which it readily yielded, plainly showed. And though the pungent pain of the side, the difficulty of breathing, the colour of the blood that was taken away, and the rest of the symptoms that are usual in a pleurisy, seemed to intimate that it was an essential pleurisy; yet this disease required no other method of cure than that which agreed with the fever of this constitution, and did no ways admit of that which was proper in the true pleurisy, as will hereafter appear. Add to this, that when a pleurisy is the original disease, it usually arises betwixt spring and summer; whereas the distemper we now treat of began at a very different season, and is only to be reckoned a symptom of the fever which was peculiar to the current year, and the effect of the accidental cough.

"Now, in order to proceed in a proper manner to the particular method of cure, which experience shows to be requisite both in this cough and in those which happen in other years, provided they proceed from the same causes, it is to be observed that the effluvia which used to be expelled the mass of blood by insensible perspiration are struck in, and thrown upon the lungs, from the sudden stoppage of the pores by cold; these by irritating the lungs immediately raise a cough; and the hot and excrementitious vapours of the blood being hereby prevented from passing off by perspiration, a fever is easily raised in the mass; namely, when either the vapours are so copious that the lungs are unable to expel them, or the inflammation is increased by the adventitious heat arising from the use of overheating remedies, or too hot a regimen, so as suddenly to cause a fever in a person who was already too much disposed to one. But of whatever kind the stationary fever be, which prevails the same year, and at the same time, this new fever soon assumes its name, becomes of the same kind, and in most particulars resembles it; though it may still retain some symptoms belonging to the cough, whence it arose. In every cough, therefore, proceeding from this cause, it is sufficiently manifest that regard must be had not only to the cough, but likewise to the fever that so readily succeeds it.

"Relying on this foundation, I endeavoured to relieve such as required my assistance by the following method: if the cough had not yet caused a fever, and other symptoms, which, as we said, usually accompany it, I judged it sufficient to forbid the use of flesh meats, and all kinds of spirituous liquors, and advised moderate exercise, going into the air, and a draught of cooling pectoral ptisan to be taken between whiles. These few things sufficed to relieve the cough; and prevent the fever, and other symptoms usually attending it. For as by abstaining from flesh and spirituous liquors, along with the use of cooling medicines, the blood was so cooled as not easily to admit of a febrile impression, so by the use of exercise those hot effluvia of the blood, which strike in, and occasion a cough as often as the pores are stopped by sudden cold, are commodiously exhaled in the natural and true way, to the relief of the patient.

"With respect to quieting the cough, it is to be observed that opiates, spirituous liquors, and heating medicines used for this purpose, are equally unsafe; for, the matter of the cough being entangled and stiffened thereby, those vapours which should pass off from the blood, in a gentle and gradual manner, by coughing, are retained in the mass, and raise a fever: and this frequently proves very fatal to abundance of the common people, who, whilst they unadvisedly endeavour to check the cough, by taking burnt brandy, and other hot liquors, occasion pleuritic or peripneumonic disorders; and by this irrational procedure render this disease dangerous, and often mortal, which of its own nature is slight, and easily curable. Neither do they err less, though they seem to act more reasonably, who endeavour to remove the cause of the disease by raising sweat; for though we do not deny that spontaneous sweats frequently prove more effectual than all other helps in expelling the morbific cause, yet it is apparent that whilst we attempt to force sweat we inflame the blood, and may possibly destroy the patient, whom we desire to cure.

"But it happens sometimes, not only when the disease has been unskilfully treated, in the manner above described, but also spontaneously, at the beginning of the illness, or in a day or two afterwards, especially in tender and weakly persons, that the cough is succeeded by alternate intervals of heat and cold, a pain in the head, back, and limbs, and sometimes a tendency to sweat, especially in the night; all which symptoms generally followed the fever of this constitution, as it were, of the lungs, which occasioned a difficulty of breathing, stopped the cough, and increased the fever.

"According to the best observation I could make, the fever and its most dangerous symptoms were best relieved by bleeding in the arm, applying a blister to the neck, and giving a clyster every day. In the mean time, I advised the patient to sit up some hours every day, to forbear flesh meats, and sometimes to drink small beer, sometimes milk and water, and sometimes a cooling and lenient ptisan. If the pain of the side abated not in two or three days, but continued very violent,

I bled a second time, and advised the continuance of the clysters. But with respect to clysters, it must be carefully observed, either in this or other fevers, that they are not to be long and frequently used when the disease is in its decline; especially in hysteric women, and in men that are subject to the hypochondriac disease; for the blood and juices of such persons are easily changed, and soon agitated and heated; whence the animal economy is disturbed, and the febrile symptoms continued beyond the usual time.

"But to return to our subject: whilst by these means we allowed time, that the blood might gradually free itself from those hot particles that were lodged in the pleura and lungs, all the symptoms usually went off in a gentle manner; whereas, when the disease was treated in a rough way, by giving abundance of remedies, it either destroyed the patient, or rendered it necessary to repeat bleeding oftener than the disease required, or would safely bear, in order to save life. For though repeated bleeding answers every purpose in the true pleurisy, and is alone sufficient for the cure thereof, provided there be no hindrance from a hot regimen and heating medicines; yet, here, on the contrary, it sufficed to bleed once, or at most twice, in case the patient refrained from bed, and drank cooling liquors. And I never found it necessary to bleed more frequently, unless the symptoms relating to the *pleura* and lungs were much increased by some adventitious heat, and even in this case the practice was not wholly void of danger.

"Upon this occasion, I shall briefly deliver my sentiments with respect to a very trite and common opinion, viz. that a pleurisy is found to be of so malignant a nature in some years that it will not then bear bleeding, at least not so often as this distemper ordinarily demands. Now, though I conceive that a true and *essential* pleurisy, which, as shall hereafter be observed, happens indifferently in all constitutions, does in all years equally indicate repeated bleeding; yet it sometimes happens that the peculiar epidemic fever of the year, from sudden alteration of the manifest qualities of the air, readily throws off the morbid matter upon the *pleura* and lungs, while the fever notwithstanding continues exactly the same. Wherefore, in this case, though bleeding may be used to abate this symptom when it is very violent, yet generally speaking, little more blood ought to be taken away than is required by the fever whereon this symptom depends; for, if the fever be of a kind that will bear frequent bleeding, it may likewise be repeated in the pleurisy, which is a symptom thereof: but if the fever will not bear repeated bleeding, it will be prejudicial in the pleurisy, which will go off with, or last as long as the fever does. And in my judgment this was the case in the symptomatic pleurisy that accompanied the fever which prevailed here at the time the cough began, namely, in winter, 1675; and therefore I must observe, that whoever, in the cure of fevers, hath not always in view the constitution of the year, inasmuch as it tends to produce some particular epidemic disease, and likewise to reduce all the contemporary diseases to its form and likeness, proceeds in an uncertain and fallacious way.

"In the month of November of the above-mentioned year I attended the eldest son of sir Francis Wyndham in this fever. He complained of a pain in his side, and the other symptoms that attended those who had this disease. I bled him but once, applied a blister to his neck, injected clysters every day, gave him cooling ptisans and emulsions, and sometimes milk and water, or small beer, to drink; and advised his sitting up a few hours every day; and by this method he recovered in a few days, and a purge completed the cure.

"But it must be remarked, that though these were the symptoms which succeeded the cough, during this winter, yet the cough, unattended with these symptoms, was more prevalent at the same time. But this required neither bleeding nor clysters, provided a fever was not occasioned by a hot regimen or heating medicines; it sufficed to allow the benefit of the open air, and to forbid the use of flesh, wine, and such spirituous liquors which are apt to cause a fever." Wallis's Sydenham.

In the month of July, 1775, the putrid fever came on; was succeeded by the cholera morbus in August, and the bilious fever in September, as usual; this bilious fever, however, was attended with a degree of stupor, which went off with the other symptoms when properly treated; but was easily turned into a coma, when improperly treated at any period of the disease. See Dr. Grant's Account of the Epidemic Cough and Fever, 1776, from Sydenham.

This subject hath engaged the attention of many since the year 1775; and in 1782, Dr. J. C. Smyth gave his observations of this disorder, in the first volume of Medical Communications, p. 71, &c. the substance of which is as follows:

"The late influenza was very generally accompanied not only with the usual catarrhal symptoms, but with others no less distressing to the patient, and which were still more alarming to the physician; such as great languor, lowness, and oppression at the præcordia; anxiety, with frequent sighing, sickness, and violent headach. The pulse was uncommonly quick and irregular, and the sick were frequently delirious, especially in the night. The heat of the body was seldom considerable, particularly when compared with the violence of the other symptoms; the skin was moist, with a tendency to profuse sweating; the tongue white or yellowish, but moist. Some persons complained of severe muscular pains either general or local, others had erysipelatous patches or efflorescences on different parts of the body, which in one instance terminated in gangrene and death. I observed petechiæ but once, and then only two days before death. Those attacked with the influenza were in general taken suddenly ill, and the symptoms in the beginning, or for the first twenty-four or forty-eight hours, were extremely violent, bearing no proportion either to the danger or duration of the distemper. Children and old people either escaped entirely, or were affected in a slighter manner. Women with child, when seized with the disease, were apt to miscarry; or, if far advanced in their pregnancy, to be delivered before their time; in either case, the hæmorrhage was considerable, and several died. Patients subject to pulmonic complaints suffered much from th cough, difficult breathing, and other peripneumonic symptoms, and to them also the disease proved dangerous or fatal.

"The headach which accompanied the influenza may be distinguished into three kinds.

"1st. The uneasy weight, soreness, and distention, of the forehead, usual in common colds.

"2dly. The violent sick headach, arising from the affection of the stomach, and relieved by vomiting.

"3dly. The headach, during which the patients complained of a sensation as if their head was splitting, with a severe shooting pain at the vertex; this last headach was most usual in peripneumonic cases, and seemed chiefly occasioned by the violence of the cough.

"The fever began with irregular chilliness, had considerable exacerbations and remissions, and was always greatly increased towards night; but even then the heat of the body and thirst were seldom so great as might have been expected, and the accessions of fever were chiefly marked by the increased quickness of pulse and delirium. The frequency of the pulse was greater than is common in fevers; (it was often 120, even in the remissions of fever, in the accessions 140, and sometimes so frequent that it was impossible to reckon it: in many instances it was irregular and intermitting;) nor do I remember to have felt so frequent, and at the same time so irregular, a pulse (the irregularity of the pulse is in a great measure characteristic of malignant contagious fevers), in any fever attended with so little danger, and of so speedy and easy a termination; the violence of this being commonly over in twenty-four or forty-eight hours. Many, from the beginning, were delirious in the night time and during the exacerbation of fever, who were perfectly recollected and distinct in the day and during the remissions; but even where the delirium continued, it was not a constant one, as the sick knew those who spoke to them, would answer some questions distinctly, and a few minutes afterwards talk incoherently; a fixed stare of the eyes at the time, and a kind of wildness in the countenance, were also very expressive of this state or condition. The delirium which we have just now described, though unnoticed (so far as I know) by any practical writer, is not unusual in the putrid fever, and differs as materially from the low delirium incident to the last stage of that disease, as it does from the phrenetic delirium of the febris ardens, or of any inflammatory fever. During the whole of the influenza, I met only one instance of true phrenetic delirium; and it may not be foreign to the purpose to remark, that it happened to a patient who had been three times bled, had swallowed no heating cordials, and who was taken every day out of bed, conformable to the judicious practice of Sydenham (vid. De Febre Comatosa), expressly with the intention of preventing this termination of the disease. Respecting the danger of the influenza, physicians, I find, have entertained somewhat opposite opinions; possibly owing to the difference of place and situation. In London, although the distemper doubtless proved fatal to many, yet it could hardly be accounted a dangerous one, if the number who died be compared with the prodigious number of those who recovered.

"The late influenza might very properly have been named the sweating sickness, as sweating was the natural and spontaneous solution of it, and rest, abstinence, and warm diluents, were, in most instances, all that were necessary for the cure; yet, amidst such an amazing number and variety of cases, many occurred which required some further medical assistance, and when that became necessary, it was of the utmost importance that it should be procured early; for the disease when neglected or improperly managed in the beginning, sometimes ended in a malignant fever of difficult treatment and of very doubtful termination. And although the tendency to profuse sweating often continued, it now only weakened the patient, and a critical or salutary solution of the disease, in consequence of this evacuation, was no longer to be expected; nor do I recollect a single example of profuse sweating being attended with any advantage after the first forty-eight hours.

"The medicines which I found most serviceable in abating or carrying off the fever were small doses of an antimonial powder, composed chiefly of tartar. emet. the julep e camphora, with about a fourth part of the spt. Mindereri; the common saline draught, with ten or fifteen grains of the pulv. contrayerv. c. or, what I commonly preferred, from twenty to forty drops of the liquor anod. min. Hoffmanni, adding occasionally a small quantity of the paregoric elixir.

"In cases of great lowness, besides the drinks and nourishment usual in fevers, I allowed the sick white wine whey, wine and water; and weak veal broth.

"For removing the oppression at the præcordia, sickness, and headach, no means were so certain as vomiting with tart. emet. giving it in small doses, largely diluted, and repeated every ten or fifteen minutes, until it produces the desired operation. This medicine, administered in this manner, had also a very remarkable effect in bringing on a remission of the febrile symptoms, and in accelerating the termination of the disease. It likewise commonly opened the body; when that was not the case some gentle laxative was given.

"The cough required not only plentiful warm dilution, but opiates and blisters were also very necessary; and where the sick were attacked with stitches, or acute pains about the chest, with difficult or laborious breathing, and other peripneumonic symptoms, the propriety of bleeding was, in my opinion, clearly and evidently pointed out; nor can I think any physician justifiable in neglecting the use of the lancet under such circumstances. At the same time, I am ready to acknowledge, that bleeding, though necessary to obviate the fatal consequence of a particular symptom, was by no means conducive to the general cure of the disease; that, on the contrary, the lowness and dejection were often increased by it; that the blood taken away had not always an inflammatory appearance, but was sometimes florid, and the crassamentum tender; that the relief afforded by bleeding was neither so considerable nor so certain as in other similar cases of peripneumony, and that in the course of the disease there frequently appeared unequivocal signs of a putrid tendency. But admitting the whole of these facts, and granting that they ought to make a physician cautious of taking away blood so freely, perhaps, as he otherwise would do, and as the urgency of the symptoms might seem to justify, yet they surely do not lead to an entire prohibition of the use of the lancet, at least in those cases where there was evidently no alternative, and where, although the effects of bleeding might be doubtful, the consequence of omitting it was certain. Upon such occasions, the advice of Celsus is the voice of reason, "Saitus est enim anceps auxilium experiri quam nullum." Besides bleeding, blisters applied as near as possible to the parts affected were here, as in similar cases, of very essential service in removing the stitches in the side, and in relieving the difficulty of breathing; so that we may

justly apply to them what an eminent author said of the Peruvian bark, that he found it most serviceable where it was most wanted; for in cases purely inflammatory, where bleeding of itself will commonly do every thing, blisters are less necessary; but in those of a mixed nature, where the assistance of blisters is more immediately required, the relief afforded by them is in general more certain.

"Some may think it strange, that amongst the remedies employed in the treatment of this disease I have made no mention of oily medicines, such as emulsions, linctuses, &c. nor of the Peruvian bark. In regard to oily medicines, I have often observed that the advantage derived from them in cases of catarrh, attended with heat and fever, was extremely equivocal; and that wherever there were nausea, oppression, and uneasiness at the stomach, with a bitter taste in the mouth, and nidorous eructations, they did more harm than good: as these symptoms so frequently occurred in the influenza, I thought it safest to omit their use entirely.

"As to the bark, I shall only remark, that in the influenza, the cough, affection of the breathing, and oppression at the præcordia, where they occurred, were to me sufficient reasons for not employing it; and that even where these symptoms were not present, and in cases where the great lowness, and apparent putrid tendency, seemed not only to justify but even to demand the use of the bark, I never was so fortunate as to see one single instance where it produced any sensible good effect, either in moderating the fever, supporting the strength, checking the disposition to gangrene, or in preventing the fatal catastrophe that ensued.

"When the fever, and other immediately alarming symptoms of the influenza had ceased, there frequently remained a teasing cough; and convalescents in general complained of languor, want of appetite, and that their sleep was interrupted and unrefreshing. For removing these complaints, and completing the recovery of the patients, change of air, and riding on horseback, were the most effectual remedies; and to some they were absolutely necessary. A milk diet was recommended where the cough was obstinate; but I did not find it either necessary or of advantage to enjoin so strict an antiphlogistic regimen as is usually done in similar complaints. Neither do I know of any instance where the cough terminated in a phthisis pulmonalis, and I am much inclined to believe that this fatal termination was much less frequent after the influenza than after a common cold. For the lowness and want of appetite, chalybeate waters, especially when drunk at the spring, were of singular service. I also frequently prescribed, and I think with advantage, the elix. vitr. cum liquor. anod. Hoffmanni, taken to the quantity of thirty or forty drops in a bitter infusion, or in a decoction of the bark.

"In this short account of the late influenza, I have offered no conjecture with regard to the original cause of the distemper, or the manner in which it was propagated. I apprehend, from the present state of our knowledge, that we can hardly venture to say even what it is not; still less to affirm, with any probability, what it is."

Having thus inserted the best accounts, both ancient and modern, we shall refer for our own opinions and experience to the article CATARRHUS EPIDEMICUS.

See also Observations on the Influenza by A. Broughton, M. D.; a Description of the Influenza, by R. Hamilton, M. D.; Fothergill's Works, by Lettsom, 4to. p. 615; Medical Observations and Inquiries, vol. vi. p. 340, &c.; Medical Transactions, vol. iii. p. 54, &c.; Medical Communications, vol. i. p. 1, &c.; Edinburgh Medical Commentaries, vol. ix. p. 393; Memoirs of the Medical Society, vol. i. to vi.

INFRASCAPULA'RIS MUSCULUS, (from *infra*, *below*, and *scapula*, *the shoulder blade*,) *infraspinatus*, *superscapularis inferior*, *subscapularis*, or *immersus*, rises from the whole inner surface of the scapula, passes under the coracoid process, runs over the capsular ligament, and is inserted into the outer tuberosity of the os humeri, carrying the arm round, and partly raising it, being the reverse of the supraspinatus.

INFRASPINA'TUS, (from *infra*, and *spina*). See INFRASCAPULARIS.

INFUNDI'BULUM, (from its shape,) *choana*, *pelvis*, *chone*. Between the basis of the anterior pillars of the fornix, and the anterior part of the union of the optic thalami, lies this funnel-like cavity. It runs down towards the basis of the cerebrum, contracting gradually, terminating in the glandula pituitaria, and communicating with the lateral ventricles. (See CEREBRUM.) The name also of the pelvis of the kidneys (see RENES,) and of the pharynx.

INFU'SIO, (from *infundo*, *to pour in*). INFUSION. It signifies either the action of the fluid, or the medicine prepared by it.

By infusion in water, the gummy, the extractive, and the saline parts of vegetables, are separated: and by the intervention of the gum, the resin and oil are in part taken up by the same menstruum, so that in many instances the whole virtue of a plant is obtained. In general, water takes up more by infusion from dry herbs than from fresh ones, particularly the newly dried ones. From animal substances, water extracts the gelatinous and nutritious parts; and by this means glues, jellies, and broths, are prepared; and along with these it sometimes takes up principals of more activity. Water also generally suspends some portion of calcareous and aluminous earth; the quantity it dissolves of either is truly inconsiderable.

In making infusions, whether in cold or hot water, the ingredients are only steeped in it, without boiling. It is the same, whether proof spirit, rectified spirit, or any other menstruum, is employed, though these preparations have a different title. This form is preferred where the medicinal portion is soluble and easily separated; when it is volatile, and would fly off by boiling; or where it would be lost or destroyed by long maceration.

In nervous disorders, infusions are best made in a vinous, a spirituous, or an alkaline menstruum. Stomachic infusions should be moderately spirituous. Cathartic ones, whether saline or resinous, if for extemporaneous use, are best made with hot water.

Infusions should not, if possible, be so fully impregnated with the ingredients as to make the medicine unpalatable: though the infusions of many of the fetid plants must be necessarily unpleasing.

Many infusions are most agreeable when made with cold water, though probably weaker than when heat is employed. The cold infusion of camomile flowers and the carduus benedictus are pleasant, and will not excite vomiting.

INFU'SIO. See TRANSFUSIO.

INFU'SUM. An INFUSION. Sometimes styled *dilutum;* at others it means a clyster or an injection.

INGE'STA, (from *ingero, to throw in*). The contents of the stomach; generally alimentary, sometimes medicinal.

INGRAVIDA'TIO, (from *ingravidor, to be great with child*). See IMPREGNATIO.

IN'GUEN, (from *ἐγκυω, to bring forth*). The GROIN. The two groins are the lateral divisions of the hypogastric region.

INGUINA'LIS, (from *inguen, the groin;* so called from its supposed efficacy in diseases of the groin). See ERYNGIUM.

INHALA'TIO. See FUMIGATIO.

INHA'LER. An instrument recommended by Dr. Mudge for the cure of catarrhs, but now disused, though it may be in many cases probably advantageous.

I'NHAMÆ ORIENTA'LES. See BATATAS HISPANICA.

I'NHAME. See CARA BRASILIENSIBUS.

INHUMA'TIO, (from *inhumo, to bury in the ground*). A method of digesting, by burying in horse dung the vessel which contains the chemical ingredients to be digested.

INIMBOI'A. See BONDUCH INDORUM.

I'NION, (the place whence *νῆς, the nerves*, originate). See OCCIPUT.

INJACULA'TIO, (from *injaculor, to shoot into*). A violent spasmodic pain in the stomach, feeling as if darts were shot into it, with an immobility of the body. Van Helmont.

INJE'CTIO, (from *injicio, to throw into*). An INJECTION, called also *eisbole*. Fluids used for injection should be used lukewarm; and may be applied either by a syringe or clyster pipe.

When used in gleets or gonorrhœas, Dr. Swediar advises that the syringe should have a short but wide pipe, so large that its orifice may enter the urethra, and the piston be close to its sides. If the whole pipe of the syringe be much smaller than the orifice of the urethra, it may wound the inside of the canal, and admit the poison by absorption, or the liquid run out sideways, instead of passing into the urethra. If the piston itself does not apply closely to the sides of the syringe, even if the pipe is sufficiently large, so that it perfectly closes the orifice of the urethra, the liquor will still regurgitate between the piston and the syringe, and very little of the fluid will pass. The syringe being properly made, should be applied closely and exactly to the orifice of the urethra; so that, by the conic form of its pipe, all passage may be denied to the liquid betwixt it and the sides of the urethra. If the disorder lies in the usual original seat of gonorrhœas, viz. just under the frænum, the patient should, with one hand, compress the urethra at the first curvature of the penis, where the scrotum begins, while he holds and manages the syringe with the fingers of the other. The piston, which should always go close and easy, ought then to be pressed softly and slowly, till he feels the urethra gently dilated, and thus keep the liquid injected for a minute or two in the passage, repeating the same operation three or four times. By a rash or longer continued pressure of the piston, the irritation often does considerable injury. By attending to these directions, the liquid is properly applied to the part affected, and no danger is incurred of carrying some of the venereal poison farther into the urethra with the injected liquid. This precaution is, however, not very necessary, as the dilution will prevent any injury. The liquid should always, in cases of virulent gonorrhœa, be lukewarm; but in gleets, cold. In gonorrhœas, if the liquid is too cold or too warm, it is supposed likely to hurt the patient, either by the retropulsion of the matter, or increasing the inflammation. In all cases, before an injection is applied, the patient should attempt to make water. There are a variety of injections made use of in this complaint; among the most efficacious are the following:

INJECTION OF ACETATED AMMONIA. To three ounces of distilled water add one ounce of acetated ammonia.—OF ACETATED LITHARGE. To four ounces of rose water add eight drops of acetated litharge.—MURIATED INJECTION. To four ounces of distilled water add eight drops of muriatic acid.—OILY INJECTION. To four ounces of oil of almonds add eight drops of acetated litharge.—OPIATE INJECTION. To four ounces of distilled water add forty or sixty drops of tincture of opium.—INJECTION OF GREEN TEA. Infuse half an ounce of green tea in four ounces of boiling water, and let it stand till cold.—COMPOUND INJECTION OF CERUSSA, see PLUMBUM.—INJECTION OF MURIATED QUICKSILVER. To four ounces of distilled water add two drops of the liquor of muriated quicksilver. This must be weakened if the inflammation in gonorrhœa is great: or, should there not be any, it may be strengthened. Any of these may be used in the inflammatory stage of a gonorrhœa; but the muriated is considered as the most eligible, where the scalding of urine is very troublesome.—INJECTIONS OF VITRIOL OF ZINC. Dissolve ten grains of vitriol of zinc in five ounces of water.—COMPOUND INJECTIONS OF VITRIOL OF ZINC. Add to the above ten drops of acetum lythargyri, or half a drachm of white vitriol, with as much acetated lead, a drachm of camphor, and two scruples of opium, are dissolved in sixteen ounces of boiling water, and strained.—MERCURIAL INJECTIONS. Mucilaginis gum arab. ℥ iv. calomelanos ʒ ss. or hydrargyri purificati ʒ i. mucilaginis ℥ iss. aq. ℥ iss. As astringent injections the following are recommended: INJECTION OF ALUM. Dissolve four grains of alum in four ounces of rose water.—OF COPAIBA. Mix two drachms of balsam of copaiba with six ounces of rose water, by means of the yolk of an egg; or, with four ounces of lime water, by means of the mucilage of gum arabic; of ACETATED COPPER; of AMMONIATED COPPER; of VITRIOLATED COPPER; COMPOUND INJECTION OF VITRIOLATED COPPER. (See CUPRUM.) These are beneficial in the last stage of gonorrhœa; gleets; fluor albus; and, perhaps, with small portions of their active ingredients may be employed in the inflammatory stage as sedatives. INJECTION OF GALLS. See GALLÆ.

Patients who labour under gleets, after having used injections with some advantage, grow careless in the application, and even sometimes neglect them for a day or two. The consequence of this has been that the discharge has increased, as if it had been a fresh disease; and the relapse being more obstinate than the original complaint, the patients have been obliged to continue the injections for more weeks than it might have required

days had their use not been interrupted. In general, to prevent all danger of a relapse, it is proper to employ the injections three, four, or, according to circumstances, six times a day during the disease, and to continue the same regularly for ten or twelve days after the running has entirely ceased.

In ANATOMY great improvement hath been made by means of injections. Ruysch first employed them with success; and it is said that the Czar Peter, seeing an injected boy, whose appearance nearly resembled life, ran and kissed it.

Injections, which unite with water, and consequently with the animal fluids, consist of isinglass and common glue. These succeed with the finer vessels, in membranes; but, if employed to fill the larger, they take too long time in coagulating. If coagulated by alcohol, they become brittle; and, when the water is carried off by evaporation, the vessels are not properly filled. It has been attempted to remove these inconveniences, by first injecting the solution of glue; and, when the capillary vessels are filled, a coarser wax injection; but the wax either hardens too soon, mixes irregularly with glue, or the parts separate where the two fluids are in contact.

Alcohol mixes both with water and oil, and consequently has been employed to fill the capillary vessels, but it coagulates the animal fluids it meets, and often blocks up the canal. It will not suspend durably coloured powders, and, at last, evaporates, leaving little more than the colours of those to which it had been united. Melted tallow, with a little mixture of oil, is often useful; but it sometimes stops too soon, where it meets with animal fluids, and becomes, by time, very brittle. Oil of turpentine, recommended by Dr. Monro, is generally employed to fill the finer vessels. It suspends the colouring matter; and, when the more volatile parts are evaporated, enough of the grosser particles remain, to retain the powder, and keep the vessels sufficiently full. After this is injected, it is confined by filling the larger vessels with a coarser injection, with which it unites very accurately.

Anatomists have preferred for the colour of their injections such pigments as most nearly imitate the natural contents of the vessels; the red for the arteries, and the blue for the veins. The vegetable colours are apt to concrete, and are destroyed by insects. The mineral are therefore preferred. The red is generally vermilion, a substance which in a small proportion gives a very considerable body of colour; and the green consists of distilled verdigris, which is brighter than the common sort, and dissolves in oil; the blue of verditer or smalt; the yellow of king's yellow; the black of lamp black or burnt ivory are used.

The properties required in the injecting matter are fluidity; and they must likewise grow stiff, but tough and flexible when cold; for were they too hard the smaller vessels would be frequently broken. The following possess these properties:

FINE INJECTION. *By Dr. Nicholls.*—Take hard white Spanish varnish, and hard brown Spanish varnish, of each equal parts; turpentine varnish and vermilion, of each a sufficient quantity. Mix them.

COARSE INJECTION. *By Dr. Nicholls.*—Take of yellow resin two pounds; of yellow wax one pound; of turpentine varnish a sufficient quantity.

These injections may be coloured with vermilion or with verdigris. Whatever colouring matter is used, it must be ground extremely fine.

Dr. Monro recommends for the fine injection a pound of oil of turpentine, gradually poured on the colouring matter finely powdered. To procure the vermilion or verdigris very fine, it may be agitated with the oil, and, after standing at rest a little time, poured off; the coarser parts will by that means be separated, as they will have subsided.

Dr. Monro's coarser injection consists of tallow one pound, white wax five ounces, common oil three ounces, melted over a lamp, adding Venice turpentine two ounces. When this is dissolved, the whole must be strained through a warm linen cloth; and, if designed to run far, some oil of turpentine must be added when it is used. The fine injections, it is said, should be thrown in as warm as the finger can well bear; the coarser nearly at the boiling point. In general, however, these directions are erroneous; for, by such heats, the colour will be changed, and the coats of the vessels injured. It will be safer to give them only so great a degree of heat as is sufficient to render them perfectly fluid.

Quicksilver is frequently used for injections, and it is excellently adapted for this purpose, from its admitting of the minutest division. Were it possible to render it solid, and to impart to it any given colour, its advantages would be very considerable. May it not be possible to oxidate it within the vessels? Its great fluidity is, however, inconvenient, as the slightest puncture empties all the vessels filled with it; and its weight renders the preparation so heavy, that it is liable to strike against the glass, and to rupture the distended vessels. In injecting with quicksilver no impulse of a piston is necessary, for its own weight is sufficient; but the operator must recollect, that the momentum is in proportion to the perpendicular height of the column, not its diameter. Quicksilver is chiefly used in injecting the lacteals and lymphatics, the vessels of the parotid glands, of the testis, and of the mammæ, sometimes the arteries and veins of the hand.

In general, the younger the animal is the injection will go farther, and the same will happen when the fluids have been exhausted by disease. In the first case, the small vessels are larger; in the second, they are more empty. The less solid the part is, more vessels will be filled; and the more membranous, the brighter and more beautiful the preparation will appear. The great object in injections, therefore, is, to empty the vessels, to relax the solids, and prevent the too rapid coagulation of the injected fluids. Water is, therefore, first injected, till it returns colourless by the veins; the water is propelled by injecting air, and the air is afterwards squeezed out. But the water cannot be wholly separated, and the particles of this fluid interposed between those of the injection occasion its breaking. It is, therefore, more common to trust to maceration for some time in the water, and squeezing the vessels, so as to evacuate the fluids by the divided end.

It is not easy to detail with advantage, in this place, the minuter regulations of this operation. It must be learnt from the works of practical anatomists, and from experience. The arterial system, after death, is usually empty; and the injection runs freely through it. To

inject the veins from the trunks the valves must be forced, which is difficult, and generally impossible; for the coats will yield rather than the valves, so that one of the smallest branches which will admit the pipe must be opened. It must be recollected, however, that the veins of the abdominal viscera have no valves, so that they may be injected in any direction.

The subjects to be injected, after having their vessels cleared of their contents, should be warmed in water.

A fœtus may be injected by the umbilicus; a child by the aorta ascendens from the left ventricle; an adult in the same manner as a child. Injection by the aorta fills only the arteries; but by the umbilicus of a fœtus both arteries and veins are injected. When the arteries in the cornea are filled, the injection should not be pushed farther. When finished, the subject should be cooled suddenly in cold water.

If the body is macerated a day or two in cold, before it is put into warm, water, the blood will be more effectually dissolved, and the vessels more effectually emptied than by any other method. When put into warm water it may continue thirty-six or forty-eight hours, the water being kept as hot as one can bear a hand in it.

A preparation is best dried by a current of free air, avoiding dust; when dry, it must be varnished. The shining varnish may be laid on it with a brush. While drying, if animalcules appear, the part may be wetted with a solution of hydrargyrus muriatus dissolved in rectified spirit of wine.

Muriatic or nitrous acid diluted is proper for destroying the soft parts of injected preparations.

The rectified spirit of malt is the best for preserving these or any other anatomical preparations.

INIRRITA'NTIA. This is a class of medicines not hitherto introduced into the systems of therapeutics, though described, we apprehend, by Dr. G. Pearson, in his course of the Materia Medica, under the appellation of *acentropioctics*, from α, a privative, and κεντρον, stimulus, a term we might have adopted, had it occurred to us in an earlier stage of the work. The great doubt which remains is, whether this be not properly a subdivision of sedatives. We think that strictly it is so; and we noticed these medicines in the article Anodynes, q. v., but thought it would be useful to the younger student to bring the whole subject into one view, as its application is extensive, and utility considerable.

The sources of irritation in the human body are numerous. Of this kind are external stimuli; acrimony in the first passages, or the secreted fluids; inflammatory stimulus, particularly of the mucous membranes; scirrhi, or other indurations; extraneous substances lodged in the cellular membrane, or among the fibres of the muscles; worms, ossifications, or extravasated blood. The remedies of these irritations occur under their proper heads; and it is rather the object of this article to speak of the nervous irritations more generally, whose source is less obvious.

Nervous excitement often arises from a particular state of the nervous power, or, as we may be allowed to style it, the nervous fluid. Whatever be the state which causes animation, the increase of that energy is irritation. This irritation, according to its different circumstances, is allayed by cold, by heat, by exhausting the nervous power, or, more directly, destroying its activity; by diluting, and thus diminishing the activity of its cause; by sheathing the nerves from its action, or discharging it.

Cold we have already spoken of; and the sedative power of this remedy, either by its continued effect or its repetition, has been already explained. It properly belongs to a subsequent head, but it is distinguished in this place in consequence of its application. It is particularly adapted to the increased excitements which produce a more active circulation, either in general or in particular organs; in general, chiefly in hæmorrhages, and locally, in those inflammations which rapidly destroy the texture of the part, or produce atony, from excess of stimulus. It is thus one of the most ready and powerful inirritants that we employ.

Heat. The regulation of temperature, in a different way, is often effectual in lessening irritation, viz. by the continuation of a degree somewhat lower than that of the body, and much lower than that of the affected part. Thus water of the heat of 92° to 95° gradually sooths the irritated nerve, and lessens its excitement. Air acts more slowly, and, of course, less effectually; for the application even of the water must be long continued before it produces any effect. To their warmth a variety of demulcent remedies owe their efficacy, but often to their other qualities, which we shall soon notice.

Exhausting the nervous power, by stimulants, somewhat below in their effects those of the irritating cause, is often effectual. By this our object is to continue the excitement, not in a morbid degree, but by diminishing its power to exhaust safely the irritability of the nerve. Thus volatile alkali and eau de luce succeed in lessening the fatal effects of the viper's poison; alcohol and turpentine relieve burns; mercury sometimes lessens the irritation of the hydrophobic poison, and perhaps partly in this way of the lues venerea. We were long since taught to prevent the trismus expected to arise from the puncture of a nerve, by applying ethereal spirit of turpentine. Many similar remedies are employed, and this is one of the most successful refinements of modern practice.

In a similar way *we destroy the activity of the nervous power* by sedatives; by tonics, which lessen irritability; and by narcotics. We lessen irritation by opium and by vinegar; by bark and other vegetable astringents; by lead, copper, zinc, and silver. The narcotics we employ are tobacco, belladonna, hemlock, and digitalis. Each is useful in this way.

We sometimes lessen irritation by *diluting the stimulus*, and this is necessary when acrid poisons are carried to the excretories, as cantharides to the bladder, or when saline acrimony abounds in the blood. Dilution is, however, most often necessary when acrimony abounds in the primæ viæ; a more frequent occurrence than any other of this kind.

The diminution of irritation by *sheathing the parts*, and thus defending them from acrimony, includes the class of demulcents. This class is of considerable extent, and the medicines we shortly enumerated in that article. They are the oils and fats in all their variety, including spermaceti and bees wax; the pure mucilages, including the gums and althæa; the farinaceous mucilages, as the lint and hempseed, the quince and fœnugreek seeds; the fecula of wheat, and some miscella-

neous vegetables, as the branca ursina, the melilot, the white lily, &c. We can easily conceive that these can sheath the fauces, the epiglottis, the stomach, and intestines; but it is more difficult to suppose that they can be carried into the blood, and again act on the excretory vessels. This is, however, undoubtedly true, and we see it certainly in the urinary organs, probably in the lungs. These demulcents, like warm water externally, seem to sooth irritation beyond the part to which they are applied; for such is the consent of the small vessels on every portion of the surface with each other, that changes produced in one part are, by sympathy, communicated to the whole.

The medicines which *discharge* the acrid matter can scarcely be enumerated among these; for puncturing a furunculus cannot be styled an inirritant. It was mentioned, however, to connect the whole, and to suggest that a source of irritation in distant parts is often productive of great inconvenience. When violent symptoms of irritation, therefore, appear, of which the immediate cause is not perceived, it will be necessary to extend our views to every part of the body; and we may thus be able to discover and discharge substances which have been unnoticed, and produced, without suspicion of the cause, the greatest inconveniences.

We have confined, in this view, the action of inirritants to cases of excitement; yet we shall find other sources of irritation from privations. Thus, hunger produces symptoms of irritation; the want of the usual distention in any of the cavities, and fatigue, have a similar effect. The only remedy in common to both these causes of irritation is warmth, or particularly warm water: but it is unnecessary to enlarge at present on this subject; since to add the remedies of this kind would render the class less natural, and we should anticipate what will occur under another article. See Irritation.

INNOMINA'TA ARTE'RIA, (from *in*, *non*, and *nomen*, *a name*). This word is applied to any part that has no specific denomination. It is the external branch of the external iliac artery at its division, near Poupart's ligament, ascends outwardly to the inside of the spine of the ilium; is lost in the muscle of the belly, and sends branches to the ileus internus.

INNOMINA'TI NE'RVI. A name of the fifth pair. See Trigemini nervi.

INNOMINA'TUM OS. *Coxæ ossa*, *os ilii*, or *coxendix*. The principal bone of the pelvis.

INNUTRI'TIO, (from *in*, *not*, and *nutrio*, *to nourish*). See Atrophia.

INOCULA'TIO, (from *inoculo*, *to engraft*). See Variola and Vaccina.

INOSCULA'TIO, (from *in*, and *osculum*, *a little orifice*). See Anastomosis.

INPINGUE'DO PO'RCI. See Costus.

INSA'NIA, (from *in*, *not*, and *sanus*, *sound*). Delirium, or madness. See Mania.

INSE'CTA, (from *in*, *into*, and *seco*, *to cut*). An insect. These animals are thus named from their being almost wholly divided in the middle.

We deferred considering this class of animals in a physical or a medicinal view when we treated of the Animal kingdom, q. v., because we had not received the last labours of Cuvier and La Treille. Insects were most strictly distinguished by Lyonnet, who styled them animals without any vertebræ, with articulated paws or limbs. The flesh is soft, but the skin hard, scaly, or crustaceous, to which the muscles are attached; though the true crustaceous animals should be separated from insects, as having a muscular heart, and breathing by means of gills. See Crustacea.

Another distinction of insects is their colourless blood. If some insects are bruised, a red fluid is discharged; but this has, in general, no relation to blood, except when blood has been previously swallowed; and in some insects it is a secreted fluid under the eyes. Yet, from the late observations of Cuvier, red blood seems to occur in some animals of this class.

The arrangement of insects is scarcely the object of this work. We may, however, remark, that they have been considered for this purpose in all their varied relations. Swammerdam has preferred, as the basis of his classification, their metamorphoses; Linnæus the organs of motion; Fabricius those of nutrition. The system of Linnæus is certainly the best and most natural; yet later observators have found some inaccuracies in his characters, and less exact distinction in his apterous insects. De Geer and Olivier have lessened these inconveniences by stricter discriminations, and forming a new order, the *orthoptera*, taken from the *hæmiptera*. Indeed, we consider Olivier's arrangement as the best and most natural; more simple than Latreilles, more correct than that of Fabricius.

Insects may be considered in a work like the present as articles of food, as medicinal bodies, as either useful or detrimental to mankind. If we except the crustacea, we shall find few species used at any time as aliment. The locust (*gryllus cristatus* Linnæi) is used in the east as food. It is said to taste like a pigeon, but more insipid, and is seldom eaten but when other food is scarce. Its price is high only in times of famine. The wings and feet, sometimes the intestines, are separated. The Bedouins of Egypt eat them roasted alive; the Arabians roast and eat them with butter; or, when they wish for a dish of peculiar delicacy, they parboil, and then fry them in butter. The inhabitants of Morocco dry them, and those of Barbary pickle them. Forskal, however, tells us that they have very little flavour, and that they are far from nutritious, and occasion melancholy, or cutaneous affections. In different parts of India and America the larvæ of coleopterous insects, bred in the internal parts of trees, as the weevil, a species of lucanus, the passalus of Fabricius, the prionus cervicornis, &c.; but these can only be procured with much trouble, and can never form an article of food. We have heard of the worms of filberts being eaten as a delicacy, and said to be rich, like marrow, with the taste of the nut, and that the maggots of every fruit have its peculiar flavour. The Romans used to eat the larva of an insect which they styled *cossus*, supposed to be the same which is found under the bark of the willow or the ash; but this larva, which is a true caterpillar, has an insupportable smell and probably a disagreeable taste; so that it is certainly not the same. In Africa the inhabitants eat the white ants. The galls formed by a cynips on a species of sage in the isle of Crete, and on the *glechoma hederacea* Linnæi, are accounted by children a peculiar delicacy. The honey of the bee is too well known as a

nutritious substance, and a medicine to be particularly noticed. The honey of some districts in America is, however, poisonous (see American Transactions); and new honey will often disagree with the bowels, when these are peculiarly tender and irritable.

If, with much trouble, we have collected a scanty catalogue of nutritious insects, we shall not find the materia medica greatly enriched from these minute animals. The cantharides are, however, of considerable importance in medicine (vide in verbo); and the ants are said, by infusion, to furnish a pleasant and salutary acid drink in fevers. (See FORMICA.) The galls of the oak and the bedaguar of the rose tree, though the effects of insects, derive all their virtues apparently from juices of the tree and vegetable. The carabus, chrysocephalus, two species of the sphæx of Linnæus, two of the chrysomela and coccinella, three of the curculio, have been recommended in tooth ach. The insects are to be bruised between the fingers, and the tooth and gums rubbed with the same fingers. The meloe majalis and proscarabæus are of the nature of cantharides, but less powerful. The oniscus asellus (millepes) was formerly much employed as a stimulating expectorant in dropsy, in obstructions of the liver, in asthma, and cynanche. Its nauseous acrimony points it out as a medicine of importance; but its disgusting appearance has occasioned its neglect. The coccus of the cactus coccinelliferus (cochineal) is said to be stimulant and diuretic; the same insect of the ficus Indica, and quercûs ilicis, the lac, and kermes, to be astringent; but modern practice neglects both. We have said that the more refined naturalists had separated the spiders from the insects; but we may mention here, without an apology, the use of the spider's webs in external hæmorrhages, which act in assisting the concretion of the blood. We mention it also to add, that an ant found in Cayenne, the formica fungosa of Fabricius, composes its bed of a down so fine, that it generally succeeds in stopping arterial hæmorrhages on the same principle. The ancients used the horns of the cervus volans as an absorbent; and Linnæus tells us, that in Sweden a species of gryllus is irritated so as to bite warts, and that the fluid from its mouth destroys them. The trivial name is assigned from this property.

Among the advantages derived to mankind from insects, we need not name the silk, and the scarlet dye from the cochineal. Many insects, besides that of the mulberry, spin a silken pod; and from many of the coccl, a brilliant colour, though inferior to that of the cochineal, may be obtained. From the silk worm's pod, the Chinese, it is said, prepare a brilliant and durable varnish. This worm affords also the Bengal root, styled in England Indian grass, so useful to the fisherman. We need not add Reaumur's attempt to make silk from spider's webs, in which it has been supposed he would have succeeded, could he have induced them to live peaceably with each other. The gum lac and bees wax are well known, and some naturalists have attributed amber to these animals. Among the advantages of insects to mankind, we may also reckon their furnishing birds with a copious supply of nourishment, and their destruction of putrid matter and of each other.

The chief disadvantages are derived from their destructive ravages on books and furniture, and, above all, from the diseases which they occasion. (See ANIMALCULA.) The very troublesome itching produced by many species of acarus is well known. The louse, the flea, the bug, and the mosquito, are the common enemies of our repose; and in warm climates are far more numerous and fatal. The locusts, which destroy our harvest, the insects so fatal to vegetables of every kind, are scarcely objects of our attention at this time. They must be watched in their state of larvæ, when they may be at once extirpated. The most destructive flies escape our attention by their harmless or pleasing appearance in this state of disguise.

INSERTIO. The union of parts so close that one seems to penetrate the substance of the other, as the insertion of muscles into a bone. It sometimes means the insertion of any instrument into a cavity of the body.

INSE'SSIO, *incessus*, (from *insideo*, *to sit upon*). Sitting over relaxing vapours.

I'NSIDENS, (from the same,) applied in botany to that which rests upon another part.

INSIDE'NTIA, (from the same). See EPISTAXIS.

INSI'DIANS, (from *insidior*, *to deceive*). INSIDIOUS, LATENT; an epithet of diseases which betray no evident symptom, but are ready on any exciting cause to appear; or which, on their first attack, do not show their peculiar or dangerous nature.

INSI'PIDUS, (from *in*, *non*, and *sapidus*, *savoury*). TASTELESS. See APÆUM.

INSITIO. ENGRAFTING.

INSIPIE'NTIA, (from *in*, priv. and *sapientia*, *wisdom*). Childishness; a low degree of delirium.

INSOLA'TIO, (from *in*, *upon*, and *sol*, *the sun*). INSOLATION; exposing any thing to the sun. See ICTUS SOLARIS, of which this word is a synonym.

INSO'MNIUM. A DREAM. *Quod in somno videtur.* Dreaming is a subject of considerable importance, not only in a physiological view, but as often affording useful prognostics, particularly in fevers; and it has been considered with great attention both by physiologists and metaphysicians; but whether the culture has been erroneous, or the soil stubborn, it is at least certain that the harvest has failed of producing that satisfaction which, from the labour and care, might have been expected. It remains to be determined whether we shall be more successful.

A dream is a series of images either sensible or intellectual, presented to the mind during sleep, more or less vivid, and sometimes so lively as to impress the mind with the fullest conviction of their real existence. They are evidently distinct from the mind, since fear and joy, despair and admiration, are excited by them; since the immaterial principle can decide on the propriety of the actions they may suggest, or can excite volition in consequence of their being presented. The images, however, thus passing before the mental eye are often incongruous, disjointed, and absurd; but whatever forms they may assume, we believe it to be a well established fact, that every part is derived from sensible ideas formerly received. The physiologist who has not particularly attended to this subject may start at so positive an assertion; but after the examination of our own dreams during a series of many years, after the most extensive inquiries, we have never, in a single instance, been able to trace any image, or any

portion of a new combination, which was not previously conveyed to the mind by the senses. So extensive, however, is the power which suggests these sleeping scenes, that their objects are as various as our ideas; and the

Quicquid agunt homines votum, timor ira voluptas
Gaudia discursus

form the farrago of this drama of the fancy. Our passions are excited as by reality; our reasoning, however, is weak and imperfect.

In dreams we seem to reason, to argue, to compose; and in all these circumstances, during sleep, we are highly gratified, and think that we excel. If, however, we remember our dreams, our reasoning we find to be weak, our arguments inconclusive, and our compositions trifling or absurd. Some metaphysicians have supposed that from age and reflection our dreams become more consistent and philosophical, and have even supposed that the mind can, during sleep, retain its wonted powers. We are willing to believe that, from age, our minds wander less in this state of repose; but we suspect that it arises from the sleep being less perfect, and not from any experience in the "art of dreaming." We certainly fancy in our dreams that a given image is new; but if we can retain it when awake, we find that this opinion arose from our imperfect recognition, and we shall then be able to recollect its prototype. We seem to think, also, some place, which in fancy is seen in our sleep, to be more beautiful and glorious than any which has before occurred. Yet on awaking we shall find this splendour a thing of shreds and patch work, made up of heterogeneous and disjointed vestiges before offered to the senses.

It has been supposed that the fancy pursues the images of the foregoing day, and that Queen Mab sports "on lovers' lips, who straight on kisses dream." This general opinion we dare not deny, especially when sanctioned by the magic of Shakspeare's poetry. Yet our experience does not support it; and when the mind has been exhausted by joy or sorrow, we have often found the sleep sound and refreshing. When less exhausted, the fancy seems to play with various images, not always connected with the previous state of mind. We have even thought that when the mind has been very deeply impressed with any peculiar images, that such have less seldom occurred in dreams than their opposites. That dreams ever offer any foreboding of future ills or benefits; that we ever, in this state, receive information from preternatural sources; are opinions which we leave to the childishness of the nursery, or the wandering fancies of superstition and dotage.

The ægri somnia have been proverbial, as descriptive of disjointed incongruous images; and what may be considered as the pathology of dreams, will perhaps more fully illustrate their nature. In fevers the dreams are often highly distressing; from indigestion they are equally so, but of a different kind. In the former, the mind is hurried from one object to another with inconceivable rapidity; in the latter, chained down and oppressed with a heavy weight. Should it happen that the patient is relieved of his load during his dream, the complexion of these airy nothings immediately varies. Aversion is changed to liking, disgust to complacency, oppression to freedom. If the heat of fever is relieved by a salutary perspiration, the patient is no longer hurried through the trackless air, but reposes in a verdant meadow, or more often drinks of the cool stream, for the thirst vanishes. In general, very deep sleep is oppressive; light sleep salutary and refreshing. The senses no longer convey the usual impressions, but images are excited, which, though not wholly similar to the usual ones, are not very different. Thus violent heat will suggest a dream of scorching fire; throwing off the clothes in winter, of walking through a river. The effects of opium on our dreams are singular. In those with whom it agrees it excites the most pleasant images; when it disagrees, the most frightful: in all it greatly influences the ideas of the duration of time. A man of genius and an artist under the influence of opium, fancied Holbein's Dance of Death realized, and that each figure assumed a real form, and was presented to him in all its horrors. He suffered, in his opinion, from this exhibition, for many hours; and, at last, awaking in terror, heard the clock strike twelve, when he recollected that he did not sleep till after eleven. The author of this article, in whom opium excites the most agreeable images, has experienced the same change in his ideas of time. We have sometimes thought the nature of dreams influenced, in a certain degree, by the temper and disposition of the dreamer. Thus the sanguine cheerful temper finds, in all his distresses, a means of escape; where the more gloomy melancholic disposition perceives no resource till he awakes in horror. But in this *we* may be styled dreamers. The other facts recorded in this article have been verified by repeated observation.

The cause of dreams has excited various speculations. This waking sleep, or sleeping activity, appeared to Baxter so inconsistent, that he supposed immaterial spirits were amused, or engaged in suggesting these plays of fancy, and sometimes, perhaps, conveying important information. We cannot deny the existence or employment of these spiritual agents; but can scarcely conceive, in the whole circle of creation, beings so useless. They are, however, wholly unnecessary; for, in the pathology of dreaming, we have seen that the cause is purely corporeal; and, indeed, Baxter's opinion is, we believe, consigned to the same oblivion with that which looks to dreams as foretelling future events.

Wolfius supposed a previous excitement of some part necessary to suggest to the fancies during sleep; and, in fact, delivers the fictions of Shakspeare in the garb of sober sound philosophy. This opinion is, however, inconsistent with the phenomena of dreaming; and we have no modern idea on this subject which need detain us, except the opinion we are about to explain, originally derived from Dr. Cullen.

In sleep, Dr. Cullen observes, that there is a partial collapse of the brain, at least so far as respects the animal functions; and this partial diminution of excitement is shown by the delirium which occurs in the interval between the sleeping and waking state. To different degrees of the collapse, dreams, more or less vivid, appear to be owing. Dreams, indeed, are of the nature of delirium. Similar heterogeneous or disjointed ideas constitute both; and the whole must be resolved into that unequal balance of the nervous power in the brain arising from diminished energy. The proof of this is the want of the usual associations; another, the

deficiency of judgment; a function, when perfect, which arises, as we have seen, from a free communication between the different parts of that organ. The defect of judgment is seen from a high opinion we form of what we suppose we have written or said in our dreams, which is often ridiculous, and strangely heterogeneous.

Yet, it may be asked, are no ideas suggested in our dreams which deserve the attention of our awakened judgment? We have heard of some such suggestions, and suspected that we have experienced them; but they consist only of a happy recollection, or a new combination, which we are sufficiently awake to be pleased with, and rouse ourselves to recollect. We remember dreaming of being asked for a motto for an air balloon, and immediately suggested the following:

Tentanda via est qua me quoque possum
Tollere humo victorque virum volitare per ora.

Every instance of peculiar genius or supernatural information in dreams may be referred to one of the sources just mentioned.

Though this partial collapse explains, in some degree, the heterogeneous combinations of dreams, it does not show us how the images are excited. It will be at once obvious that this question includes one to which no answer can probably be given, viz. in what manner do sensible impressions act on the mind to produce ideas, or how, in turn, does the mind act on the brain, by means of volition, to excite action? We may hazard a few speculative remarks, which, if ill founded, will detain the reader but a short time. We have seen that the power which resides in the brain and nerves is probably a subtile fluid, capable of vibrations, and that its action consists in these vibrations. If, then, such have been excited by sensible impressions, we know that they may be renewed by powers more inconsiderable; and it is not impossible even that the motion of the blood, in those parts of the brain where the mobility of the fluid is considerable, may excite vibrations, and these be attended with the same ideas which originally followed them. In constitutions where the nervous fluid is particularly mobile, or in cases where the circulation is hurried, dreams will be more frequent, more vivid, and often more troublesome.

Dreams, we have said, are useful in affording prognostics in various diseases. When the dreams are hurried and violent, we have often reason to expect delirium: when the mind in fevers is gloomy and distressed, and the dreams frightful, the fever soon becomes dangerous; but when in sleep, the fancy is soothed by pleasing images, the disease is seldom alarming. In these cases, the consequences are probably those of terror on one side, and complacency on the other; and the peculiar states of fever may not be the causes of the dreams. Yet, when we recollect that, in other instances, diseases of the body excite dreams of distress and horror, we must think that the more violent corporeal affections are really the causes of the terrific visions. In either case they are often useful prognostics.

If any part of the brain is more easily excited to action by having been previously impressed, the mind, on the contrary, becomes more insensible. Thus, the person used to distress is comparatively calm in witnessing the most painful scenes: the mind, once harrowed with horror, will bear common trouble without emotion. This will account for the fancy not always pursuing, in sleep, the painful scenes of the day, or rather for their not being followed by pungent distress, so that they escape the recollection when we are awake.

Is it a fact that the dreams of children are more terrific than those of adults? Infants certainly dream, and seldom awake in terror; in fact they know not the tendency of objects, and are not capable of appreciating their effects so as to be terrified. When they are farther advanced, the tales of the nursery often inspire horrible images, which may again return in their dreams; or their systems, more mobile and irritable than those of adults, may be more susceptible of violent impressions. We could wish, however, that the fact were more decidedly ascertained.

Animals dream, particularly dogs; but in these visions they are more often pleased than terrified, though sometimes angry. Their bark is different, and the voice of those who talk in their sleep is usually altered. We have no evidence of the feathered race being subject to these nocturnal visitors; and perhaps they are connected, like associations of ideas, with the proportional bulk of the brain.

See Baxter on the Immateriality of the Soul; Lord Monboddo's Works; Hartley on Man; Wolfius's Ontology; Cullen's Physiology; and Lommius.

INSPIRA'TIO, (from *in*, and *spiro*, *to breathe*). Inspiration; *eispnoe*, *epipasmos*. The action of the chest and diaphragm, by which the air is drawn into the lungs. See Respiratio.

INSTILLA'TIO, (from *instillo*, *to drop upon*,) often synonymous with embrocatio.

I'NSTITA, (from *incisto*, *to stay*). A fillet; and a tænia.

INSUFFLA'TIO, (from *insufflo*, *to blow into*). Blowing into any cavity, to convey any remedy to a part affected.

INSU'LTUS, (from *insulto*, *to attack*). The first invasion or access of a paroxysm.

INTEGA'STRUM. The decussation of the optic nerves. Paracelsus.

INTEGUME'NTA, (from *intego*, *to cover*). Integuments; the cuticle, rete mucosum, cutis, and membrana cellularis; sometimes applied to particular investing membranes, as the coats of the eye.

INTEMPERA'NTIA, (from *in*, *non*, and *tempero*, *to moderate*). Intemperance. Besides its usual signification, it sometimes is synonymous with dyscinesia.

INTEMPE'RIES, (from *in*, *non*, and *tempero*, *to mingle*.) See Dyscinesia.

INTE'NTIO, (from *intendo*, *to stretch out*). Intention. It is either extension or indication. Healing a wound "by the first intention," means when divided parts are placed in contact, and unite without any suppuration.

INTERCE'PTIO, (from *intercipio*, *to stop*). See Apolepsis.

INTERCOSTA'LIS, (from *inter*, *between*, and *costæ*, *the ribs*,) any part situated between the ribs; viz.

Intercosta'les arte'riæ, which arise in pairs from the aorta, and run on the lower parts of each rib. They are eight, nine, or ten in number, of which the upper come from the subclavian. The

intercostales of the true ribs anastomose with the internal mammary; those of the superior go to the muscles of the belly.

INTERCOSTA'LES MU'SCULI; *mesopleurioi;* INTERCOSTAL MUSCLES are eleven in number on each side externally, and as many internally; in all forty-four. The external ones pass downwards and forwards; rising from the edge of the superior, and inserted into that of the inferior, rib: their fibres run nearly parallel; but near the sternum disappear. Their use is to elevate the ribs. The internal ones are the reverse of the external; rising from the edges of the inferior, and inserted into those of the superior, ribs; consequently they decussate each other. These depress the ribs; so that, by the alternate action of the two sets of muscles, the thorax is expanded in inspiration, and diminished in capacity during expiration.

The levatores costarum longiores and breviores of Albinus are those portions of the external intercostals which arise from the the transverse processes of the vertebræ, where the ribs are fixed to them, and other portions which pass over one rib and terminate in the next below it. Similar portions of the internal are called by Douglass *costarum depressores proprii Cowperi.*

INTERCOSTA'LES NE'RVI; INTERCOSTAL NERVES, *sympathetici nervi majores*, are formed of all the spinal nerves, and of branches from the fifth and sixth pairs from the brain. They run on the other side of the ribs. This is a very important part of the nervous system; but it has already claimed a large share of our attention. See CEREBRUM.

INTERCOSTA'LES VE'NÆ, DEXTRÆ, SUPERIORES, ET INFERIORES. See AZYGOS.

INTERCU'RRENS FE'BRIS, (from *inter*, *between*, and *curro*, *to pass*). An INTERCURRENT FEVER. Some fevers are epidemical in certain seasons only; others happen in all years, and are only occasionally epidemic. The former are called *stationary;* the latter, by Sydenham, *intercurrents*. See Sydenham's Works.

INTERCU'RRENS vel INTERCI'DENS PULSUS. When between two strokes at proper distances a third quickly intervenes.

I'NTERCUS, (from *inter*, *between*, and *cutem*, *the skin*). See ANASARCA.

INTERDE'NTIUM, (from *inter*, *between*, and *dentes*, *teeth*). The intervals between teeth of the same order.

INTERDI'GITUM, (from *inter*, *between*, and *digitus*, *toe* or *finger*). A CORN BETWEEN THE TOES.

INTERFEMI'NEUM, (from *inter*, *between*, and *femur*, *the thigh*). See PERINÆUM.

INTERFOLIA'CEUS, (from *inter*, *between*, and *folium*, *a leaf*). Proceeding from between opposite leaves.

INTERLU'NIUS MO'RBUS, (from *inter*, *between*, and *luna*, *the moon;* because it was supposed to affect chiefly those born in the wane of the moon). See EPILEPSIA.

INTERMISSIO, (from *intermitto*, *to discontinue*). The intervals betwixt two fits of any distemper.

INTERMI'TTENS FE'BRIS, (from the same). An INTERMITTENT FEVER, is a febrile disease consisting of distinct attacks, with perfect freedom from fever in the intervals. Different names are given to this fever according to the periods of its return; if after twenty-four hours, a *quotidian;* if after forty-eight hours, a *tertian;* if after seventy-two hours, a *quartan;* after ninety-six hours, a *quintan*, or a *hemitæus*. Such intermittents are, however, rare; and those with longer intervals have been styled *erratic*. Those are called *autumnal* which begin in August, and those *vernal* which begin in February.

Dr. Cullen places intermittent in the class *pyrexiæ*, order *febres;* defining it fever arising from marsh miasma, consisting of many paroxysms; a total freedom from fever, at least an evident remission; returning with a marked exacerbation, and generally with shivering; having one paroxysm only in a day. He adds, "whoever will weigh what will be delivered concerning remittent fevers, and their distinction from continued fevers, strictly so called, will readily see why I have thought it necessary to change the character formerly given of intermittents as well as continued fevers." The latter he defines fevers having no intermission, nor arising from marsh miasma, but continuing only with slight remissions and exacerbations; having two exacerbations each day. "He thinks that the nosologists, Sauvages, Linnæus, and Sagar, have not acted judiciously in instituting a separate order of remittents, as if they were altogether different from perfect intermittents; for those fevers called *remittents* arise from the same cause, viz. marsh miasma, as intermittents; each appears as an epidemic, in the same place, and at the same time of the year; each is cured exactly by the same remedies; and very often in the same subject, the same disease sometimes exhibits the intermittent, sometimes the remittent, type; diseases, therefore, so extremely alike with respect to their causes, mode of cure, and type, ought neither to be placed under a different order, or in different section."

The patient, though free from fever, is slightly indisposed the following day with chilliness and languor: he hath a weak and slow pulse, his urine is pale, and either deposits a sediment, or contains a small cloud suspended in it; the sediment is of a reddish colour, exactly resembling brick dust; the surface frothy, or covered with a pellicle. The beginning of autumnal intermittents is sometimes not very different from that of continual fevers. When weakly persons are the subjects, the intermissions are proportionally less distinct.

Obstinate intermittents often end in dropsies, or hectics from obstructed viscera. Vernal intermittents often require no assistance, and very rarely prove fatal.

Intermittents are distinguished by the very regular appearance of each stage of fever formerly described (see FEBRIS); and the continuation of the paroxysm sometimes extends to twenty-two hours, the patient having scarcely two hours interval; but this chiefly happens when two diseases of this kind have attacked the patient at once, so that the fit of one comes closely on the conclusion of the former paroxysm. A single quotidian will, however, sometimes last eighteen or twenty hours.

In general it will be found that the longest paroxysms have the shortest intermissions; and the contrary; but the time of the paroxysms is occasionally anticipated or retarded. An increase of the interval, or rather a retarded paroxysm, shows the disease to be declining; while an anticipated attack is rather a sign that the disease is becoming a remittent or continued fever.

It is singular that intermittents rarely attack in the

night. When the paroxysm anticipates, so as to come before eight, its next step is usually to the febrile period of the evening, previous to the usual day of its attack; and when it is retarded beyond eight or ten in the evening, the following attack is usually at eight in the morning following its accustomed day. Continued fevers are said to attack in the night, but we have generally found that the patient has complained in the evening, and that the fever has then formed, though the rigor has only taken place during the night, or rather about four in the morning.

The attack of intermittents is sometimes attended with the most alarming symptoms, such as syncope, apoplexy, a great load on the chest, with threatening suffocation, epileptic paroxysms or violent spasms, or a coldness, which increases till the patient sinks into torpor, soon followed by death. These are circumstances of peculiar danger, and require the most minute attention. The hot fit is also sometimes so violent as to be attended with delirium, and occasionally with rupture of the vessels, from the violence, in the language of Dr. Cullen, of the reaction. These circumstances require particular attention in the conduct of the cure.

Intermittents are sometimes complicated; that is, there may be two tertians, or two quartans, existing at the same time. The double tertian of authors, the duplicana of Linnæus, consists of two tertians, returning each at their regular times, and thus attacking every day. The real disease is distinguished from a quotidian by the time of the attack, which in a tertian is about noon, by the shorter paroxysms; and by the fits of fever which occur on the alternate days resembling each other: while, if that on the succeeding is compared with the fit of the former day, some difference is observable. Another form of the double tertian is with two paroxysms in one day; and this kind is distinguished by the appellation of *tertana duplicata*. A triple tertian has also been observed, consisting of two paroxysms on each alternate day, and one only in the interval. This is the semitertiana of authors, the tertiana triplex of Sauvages. Tertians differ also in the degree of remission, when complicated in the manner already mentioned. Thus a double tertian, which returns daily, will have often the remission between the unequal and equal day; between the third and the fourth, for instance, more strongly marked; between the equal and unequal day less strongly.

Quartans vary as much; but, indeed, in this country quartans are uncommon, except in the marshy countries on the east of this island. The quartana duplicata of Sauvages consists of two paroxysms every fourth day, and on the other days none. The quartana triplicata consists of three paroxysms every fourth day, with three days of intermission. The quartana duplex has only an intermission of the third day, and the paroxysms of every fourth day are alike. The triple quartan attacks every day; and the paroxysms of every fourth day resemble each other. This disease, like the double tertian, is distinguished by the period of the attack and the shortness of the paroxysms. The author of this article, in thirty-five years practice, has seen but one quartan, which was imported from a distant county.

Quotidians vary but little, except in their causes and their partial attacks. Many of these are symptomatic only; but the partial quotidians attended with violent pains are peculiarly distressing, and with great difficulty removed. The quintana and septimana are described by authors very vaguely, and seem, in general, to be symptomatic.

Intermittents are not always dangerous, and the vernal agues generally disappear on the approach of summer. The autumnal ones are more frequently attended with infarctions of the liver, and the more obstinate kinds of these, the quartans, leave often this organ in a scirrhous state. Dropsies and hectics are the consequence. It has been, on the other hand, contended, that vernal tertians are salutary, and clear the constitution of other diseases, as indigestion, flatulency, and acidity of the stomach; habitual rheumatisms and other inflammations; cutaneous and nervous complaints. For this opinion we offer the very respectable authority of Dr. G. Fordyce, for having seen but few cases of intermittents, we will not add, as an ojection, that such salutary effects have not occurred to us. We have found every intermittent, which we have seen, to be a disease which we have been anxious to cure as speedily as was consistent with the safety of the patient.

The cause of intermittents is exclusively the miasma from marshes, and the remote causes those of fever in general. We have already observed, that no satisfactory reason has been assigned for the recurrence of the paroxysm. Dr. Cullen attributes the duration of fevers to the violence of the spasm or the weakness of the reaction; and though in each paroxysm of intermittent the spasm may be conquered, yet its cause, the atony, remains to be combated by a new series of symptoms. It is evident that in intermittents the cause remains, for they leave a languor, in part the effect of the exertions; but, in part also, of the remaining debility. While we have modified, in some measure, the doctrine of Dr. Cullen, yet this explanation, with a change of the language, may appear probable; and it is supported by a fact already stated, that the concluding paroxysm is the most violent. We know not, however, the duration of an intermittent in consequence of the debility remaining unsubdued; for we shall find, that it is often continued from habit, and that raising any violent emotion, fixing the attention, or exciting a different train of motions, in any way, will prevent its recurrence; and, when once prevented, the fit seldom returns. It may be then questioned, whether, even in the early stages, it may not be the creature of habit. When an intermittent first attacks, its paroxysms are seldom regular. When they become so, they soon establish a habit which we know is with difficulty removed; but this habit seldom takes place but in weak, mobile constitutions.

In the cure of intermittents, our first object is to prevent the recurrence of the fit; our second to conduct the paroxysm, so as to obtain a complete solution of the disease; the third to increase the general tone of the system, in the intervals, that the disease shall not again return.

Our first object, for it is not strictly an indication, is limited to those remedies whose immediate action may prevent the attack. These are means of increasing the tone of the system, or supporting the action of the extreme vessels, so as to prevent their quiescence, perhaps their spasm. The tone of the system is increased by stimulants and tonics. With this view aromatics,

the strongest acids, and ardent spirits, in almost every imaginable variety of form, are administered when the fit is expected. Very large doses of bark are also given, so as to accumulate from one ounce to two in the stomach, at the time of the usual return. The former of these plans is highly injurious when a phlogistic diathesis prevails in the system; for it converts the intermittent often into a continued fever, with topical inflammation. The latter is equally injurious, when the stomach and bowels have not been previously cleared; and occasions those infarctions styled *ague cakes*, which have been so often attributed to the bark. In different circumstances each has succeeded.

The action of the extreme vessels is supported by emetics and sudorifics. An emetic is given previous to the return, while the perspiration is supported by warm negus, the volatile alkali, or the sudorific powder of Dover. Opium, with warm teas, will equally succeed; but, in general, for the reasons formerly assigned, great external heat should be avoided. Opium is not the only medicine which acts peculiarly on the vessels of the skin, though it is the most powerful. Guaiacum has a similar effect; and the ammoniated tincture, when joined with opium, is often a valuable remedy used with these views. Musk, empyreumatic oil, and ether, are said to have had a similar effect, without producing sweating; but in such cases, they probably, if successful, which has been doubted, act as simple stimuli. To the same source may be attributed the effects of bracelets of mustard seed and garlic to the wrists and ancles; bruised spiders and tobacco, applied to the wrists; yarrow, &c. to the feet. These excite so great a degree of inflammation as to increase the heat as well as the circulation, and have often undoubtedly succeeded. We must add, that whenever we attempt to prevent the paroxysm of an intermittent by sweating, this mode of relief must be continued till the period of the paroxysm is at an end, or at least till the time when the sweating stage would have otherwise commenced.

Those means which excite terror, surprise, and horror, or, as we have said, raise a train of new emotions, will prevent the return of paroxysms. A man has been pushed into the water; fire has been cried; the most distressing tidings invented and communicated. A patient, labouring under an ague, has been ordered to swallow half a pint of his own urine; to hold a toad in his hand till it dies; to eat common spiders in a raisin, or cobwebs in crumb of bread. All these remedies fill the mind with such dread as to counteract the impression of the cause; but in general they are dangerous, and when we wish to prevent the fit, we depend rather on the tonics, the stimulants, and the sudorifics. These are often highly necessary; for when the fever attacks with apoplexy, epilepsy, or other symptoms which threaten the life; or when the patient is so far debilitated that another fit would be probably fatal; we must take the most decisive steps to prevent it. We remember to have seen three cases of this kind, in which by the sudorific plan, detailed above, we succeeded.

To conduct the paroxysm so that its solution shall finally remove the disease, is often beyond our power. An emetic, given at the first approach of coldness, will often lessen both it and the next stage; and we must repeat, what Dr. Fordyce tells us, that he has remarked the superior efficacy of the antimonial preparations to the ipecacuanha. When the hot fit comes on it must be mitigated by cold, and by the cooling diaphoretics. Opium, at this period, is said by Dr. Lind to lessen the heat, and hasten the sweat; and when the last stage has fully come on, the exhibition of the bark is said to render the sweating more effectual. Such are the observations of authors, which we can neither confute nor confirm. From what we have, however, read and seen, we suspect that these measures lessen the inconveniences of the paroxysm, but seldom put a stop to the disease.

In the intervals our chief exertions must take place; and we have been lately accustomed to trust almost exclusively to the Peruvian bark. We have seen (see Cortex Peruvianus) that we can derive little information from the sensible qualities of this medicine, or from its analysis, either in the milder or more forcible separation of its component parts, and we must rest contented with the fact, that the bark will usually cure intermittents. We say "usually," for was it so certain a remedy as the language of authors would lead us to suppose, they would not fly from the common to the red and yellow kinds, to combinations of bitters and aromatics, to copper and to arsenic. As it is, however, the common remedy, we must direct its exhibition.

We have already spoken of the bark, given immediately preceding the fit, and in the sweating stage. We now speak of it as a remedy in the intervals. In general, then, it must not be given while there are any considerable infarctions of the viscera. We have already shown (see Febris), that fever almost consists in, or is constantly attended with, a disturbed balance of the circulation, and that the biliary system and the brain, from their structure and constitution, receive a large proportion of blood, which is confined to the larger vessels. Fever cannot, therefore, continue long without infarctions of the liver at least, if not excessive fulness of the cerebral system; and in this state the bark is certainly injurious. Physicians may colour this objection in a variety of ways, but they cannot elude it. Intermittents then, which continue usually some time without decisively showing their true nature, must be attended with at least fulness in each viscus, and this should be previously removed. We have already shown that emetics and cathartics are the chief remedies for this purpose; and hinted, that it was not without reason that physicians formerly condemned the cortex as the cause of these swellings; but, in reality, they should have blamed its injudicious use. These opinions are confirmed by another caution, universally laid down, that the bark is only admissible during a remission. In fact, at the time of the fit the fulness is most considerable: after its solution, that degree of fulness only remains which is owing to the dilatation of the vessels. Dr. Fordyce is so confident of its injury during the paroxysm, that he directs it to be omitted during the time that the paroxysm would have come on. In other words, if the fit is expected on a given day, which usually lasted from ten to four, or six, and if the bark, taken previously, has prevented the accession, the remedy must still be omitted during this period, though no accession really takes place. We find also that, in remittents, unless the remission is considerable, the bark is not always admissible; in continued fevers it is very rarely so.

Though the bark be confined to the interval, it is not necessary that it should be exhibited with equal freedom in every period of that interval. In a quartan, for instance, though given in the first day of intermission, its doses need not, during that day, be considerable, or often repeated. On the next, the medicine should be given in as large doses as the stomach will bear. In a tertian, the dose of the remedy should be greatly increased during the last six hours of the interval. What the dose should be must be determined by the judgment of the practitioner, and the constitution of his patient. Not less than an ounce of the powder will effectually stop a tertian; and a much larger quantity must be taken in the interval of a quartan. As the interval of the fits of a quotidian is short, we must be more active; but the disease should be lessened by emetics and cathartics before the bark is employed.

It is common and highly proper to recommend the removal of a diathesis phlogistica previous to the exhibition of the bark; but it is equally necessary to guard against its purging or its constipating effects. The former is most successfully opposed by combining a laxative, as rhubarb with the bark, and the latter by opium; but as the rhubarb adds to the bulk, and to the nauseous taste of a medicine, already sufficiently disagreeable, we may choose the period of the accession for the action of any quick purgative, as the castor oil with senna; the senna or jalap with cream of tartar, or the jalap with calomel. Should opium disagree, the bark may be taken in a strong decoction of logwood. When we have been most successful, we should not too soon abandon our remedy, as intermittents, except when continued from habit, are very liable to a relapse.

The bark, with every precaution, will not sometimes remain on the stomach, though joined with aromatics, with opium, or followed by an effervescing draught. In this case, we have been directed to quilt it in a calico waistcoat, to be worn next the skin; to bind it round the wrists; to inject it in a clyster; or to bathe the patient in its decoction. Each method is said to succeed; but what will not appear to succeed in the eye of its inventor? If the bark is really useful in these ways, we should expect that it will not be employed in any other; but when we reflect on the quantity required to cure an intermittent in the stomach, an organ which so quickly sympathises with the extreme vessels, the brain, and the sensorial power, we can scarcely expect lesser quantities, applied less advantageously, to succeed. The advocates of this practice have quoted Dr. Alexander's experiments with some triumph, to show that bark applied to the skin is absorbed; but when large quantities have been given to check an intermittent at once, and vomiting has succeeded, the whole is apparently evacuated though the fit be stopped. If it be contended that the bark in this way is really applied to the extreme vessels themselves, the advocates for the practice must show how it passes the cuticle, except by the absorbents; and prove, what may be still more difficult, how in this way it can obviate the cause, viz. the atony of the sensorial power.

The prejudices against the bark, on its first introduction, led to a variety of substitutes for it in these diseases; and all the bitters and astringents were occasionally employed, joined sometimes with alkaline and neutral salts, at others with aromatics, more simple stimulants, or antispasmodics; the abrotanum, the various species of wormwood, the carduus, the centaury, the camomile flowers, the columbo root, orange and lemon peel, gentian, quassia, tansey, rue, St. Ignatius' bean, with almost every medicine which contains a bitter juice. It is a doubt whether the bitter is the same in all. When the bitters are pure, as in the gentian and camomile flowers, the principle is apparently the same; but the wormwood, for instance, contains an essential oil totally different from its bitter juice; the orange peel not only an essential oil, but an astringent principle. This may have perhaps occasioned the preference of the latter, since the bark also contains an astringent portion; and whatever aversion physicians had to the bark, in their substitutes they came as near it as possible. The action of bitters and astringents we have already noticed. See Amara and Astringentia.

The astringents employed have been the alum, the galls, the tormentil, and the oak bark: each, it is said, has been successful; but their success has not been so decided as to lead to their general employment instead of bark.

The additions to the bitters and astringents, though chiefly to the former, have been, we have said, alkalis, neutral salts, stimulants, or antispasmodics. Boerhaave was fond of the bitters with alkalis as producing a saponaceous medicine, in his opinion a powerful deobstruent; though he sometimes preferred the neutrals. These are undoubtedly of great utility as antifebrile medicines, though seldom sufficiently powerful to stop the paroxysms of an intermittent. The aromatics usually added are nutmeg and ginger; the antispasmodics, the animal oil of Dippel, or, sometimes, the less elegant form of candle snuffings. The latter, with nutmeg, is said to have often effected a cure. Similar additions sometimes render the bark more effectual.

The other substitutes have been the metallic tonics, copper, arsenic, and iron. We know not that copper has been employed in the pure intermittents, though used with success in the intermittentes larvatæ, which we shall notice in the following article. Arsenic was employed many years since in this disease, and lately has been in general use, from the success of Edwards's ague tincture (see Arsenicum). It is undoubtedly a very active and powerful medicine; nor have we found any disadvantages from its use. It has succeeded, when the bark in every form, and with every addition, has failed. Fowler's arsenical solution is made in the following manner: take arsenic very finely powdered, and fixed alkaline salt, of each sixty-four grains (some ordered half the quantity); distilled water, half a pint; these are to be put into a Florence flask, and placed in a sand heat: the water is then to boil slowly till the arsenic is perfectly dissolved: when the solution is cold, half an ounce of compound tincture of lavender is to be added, and of distilled water, another half pint, more or less, so that the whole of the solution shall yield by measure a pint, or rather weigh fifteen ounces and a half. Patients from two to four years of age may take from two to four drops; from five to seven years, from five to seven drops; from eight to twelve years, from seven to ten drops; from thirteen to eighteen and upwards, twelve drops at a dose, in any proper vehicle, two or three times a day.

Iron is sometimes added to the bark and bitters to increase their virtue; but it has, we believe, been

seldom trusted alone. All these medicines seem to act by increasing the general tone of the system, and thus counteracting the debility in which the disease apparently consists. The mineral acids, though powerful tonics, have not been used, we believe, in this disease.

The general management of patients, who labour under intermittents will not detain us long. It is in the first place necessary to remove them from the infected air; but the activity of modern husbandry has lessened the number of marshes, and the disease is comparatively rare. In parishes where the number of intermittents was not annually less than two hundred respectively, the disease is not found, or only in a few instances in its disguised state. The diet should be light, easy, and digestible. The ancients seldom admitted of food in the first days of fever; and in the early periods of intermittents, when the disease has seldom any regular interval, the less nourishment that is taken, the sooner will the fever assume its proper type. In general, when the fits are more distinct, animal food should be avoided unless there is sufficient time to complete the digestive process before the expected return. This precaution must be continued after the fits have disappeared.

The *intermittentes comitatæ* and *perniciosæ* of Torti are more nearly allied to the remittents, and are indeed often of the remittent kind. They will therefore be considered with advantage under that article. See Remittentes.

See Torti Therapeutice Specialis, Sydenham's Works; Cleghorn on the Diseases of Minorca; Hunter on the Diseases of the Army; Senac de Recondita Febrium Natura; Fordyce on Fevers, second Dissertation.

Intermittentes larvatæ. A fever of a truly intermittent nature is often disguised under the appearance of a very different complaint, or seems to the inexperienced practitioner a fever of a different kind. In the first, the real disease may generally be suspected from the appearance of regular paroxysms, or more certainly by perfect intermissions, since these more often occur in such disguised intermittents than a regular recurrence of the disease. *Intermitting pains* of every kind, where the paroxysm is completely terminated, are of this kind; and the most common and most troublesome instance is the *hæmierania*. The distinction of the complaint is not easy, for pains in the head, from whatever cause, are not constant: even the dolor faciei crucians, q. v. the tic douloureux, has its remissions (see Cephalalgia). Hæmicrania, therefore, is distinguished from its situation, occupying often with such minute precision one half of the head, that the patient can place the point of a pin between the part pained and that unaffected; frequently from its regular attack, at least a regular continuance; in many instances from its being ushered in by rigor, followed by feverish heat; almost always from soreness in the bones of the cheek of the side affected during the paroxysm only. It is a disease of the most distressing kind, for its obstinacy is equalled only by the violent degree of the pain.

The intermitting nature of this complaint is known rom its occurring in the low, damp, marshy situations, from its regular recurrence, and from the remedies which relieve it. But among these we cannot reckon the Peruvian bark alone; for, though large doses have sometimes appeared to cure, they are often ineffectual, so that we are rather inclined to attribute the relief, sometimes experienced, to the spontaneous cessation of the disease. The remedy which most frequently succeeds is that recommended by Dr. Grant, consisting of an ounce of valerian, half an ounce of bark, two drachms of the Philonium Londinense, one drachm of kali, with a scruple of rhubarb, made into an electuary with simple syrup. He remarks, what we have found to be true, that if this quantity is swallowed between two paroxysms, the last will be greatly mitigated; and if the same quantity is swallowed between the two next, the complaint will be so far cured as to be scarcely troublesome. The effects of this plan, however, are rendered more certain by giving an emetic before the expected attack, with a blister behind the ear of the side affected; and as it is necessary to keep the bowels free, which the proportion of rhubarb is unequal to, the period of the accession may be employed for this purpose. The duration of the pain is amply sufficient for the operation of salts, of the oleum ricini, or jalap.

The quantity to be taken, according to this plan, may be sometimes inconvenient; but the pain is so excruciating that we have scarcely found any one whose resolution has not been equal to the alternative. It sometimes, however, though rarely, has happened, that the stomach will not retain it: the resolution has occasionally failed; and even the medicine has not succeeded, for the disease in our practice has been frequent. In such circumstances the copper has sometimes relieved; and, in more than one instance, a secret medicine, which is pretty certainly a solution of arsenic. If the period of the fever is not required for the action of a laxative, the pain may be mitigated by opium, with which camphor or musk has been combined; but of these additions we cannot speak from our own experience.

Other periodical pains and nervous complaints, as the hooping cough, hiccough, nausea, colic, and palpitations, regularly recurring, are very frequently removed by the same means (Senac). It has been usual to give the bark in every periodical complaint; but it seldom succeeds, except in doses much more inconvenient than those of Dr. Grant's medicine; and, when it seems to relieve, it leaves the patient more subject to relapse.

There are, however, symptoms periodically recurring, not always of this kind; but we have only been able to trace them when belonging to one disease, viz. lues venerea. We have seen a periodic ophthalmia, a hæmicrania, and an hæmorrhage from the nose, recurring at regular intervals in this disease. Each has been cured by a mercurial course. It may be said, that mercury, like copper and arsenic, will remove it; and it may be true, but each laboured under syphilis. The patients are at this moment alive, and the author, by a personal application, has refreshed his memory on the different subjects. We must add, however, that Senac, an author of the highest credit, mentions intermitting hæmorrhages, ophthalmy, ear and toothach, cephalalgia, pains under the scapula, nephritic affections, pain of either leg or arm, and of the stomach, often without any other appearance of fever. Those intermittents also which we have mentioned as attacking with syncope, apoplexy, asthma, and convulsions may

be properly styled *larvatæ*. The nature of these cannot be at once known; but some opinion may be formed from the prevailing epidemic, from the damp marshy situation in which the patient lives, from the bilious vomiting, the lateritious sediment in the urine, from the recurrence; but, above all, as we have said, from the very perfect intermission. The third paroxysm is popularly supposed to be fatal; indeed it often is so.

The varieties of intermittents which we have noticed, in which the cold obstinately continues; where the hot fit becomes phrenitis, or where the subsequent debility is attended with marks of putrefaction, and the worst symptoms of malignant fevers, have been reckoned among the disguised intermittents by Morton and Torti. But these authors were preceded in this opinion by Salius Diversus, by Valesius, Mercatus, &c. Indeed were a descriptive (raisonné) Medical Biography, a work much wanted, ever published, numerous reputed discoveries might be carried far beyond the ages of the supposed authors.

We have already mentioned the manner in which intermittents pass into remittents, and into continued fevers of the worst kind; but we have referred the consideration of these subjects to the REMITTENTS, q. v. which afford examples of the most destructive exacerbating fevers. See Morton de Febribur, Senac de Recondita Februm Natura, lib. 2.

INTERNO'DIUM, (from *inter*, *between*, and *nodus*, *a joint*,) that part of the stalks of plants which are between two joints or knots; in anatomy the knuckles, and the space between the joints of each finger.

INTERNU'NCII DI'ES, (from *internuncio*, *to go between*; as standing between the increase and decrease of the disease). See CRITICI DIES.

INTERO'SSEA ARTE'RIA, (from *inter*, *between*, and *osa*, *bones*). The CUBICAL ARTERY, in its course between the heads of the radius and ulna near the interosseous ligament, gives off these arteries, the internal and external.

The internal runs close to the ligament, till it reaches below the prunator teres, where it perforates the ligament, and passes to the convex side of the carpus, and back to the hand, where it communicates with the external interosseus, the radical and the cubical arteries.

The external pierces the ligament about three fingers' breadth below the articulation, and sends off a branch towards the external condile of the os humeri, under the ulnaris externus and anconæus minimus, to which, and to the supinator brevis, it is distributed. The interosseous artery then runs downwards on the outside of the ligament, giving branches to the ulnaris, externus, extensor digitorum communis, the extensores pollicis indicis, and minimi digiti. Having reached the lower extremity of the ulna, it unites with a branch of the internal interosseous artery, which at this place runs from within outwards, and is distributed with it on the convex side of the carpus and back of the hand, communicating with the radial artery and with a branch of the cubital. By these communications this artery forms an irregular arch, from whence branches are sent to the external interosseous muscles, and to the external lateral parts of the fingers.

INTERO'SSEA LIGAME'NTA. The interosseous ligaments in the fore-arm are fixed by one edge along the sharp angle of each ulna, and by the other along that of the radius. They principally consist of two very strong planes of fibres, which cross each other at oblique angles, and leave holes at different distances for the passages of blood vessels. The ligament ties the two bones closely together, and the two planes serve for the insertion of several muscles. In the supination of the hand it is very tight, but in the pronation it is folded a little lengthways.

INTERO'SSEI MU'SCULI, are found both in the hands and feet. There are three in the upper part of the hand, and as many on the inferior. Their name describes their origin, and they are blended with the lumbricales, performing the same office, of moving the fingers sideways. The first of the interossei interni is called by Albinus *posterior indicis*; the second and third are the *prior annularis*, and *interosseus auricularis*. These three muscles draw the fingers, into which they are inserted, towards the thumb. There are four interossei externi, for a small muscle, which supports the fore finger, the semi interosseus indicis of Winslow, the prior indicis of Albinis, is included. This muscle then may be styled the first; the second is the prior; and the third the posterior medii. The fourth is the posterior annularis. It is useless to be more minute in these unimportant muscles. They may be cut through with little danger, and will unite with as little trouble.

In the feet several small muscles fill up the four interstices between the metatarsal bones, after the same manner as in the hand. Like the interossei of the hand, there are three internal and four external. Their use is also similar.

INTERPELLA'TUS MO'RBUS, (from *interpello*, *to interrupt*). A disease attended with irregular or uncertain paroxysms. Paracelsus.

INTERPOLA'TUS DI'ES, (from *interpolo*, *to renew*). Days interpolated between two paroxysms. Paracelsus.

INTERSCA'PULUM, (from *inter*, *between*, and *scapula*, *the shoulder blade*). See SCAPULA.

INTERSE'PTUM, (from *inter*, *between*, and *septum*, *an inclosure*). See UVULA and SEPTUM NARIUM.

INTERSPINA'LES CO'LLI, (from *inter*, *between*, and *spina*, *the spine*). Winslow calls these muscles *spinales colli minores*. Dr. Hunter calls them *intraspinalis*, adding, that they lie between the spinal processes of the neck and loins, serving to erect the body, by bringing the spinal processes nearer to each other. The *interspinales*, *dorsi*, and *lumborum* are tendinous, and connect the spinal with the transverse processes.

INTERTRANSVERSA'LES MU'SCULI, (from *inter*, *between*, and *transversales*, *the transverse processes*). They lie between the transverse processes of the cervical and lumbar vertebræ, serving to bend the neck and body to one side. Winslow calls them *transversales minores*. To the first of these muscles the name *concutiens* has been given.

INTERTRI'GO, (from *inter*, *between*, and *tero*, *to rub*). *Attrita*, *attritio*. A GALLING, or erosion of the cuticle, or of the skin. Children are apt to have excoriations behind their ears, in the neck, and thighs: the last often arise from neglect. The excoriated parts should be bathed frequently with warm water; and powdered chalk, or cerusse sprinkled on them through a bit of fine muslin when quite dry. Dr. Cullen considers it as a variety of erythematous inflammation.

INTERVERTEBRA'LES MU'SCULI, (from *inter*, *between*, and *vertebra*). They arise from the body of one vertebra laterally, and are inserted, after an oblique progress, into the back part of the other vertebra, immediately above it. They draw the vertebræ nearer to one another, and a little to one side.

INTESTI'NA TE'RRÆ. See LUMBRICUS TERRESTRIS.

INTESTINA, (from *intus*, *within*). The INTESTINES, *chordæ*, and *pantices*. From the pylorus to the anus is one continued canal, divided into the small and great intestines, covered by the mesentery and mesocolon; and, as they are longer than these membranes, they are contracted in folds to the length of the latter. The whole length of the intestines is between seven and eight times the length of the body; the small ones are about five of these parts. The small intestines called *dertron*, and *cholades*, because they contain bile, are named DUODENUM, JEJUNUM, and ILEUM, q. v.: the large intestines are, the CŒCUM, the COLON, and RECTUM, q. v.

The first coat of the intestines, the external, is from the peritoneum, called *cellulosa tunica Ruyschii; tunica externa* vel *membranosa;* the second is the muscular coat formed of two planes of muscular fibres, the one thin and longitudinal; the other thicker, in a cylindrical direction: the third is styled the nervous, but consists of cellular substance; the fourth the villous, *peristroma*. The villi are of different shapes and lengths in different parts of the intestines, more thick in the small, more long and thin in the large ones; they are thought to be secreting and absorbing organs, as there the arteries seem to terminate, and the veins to begin.

The glands of the intestines, *enteradenes*, are supposed to be lodged in the nervous coat, next the villous, and are divided into *glandulæ solitariæ* and *aggregatæ;* but their existence is not clearly established.

In the great intestines we may observe little holes, which, when inflated, lead to cells analogous to the follicles of Malpighi; and by analogy we may suppose glands to exist in the great intestines near the anus, to separate a lubricating mucus, for facilitating the passage of the fæces.

The arteries and veins run together on the intestines.

In the intestines the first digestion is completed; from them the chyle is absorbed, and through their cavity the fæces ultimately carried off. These actions are performed by their peristaltic or vermicular motion, which apparently moving their contents backward or forward, in effect propel them; as the waves of an increasing tide sometimes fall short of, and at others gain on those which preceded them, but on the whole advance. This motion is caused by the successive contraction and relaxation of the circular fibres of the muscular coat; and the principal stimulus to this motion is the distention of the canal.

The action of the lungs on the diaphragm and of the abdominal muscles assist the progress of the contents of the stomach and intestines. Thus the clara lectio, reading aloud, is said by Celsus to assist digestion.

INTESTINA'LIS, (from *intestina*, *intestines*). Belonging to or proceeding from the bowels.

INTESTINA'LIS ARTE'RIA. See DUODENALIS ARTERIA, and GASTRICA DEXTRA ARTERIA.

INTESTINA'LIS VE'NA. See DUODENALIS VENA.

INTESTINO'RUM SOLA'MEN. The *semen anisi*, according to Hoffman; and the *oleum anisi*, according to Van Helmont.

INTESTINO'RUM TU'NICA EXTE'RNA, and MEMBRANOSA. See INTESTINA.

INTOXICA'TIO, (from τοξικον, *poison*, *venom*). It is properly the same as *infectio*, but generally synonymous with *inebriation*. See INEBRIANTIA.

INTRAFOLIA'CEUS, (from *intra*, and *folium*, *a leaf*). Growing within the side of the leaf.

INTRASPINA'LIS, (from *intra*, and *spina*, *the spine*). See INTERSPINALES.

INTRATRANSVERSA'LIS. See INTERTRANSVERSALES.

INTRICA'TUS, MUSCULUS, (from its intricate folds). See ABDUCTOR AURIS.

INTRI'NSECI, (from *intra*, and *secus*, *towards*). Painful disorders of the internal parts.

INTRI'TUM, (from *interor*, *to be rubbed*,) *entrimma;* a culinary term for minced meats, or rather such as are prepared by pounding, as potted beef, &c.

INTROCE'SSIO, (from *introcedo*, *to go in*). See DEPRESSIO.

INTROSUSCE'PTIO, (from *intra*, *within*, and *suscipio*, *to receive*). Slight degrees of introsusceptio seem to occur frequently, and are soon restored; but even when in a considerable degree, the functions of the intestines are often not disturbed. Unless inflamed, or adhesions are formed between the external part, and that "received within," no disease seemingly follows. It occurs often so low in the rectum, that it may be reached by the finger, or the *received* intestine may be even protruded. Monro, Edinburgh Medical Essays. See ILIACA PASSIO.

I'NTSIA. *Mimosa intsia* Lin. Sp. Pl. 1508. A large evergreen tree in Malabar, called also *acacia Malabarica globosa*. The juice of the leaves, and bark is used to relieve pains in the bowels. See Raii Historia.

INTUMESCE'NTIÆ, (from *intumesco*, *to swell*,) *tumidosi*. Disorders attended with a swelling of the body, or a considerable part of it; the second order of the *cachexiæ*.

INTUSSUSCE'PTIO, the same as INTROSUSCEPTIO, q. v. See ILIACA PASSIO.

I'NTYBUS, (from *in*, and *tuba*, *a hollow instrument*, from the hollowness of its stalk). A name for the *cichoreum latifolium* sive *endivia vulgaris*.

I'NULA. See ENULA.

INU'NCTIO, (from *inungo*, *to anoint*). INUNCTION. The action of anointing, or the materials which are employed.

INVA'SIO, (from *invado*, *to attack*,) *accessio*.

INVERECU'NDUM OS, (from *in*, *not*, and *verecundus*, *modest;* because the os frontis is regarded as the seat of impudence). See FRONTIS, OS.

INVE'RSIO U'TERI, (from *inverto*, *to turn inwards*). See PROCIDENTIA UTERI.

INVI'DIA, (from *in*, and *video*, *to look upon*, a nimis *intuendo* fortunam alterius). ENVY; a depressing passion arising from a consciousness of the superior advantages of another. It induces debility, indigestion, and hectic.

INVO'LUCRA, (from *involvo*, *to fold in;* from coming next after the child). *Secundines*, *hystera*, *membranæ*.

They form an universal covering for the fœtus, and the water in which it floats during pregnancy. They consist of the membranes called CHORION, and AMNION; the PLACENTA, and part of the FUNUS UMBILICALIS, vide in verbis.

If in labour the membranes do not break immediately upon their being pushed into the vagina, they should be allowed to protrude still further in order to dilate the os externum.—If they suddenly burst, and discharge much water, and the pains soon slacken, the labour becomes tedious. While the head of the child is yet covered with the unbroken membrane, it is smooth, soft, and slippery to the touch. Sometimes when the head presents the fontanel feels puffy, and deceives us, as it is mistaken for the membranes; but this should be carefully distinguished. If during labour the waters push the membranes down in an oblong form, the birth will be tedious. A short broad, or round form is the best.

INVOLU'CRUM, (from the same,) the calyx of an umbelliferous plant. See also PERICARDIUM.

I'ON, (from *Ionia*, its native place). See VIOLA.

IO'NIA. See CHAMÆPITYS.

IONTHLA'SPI, *lunaria*. It is *clypeola ionthlaspi* Lin. Sp. Pl. 910; found in France, Italy, and Spain, said to be detersive, aperitive, &c. but not at present used.

IO'NTHOS, (from *ion, the violet*). The Grecian appellation of those hard pimples in the face of a violet colour, which the Latins call by the name of *varas*, and *gutta rosacea*.

IOSA'CCHARUM, (from *ion*, *the violet*, and *saccharum*, *sugar*). SUGAR of VIOLETS.

IOTACI'SMUS, (from ιωτα, the Greek letter ι). A defect in the tongue or organs of speech, which renders a person incapable of pronouncing his letters; or where the letter *i* is frequently and rapidly pronounced.

IO'UI. A restorative alimentary liquid prepared in Japan. It is made from the gravy of half roasted beef, but the other ingredients kept a secret.

IPECACUA'NHA, (Indian). *Brasiliensis radix*, *herba paris Brasiliana*, *polycocos*, *poaio do matto*, *caaapir; cipo; Indiana radix*, *periclymenum parvum*, IPECACUAN, or BRASILIAN ROOT. Many of these names have been assigned, from the opinion of naturalists, respecting the plant which produces this valuable remedy. It has been supposed to be the root of a viola, of a periclymenum, and of a species of psycotria. Indeed the evidences in favour of the latter are so strong, that we have much reason to believe that its roots are at least emetic, though not the real ipecacuanha. In fact, if we can trust Decandolle's description in the Bulletin des Sciences, the *white* ipecacuanha is derived from the viola, and this medicine is afforded by three species, the *v. calceolaria* of the *species plantarum*, a native of Guiana and the American islands; the *v. parviflora* of the *supplementum plantarum*; and the *v. ipecacuanha* of the *mantissa*. These roots may be found among those of the true ipecacuanha, but they are a fraudulent addition, as, though emetic, they do not possess the valuable properties of the true or grey kind. They are distinguished by the size of the woody part, which, in the true kind, is a fibre only; in the white it is as thick as the bark. The roots of different species of asclepias, dorstenia, and other genera, are sold as ipecacuanha, but with the distinction of "*false*."

In 1780 Mutis sent to the younger Linnæus, from South America, a full description of a plant, which he was assured was the true ipecacuanha; an account confirmed by a medical resident, who has been stigmatised with the name of an *empiric*. This naturalist referred it to the genus *psycotria* with the trivial name of *emetica*, doubting, however, whether it was the same with the ipecacuanha of Piso and Margraave, though the figures of these authors greatly resembled it. Dr. Woodville, in 1793, published an engraving of a specimen preserved in spirits, sent from the Brasils. The root was entire, and ascertained it to be the real plant; but the flower was wanting, so that the truth of Mutis's narrative and the credit of his informant could neither be established nor invalidated. In this state of uncertainty, we received in 1802 the description of the true plant from Felix Avellar Brotero, in the sixth volume of the Linnæan Transactions, p. 137. The author is professor of botany in Coimbra, and professes to have drawn his description from numerous dried specimens, corrected by the observations of his friend Bernard Gomes, a diligent medical botanist, who has often examined the living plants. They grow in Parnambuqui, Bahia, &c. and other provinces of Brazil, flower in November, December, and January, and again in February and March. The berries ripen in May.

It is scarcely the object of this work to transcribe the minute description of Brotero, which would be uninteresting to the medical reader; and we shall prefer making a few remarks on the minute difference between the *callicocca ipecacuanha*, the title he gives it, and the *psycotia emetica* of the younger Linnæus. This genus *callicoccæ* belongs to the *rubiaceæ* of Jussieu, and the species are all perennial.

The description of Brotero greatly resembles that of Mutis. In the latter, the bracteæ which separate the florets are said to be so small as to be scarcely discernible; but Brotero describes the bracteæ, involucri and flosculorum longitudine; but we have long since learnt that plus vel minus non mutat speciem. The stipulæ, according to Mutis, are awl shaped, and horizontal; in Brotero appressæ sessiles sublineares partito fimbriatæ, lacinulis subulatis. In Mutis the flowers are said to be axillary; in Brotero terminal. In Brotero's figure, however, there is but a single flower which, though placed terminally, is apparently axillary. The stipulæ in Sir Joseph Banks' plant seem to resemble those described by Mutis.

There appears, if these circumstances only are considered, little doubt but that the plant of the younger Linnæus is a variety of that described by Brotero; but in Mutis' plant there is no involucrum: in that of Brotero a large and strongly marked one, so that in reality, they must be two distinct species, though they certainly belong to the same genus. The involucrum is, indeed a part of the essential character in Schreber, and in the cephaelis of Wildenow (the same genus); yet many of the species have naked heads. It has, in conformity with the same views, been proposed to add as a species of callicocca the *c. mutisii* (psycotria emetica Lin. Filii Supplementum Plant, p. 144). Head naked peduncled; few flowered; leaves lanceolate, smooth; stipules entire, awl shaped; corolla five, cleft; chaffy bractes, very small.

It is brought from the Spanish West Indies. Four sorts are mentioned, viz. the grey, brown, white, and yellow. The grey is generally esteemed the most valuable, but

Neumann assures that the brown is equally good. The white sort is much weaker than the other, and the yellow does not act in the least as an emetic, being merely purgative. The Peruvian sort is called *bexuguillo*.

The roots of the grey sort are about the thickness of a small quill, very unequal and knotty; variously bent and contorted, full of wrinkles and deep circular fissures, which reach down to a small whitish woody fibre that runs in the middle of each piece: the cortical part is compact, brittle, looks smooth, and resinous on breaking. They have little or no smell, the taste is bitterish and subacrid, covering the tongue as it were with a kind of mucilage. The roots of the brown kind are small, somewhat more wrinkled, of a dark colour without, and white within. The white is woody, has no wrinkles, and, to the taste, no perceptible bitterness. The ash coloured or grey ipecacuanha is generally preferred: the brown has been observed even in a small dose to produce violent effects; but the white has scarce any effect, whatever the dose may be. The root contains a gummy and resinous matter, though the gum is in the greatest proportion, and the most active part: the bark is more powerful than the wood; and the whole root manifests an antiseptic and astringent power. The emetic quality is said by Dr. Irvine to be counteracted by the acetous acid; for thirty grains, taken in two ounces of vinegar, produced only some loose stools. For this reason it has probably become fashionable to add the ammonia, which is supposed to increase the emetic power of the ipecacuanha.

This medicine is the most certain, the mildest, and safest emetic with which we are acquainted; for it readily passes off by stool, if it does not operate by vomit; but perhaps less certainly by urine or perspiration than the antimonials.

The larger compact roots that have a resinous appearance are preferred. The slender, blackish, brown ones, full of fibres, are the worst. Mr. Henry, of Paris, has lately ascertained, by experiment, the fact first mentioned by Lassone, that the ligneous part is equally powerful with the cortical.

The roots of the caapia, commonly sold under the name of white ipecacuanha, are yellowish, or of a yellowish white colour. The apocynum is another imposition which we have mentioned; but the colour of its medullary fibre is of a deep reddish yellow colour, whereas that of the ipecacuanha is whitish, or of a pale gray.

Helvetius first brought this root into repute as an antidysenteric, though it was brought to Europe about the middle of the seventeenth century. Since his time it has been used in diarrhœa, menorrhagia, leucorrhœa, in long continued obstructions, and in spasmodic asthma. In violent paroxysms of the latter it has procured relief; and where habitual, from three to five grains may be given every morning, or from five to ten every other morning, and continued for four or six weeks. Small doses of one to two grains have been of use in catarrhal, some consumptive cases, and various states of fever. It has also been employed in the cure of agues as an emetic, given at the time of accession, or at the close of the cold fit. Very small doses, as one third or one half of a grain, have been recommended every four hours, in menorrhagia, cough, pleurisy, and hæmoptoe; and in larger doses, to counteract the effects of opium. Of all its preparations, the powder is the best; six or eight grains of which will produce two or three discharges by vomit; and in diarrhœas and dysenteries, after this operation, it excites perspiration, if the patient is kept warm. It chiefly operates as an emetic in proper doses; in smaller doses, as a nauseating and aperient medicine, upon which its antidysenteric power seems to depend. It is said to succeed equally well in small as in large doses; but the quality of the root we now obtain is not the same, or it has lost this power. It is so certain an emetic, that we cannot venture to give it where vomiting would be injurious. Geoffroy supposed that the resinous part only was emetic, and that the virtue of the ipecacuanha in dysenteries depended on its gum, which acted as a demulcent; but this is highly improbable, as other emetics or similar medicines in nauseating doses are perhaps equally effectual. Dr. Irvine found the gum more actively emetic than the resin, and the bark than the wood, though the latter possessed this power in an inconsiderable degree. Water distilled from it was not emetic, but the remaining decoction violently so, though its peculiar properties were destroyed by long boiling. See Cullen's Materia Medica.

The best menstruum for extracting the whole virtue of the root is one part pure spirit, and two or three of water; of wines the Canary or mountain best extracts its virtue; but the London College directs the following V'INUM IPECACUA'NHÆ. Take of the roots of ipecacuanha in powder, two ounces; of Spanish white wine, two pints; digest ten days, and strain. Ph. Lond. 1788. Its dose, as an emetic, is from ʒ ij. to ʒ i. ss.—as a diaphoretic, from twenty to forty drops, adding about ten drops of tinctura opii.

Dr. Alston thinks that the virtue of this root resides not in its oil, gum, or resin, but in its peculiar spirit. Later chemists, however, particularly Mr. Lassone and Mr. Henry, of Paris, have shown that ipecacuanha contains a free acid of a vegetable nature decomposed by fire, and different salts with a calcareous basis. It also contains a small proportion of an elastic gum. The most active part is the resin, though the extractive is by no means without power, in about a double dose. If three grains of powdered ipecacuanha are added to fifteen grains of jalap, it more certainly and efficaciously purges; but it also often deceives by producing vomiting.

To deceive children ℈ i. or ʒ ss. of powdered ipecacuanha may be infused in half a pint of boiling water, adding a little milk and sugar. A tea cup full may be given every ten or fifteen minutes, till it operates; and it will then need nothing to work it off. It might perhaps be better infused with weak coffee, or to this a tea spoonful of ipecacuanha wine may be added. The college also orders the following P'ULVIS IPECACUA'NHÆ COMPO'SITUS. *Dover's powder.* Take of ipecacuanha, hard purified opium, of each, rubbed into powder, one drachm; of vitriolated kali in powder, an ounce. Pharm. Lond. 1788. The dose is from ten to thirty grains; the former dose containing a grain of opium. This is very nearly the same as the powder of Dr. Dover, and is considered as one of the most certain sudorifics in rheumatism, gout, and other diseases where sweating is necessary.

See Lewis's Materia Medica; London Medical Observations and Inquiries, vol. i.; Neumann's Chemical Works; Woodville's Medical Botany.

I'PHION. See Asphodelus luteus.

IQUETA'IA. See Scrophularia aquatica.

I'RA, (from the Hebrew term *chirah*). Anger quickens the pulse, and hurries respiration, and for a time increases the tone of the whole system. The stomach and bowels are greatly affected; and a stricture on the gall ducts is sometimes produced, so that a jaundice is the consequence; though more frequently the gall is determined more copiously to the duodenum, producing disagreeable complaints in the bowels. Anger also produces hæmorrhages from the nose, the lungs, the vessels of the brain occasioning apoplexy, and the hæmorrhoidal vessels, particularly in those who are disposed to these evacuations.

During the fit of anger, or its immediate effects, it is said that vomits and purges should be avoided, though few take them in a passion; nor can we see what injury would be produced if they were given.

Anger, called justly "a short madness," will gradually cool; and should any bad effects be left, they must be treated according to their nature.

IRACU'NDUS MU'SCULUS, (from *ira*, *anger*). See Abductor oculi.

IRI'NGUS, Eryngo. See Eryngium.

I'RIS, (from *ειρω*, *to show*). A rainbow. The forepart of the choroides of the eye, named from the variety of its colours. It lies floating and loose; is convex on the anterior, and concave on the posterior part; the perforation in its middle forms the pupil. The iris, by contracting or dilating, excludes or admits of light in such proportions as the variety of circumstances may require. Two orders of muscular fibres are found between the laminæ of the iris; one circular, the other radiated, which produce these actions. See Uvea, Choroides, and Circulus arteriosus.

The operation of cutting the iris is required when a cataract adheres to it; and when, from the contraction of its muscular fibres, the pupil is closed up, a disease called *synizesis*, or *caligo pupillæ*, is produced. Mr. Sharp, in his Operations, chap. xxix. directs the operator to proceed as follows: Place the patient as for couching; open and fix the eye with the speculum oculi; then introduce the knife in the same part of the conjunctiva that is wounded in couching; insinuate it with its blade held horizontally, and the back of it towards you, between the ligamentum ciliare and circumference of the iris, into the anterior chamber of the eye; and, after it is advanced to the further side, make your incision quite through the membrane; and, if the operation succeeds, it will, upon wounding, fly open, and appear a large orifice, though not so wide as it becomes afterwards. Mr. Sharp further observes, that when the pupil is contracted from a paralytic disorder, this operation cannot be encouraged.

I'ris. A species of rash, included by Dr. Willan in his third order of exanthemata; but we have not yet received his description and explanation. We may find an opportunity of resuming this subject, if the number appears in time. See Cutanei morbi.

I'ris, (from the resemblance of its flower to the rainbow). It is a perennial plant, with long, narrow, sword like leaves standing edgewise to the stalk, and large naked flowers divided deeply into six segments, of which alternately one is erect, and another arched downward, with three smaller productions in the middle, inclosing the stamina and pistil: the roots are tuberous, irregular, and full of joints. (See Erysimum.) It is a name likewise of the hedge mustard, *hermodactylus;* a kind of ginger; a species of *xyphium*, and of a *pastil*, consisting of alum, saffron, myrrh.

I'ris florentina. Florentine orris; *iris Illyrica*, and white flower-de-luce, *iris florentina* Lin. Sp. Pl. 55. It is supposed to be only a variety of the common iris; but its roots are brought from Italy, as superior to our own. They are in oblong, flattish pieces, freed from the fibres, and brownish externally, but with brownish specks internally, and easily reduced to a farinaceous powder.

The root, in its recent state, is nauseous, acrid, and purgative, but loses these qualities by drying. The dry root is unctuous, bitterish, and pungent; the taste not strong, but durable; with a light, agreeable smell, which resembles violets, or rather raspberries; and communicates a similar flavour to spirits and to wines. As a medicine, the fresh root is a powerful cathartic; and its juice has been employed in the dose of ʒ i. in dropsies: when dry it is a demulcent, and an expectorant, attenuating viscid phlegm, and promoting its discharge; but Dr. Cullen considers it as insignificant in this state. When cut in the form of peas it is used for promoting the discharge in issues.

In distillation it yields all its flavour to water; its bitter remaining in the extract. Rectified spirit brings over a part, and the extract is bitter and pungent in the mouth. See Lewis's Materia Medica; Neumann's Chemical Works.

I'ris tubero'sa, vel bulbosa. See Hermodactylus folio quadrangulo, &c.

I'ris fœ'tida, *spatula fœtida*, *xyris*, *gladiolus fœtidus*, spruge wort, stinking gladdon, or gladwyn; *iris fœtidissima* Lin. Sp. Pl. 57; a wild species of iris, distinguished by a strong smell, found in hedges, &c.: its root is thick, and spreading in the earth, with many fibres, from which spring numerous leaves, longer, narrower, and sharper pointed than the common iris. The root is diuretic, but seldom noticed.

I'ris palu'stris, *acorus adulterinus gladiolus luteus*, *pseudo acorus*, *pseudo iris*, *butomus*, *butomon*, yellow water flag; *iris pseudacorus* Lin. Sp. Pl. 56. It is common by the sides of rivulets and marshes; the roots are reddish; several flowers, of a yellow colour, stand on a stalk; the middle ribs of the leaves are prominent.

The roots of this species, when fresh, are more acrid, and strongly cathartic, than the former. Eighty drops of the expressed juice, repeated every two hours, have purged, when jalap, gamboge, and mercurials have failed. The root is without smell, but has an acrid styptic taste; its juice in the nose and mouth creates a burning heat, accompanied with a copious discharge, and is consequently considered as an errhine and sialogogue: from its astringency, it has been used in diarrhœa; for making ink, and dying black. To serpiginous eruptions, and scrofulous tumours, the expressed juice is said to be an advantageous application. Bergius

observes, that, when fresh, it is a hydragogue; when dried, an astringent: but like the other species, it is too variable in its strength to be received into general use.

I'RIS LATIFO'LIA TUBERO'SA. See ZINGIBER.

I'RIS VULGARIS; *iris hortensis nostras; iris Germanica* Lin. Sp. Pl. 55; *iris purpurea*, the COMMON PURPLE IRIS. Several blue or purple flowers stand on one stalk; their arched segments bearded with a yellowish matter. The plant is a native of the mountainous parts of Germany, common in our gardens, and flowers in June. The roots, when fresh, smell disagreeably, have an acrid nauseous taste, and are a strong irritating cathartic. The expressed juice has been given in a dropsy, from two to four drachms diluted with water. By gently inspissating the juice it is less active; but, if inspissated to dryness, it loses its purging quality. The dried root resembles in smell and taste the Florentine species.

IRRADIA'TIO, (from *irradio, to shine upon*). See ACTINOBOLYSMUS.

IRREGULA'RIS, (from *in*, and *regularis, regular*). A disease anomalous in its paroxysms.

IRRITABI'LITAS, (from *irrito, to provoke*). IRRITABILITY; the *vis insita* of Haller, *vis vitalis* of Gorter, *oscillation* of Boerhaave, *tonic power* of Stahl, and the *inherent power* of Cullen. It means that susceptibility to contraction which is peculiar to muscular fibres. We chiefly speak of it when morbidly increased, and in this state it may exist without or with inflammation. In the former state it is called spasm; in the latter, it is considered as a symptom only. Parts scarcely sensible or irritable in a natural state, become highly so in consequence of inflammation.

Irritability, according to Haller, differs greatly from sensibility; for many irritable parts are not sensible; and organs which are both irritable and sensible have by no means these qualities in the same or any proportional degree. The intestines, he remarks, are less sensible than the stomach, though more irritable; and the heart is an organ peculiarly irritable, though by no means sensible. In the language of this physiologist, cellular is often considered as synonymous with nervous, and, both in the French and German authors, the cellular substance is spoken of as an important organ, often as an irritable one. We have already offered our opinion, that it is merely an insensible connecting medium; nor have we been ever able to ascertain that it has any other office, or any appropriate function. The cellular, or rather the membranous parts, he considers as irritable, particularly the ligaments, the periosteum, the dura and pia mater, and the other membranes. The tendons possess, he thinks, no irritability; and, though the smaller arteries may possess this quality, he did not discover it in the aorta. The veins, the excretory ducts, the gall bladder and its ducts, the urethra, and ureters, he found only irritable in an inconsiderable degree; but the glands, the mucous sinuses, the uterus, the genitals, the œsophagus, the stomach, the intestines, the muscles, and particularly the diaphragm, are highly irritable. This principle he supposes to be owing to the mucous matter interspersed among the muscular fibres, and to be wholly independent of volition. Other authors have attributed irritability to a particular set of nerves not under the influence of the mind. It is certain that it may be destroyed by drying; by coagulating the oily fluids of our system; by opium, belladonna, tobacco, &c.

The high reputation of Haller has induced us to enlarge on his opinions much farther than their real merit would require. His experiments were made on animals, often cold blooded ones, and in a state of health. He seems never to have looked at the human body in a state of disease, as the source of his observations; but had he done so, he would have found numerous facts in the most decided contradiction to his experiments. No part, not the eye itself, is more sensible than, for instance, the membranes when inflamed; no part shows greater irritability, either from passions or the stimulus of a gall stone, than the biliary ducts. The idea, that irritability is owing to the mucus in the interstices of the muscular fibres, is gratuitous and imaginary. Irritability is a property of life; but by what means does this mucus acquire life, and by what function, except this fancied one, does it show any vital power? The existence of different sets of nerves giving irritability is wholly imaginary, without the slightest support from anatomy.

Irritability, as inseparable from life, must be connected with the nervous power; but the nerves, we know, are not irritable. It must then owe its existence to the nervous influence, or the muscular fibre must differ from the nervous by some peculiar organization on which this property depends. There is little doubt of the muscular power depending on organization; for the muscle differs only from the tendon in structure. The fibres pass on, and may be traced from one to the other. Organs, at first in a great degree muscular, become, by age, more tendinous; so that, in the latter, the fibres are apparently more compacted, in fact, of an organization essentially different. Is then the muscle wholly nervous, or an organ only excited to action by nerves? Dr. Cullen thinks it wholly nervous, and calls muscles *the moving extremities*, in opposition to the *sentient extremities* of nerves; and the weight of evidence is strongly in favour of this opinion. We have said that we know of animal matter but in two forms, fibrous and cellular substance, more or less condensed. The fibrous seems exclusively nervous, and the nerves are closely compacted as in membranes, or more loosely organized in muscles. It is equally difficult to understand the construction of muscles, whether we supposed them nervous, or animal matter of any other kind.

Though we cannot ascertain the structure of the organs possessing irritability, we may shortly mention the laws by which it is regulated; and we shall find them so analogous to those of sensibility, that there will be little difficulty in recognizing the source to be similar. Irritability, like sensibility, is exhausted by exercise, and recruited by sleep; but, unlike sensibility, its exertions are alternated by relaxation. It is probable that the nerves in the muscular organs are in a higher state of excitement than in the sentient; for muscular organs are constantly, in a certain degree, exerted in order to counteract the antagonizing muscles, but unless the action is occasionally remitted, it is spontaneously relaxed. This constant state of tension is called the *tonic power*, and is in proportion to the general excitement. It presupposes irritability, in consequence of organization, which has been called the

inherent power, and is probably the same with the *nervous power* of physiologists: it must be so if muscles are only the "moving extremities of nerves." Irritability, as a morbid affection, however, implies a very different state, and has been styled *mobility*, a susceptibility of action from slight and otherwise insufficient stimuli; and this susceptibility, connected generally with debility, is more readily alternated with relaxation producing convulsions.

Irritability, as we have just remarked, is exhausted by exercise, and it may be suddenly destroyed, so as to kill; for a flash of lightning will at once extinguish it in every organ. It is, however, recruited by rest, and, as modern physiologists, with some reason, have supposed, accumulated so as to occasion increased action. Many of the facts adduced may, however, be resolved into the effects of custom; for, when given actions are excited by a weak stimulus, a common power becomes, in comparison, inordinate. Thus the iris, accustomed to contract in the gloom of a dungeon, feels the common daylight as painful as the glare of a noon day sun would be to a person who has never been confined. This leads us to remark, that the irritability of each organ has specific stimulus, by which only it is excited. Ipecacuanha does not irritate the eye; and the acrid urine or bile excite only pleasing and healthy sensations in their appropriate organs; but in the brain produce phrenitis, or in the stomach, vomiting, with faintness, cold sweats, &c. In general, muscles which act more slowly and regularly, preserve their irritability longer than those which act with violence; for in these the irritability is apparently supplied as fast as it is expended. A certain degree of action, we have remarked, must be kept up in all muscles, to preserve their irritability, or rather the tonic power. Beyond, irritability is exhausted; below the due point, it is lost; and this point differs in almost all the different organs. Each has its appropriate action, which it can bear without injury, or even with advantage; and the irritability of each is exhausted more rapidly, in proportion to the continued action which it exerts. The voluntary muscles can bear a very considerable increase of action, because it is temporary: the involuntary ones, whose action must continue, soon lose their irritability after a short increase. See Nervi; Musculi; Irritatio, and Cerebrum.

Haller on Sensibility and Irritability; Whytt's Answer to Haller; the Difficulties in the Modern System of Physic, with Regard to the Sensibility and Irritability of the Parts of the Human Body, by De Haen; Kirkland on the Brain and Nerves; on the Sympathy of the Nerves, and of different Kinds of Irritability; Cullen's Introduction to the Materia Medica.

IRRITA'TIO, (ab *irritare*). Irritation is a term to which different meanings have been affixed, and this has occasioned some confusion among pathologists. The most obvious idea of irritation is the action of a mechanical or a chemical acrid, as a thorn under the skin, or the effluvium of ammonia in the nose. Similar irritation is the effect of poison in the habit, as of cantharides; of altered secretion, as in gonorrhœa; of unnatural contents in the stomach, as in heartburn. Irritation, however, is discovered by its effects, when not obvious to the sense, as in cases of scirrhi, worms, ossifications, or extravasated blood; and, independent of these, a peculiar state of the excitement of the nervous power occasions the most common impressions to become the source of pain and uneasiness. This state of excitement is sometimes owing to inflammation, which acts in a manner we shall afterwards explain (see Nervus and Tonus); sometimes to latent sources of irritation in the brain, sometimes perhaps to a change in the state of the nervous power itself. We can no otherwise explain the effects of an east wind on some hypochondriacs, or a particular state of electricity of the air on persons peculiarly susceptible of its effects.

We have already had occasion to remark, that privations sometimes occasion what are called symptoms of irritation. Thus hunger produces restlessness and anxiety; the want of the degree of tension, either from external pressure or internal fulness, from the sudden emptying of any cavity, will occasion uneasiness, which has been styled a symptom of irritation. Internal feelings of this kind are sometimes opposed to pain; and the peculiar sinking in atonic inflammations, has been styled also a symptom of irritation, not, perhaps, with perfect propriety, but with sufficient distinctness when explained.

The effects of irritation are generally increased action; and, in the animal system, privations are, by an unaccountable solecism, considered as positive causes of increased action. This loose, illogical language arises from a want of distinction between increased and irregular action; for in spasms produced by causes destructive of life, in convulsions closing the last scene of mortal existence, it would be absurd to say that action, which always implies energy, is increased. We have already shown that in all these instances the power is diminished, and the action, in consequence, irregular. See Convulsions and Inirritantia.

IS, (*ις, a fibre,*) its plural is *ιες*. Hippocrates, and other writers, have used this term for both a fibre and a nerve.

I'SAROS. See Arum.

I'SATIS, (from *ισαζω, to make even*, from its power in reducing tumours). *Sativa latifolia; tinctoria.* Woad. See Glastum.

I'SATIS I'NDICA. See Indicum.

ISATO'DES, (from *isatis*, and *ειδος, likeness*). Of the colour of woad.

I'SCA, (*ισχα*). A fungous excrescence of the oak, or of the hazel. The ancients used it as the moxa. See Moxa.

ISCHÆ'MON, (from *ισχω, to restrain*, and *αιμα, blood*). A name for any medicine which restrains or stops bleeding.

Ischæ'mon sati'vum. Manna grass. See Gramen.

I'SCHIAS, (from *ισχιον, the hip*). A name of a rheumatic affection of the hip joint, called the *sciatica* or *ischiadicus morbus*, and of two crural veins, one of which is called the greater, the other the less. See Cruralis vena.

ISCHIA'DICUS DO'LOUR, (from the same). See Arthritis.

ISCHIA'DICUS MO'RBUS, (from the same,) also called *ischias, sciatica, coxæ dolores*. Aretæus ranks this disorder as a species of gout, "which comes," he observes, "on the hind part of the thigh, the ham, or the tibia; at other times attacking the acetabulum of the os femoris, and then the buttock and loins, seeming to be

any thing rather than a sciatica." Dr. Cullen ranks it as a synonym with rheumatismus.

The sciatica is sometimes seated in the tendinous expansion which covers the muscles of the thigh, occasionally, it is supposed, in the coat of the sciatic nerve. In the last case the pain is more acute and violent, attended with a numbness; a symptom easily accounted for. Its most common seat, however, is in the muscles, or in the capsular ligament; and it is then either rheumatic or gouty.

The two former species cannot be distinguished; nor do they admit of any peculiar treatment. In general, the disease must be treated as a rheumatism of the chronic kind, to which we refer. (See RHEUMATISMUS.) There are, however, some modes of relief supposed to be peculiarly useful in sciatica, which we must mention in this place. That recommended by Fothergill, consists in giving a grain of calomel every night, washed down with a draught containing twenty-five drops of tincture of opium, and thirty of antimonial wine. If not relieved after ten doses, the quantity of calomel is to be increased to two grains every alternate night. Other authors have recommended the ethereal spirit of turpentine, which is a very efficacious medicine, if united with honey, by gently melting over a slow fire; and in this way the dose may be increased to thirty or forty drops. We have found the combination of mercury and antimony, in the form of Plummer's pill, with the Lisbon diet drink, frequently succeed when every other medicine has failed; but these remedies we shall again mention when speaking of rheumatism.

The *ischias nervosa* of Cotunnio is supposed by this author to be owing to a fluid distending the sheaths of the nerves, and irritating the nervous fibres. The peculiar treatment suggested by this opinion is the application of a blister immediately under the knee joint, on the inside of the leg, as well as to the hip; as near the knee the blister affects more particularly the nerve in the neighbourhood of that part. There is little doubt of the existence of a sciatica not attended with any striking inflammatory symptoms; but of the peculiar cause assigned by Cotunnio we can find little support from observation or dissection. See Culleni Nosologia Methodica.

Richter speaks of some cases of the ischias nervosa being successfully treated by blisters often repeated, and sudorifics. In one instance, the blisters were applied on different parts where any pains were felt in succession: the sudorifics were first crude antimony, the stipites dulcamaræ in pills, and the warm bath for six days; on the seventh, a powder composed of camphor, ipecacuanha, and opium, was given, preceded by a tepid bath; the bath was continued till the foot became œdematous, and then left off; the other remedies were still pursued, which, in about six weeks, completed the cure. The symptoms were, pains in his arms, shoulders, and back, which settled about the hip joint, continued fixed, and increasing till the patient could not walk; the whole limb became shorter; the pains extended from the hip joint down to the foot; he felt as if ants were running about in the foot; and was totally unable to move the limb to either side, which, in other respects, was warm, and properly nourished. A lady and a young man were cured by the application of burning cones and blisters; on which he remarks, that from this method nothing is to be expected unless in such kinds of lameness as proceed from the metastasis of any stimulating matter, where the lameness is accompanied with pains in the suffering limb, and chiefly the hip joint; and this morbific matter he thinks rheumatic or gouty; though, in some cases, he had reason to believe it was scrofulous. See his Medical and Surgical Observations, p. 169.

These cases, however, by no means support Cotunnio's idea of the cause. They are instances only of chronic rheumatism, though pains in the hip joint are, as he remarks, sometimes scrofulous, and occasionally, we think, of a cancerous nature.

I'SCHIAS EX ABSCE'SSU, (from ἰσχίον, *the hip*). See ARTHROPUOSIS.

I'SCHIAS SPARGANO'SI. See LYMPHÆDUCTUS.

ISCHIATOCE'LE, (from ἰσχιατος, the genitive of ἰσχιας, and κηλη, *rupture*). Intestinal rupture through the sacro-sciatic ligaments.

ISCHIOCE'LE. A rupture between the os sacrum and the tuberosity of the os ischium.

I'SCHIO-COCCYGÆ'US. See COCCYGÆUS ANTERIOR.

I'SCHION. The ligament which retains the head of the thigh bone in the acetabulum coxendicis.

I'SCHIUM, os, (because it lies near ἰσχις, *the loin*). *Coxendix cochone;* the HIP BONE. The extent of this bone may be marked by a horizontal line drawn through near the middle of the acetabulum coxendicis; for the body of this bone forms the inferior portion of the acetabulum. The great tuberosity on which we sit, as it advances forwards, becomes smaller, and gives origin to the corpora cavernosa, and the erectores penis or clitoridis; then the bone mounts upwards with a considerable curve, and is stretched out into its small leg. It forms the lower part of the pelvis. The tuberosity is large and irregular, covered apparently with a cartilage, which is in reality the tendinous fibres of the muscles inserted into it. Between the spine and the tuberosity is a cavity on which the obturator muscle plays, as on a pulley, defended by cartilage. The ramus of this bone, which passes forwards and upwards, makes, with the ramus of the os pubis, the foramen magnum ischii.

ISCHNOPHO'NIA, (from ἰσχνος, *slender*, and φωνη, *the voice*). A SHRILLNESS OF THE VOICE; but more frequently a hesitation of speech, or a STAMMERING; *psellismus hesitans*.

ISCHNO'TIS (from ἰσχνος, *slender*). LEANNESS.

ISCHURE'TICA, (from ἰσχυρια, *a suppression of urine*). Medicines that remove a suppression of urine.

ISCHU'RIA, (from ἰσχω, *to retain*, and ουρον, *urine*). An ISCHURY, A STOPPAGE OF SUPPRESSION OF URINE. La Motte distinguishes between a retention and a suppression of urine. In the former, styled *strangury*, the patient hath frequent calls to make water; but voiding it, if at all, in very small quantities, and with difficulty. In a suppression there is seldom any inclination to discharge any urine; but, if any, the discharge is sudden, and almost involuntary.

In the true ischuria the bladder is full; in the spurious it is empty, for nothing descends from the kidneys.

Dr. Cullen places this disease in the class *locales*, and order *epischeses*, defining it an absolute suppression of urine. The species are,

1. Ischu'ria rena'lis, where, some disease of the kidneys having preceded, pain and an uneasy sensation of weight are felt in the region of the kidneys, without any swelling of the hypogastric region, or stimulus to make water.

2. Ischu'ria urete'rica, where, to the same symptoms is added a sense of pain and uneasiness in some part of the course of the ureters.

3. Ischu'ria vesica'lis, when there is a tumour in the hypogastric region, pain at the neck of the bladder, and a frequent inclination to discharge urine.

4. Ischu'ria urethra'lis, when there is swelling in the hypogastric region, a frequent desire to discharge urine, and a sense of obstruction in some part of the urethra.

The varieties of each species are added, and these will sufficiently explain the causes.

Varieties of the ischuria renalis are, *ischuria nephritica*, from inflammation of the kidneys; *nephrolitica*, from a stone; *nephroplethorica*, plethora; *lunatica*, *periodica*, periodical; *nephrospastica*, from spasms; *nephrelmintica*, worms; *nephrothromboides*, coagulated blood; *nephropyica*, purulence of the kidneys; *nephrophlegmatica*, mucus; *nephroplegica*, paralytic affection; *suppleta*, from some other evacuation supplied.

Varieties of the ischuria ureterica are, *ischuria ureterica*, from inflammation of the ureters; *ureterolithica*, from a stone; *ureterothromboides*, grumous blood; *ureterophlegmatica*, from mucus; *ureteropyica*, from pus; *ureterostomatica*, the closing of the inferior orifice of the ureters.

Varieties of the ischuria vesicalis are, *ischuria atretarum*, from the menstrua retained in the vagina, in consequence of an imperforated hymen; *cystica*, from inflammation of the bladder; *cystospastica*, a spasm of its sphincter; *cystolithica*, a stone; *cystoplegica*, paralytic affection; *cystopyica*, purulence; *cystothromboides*, grumous blood; *cystophlegmatica*, mucus; *cystoproctica*, from the rectum swelling, with scybala, calculus, flatus, inflammation, pus, or hæmorrhoids; *ectopocystica*, from a hernia of the bladder; *hysterocystica*, fron an inverted or retroverted uterus; *paradoxa morgagni epistolæ; polyurica*, from the bladder distended with urine a long time retained.

Varieties of the ischuria urethralis are, *ischuria aspadialis*, from closing of the urethra; *caruncolosa*, from caruncles of the urethra; *cryptotica*, a retraction of the penis within the abdomen; *hydrocelodes*, from a rupture of the urethra opening into the scrotum; *peridesmica*, a stricture of the urethra from a ligature; *perinæalis*, a tumour of the pirinæum; *phymosica*, a phymosi; *urethrelmintica*, worms; *urethritica* inflammation of the urethra; *urethrohymenodes*, a membrane impacted in the urethra; *urethrolithica*, a calculus impacted in the urethra; *urethrophlegmatica*, mucus stuffing up the urethra; *urethromboides*, grumous blood; *urethropyica*, pus.

To these idiopathic ischurias may be added some symptomatic ones, particularly those from general stupor, in consequence of apoplexy or narcotic poisons.

When the suppressed urine is lodged in the bladder, a pain and swelling is observed about the pubes. Relaxation, as a cause, is distinguished from stricture, by the little pain attending the disorder, by the introduction of the catheter, and by the fulness above the pubes. If inflammation in the kidneys is the cause, some pain and heat may be observed in that region, though in general the kidneys are insensible. If a stone in the kidneys occasions the complaint, a vomiting is an attendant symptom; if in the bladder, a pain is felt there, recurring by paroxysms with great violence, as well as along the urethra; mucus, or pus, is excreted with pale urine; tenesmus is troublesome, and generally the stone may be felt if the catheter is introduced. If from inflammation in the neck of the bladder, there is pain in the perinæum, the slightest discharge of urine gives an intolerable burning sensation; and if a finger is introduced into the anus, and turned towards the bladder, a tumour will be sometimes obvious.

If this disorder is the true ischuria, and violent, tenesmus, coldness of the extremities, vomiting, and a febrile pulse, constantly attend; but if of the spurious kind, there is no tension, but rather a sense of emptiness about the pubes. If it continue above seven days, or if from a wound of the spine, or luxation of its vertebræ, it is highly dangerous. If the smell of urine proceeds from the patient's mouth or nostrils, there is little hope. A hiccough is also an unfavourable symptom; but when no inflammation attends, the urine may be long suppressed, and the discharge again restored should there be no unconquerable obstacle.

The cure must be regulated by the circumstances and the cause of the complaint. If we can ascertain, from the preceding symptoms, that there is no water in either the bladder or ureters, and that the ischuria is truly renal, we must inquire whether it be owing to a palsy of the vessels or to a stone in the pelvis of the kidney. To determine this question, it is requisite to know whether any gravelly concretions have been discharged, or whether vomiting has attended. These will show that the disease is seated in the gland; and though each case occurs in the old and debilitated constitutions, we think the general torpor, the constitutional decay conspicuous in every function, will point out when it arises from palsy of the secretory vessels. In this case we have little room for hope, since this palsy is only one symptom of the general failure of the constitution. Our best chance of success in that case arises from blisters to the loins, the warmest general stimulants, with the most stimulating diuretics, as the ethereal spirit of turpentine. A temporary relief in this way we have obtained; and we have found the efficacy of this last medicine on the diseased part by its producing a discharge of blood, when it has failed in bringing back the secretion of urine. When it has succeeded most effectually, it has procured the discharge only for a short time, and it has then failed entirely. It has been supposed that blisters act from the absorption of the cantharides; but we have never found this medicine efficacious, except when in the bladder. It has never in our hands proved diuretic. In some instances, the secretion of urine has been suppressed in the young and strong without inflammation, or any obvious cause. A case of this kind is recorded by an American physician; and we have met with an instance where no urine was apparently discharged for six weeks; nor was there any vicarious evacuation, except a profuse sweat for a day or two; or the slightest suspicion of imposture, as the patient was in an hospital, and constantly watched. Medicine seemed to give no relief, and the discharge at last gradually returned.

When a stone in the pelvis of the kidney is the cause, we can gain nothing by the stimulating diuretics, except impacting the obstruction more firmly. Our best chance, though a slight one, is by anodynes and relaxants, abstaining as much as possible from fluids.

Obstruction in the ureters is felt, as we have said, from fulness in the hypogastric region, without any tension in the bladder. Internal sensations are, however, obscure; nor can we see how this fulness can be distinguished from flatus or an accumulation of fæces. A stone passing through the ureters generally occasions some numbness in either leg, and a retraction of one testicle in men, as it passes over the nerves which come down with the spermatic vessels. We know not that a fluid will produce any similar effect; but, unless by this means, it is not easy to perceive how a distention of the ureters can be ascertained. Were it possible to decide, it would not, we fear, greatly assist the practice. To increase the quantity of urine would be to add to the disease. If the suppression arises from a stone in the ureters, the pain will discover the cause, and point out the most effectual remedy, viz. opium; but should there be no pain, sedatives will more probably relieve than any violently forcing means. It is seldom, however, that a total suppression arises from obstructions in the ureters, since it can scarcely take place equally in both; and should one only be obstructed, the kidney on that side would soon lose its power, and its office be supplied on that side where the passage is free.

The most frequent causes of ischuria occur in the bladder. Many of these are mechanical, as when a calculus, impacted in the neck, obstructs the discharge; when an inverted or a retroverted uterus drag it backward and raise the orifice; when the head of a child, in its passage, rests on the cervix; when hardened fæces, or hæmorrhoidal tumours, press on the aperture. All these causes are readily discovered; and the treatment of each depending on them will be considered in other places.

Causes more immediately connected with medical practice are inflammation and spasm. The effects of inflammation we have seen to be suppression of urine, and this is relieved by anodyne clysters, fomentations, warm liniments, and even blisters to the perinæum. (See Inflammatio vesicæ.) Spasm is in part conquered by the same means; but opium may be more freely employed by the mouth and in clysters. Camphor in clysters promises to be an effectual remedy; but an alarming coma has, in two instances, followed. In this case, and in suppression of urine from many other causes, the action of laxatives will excite the usually corresponding action of the bladder; and walking on a cold wet floor, perhaps dashing water against the legs and thighs, would succeed in procuring a discharge of urine, as it has done the discharge of fæces. Atony of the bladder will sometimes occasion ischuria; but a more common effect is incontinence of urine. When it arises from atony, or a want of the contractile power, the catheter must be frequently employed to prevent the distention increasing the disease; warm stimulants applied to the perinæum and pubes, and stools procured by stimulating clysters. In this case cantharides must be avoided, for these act chiefly on the neck of the bladder; and the stricture of the sphincter in cases of ischuria from this cause is already greater than the power of the other fibres can overcome. Internally, bark, with aromatics, should be given; but every attempt, either fails or procures only a temporary relief.

Cantharides, and sometimes acrid urine, by increasing this stricture of the sphincter, will produce the obstruction. In this case dilution, by frequent draughts of a warm liquid, warm fomentations to the pubes and perinæum, with opiates, will generally succeed.

When the urine is totally retained in the bladder, the introduction of the catheter immediately, whatever may be the cause, is too common; but whether this complaint arises from inflammation or from spasm, this conduct should carefully be avoided. Mr. Pott observes, that the best method of relieving this complaint, particularly when caused by spasm, is by evacuation and anodyne relaxation. The loss of blood, he says, is often necessary; but the quantity, the strength and state of the patient will determine. The intestines must also be emptied by some gentle cathartic; but the most effectual relief will be from the warm bath, or semicupium, the application of bladders half filled with hot water to the pubes and perinæum; and above all other remedies, the injection of clysters, consisting of the decoct. pro enemate and tinct. opii; or if after a due bleeding, and, if necessary, emptying the bowels, a free dose of opium is given, and the patient is seated in a warm bath during twenty minutes or half an hour, repeating this use of the bath more or less, as the case may seem to require, success will very rarely fail to attend; and if, by these means, the urine begins to drop through the urethra, although but a drop in a minute at the first, by persevering steadily and closely, the bladder will be effectually emptied. The great object, he observes, is to appease irritation and pain; and although some time be required in producing the effect, it will amply reward the practitioner's care and the patient's fatigue.

When great pain attends a retention or suppression of urine, the practitioner should first observe whether the kidneys have done their office, and whether in reality there is urine in the bladder; for, if full, it will be felt above the os pubis, and by pressure on it a pain will be excited in the neck of the bladder, or at the end of the penis. It sometimes happens that the bladder will contain a large quantity, without being greatly affected; at other times a very small quantity will produce great inconvenience; and inflammation, with symptoms of irritation, will ensue. Dr. George Fordyce observes, that much of the difficulty and pain from retained urine is from the more or less sudden filling of the bladder or distending it.

A bougie, or a catheter, is, however, often necessary, and the larger sizes of each are more easily introduced than the smaller. It is singular that the introduction of either should be sometimes attended with not only a shivering, but all the consequences of an intermittent paroxysm, viz. heat and sweating. In particular constitutions, this is constantly repeated whenever the operation is attempted; but pathologists have offered no explanation of the source of this singular appearance. The rules for introducing these instruments occur in the article Catherismus, q. v.

If no other method will succeed, a puncture may be made into the bladder, as directed in the article Perinæum, *Puncture of the*.

Four methods have been proposed by different writers for drawing off the urine; 1. By an opening into the bladder above the os pubis. This plan, however, is confined to those cases in which the bladder is greatly distended. 2. By making a puncture through the perinæum into the bladder. 3. By puncturing the bladder laterally, as in the lateral operation for the stone. 4. By puncturing the posterior part of the bladder through the rectum.

Mr. Pott prefers the first method; but this, as we have said, is limited to particular circumstances. There is little ground of preference in either of the others; but we have found no very promising prospect of success from the trials hitherto made. Indeed, the operation is generally deferred till the patient's strength is exhausted, or until the parts from continued distention are hastening rapidly to mortification.

The ischuria urethralis arises from substances obstructing the canal; from inflammation, or from local complaints. The obstructions must be removed by bougies; and caruncles, or the more obstinate strictures, by caustics. Inflammation of the urethra is treated in the usual way; and ischuria, from a retraction of the penis, from inflammation, phymosis, or rupture, can be removed only by removing the causes.

See an instance of this disorder from a retroversion of the uterus, in the London Medical Observations and Inquiries, vol. iv. p. 388, &c. See Pott's Chirurgical Works; Lewis's Translations of Hoffman's Practice of Medicine; Bell's Surgery, vol. ii. p. 171; White's Surgery, p. 374; Memoirs of the Medical Society of London, p. 117.

ISLINGTON WATERS. See Aquæ Minerales.

ISORA-MU'RI. *Helicteres isora* Lin. Sp. Pl. 1366. The name of a tree in Malabar. The juice of its root has been used in disorders of the breast.

ISOTHE'ON. See Dyonysos.

ISO'TONI, (from ἰσος, *equal*, and τονος, *extension*). See Acmasticos.

I'SPIDA. See Alcedo.

I'STHMION, (from ἰσθμος, *a narrow neck of land between two seas*). The narrow passage between the mouth and gullet; sometimes the fauces.

ISTHMUS VIEUSSENII. The ridge which surrounds the remaining trace of the foramen ovale between the right and left auricles of the heart.

ITE'A. See Salix.

ITINERA'RIUM, (from *itinero*, *to travel*). A staff used in cutting for the stone. Hildanus.

IU'LUS, (plural Iuli,) (from ἰουλιζω, *to shoot out*). See Amentacei flores.

I'VA ARTHRI'TICA, (quasi *juva*, from *juvo*, *to assist;* as useful in expelling the gout). See Chamæpitys.

IVABE'BA. An ancient shrub, the root of which is a good deobstruent. See Raii Hist.

I'VA MOSCHA'TA. See Chamæpitys.

I'va peca'nga. See Sarsaparilla.

I'VRAY. See Lolium.

IXIA, (from ἰξος, *glue*). *Varix.* A name of the *carlina*, or such of this tribe as yield a viscous juice. The ixia, or ixias, is represented as poisonous; but it is not clearly known to what plant these names belong. These species of ixia of modern naturalists are chiefly natives of the Cape, and cannot be the plants mentioned by the ancients. The carlina, one of the thistle tribe, was called *chamæleon*, from the very great variety of its leaves in different soils. (Pliny and Dioscorides.) Dioscorides calls the white variety ἰξια, because a kind of glue (ἰξος) is found at its root. Dios. lib. iii. cap. 10 and 11. Pliny, however, asserts, lib. xxii. cap. 18. that two plants are distinguished by this name, and that the ἰξος is found in the axillæ; while Guillandinus contends that the ixia and chamæleon of Dioscorides, who, by the way, considers the former as poisonous, were different plants. Pliny informs us that the glue was used instead of mastich. Linnæus includes all the ancient species in his genera of *cnicus*, or *attractylis*. The dispute, however, which has filled many pages, is trifling; and the outlines which we have here given will appear, perhaps, sufficiently satisfactory.

I'xia, I'xine, I'xion, (from the same). See Carduus pinea.

I'XUS, (from the same). See Aparine.

J.

JABOTAPI'TA. A tree in Brasil, which bears yellow flowers, and has a grateful smell. *Octina jabotapita* Lin. Sp. Pl. 732. The fruit resembles our myrtle berries; they are astringent, and yield, by expression, an insipid oil. See Raii Historia.

JABUTICA'BA. A fine tall tree which grows in Brazil, but not described by botanists. Its fruit resembles an apple, and is gratefully cooling.

JA'CA I'NDICA. The Indian jacque jaca, or JACK TREE. Our predecessors have considered it as synonymous with MARUM, q. v. but seemingly without any authority. The jack is the Indian bread fruit tree, a species of artocarpus.

JACARA'NDA A'LBA, resembles the European palm tree, and grows plentifully in Brasil. The Brasilians make a pottage of it, which they call *manihey*; and it is supposed to be a stomachic. See Raii Hist.

JACARECATI'NGA. See CALAMUS AROMATICUS.

JA'CE BRASILIE'NSIBUS, *melo Indicus*, *patheca*, and *citrullus*. Ray considers it to be a species of *anguria* or *citrullus*, and calls it *water melon*; this fruit is as large as a man's head, covered with a green rind, and its pulp is well tasted. See CITRULLUS.

JA'CEA. *Centaurea jacea* Lin. Sp. Pl. 1293. KNAP WEED or MATFELLON. The margins of the leaves are not serrated; the leaves and stalks are destitute of spines: it is common in pasture grounds, and flowers in July and August. A slight astringency is attributed to it.

JA'CEA ORIENTA'LIS PA'TULA. See BEHEN ALBUM.

JA'CEA RAMOSI'SSIMA, STELLA'TA, RUPI'NA. See CALCITRAPA.

JA'CEA STELLA'TA, LUTE'A, &c. See CALCITRAPA OFFICINALIS.

JACOBÆ'A PRATE'NSIS; because it was gathered about the feast of St. James. See DORIA.

JACOBÆ'A PALU'STRIS. See VIRGA AUREA.

JADE STONE. See LAPIS NEPHRITICUS.

JA'GRA. See PALMA COCCIFERA.

JA'LAPA, (from *Chalapa*, or *Xalapa*, a city in New Spain). JALAP. *Gialappa*, *chalapa*, *xalapa*, *mecocahana nigra*, *convolvulus Americanus*, *bryonia Peruviana*. There is said to be a third species of jalap called *mutalista*, by the Indians *mathalistic*.

This plant is a native of Mexico, and found near the city of Xalapa, from whence its name is derived; but it has since been discovered near Vera Cruz and on the south of Florida. It was carried by Michaux to the botanic garden in South Carolina, where an old root was found, weighing, when fresh, above fifty pounds. (Annales du Musæum National, vol. ii.) It was at first referred by Linnæus to the genus *mirabilis*, with the trivial name of *jalapa*; but observing the size and shape of the root of the *m. longiflora*, he was inclined (Amœnitates Academicæ, vol. vii. p. 308.) to think them the same; for no botanist had yet described the flowers of the officinal root. Bergius, on trial, found, however, that neither of these species was purgative, but that the root of the mirabilis dichotoma was so. To this plant then he referred the jalap; and, on his authority, the compilers of the Swedish Pharmacopœia did the same. Houston seems to have first shown that it was a convolvulus; and in this he was followed by Sir Hans Sloane, Miller, and at last Linnæus himself in the Mantissa of the System of Nature. It is, therefore, the *convolvulus jalapa* of the Mantissa and of Wildenow (vol. i. p. 860); but the only figure which shows the parts of fructification complete is in the second volume of the Annales of the National Museum. The author (Desfontaines), from its simple sloping stigma, suspects that it rather belongs to the genus *ipomæa*.

The roots are brought from New Spain in transverse slices; they are solid, hard, weighty, of a blackish or dark brown colour on the cortical part, internally of a dark greyish colour, with several black circular striæ.

The hardest, darkest, and those pieces which have the most numerous resinous veins; those that break most compact, shining, and that burn readily at the flame of a candle, are preferred. Worms rarely touch the resinous part: so, when the resin is only wanted, the worm eaten are not inferior.

Pieces of briony root are sometimes mixed with the jalap, but are easily distinguished by their paler colour and less compact texture, and by their not readily burning at the flame of a candle.

Jalap hath scarcely any smell, and little taste; but when swallowed it affects the throat with a slight pungency and heat, occasioning a spitting. In doses from ten grains to half a drachm it is an effectual cathartic, but gripes and nauseates less than the generality of purging medicines in use. For children in general, and adults of a leucophlegmatic habit, it is peculiarly

proper, though it is not unsuitable to constitutions of a different kind. It is diuretic as well as purgative, and consequently preferred in dropsies. Lewis thinks that the gummy part promotes a flow of urine, while the resin purges; but, from experiments made with this view, we did not find the distinction correct.

If well triturated with crystals of tartar before exhibition, it will operate, it is said, in smaller doses than when taken by itself, and without griping. Rubbed with hard sugar, it becomes a safe medicine for children; joined with calomel, in large doses, it is rendered one of the most powerful purgatives, either as a hydrogogue or anthelmintic; and, from its general efficacy in dropsies, was called *panacea hydropicorum*. The dose of the simple powder is from ℈ i. to ℈ ij. The compound powder may be double the quantity. It generally requires no corrector, but a little spice, or a few drops of some warm oil.

Re'sina jala'pii. *Resin of jalap.*—Take any quantity of powdered jalap root; pour upon it so much rectified spirit of wine as will cover it to the height of four fingers, and digest them in a sand heat; filter the tincture through paper; put it into a glass cucurbit, and distil off one half of the spirit; add to the remainder a proper quantity of water, and the resin will precipitate; divide it into little cakes, and dry with a gentle heat. This has no place in the Pharm. Lond. 1788; but the extract is directed to be made like the resinous extract of bark.

It is a pure resin: but its insolubility in any aqueous fluid forbids its use, except it is previously triturated with an alkaline salt, gum, sugar, or a similar intermede. If thus managed, a dose from gr. v. to x. operates with sufficient ease and efficacy.

The jalap which remains after this resin is extracted, gives out, by boiling in water, a mucilaginous substance, which is said to operate by urine, but not in any degree by stool. But this is asserted without foundation.

From sixteen ounces of good jalap Neumann obtained ʒ v. and ℈ iv. of pure resin; but in the shops it is frequently adulterated; and the methods of imitating it are so various, as to elude every known method of detecting the fallacy.

The advantage of the extract consists in the equality of its strength; for some of the roots afford only ʒ ij. while others afford ʒ v. of the resin in a pound. But, except for the convenience of form, the tincture, with proof spirit, will answer every purpose proposed by the gummy resinous extract of the college, which may be given from ℈ ss. to ℈ i.

Tincture of jalap is made by digesting eight ounces of powdered jalap in two pounds of proof spirit, with a moderate heat for eight days, then straining the tincture. The dose is from ʒ i. to ʒ ss.; mixed with syrup, it may be given to children with the greatest safety. This is the purgative said to be given by the inoculators who received their instructions from Sutton (Cullen's Materia Medica); and sufficiently certain in point of strength, as the menstruum does not extract the whole virtue of any kind of jalap. See Neumann's Chemical Works; Lewis's Materia Medica.

Ja'lapa a'lba. See Mechoacana alba.

JAMES, DR. gave his name to a fever powder, since highly celebrated. With a disingenuity highly reprehensible he seems to have deviated from his original idea, and sold a medicine under the authority of a patent very different from the specification. He directs the antimony to be calcined in a flat unglazed earthen vessel, adding any "*animal oil*, or *salt*;" then to be boiled in melted nitre, and the powder separated by solution. The powder was found to contain no animal oil or salt, but an animal earth, which, though it may be now called a salt, had scarcely that appellation in Dr. James's time. He adds, that thirty grains of the powder, with one grain of mercury, was a moderate dose; but ten grains of the present powder, without the mercurial is now such. Dr. Pearson, has, however, in the Philosophical Transactions, taught us its real nature, and it is nearly imitated in the pulvis antimonialis of the London Dispensatory. This preparation is, however, more active on the stomach and bowels than the powder of James.

Dr. Monro asserts, that Dr. James trusted to the bark in the cure of fevers rather than to his antimonial, which he only employed to clear the first passages. On this we can only remark, that had he really done so we should have heard little of his success.

JANAMU'NDA. See Caryophyllata.

JA'NIPHA. See Cassada.

JA'NITOR, (from *janua, a gate*). See Pylorus.

JA'NITRIX, (from the same). See Portæ vena.

JA'RUS. See Arum.

JASMINOI'DES, (from the Arabian word *jasmen*, and εἶδος, *likeness*). See Coffea.

JA'SMINUM, and *jásminum officinale* Lin. Sp. Pl. 9, is chiefly used for the stimulating power of its essential oil.

JA'TROHPA. See Cataputia minor, and Cassada.

Jatro'pha ela'stica. See Caoutchouc.

JECORA'RIA, (from *jecus, the liver;* from its supposed efficacy in diseases of the liver); the *hepatica vulgaris;* and the name of a vein in the right hand. See Splenitis.

JE'CUR, (from the Hebrew term *jaker*). The Liver; called also *hepar*, the upper part *crix*. Immediately below the diaphragm, on the right side, is placed the liver, whose small lobe extends to the scrobiculus cordis. It is divided into two lobes, besides the *lobulus Spigelii*, which Hippocrates calls *hypercoryphoses;* terminated by an obtuse margin above and behind, and an acute one before and below. The large lobe is situated on the right hypochondrium, contiguous to the diaphragm, reaching nearly as far back as the spine, and rests upon the right kidney: the small lobe runs close to the diaphragm, as far as the spleen. The convex side of the liver is usually connected to the diaphragm by three ligaments, which are continuations of the peritonæum; one lies near the edge of the extremity of each lobe, and one in the middle, and they are accordingly called the right, and left, and middle ligaments. The liver is likewise connected to the right ala of the tendinous part of the diaphragm by a broad adhesion, which is the reflection of the peritonæum, and is called the *coronarium ligamentum*. Under the great lobe, a little to the right, is the gall bladder. The smaller lobe of the liver is in the left side, distinguished above by a membranous ligament, and below by a large division in the same direction as the superior ligament.

The eminences on the concave side of the liver belong to the great lobe; the principal one is a triangular mass, situated backwards near the great division, named *lobulus Spigelii;* this lobe is attached by a little peduncle to the middle of the lower side of the great lobe. The first fissure we observe, next to the great one, is a notch at the anterior part of the liver, for the reception of the ligamentary remains of the vena umbilicalis; the second fissure is towards the posterior part of the liver, between the lobulus Spigelii and the little lobe, where we observe the remains of the ductus venosus, which is afterwards inserted into the vena cava (see Fœtus). Upon the right of the lobulus Spigelii, between that and the great lobe, is another fissure, in which the vena cava runs down; and the next is a transverse one, situated before the lobulus Spigelii, called *porta:* besides these, on the fore part of the great lobe there is a depression for the reception of the gall bladder; and we may observe on the under side of the great lobe a small cavity, where it rests on the right kidney.

From behind the pancreas a mass of vessels and nerves run up to the porta. The hepatic artery comes off from the cœliaca, and divides into two branches, one of which goes to each lobe; and the vena portæ, when it arrives at the porta, likewise divides into two, one of which enters the right, and the other the left, lobe. From the duodenum and pancreas we see the pori biliarii, and ductus communis choledochus, which, at a distance from the porta, divides into two ducts, viz. the cystic, which goes to the gall bladder, and the hepatic, which again is subdivided into two, and go to their respective lobes. The vena cava, in its passage through the diaphragm, sends off several branches, especially two which go to the liver, and are called *venæ cavæ hepaticæ;* their office is to return the blood to the vena cava after the bile is secreted. The blood from all the viscera, except the external hæmorrhoidal vessels, is returned to the vena portæ, which ramifies through the liver like an artery. The lower part of this vessel is called *vena portæ mesenterica;* and the upper *hepatica*. The greatest part of these vessels are inclosed in a membranous sheath, called, from Glisson, *capsula Glissonii*. This author first described it as composed of cellular membranes and nerves, covered by the peritonæum at their entrance, and ramifying through the liver with them; but the peritonæum must be absolutely excluded, for the nerves, with their cellular membrane only, go through the liver. The absorbents are very numerous. The nerves arise from the intercostal and eighth pair, which come from the hepatic plexus, and enter this viscus with the vessels.

The external surface of the liver is smooth, and covered with the peritonæum, which is connected with the liver by the cellular membrane, and by the vessels which are spread upon it. The liver is very soft, and like a piece of congealed blood; for it derives its principal consistence from the vessels. Malpighi, after injection, found it to be a congeries of folliculi, in which the vessels terminate. Ruysch thought it a congeries of vessels only in the tenderest part. The *penicilli* of Ruysch are a collection of vessels upon the surface; and, according to this author, the vessels do not terminate in the penicilli, but become infinitely finer; whence the structure of this viscus cannot be such as Malpighi imagined. The liver, according to the ancients, was the viscus wherein the chyle was converted into blood; but since the knowledge of the lacteals, and the discovery of the circulation of the blood, we know that the use of the liver is to secrete the bile. The blood comes to the liver by the hepatic artery and the vena portarum; but a greater quantity is sent by the latter than by the former, and it is from the latter, as formerly observed, that the bile is secreted. See Winslow's Anatomy, and Haller's Physiology, lecture xxvii.

The substance of the liver is chiefly formed by vessels in the form of small brushes, styled *penicilli;* but it has been doubted whether any follicle is interposed between the vessels of the portæ and the biliary pores. It may be at least asserted, that no such have been demonstrated, and we have no reason to think that any exist.

The bile first appears in minute points, styled *pori biliarii*. These unite and form the hepatic duct, whose coats have no appearance of a muscular structure, but whose internal surface contains numerous, apparently mucous follicles. We omitted to remark in its proper place, that the whole of the blood conveyed by the vena portæ is not employed in the secretion of bile; for the extreme branches of this arterial vein anastomose with the branches of the hepatic vein, and in this way accumulations of blood, when bile is unnecessary, are prevented.

The *hepatic duct* passes towards, and, descending obliquely, somewhat behind, the pancreas to the lower part of the duodenum. It is inserted, from behind, nearly five inches below the pylorus by a sinus, into which the pancreatic duct also empties itself. This opening is oblique; for the two ducts pass between the cellular coat of the intestine, and again between the nervous and villous coats, before they open into its cavity, and at last are guarded from emptying their contents too rapidly by a convolution of the villous coat. Thus the mixture of the bile is slow and interrupted; for as the duct runs at least an inch between the coats of the intestines, any fulness of the canal must prevent its entrance. At the same time, the convolution of the villous coat, where the duct at last penetrates, must equally hinder fluids from being forced into the duct from the canal.

Near the portæ the hepatic duct receives, at a very acute angle, another from the gall bladder, which, for a little space, seemed to run almost parallel with it. This is called the *cystic duct;* and another from the liver sometimes joins it previous to its union with the hepatic duct. We may just remark in this place, for reasons which will soon appear, that rats, camels, stags, the elephant, the horse, the rhinoceros, the trichechus manati, and the greater number of herbivorous animals, with the dolphin, and many of the cetaceous tribe, have no gall bladder. (Cuvier Leçons de l'Anatomie Comparée, vol. iv. p. 35 and 36.) The idea, however, that the bile is conveyed from the liver to the gall bladder appears improbable, by the retrograde course which it must take to arrive at the latter. To add to the improbability, the cystic duct is smaller than the hepatic, and much smaller than the choledochus formed by the cystic and hepatic ducts. We observe, however, in the other mammalia, that the angle at which the ducts join is neither so acute nor so distant from the gall bladder as in man. In these also the fundus of the vesica is

downward, which facilitates the passage of the bile. In many animals, small canals come immediately from the liver to different parts of the vesica, as in the ox, the sheep, the wolf, the dog, the hedgehog, and the hare (Cuvier, iv. 42); but in man no such canal apparently exists.

Experiments have not been wanting to elucidate this intricate subject. When the common duct is obstructed, both the cystic and hepatic ducts are said to be equally distended: when tied, the result is the same. If the cystic duct be tied, it swells between the ligature and the hepatic duct. Notwithstanding the angle, the bile passes readily, on pressure, into the liver; and in living animals it is seen, when the gall bladder is opened, to distil from the cystic duct. When the cystic duct is tied or obstructed, the gall bladder is not filled, and seems to contain only a serous, or sometimes a mucous, fluid. The vesica biliaris, in its natural state, is not in contact by the stomach; but when this viscus is distended, its greater curvature presses with some force against the gall bladder, and expels its contents.

If we compare these facts, we shall find it highly probable that the vesica is a reservoir for the bile, to keep up a constant supply, when from any accident the exigencies of the system require a larger quantity than the liver can furnish. We have no reason to think that the whole of the bile is sent to the cyst, nor has it been presumed that it gains any different quality. From the necessary absorption, it must become more concentrated, and more bitter and viscid; perhaps more acrid.

We have engaged at a greater length in this question than we should have thought necessary, as in the moment of concluding this article we received the ninety-first number of the Medical and Physical Journal, published in the present month (September, 1806), in which we find Dr. Rush's opinions respecting the use of the liver, &c. He thinks, that, instead of contributing to animalize the fluids recently taken in, the blood requires this circuitous route and this new secretion, to separate the remaining chylous particles which it may contain. The gall bladder, he thinks, as we have already stated, is the reservoir of the superabundant bile, not at the time necessary for the process of digestion; but, he supposes also, that the bile in the gall bladder is farther changed by a putrefactive process, and thus gains its bitter taste. In fact, according to this author, "the gall bladder appears to be to the liver what the colon and rectum are to the stomach," the receptacle only of hepatic fæces. In cases of sickness, indigestion, or long fasting, he adds, in which the office of the stomach is suspended, the liver performs a vicarious duty; and when the functions of the liver are suspended, the stomach, with double anxiety, supplies its place. When the stomach is most busy, the liver is most idle; for the discharge of bile is, in his opinion, obstructed by the fulness of the stomach; and that it is only when the contents of this latter organ have passed the duodenum that the liver "pours its chyle into it." Yet we were before told that the liver was designed to animalize the fluids; and we are immediately afterwards informed, that the same pressure discharges the cystic bile, whose use is to separate the fæcal matters from the chyle. It is singular that pressure should stop one fluid, and promote the discharge of another, when their orifices are the same.

We have always declined engaging in controversy, and can now only add, that, on a careful consideration of the facts and arguments adduced by Dr. Rush, we do not find them applicable to this system, and, of course, they contribute nothing to its support. The facts and experiments which we have collected from different authors, in the present article, seem not to have occurred to this respectable veteran in the moment of writing, and his system appears neither probable nor consistent.

We own, however, that the consideration of Dr. Rush's system, and the facts which the examination has now led us to review, suggest some doubts whether the bile may not acquire additional properties in the gall bladder. When we reflect that the gall bladder is wanting in herbivorous animals, that it is always found in carnivorous, that the gall of children is sweet, that the hepatic bile is comparatively, if not really, mild and sweet, we are led to suspect that the follicles of cyst may furnish the bitter resinous part of the bile, and that, of course, the gall bladder is a supplementary organ, a glandula succenturiata, subservient to the process of digestion. It is sufficient to state the doubts, with a general view of the facts, which lead to them; but this is neither place nor have we room for more minute discussion. Yet we think we could support this idea from some of the phenomena of digestion, and from some analogous phenomena in the animal machine.

The liver is the seat of various disorders, viz. inflammation, abscess, scirrhus, hydatids, &c. See HEPATITIS; ICTERUS; BILIOSA FEBRIS; CHOLERA MORBUS; HEPATALGIA; and in most of these the countenance is yellow, with a greenish cast. Besides those disorders generally known, Mr. Crawford mentions one, which he denominates an enlargement of the liver. (See his Essay on the Nature of a Disease incident to the Liver.) The principal signs of it are, a great and sudden swelling and hardness of the belly, with a difficulty of breathing; the only very troublesome symptom. Previous to these, a general weakness, a sense of tightness about the breast, and a giddiness of the head on the slightest motion, are perceived; then an œdematous swelling appears in the legs, with pains in the back, thirst, and loss of appetite; the pulse is small and weak, but on bleeding it becomes more full and distinct; the countenance is florid; as the belly enlarges, the breathing is more difficult, and a sense of oppression is then felt about the præcordia; and a stricture about the cartilago ensiformis becomes almost insupportable, soon terminating in a complete suffocation. A violent vertigo and troublesome palpitation of the heart are occasionally observed. Some symptoms of this disorder resemble those of the scurvy; but the sore spongy gums attendant on scurvy are not observed in this complaint.

These symptoms show that an infarction of the liver has, at least, begun, and that it must be quickly obviated. With this view, bleeding, with a mild, nourishing, and somewhat generous diet, has been recommended, followed by active laxatives, with calomel. In a disease where we have no pretensions to experience, we ought not to blame; but unless the symptoms are violent, the bleeding may be, perhaps, dispensed with, or a small quantity only taken. The laxatives are undoubtedly necessary and proper. The formula recommended we add.

R. Aloes socotr. ℥ss. rad. jalap. pulv. ʒi. calomelan, sap. Venet. ää ʒii. bals. Locatel. q. s. ut. f.

massa, ex cujus, singulis drachmis formentur pilulæ N° xii.

The patient is greatly relieved, it is said, a few hours after bleeding; and by means of these pills, repeated at proper intervals, the complaints gradually abate, and the cure is generally completed in the space of nine or ten days.

People who return from warm climates are subject to an increased secretion of bile in the primæ viæ, attended with general languor, nausea, foul tongue, loss of appetite, indigestion, frequently diarrhœa, a yellow skin, with a very unhealthy aspect. Bath waters are in these cases of service, though the Cheltenham spring has lately become more fashionable.

JEJU'NUM, (from *jejunus*, *empty*). One of the small intestines, generally found empty: *nestis*. Where the duodenum ends it begins, and is immediately attached to the mesocolon. It proceeds downwards from the left side to the right, and obliquely forward, making several convolutions, which are chiefly situated in the upper part of the regio umbilicalis.

JE'MOU, or JE'MU. See Gambogia.

JESUITA'RUM PU'LVIS. See Cortex Peruvianus.

JETAI'BA. The Brasilian name for the locust tree. See Anime, gum.

JE'TICA BRASILIE'NSIBUS. See Battatas Hispanica.

JETICU'CU. See Mechoacana nigra.

JOINTS. (See Articulatio and Articulus.) We have resumed the consideration of this subject, to reduce into one view the diseases of the cavities of the joints: these are either effused fluids, or loose cartilaginous or bony bodies. The fluids effused are either blood, pus, synovia, or water. Any fluid is ascertained to exist in these cavities by a swelling felt on every side, and yielding on pressure; while accumulations in the bursæ mucosæ are partial, and will not pass, on pressure, to the opposite side. When the disease arises from a violent bruise, the fluid is probably bloody; the accumulation which follows rheumatism, watery; but when it is the consequence of a strain, which has been followed by violent inflammation, the matter is usually pus mixed with synovia. When discutients, with gradual pressure from a bandage, fail, and the fluid must be evacuated, a very small trochar should be employed; the skin drawn up, so that immediately on emptying the cavity it may be again drawn down, to cover the aperture in the ligament. A sticking plaster must be immediately applied, the joint firmly swathed with a flannel bandage, and some blood taken from the arm to prevent inflammation.

These precautions are peculiarly necessary, as the air stimulates the cavities of joints, and excites an unconquerable inflammation, which nature sometimes relieves by forming an anchylosis, but in which art usually fails.

The extraneous bodies in the capsular ligaments are generally found in the knee; but of the treatment necessary in these cases we have already spoken. See Genu.

JO'VIS FLOS. See Crocus.

Jo'vis glans. See Juglans.

JU'BA, a mane; a panicle, called from its resemblance to a horse's mane.

JUDAI'CA A'RBOR. See Siliquastrum.

JUDA'ICUM BITU'MEN, (from *Judea*, whence it was brought). See Bi'tumen.

JUDICATO'RIA, (from *judico*). A synocha of four days.

JUGA'LE OS, vel JUGAME'NTUM, (from *jugum*, *a yoke*). See Malarum ossa.

JUGA'LIS SUTU'RA. The sagittal suture. It is sometimes the suture by which the os jugale is articulated to the bone of the upper jaw.

JU'GLANS, (quasi *Jovis glans*, *the nut of Jupiter*). The walnut. The tree is sometimes called *carya*, the appellation of walnuts rendered black by boiling; and the rob *diacaryon: nux regia*, *basilica*, *Persica*, *et Euboica*; *caryon*; *caryon basilicon*; *juglans regia* Lin. Sp. Pl. 1415.

The kernel and its oil resemble those of almonds; the shells are astringent: an ointment made by boiling the leaves of walnut tree in lard is said to be an useful application to hæmorrhoids and old ulcers; the bark and the catkins are strong emetics; the juice of the root an active cathartic, and the powdered leaves anthelmintic.

The unripe fruit, which has a bitter astringent taste, is an anthelmintic laxative. Two drachms of the inspissated juice are added to four drachms of cinnamon water, and from twenty to fifty drops given two or three times a day, for six days; interposing a purgative, with calomel, on the fourth. Gargles made of the rob, dissolved in any convenient vehicle, may be used in aphthæ and sore throats. Vinegar, in which walnuts have been pickled, is said to be a very useful gargle.

JUGULA'RES VENÆ, (from *jugulum*, *the throat*). The jugular veins; *venæ apoplecticæ*, and *soporales*. They are external and internal, corresponding with the carotid arteries. The internal, which ascends by the side of the aspera arteria, is called *apoplectica*.

JU'GULUM, (from *jugum*, *a yoke*; because the yoke is fastened to this part,) the *clavicle* Celsus. The throat, or anterior part of the neck.

JU'JUBA; *zizipha*. The jujube tree; *rhamnus zizyphus* Lin. Sp. Pl. 282. Jujubes are a half dried fruit of the plum kind, about the size and shape of an olive, consisting of a thickish, reddish, yellow skin, a whitish fungous pulp, and a wrinkled stone pointed at both ends. They are the produce of a prickly tree, with three-ribbed leaves, and herbaceous or yellowish flowers, sometimes found wild, but commonly cultivated in the southern parts of Europe.

This fruit is styled incrassant and demulcent, and hath been used in pectoral decoctions. The rhamnus jujuba has similar virtues.

Ju'juba I'ndica. See Lacca.

JULA'PIUM, (from the Arabic term *gulab*,) *juleb*, *julepus*; Julep, a form of medicine invented by the Arabians, generally liquid, clear, and sweet; juleb, in the Persian language, signifying a sweet potion.

A julep is generally only a vehicle for other articles, to render them more easy in the stomach, or more effectual; so that they should not only be agreeable, but concur with the intention of the principal medicine. This form is often named after the material used, as Julepum è Camphorâ, Cretâ, and Moscho.

JU'LEP. A name for syrupus.

JU'LUS, catkin. See Amentum.

JUNCA'RIA, (from *juncus*, *a bulrush*). Italian

BUSHY HORSE TAIL. Lemery mentions this plant as vulnerary and detersive; but it is not known in the present practice.

JUNCTU'RA, (from *jungo, to join*). See ARTICULATIO.

JU'NCUS ODORA'TUS, *fœnum* vel *stramen camelorum, schænanthus, holoschænos, squinanthum, juncus aromaticus, palea de mecha, gramen dactylon aromaticum;* SWEET RUSH, or CAMEL'S HAY; a dried grass brought from Turkey and Arabia, resembling barley straw, and full of a fungous pith; *andropogon schænanthus* Lin. Sp. Pl. 1481: the genus is the same with that which furnishes the spica nardi.

When in perfection its smell is agreeable, warm, bitterish, and not unpleasant to the state. An extract possesses its chief virtues; but other more valuable articles supersede its use. It has been employed as a cordial and an emmenagogue.

JUNI'PERUS, (from *juvenis, young*, and *pario, to bring forth;* because it produces its young berries while the old ones are ripening). JUNIPER; *juniperus communis* Lin. Sp. Pl. 1470; also called *arceuthos*, and its berry *acatalis*. With us it is a bush, but in Norway a large evergreen tree, the wood of which is called *cedrinum lignum; lignum juniperinum*. Its leaves are slender, narrow, stiff, and sharp pointed; the flowers catkins; the berries have each three oblong irregular seeds; its young fungi are called *calieta*, or *caliette*.

The berries are chiefly brought to us from Holland or from Italy. They should be chosen fresh, not much shrivelled, and free from mouldiness. They have a moderately strong, but not disagreeable, smell; a warm pungent sweetish taste, which, if previously bruised, is followed by a considerable bitterness. The sweetness seems to reside in the juice, or pulpy part of the berry; the pungency in the bark; the bitterness in the seeds; and the aromatic flavour in the oily vesicles spread throughout the pulp and the seeds. In the dried berries this oil is hardened into a resinous substance, visible on breaking the seeds, which are called *ebel*. They give out nearly all their virtue both to water and to spirit. Distilled with water they yield a yellowish essential oil, *alchitron*, resembling, in its medical virtues, that of turpentine, and are carminative, stomachic, detergent, and diuretic.

The London college orders the spiritus juniperi comp. COMPOUND SPIRIT OF JUNIPER, formerly called *aq. juniperi composita*, to be made by adding to a gallon of proof spirit, with as much water as is sufficient to prevent empyreuma, one pound of juniper berries, bruised; caraway and fennel seeds, bruised, of each one ounce and a half; from this a gallon is to be distilled. Pharm. Lond. 1788.

The coriander seeds answer the purpose of the other aromatics; but half a pound is required to a pound of the berries. The common spirit, called *gin*, is flavoured by these berries, though often with turpentine. The name is derived from the Italian *giunipero*.

The rob of juniper berries is prepared by boiling juniper berries well bruised in water, and inspissating this, or the decoction after distilling the oil, to the consistence of thick honey. This is so greatly esteemed as to have obtained the name of *theriaca Germanorum*. It may be used in catarrhs, weakness of the stomach and intestines, and difficulty in making water, to which old people are subject. Hoffmann highly recommends it; though generally considered as an inactive preparation.

The following formula was prescribed by Van Swieten: ℞. Rob bacc. juniperi ℥ ij. dilue in aq. juniperi simplicis ℔ ij. spiritus juniperi ℥ ij. et ad sitim sedandam, sps. ætheris nitrosi ʒ ss.: m. dosis cochl. ij vel iv. tertia hora. The infusion of the berries, either alone, or mixed with a little gin, is in dropsies a very useful drink. In uterine obstructions, scorbutic affections, and cutaneous diseases, the juniper is said to have been useful; but in the two last complaints the wood and tops have been preferred. The essential oil is an active stimulant, a warm carminative, an useful diuretic, and a deobstruent. Doses from ten drops to thirty.

The wood of the juniper tree is sudorific, and of similar qualities with that of guaiacum and sassafras, but inferior to either.

JUNI'PERI GU'MMI. The resin obtained in warmer climes, particularly in Africa, is semipellucid, and of a pale yellowish colour; it is in small masses, resembling mastich, but larger; the sandaracha of the Arabians and the gum juniper of the shops. From its use it has been called *vernix*, and the powder is employed to prevent ink running on paper, under the name of *pounce*. This resin hath a light agreeable smell, and not much taste. It dissolves in rectified spirits, if violently shaken in them; and in oils both expressed and distilled, but is insoluble in water. See Lewis's and Cullen's Materia Medica.

JUNI'PERUS. A name of several species of cedar. See CEDRUS FOLIO CYPRI, and CEDRUS PHŒNICIA.

JUNI'PERUS LY'CIA. See OLIBANUM.

JUNI'PERUS SABI'NA. See SABINA.

JUPICA'NGA. See CHINA OCCIDENTALIS.

JU'PITER. See STANNUM.

JUS, (because in families it was distributed in *just* proportions). BROTH; *brodium*. Broths made of the lean parts of beef or mutton are very nourishing; in weak worn out constitutions strong broths cannot be digested, and their strength should always be proportioned to the digestive powers.

JUSTI'CIA. See ADHATODA.

JUVA'NTIA, ADJUVA'NTIA, (from *juvo*, and *adjuvo, to assist*). Medicines or aliments that *assist*, opposed to *lædentia*, such as injure. When the nature of a distemper was doubtful or unknown, the ancients prescribed some innocent medicines which they were well acquainted with, and according as they were serviceable or otherwise, though in a small degree, they formed some judgment of the future method of proceeding. These approximations were technically styled *juvantia* and *lædentia*.

JUVE'NTUS, (from *juvo, to help*, because at this period of life persons began to be useful). See ÆTAS.

JUXTANGI'NA, (from *juxta, near*, and *angina, a quinsy*). A species of quinsy. See PARACYNANCHE.

K.

KAL

KAA'TH. (See TERRA JAPONICA). Even in a very late work, the Dictionary of Natural History, it is said to be the inspissated juice of the barleria hystrix, probably the *b. frionitis* Lin. Sp. Pl. 887, brought to a greater consistence with farina and saw dust.

KABOLO'SSA. See CHINA OCCIDENTALIS.

KA'DAL. This shrub grows in the East Indies, and is probably the *melastoma malabathrica* Lin. Sp. Pl. 559, though greatly resembling in habit the *osbeckia chinensis*. The fruit, when ripe, is eaten, and calicoes are dyed with the juice.

KADA'NAKU. See ALOES HEPATICA.

KÆKU'RIA. See ELEMI.

KÆMPFE'RIA ROTU'NDA. See ZEDOARIA.

KA'HA. See CURCUMA.

KAKA MOU'LLON, KAHA MULLU. An East Indian siliquose tree. The bark is boiled in milk, and is said to cure a diabetes and gonorrhœa. Raii Historia.

KAKA NIA'RA. An East Indian tree, the leaves of which destroy worms. See Raii Historia.

KAKA-TO'DDALI. *Paulina Asiatica* Lin. Sp. Pl. 524. A small shrub growing in Malabar, used in various disorders, from a redundancy of serum. Raii Historia.

KALENZI-KANSJA'VA. See BANGUE.

KA'LI, (Arabic,) *salsola*, *salicornia*, *alga marina*, SALT WORT, and SNAIL SEEDED GLASS WORT. *Salsola kali* Lin. Sp. Pl. 322, a plant with spreading, reddish, pretty thick branches; oblong, narrow, pointed, fleshy leaves, like those of horseleek; flowers imperfect in the bosoms of the leaves, followed each by one seed spirally curled, and inclosed in the cup. It is annual, grows wild on the sea coasts in the southern parts of Europe, particularly of the Mediterranean.

The herb is juicy, bitterish, and remarkably saline. The expressed juice, and infusions, or decoctions of the leaves, are said to be powerfully aperient and diuretic, and been much recommended in dropsies; but the kali is principally regarded on account of its yielding copiously the fixed alkaline salt, called *soda;* and it is cultivated about Montpelier: for this purpose it is perpared at Alicant, in Spain, from a different species of kali. Different marine plants contain this salt, and what is made in Scotland and Ireland is called *kelp*. See Woodville's Medical Botany, p. 387, 388.

KAL

From the *quercus marina*, or *fucus vesiculosus*, *fucus maritimus*, *alga marina*, SEA OAK, SEA WRACK, or SEA TANG, much alkaline salt is obtained by incineration: the juice of its vesicles, left to putrefy, yields on evaporation a portion of acrid pungent salt.

The plant is a soft slippery one, common on rocks that are left dry at the ebb tide; the leaves resemble those of the oak tree in shape, the stalks running along the middle of the leaves, and terminating by watery bladders, containing either air or a mucilaginous matter. The vesicles begin to fill in March, burst about the end of July, and discharge a viscid matter.

If the putrid juice is applied to the skin, it sinks into it immediately, excites a slight sense of pungency, and deterges like a solution of soap. One of the best applications at the decline of glandular swellings, for perfectly discussing them, is a mixture of the juicy vesicles on the leaves of this plant, gathered in July, with an equal quantity of sea water: they should be kept in a glass vessel for ten or fifteen days, until the liquor becomes of the consistence of thin honey. The parts affected are to be rubbed with the strained liquor two or three times a day, and afterwards washed clean with water.

A cataplasm of the quercus marina, made by bruising a quantity of this plant, is applied externally in cases of scrofula, white swellings, and other glandular tumours. Sea-water and oat meal formed into a poultice sometimes supply its place.

The salt here described is, in strict language, the soda or natron, the mineral alkali; but, in general, every alkaline salt has the same title, and the chemical, as well as the medical properties, are the same. Their affinities also differ very little; but as an external application in glandular swellings, the salt from the sea plants is preferred. See ALCALI and CINERES CLAVELLATI.

KA'LI ARSENICA'TUM. ARSENICATED KALI. Let equal quantities of arsenic and purified nitre be powdered and well mixed together, put into a retort, and placed in a sand bath, the heat of which is to be increased gradually, until the vapours cease to issue from the mouth of the vessel. The mass must then be dissolved in four pounds of distilled water, a proper quantity of which must be evaporated, and the residuum set aside to crystallize. Dose, one fifth of a grain three times a day. This is used for the same purpose as the

solutio arsenici. See INTERMITTENS FEBRIS, and CANCER.

KA'LI, vice SAL ABSI'NTHII. See ALCALI, and CINERES CLAVELLATI.

KA'LI ACETA'TUM. See SAL DIURETICUS.

KA'LI PRÆPARA'TUM. See ALCALI.

KA'LI TARTARIZA'TUM. See TARTARUM.

KA'LI PU'RUM, or FIXED VEGETABLE CAUSTIC ALKALI, is prepared by evaporating a gallon of the water of pure kali to dryness, and afterwards melting it by fire. Ph. Lond. 1788. This salt is deliquescent, which renders the application very inconvenient, unless joined with quick lime. See CAUSTICUM COMMUNE FORTIUS.

KA'LI SULPHURA'TUM. *Hepar sulphuris.* Take flowers of sulphur one ounce, kali five ounces; mix the salt with the sulphur melted by a slow fire, by constant stirring, till they perfectly unite. Ph. Lond. 1788. The dose is from five grains to a scruple. In tetters and other cutaneous affections this salt has been recommended. It has been employed, dissolved in water, as a bath for the psora: and in cases of tinea capitis it has often been used by way of lotion, and has been strongly recommended to prevent the effects of mineral poisons. For the alkaline neutrals see CHEMIA.

KA'LI A'QUA is the kali which has deliquesced in a moist place; and it does not differ from the kali præparatum.

KA'LI PU'RI A'QUA. Take of kali four pounds; quick lime six pounds; distilled water four gallons; add to the lime four quarts of water, and let them stand for an hour; then add the kali, and remaining part of the water; boil them for a quarter of an hour; let the liquor cool, and strain it: a pint of this fluid ought to weigh sixteen ounces. If the liquor raises an effervescence by the addition of any acid, more lime must be added. An earthen or glass vessel should be used, and the liquor strained through linen. Pharm. Lond. 1788.

KA'MSIN. The hot winds blowing over the burning sands of the desert, and reaching Egypt about the period of the equinox. The fatal effects of this wind are in part owing to its containing a considerable proportion of inflammable air, probably from the decomposed water, and in part from its great heat and dryness. The effects of the Samiel of the Desert, a wind nearly resembling the kamsin, is described with great pathos and eloquence by Bruce. See Volney's and Bruce's Travels.

KANE'LLI. A name of two East Indian evergreen trees, the flowers of which are used in diarrhœas; but they are not found in the systems of the botanists. See Raii Historia.

KANNAGHO'RAKA. See CARCAPULI LINCOTANI.

KAOLIN. One of the ingredients of the Chinese porcelain, probably a growan clay, or a decomposed granite.

KA'PA MA'TA. See ACAJAIBA.

KA'RATAS. The PENGUIN, or wild ANANAS; common in the West Indies, as an acid in punch, but too austere to be swallowed alone. The karatas of Plumier is, however, a different species from the *pinguen* of Dillenius. Each, however, is a species of *bromalia*, and each an American plant. See Lin. Sp. Pl. 408.

KARE'MYLE. See OROBUS.

KA'RFE, (*karfeh*, Arab). See CINNAMOMUM.

KARIN-TA'GERA. An evergreen tree in Malabar; it resembles an hazel. The oil from the root prevents the hair from falling off. Raii Historia.

KARI-VE'TTI. A tree in Malabar; the juice of its leaves is emetic. Raii Historia.

KA'RVA, (*karvah*, Arab). See CASSIA LIGNEA.

KA'TKIN. See AMENTACEI FLORES.

KATO-CŒ'LIA. The ABDOMEN. See CŒLIA.

KELP. MINERAL ALKALI. See KALI, ALKALI, and CHEMISTRY.

KE'NNA. See LIGUSTRUM INDICUM.

KERATOPHY'TON, (from κερας, *a horn*, and φυτον, *a plant*; because it is pellucid). *Lithophyton.* The name of a submarine plant, transparent, of a viscid consistence, and often covered with a cretaceous crust, sometimes of elegant and various colours. The only species which possesses any medical virtue is the CORALLIUM NIGRUM, q. v. and these are very inconsiderable.

KE'RMES, (Arabic term *chermah*). See CHERMES.

KE'RMES MINERALIS. See ANTIMONIUM.

KE'RVA, OL. (*kervah*, Arabic). See CATAPUTIA.

KE'TMIA. The leaves and flowers resemble those of mallows; the fruit is divided into many partitions, the top of which opens when ripe, and discloses many seeds. All the species, except those which taste like sorrel, agree in virtues with mallows. The genus called *ketmia* by Tournefort, is the *hibiscus* of Linnæus. It is of little importance to ascertain any species, as none except the ABELMOSCHUS, q. v. has any medicinal quality.

KE'TRAN. See CEDRIA.

KEYSE'RI PI'LULÆ. KEYSER'S PILLS, (from the inventor's name). According to an account in the Edinburgh Medical Commentaries, they consist of pure quicksilver, reduced to a red calx by a proper degree of heat, which, being dissolved in eight parts of vinegar, is to be mixed with manna, of which two pounds will be required to each pint of the solution. This composition being dried gently by the fire, is rolled into pills, and recommended as the most effectual remedy of all the mercurial preparations against the venereal disease. See ARGENTUM VIVUM.

Mr. Keyser adds a singular remark; if to the solution of a pound of the red calx, in eight pints of vinegar, two pounds of mercury, in the metallic state, be added, a substance will arise, by agitation, to the surface, in the form of cream. If this be taken off, more will rise on every successive agitation. This cream, united with manna, he supposes to be highly useful in recent venereal complaints.

KIBES. An obsolete name for the heel, and consequently for chilblains, which usually affect the heel. See PERNIO.

KI'K, or KI'KI, (from *kike*, Arabic). See CATAPUTIA.

KIKEKUNEMALO. A gum resin, whose source we are not acquainted with. It has a subacrid resinous taste, and has been supposed an useful resolvent, as well as beneficial in nervous diseases.

KILBURN WATERS. A bitter purging water. See AQUÆ MINERALES.

KI'NA-KI'NA, (from the countess of *Cinchon*). See CORTEX PERUVIANUS.

KI'NA-KI'NA AROMA'TICA. See THURIS CORTEX.

KI'NKINA EUROPÆ'A. See GENTIANA.

KI'NO, (Indian). See GUMMI RUBRUM ASTRINGENS.

KIPPAKELE'NGU. See BATTATAS HISPANICA.

KIRIBU'NNAWELL. See CHINA OCCIDENTALIS.

KNA'WEL. Ray. Tournefort calls it the *chamælinum vulgare folio glabro flosculis plurimis*. GERMAN KNOT GRASS. *Scleranthus perennis* Lin. Sp. Pl. 580. It is somewhat astringent, but never employed in medicine.

KO'LERUS. A dry ulcer.

KO'LTO. See PLICA POLONICA.

KRAUT SAU'ER. Pronounced by the English SOUR KROUT. See BRASSICA.

KRIE'BEL KRA'NKHEIT. See RAPHANIA.

KRI'MNA. See ALPHITA.

KURU'DU. See CINNAMOMUM.

KUTU'BUTH. An Arabian name for a water spider, an insect perpetually in motion. Hence the name hath been transferred to a species of melancholy, called by Sennertus *melancholia errabunda*. See LYCANTHROPIA.

KY'MIA. See CUCURBITA.

KY'NA. See OPOPONAX.

L.

LABA'RIUM, (from *labo*). Looseness of the teeth.

LA'BDANUM. See LADANUM.

LA'BEO, (from *labium*, *a lip*). See CHILON.

LA'BIA. See PROCESSUS.

LA'BIA, and LA'BIUM, (απο του λαβειν, *quo apprehendimus cibum*). A LIP. The lips, of which the red part is called *pirolabium*; the sphincter, *orbicularis labiorum*, are sufficiently known. When the cuticle here called *epithelium* is taken off, the appearance of the parts beneath is villous.

LA'BIUM LEPORI'NUM. The HARE-LIP; *rostrum*, *labellum*, and *labrum leporinum*; *lagostoma*; *lagocheilos*, consists in a division in the upper lip, from a loss of substance, like that of a hare. The division sometimes resembles the letter M, and is then called the *double hare-lip*. A similar fissure in the under lip is called the *spurious hare-lip*; but this seems never to have occurred.

An operation is required, in which we must first divide all its adhesions internally with a scalpel, and with a straight pair of scissors, or rather with a sharp scalpel, as the scissors bruise the parts, cut off the callous edges, so as to make an angle at its upper part. The operator must then pierce the upper end of the divided part with a silver pin, armed with a steel point, at about one third of an inch from the edge of the wound; bring the point nearly to the bottom of the sore, and raise it again through the surface at the distance of nearly one third of an inch. A thread must be next passed across each end of the pin, to draw the lips of the wound together, and like a figure of eight. Another pin is passed through the middle of the lip in the same way, and a third near the other extremity of the fissure. The wound is secured by thread in the same manner, round each pin, and the steel points, which usually fasten by screws, are taken off. A pledget of digestive over the whole will keep the thread soft.

Mr. Pott observes, that when the hare-lip is double, it sometimes happens that the middle portion contracts, and the bone projects. In this case, the projecting bone must be removed by means of a chisel; the contracted part of the lip then brought down and detained by a bandage. The operation is afterwards performed as in the single hare-lip, suffering each side to be thoroughly healed before the subsequent operation is attempted. The pins should not be moved before the sixth or seventh day, and then the stitches must be first cut, to see that the flesh is securely joined before the pins are moved. When a part of the bone is cut away, the wound must be healed previous to the operation on the lip. See Le Dran's Operations; Heister's Surgery; Sharp's Operations; Bell's Surgery, vol. iv. p. 149; White's Surgery, p. 269.

LA'BIA PU'DENDI, *cremnoi*, *labra*, arise from the mons veneris, and extend from the fore part of the pubes, whose symphysis is exactly between them, to within a short distance from the anus. They are more prominent, and thick above than below, composed of skin, cellular membrane, and fat; red within, and outwardly, about the the age of puberty, covered with hair. The angles of the labia, above and below, are called *commissuræ*.

LABIA'LES ARTE'RIÆ, (from *labia*, *lips*). See MAXILLARIÆ ARTERIÆ.

LABIA'LES GLANDULÆ. The LABIAL GLANDS. The membrane which covers the inside of the lips is a continuation of that on the cheeks, perforated by many small holes, which answer to the same number of small glands. See Winslow's Anatomy.

LABIA'TUS, (from *labia*, *a lip*). See FLOS LABIATUS.

LA'BIS, (from λαμβανω, *to lay hold of*.) Any forceps.

LA'BIUM. See LABIA.

LA'BOUR. See PARTURITIO.

LABRISU'LCIUM, (from *labrum*, *a lip*, and *sulcus*, *a deep sore*). A CHAP IN THE LIP, *cheilocace*; generally attending swollen lips, and common in scrofula. It usually requires the treatment necessary in that disease; but, as a temporary relief, may be rubbed with the oleum ceræ, or with the oleum amygdylarum and spermaceti. This also is the name given to the cancrum oris.

LA'BRUM, (απο του λαβειν, from its power of receiving). See DEXAMENE.

LABRU'SCA, (from *labrum*, *a lip*; so called because it grows on the sides of fields). See BRYONIA ALBA.

LABYRI'NTHUS, (λαβυρινθος). The LABYRINTH. The second cavity of the ear, *fodina*, lies in the pars petrosa of the temporal bone, which runs forward and inward. It is an oblong body, divided into three parts, called the *vestibulum*, the *cochlea*, and the *semicircular canals*. The vestibulum (in which the stapes stands) is situated in the middle; the cochlea is the

anterior, and lies forward and inward; and the semicircular canals, which compose the posterior part, lie backward and outward. The three parts of the labyrinth are lined by a fine periosteum, which spreads over, and shuts the two fenestræ of the tympanum.

LAC, (from *lakak*, *to lick up*, Arabic). Milk is the secreted fluid destined for the nourishment of the animals arranged by Linnæus in the class of *mammalia*, comprehending also, from this circumstance, the *cetacea*. It is a white, opaque fluid; and, when viewed with a microscope, globules, like those of the blood, appear to swim in it. It is, therefore, most certainly, not an homogeneous fluid, whose parts are chemically united, but an heterogeneous one simply mixed. Its resemblance to the blood is striking; and as it is of the colour of the chyle from which the blood is formed, it was an obvious suggestion that the milk was only chyle again separated from the general mass. Chyle has not, however, been sufficiently analyzed to support or confute this idea. It appears, on the whole, improbable, since sugar contains a saccharine matter, and particularly a larger proportion of phosphorated lime than any of the other animal fluids. To which may be added, that milk requires the digestive process as well as other nourishment; and it is never apparently assimilated until it has been coagulated.

Milk was probably the food of the earliest inhabitants of the globe, since their herds, of which their riches consisted, must have afforded an obvious supply of this delicious nourishment. Cheese seems to have been known more early than butter, for it was of importance to preserve a supply of food when the milk of the herds would, at least lessen, if not disappear. Butter is obscurely hinted at by Herodotus, but described more particularly by Hippocrates: each author speaks of the art of making it as being derived from the Scythians. When first drawn, milk has a faint smell, generally mixed with that of the animal which afforded it. This aroma is soon lost on exposure to the air, and much of the delicacy, perhaps the salubrity, of the fluid, seems to disappear with it. The sweetishness, however, remains, but is in different degrees in different animals, depending on the proportion of sugar which it contains. The sweetest milk is that of the sheep.

When milk is at rest, first the aroma disappears, and soon afterwards the surface assumes a yellower colour, and a thick tenaceous scum called *cream* rises to the top. When this is separated, the milk is of a bluish white colour; and, on standing longer, the *curd* or cheesy part separates. An oily substance forms a portion of the milk when first drawn; but the consistence of cream is owing to its imbibing a portion of oxygen from the air; and the curd does not spontaneously separate till the acid fermentation begins. It is separated, artificially, by a variety of substances, as all the acids, except the carbonic, and the weaker kinds similar to it; by different vegetables, as the galium, the vallantia cruciata, the madder, the bark, and, apparently, other vegetable astringents; by some animal substances, as the stomach of a young animal, however carefully washed and dried, the livers of turkeys (Spallanzani), &c. Jacquin, in his Elements of Chemistry, tells us, that the vegetables only act when cold, or in cold infusions. When boiled in milk, or boiling decoctions of the same plants are added, coagulation is retarded rather than hastened. Milk is coagulated also by salts, particularly such as contain an excess of acid, as the cream of tartar; benzoic and succinic salts; by metallic solutions; by alcohol, and all spirituous liquors; though the addition of camphor or borated soda will, it is said, prevent this effect when either is dissolved in alcohol. In every instance, however, the coagulation is firmer and more perfect with the assistance of heat.

The alkalis which are said to coagulate milk unite in reality with the oily part, and produce a soap, which seems to entangle, occasionally, some of the curd. These flocculi, for such is their form, become successively, by boiling, yellow and brown. Pure alkalis render the milk more fluid, by equally dissolving the oil and the curd. Lime water seems to procure an imperfect coagulation.

Milk, when urged by heat, gives up its oily portion, which forms a dense pellicle; and that part of it which touches the sides of the heated vessel burns, and gives the whole an empyreumatic taste. If this is prevented, the serum procured is thin and pure. If, however, the heat is more violent, an insipid water comes over, flavoured with the aroma of the milk, which soon becomes putrid. The remainder is an extract, which, with warm water, again becomes milk, though without the aroma. If this extract be exposed to a strong heat, an empyreumatic acid oil, ammonia, hydrogenous and carbonic acid gases come over. The remaining coal affords kali, muriated kali, phosphat of lime, and occasionally a little iron.

When left untouched, milk undergoes the acetous fermentation at different periods, according to the heat of the weather and the nature of the animal. In warm weather, and in ruminating animals, this change is soonest observed. Mare's milk continues longest unaltered. The tendency of milk to the acetous fermentation is checked, it is said, by boiling.

If milk in a moderately warm place be frequently stirred, no separation occurs, and the vinous fermentation comes on. The greatest quantity of spirit, it is said, will be afforded by cow's milk, though that of the mare, as the most saccharine fluid, ferments soonest; and the Tartars prefer it, as affording also more spirit. The putrefactive process comes on slowly. Stipriaan (Memoires de la Societé de Médecine a Paris, 1787-8) informs us, that cow's milk showed no signs of putridity after four summer months, asses milk three months, and female milk nearly an equal time.

The cream, we have said, is the oil, which has acquired a greater consistency by its union with oxygen. In the form of butter it is still more intimately united with this principle, and a chemical union apparently takes place as heat is excited. In general, the cream is suffered to rise spontaneously, but in the West its separation is assisted by heat. The milk is put in shallow earthen pans, and remains in them twelve hours in summer, and twenty-four in winter. The pans are then placed on hot stoves, and the temperature raised, so as to be scarcely short of boiling. On the first appearance of bubbles the pans are removed, and remain at rest twelve or twenty-four hours longer, according to the season. This cream, styled *scalded* or *clotted*, is generally agitated by the hand in making butter, and the churn is only used when the raw cream is employed.

The thickest and richest creams are afforded by the sheep and goat; the milk of the mare, the ass, and the female, afford the thinnest. From female milk scarcely any separation takes place, even with the assistance of heat. The fluid separated in making butter is called *buttermilk*. It is the serum, enriched with some of the oil of the cream.

The curd is a true albuminous substance, without smell or taste, nearly insoluble in water, hardened in hot water, soluble in acids, forming, with the vitriolic and marine, brown solutions; with the nitrous a yellow. It is easily dissolved by alkalis, but most powerfully by the mineral; and, when this is pure, during the solution, a volatile alkaline smell arises; a fact not sufficiently noticed, and which will admit of some application. In distillation, an insipid water comes over that easily putrefies; and the remainder, on increasing the heat, blisters, like burnt horn, affording hydrogenous and carbonic acid gas, ammonia, a heavy fetid empyreumatic oil. The coal contains lime and phosphat of lime. When exposed to a strong heat, in an open fire, curd softens and melts; becomes transparent and tough; and, when cold, is hard and brittle.

The curd of goat and cow's milk is solid and elastic; that of the ass's and mare's milk less solid; of the sheep merely glutinous; of the female generally fluid, and with difficulty separated. See Caseus.

The whey is similar to the serum of the blood. The whey separated in making cheese is a watery fluid, without any admixture of oil; but, in its usual state, some of the oily, and some of the albuminous portion are diffused through it. Sweet whey affords sugar of milk: when the milk has been previously sour, it is styled sour whey; and, by adding a small portion of spirit of wine, and subjecting it to a fresh fermentation, a true vinegar of milk may be prepared (Jacquin). The spirit of milk is apparently not developed till it becomes acid; the Tartars hasten the acetous fermentation by the addition of oatmeal, and do not distil it till it is strongly sour. Thus milk holds a middle place between animal and vegetable substances. As it undergoes the acetous and vinous fermentations, and becomes very slowly putrid, it resembles vegetables. Its albuminous curd is of an animal nature.

Before we proceed to consider the medical properties of milk, we shall describe more particularly the milk of different animals, viz. that of the cow, the human female, the ass, the goat, the sheep, and the mare.

The general appearance of *cow's milk* is well known, and to this standard we shall refer the taste and more obvious properties of other milks. It is differently flavoured, however, according to the age and the food of the animal. When near the time of calving, it is more of an animal nature than at a future period; and the milk of farrow cows is, at first, saline. The alliaceous and the umbelliferous plants, horse mint, cabbages, and turnips, give it their peculiar flavour. The leaves of maize are said to render it mild and saccharine; the potatoe plant insipid. The Alderney, Alpine, and Sardinian cows give a very rich milk: those of the north and of Catalonia an aqueous blue milk. Tessier observed some milk, which was white when drawn, soon became blue; a change attributed to their eating the isatis (woad). Dr. Garden found, that the milk was blue after the cows had eaten of this plant; and it is usually red when they have eaten madder or the fruit of the cactus opuntia. Cow's milk, in an ordinary state, boils at 113°.

The carbonic acid gas, the boracic and oxalic acids, do not coagulate this milk when mixed with it, though Stipriaan observes that the latter, if strewed on it in powder, will have this effect. The curds produced by the other acids, are dissolved again by alkalis. When vinegar is employed for the coagulation, the dissolved curd is of a rose colour. Other re-agents act on it nearly as we have said they do on milk in general. The electric fluid thickens it a little. Its specific gravity is 1028.

Eight pounds of milk afforded, on distillation, eight ounces of a clear fluid, which retained the smell and taste of the animal's food. This fluid became turbid after some time, but again clear in a heat of twenty-eight of Reaumur, while some light filaments were formed. When filtered it became clear and tasteless, leaving nothing after distillation. The residuum after the first distillation was sweet and butyraceous, called by Hoffman *franchipan;* and, when diluted in boiling water, the white milky fluid is called *Hoffman's whey*. When distilled, it affords water, a very fluid yellow oil, an acid, a volatile alkali, a thick black empyreumatic oil, and an inflammable gas. The ashes seem to contain an alkali and a muriated soda.

The first milk after calving (*colostrum*, *primum*, or *beastings*,) resembles other milk, with the addition of a mucous substance. The specific gravity is 1072. It is yellow, but soon coagulates on the fire, and becomes white. The specific gravity of the second colostrum was 1052. It is more difficult to coagulate, and stirring wholly prevents this change. Rennet changes the first colostrum to a jelly, and coagulates the second: the first contains more than three times the quantity of butter, and a much larger proportion of albuminous matter. Both colostra become more quickly putrid than other milk, and seem to contain a large proportion of the gluten of the blood.

The cream of cow's milk after standing about three weeks, was covered with a green effervescence, and the under part had a cheesy flavour (Parmentier). The scalded cream acquires this flavour much sooner; and this was the reason for our asserting that some of the curd was probably entangled with it. On distilling this semiputrid cream, the usual results obtained from fat bodies were discovered. (See Adeps.) The milk, last drawn from the cow, has the largest proportion of cream; and the cream, as it rises in succession on the milk, while at rest, decreases in quantity, and deteriorates in quality. Thick milk throws up less cream than that which is thinner, but its quality is better. If the milk is diluted with water, the cream is more copious, but less rich. Previous agitation lessens the proportion of cream; and the proper temperature for its rising most successfully is about 54° of Fahrenheit. Milk in autumn gives more cream than in spring; but it rises soonest in summer.

The butter of cows is usually yellow: if white, its quality is inferior. If the milk has been kept too cool, the butter is pale, with little flavour, and not unctuous or rich. To have butter in perfection, the first drawn milk should be separated, and the first risen cream preferred. Some little acidity must take place previous to

the separation of butter, and this must be produced by the agitation, if not before approaching. The cream should, therefore, be kept for some time previous to the churning. The yellowness of butter is probably owing to the constitution of the animal, but the contact of the air has also some effect, for the internal parts of the mass are whiter than the external. To preserve butter from rancidity, two drachms of sugar, as much nitre, with half an ounce of salt, will be sufficient for sixteen ounces of butter. The rancidity of butter depends, in part, upon its retaining some whey, which holds a caseous matter; for it keeps in proportion to its washing: but, after every care, some of the caseous matter seems to remain, and to this its consistence is owing (Fourcroy). Thus, to melt butter without granulations, we add flour to prevent the cheesy portion falling to the bottom, and keep it in constant agitation.

Skimmed milk still retains a portion of the oil and the cheesy matter, which separate on its becoming acid; it is rich and pleasant. This matter is separated also in pellicles, by boiling. When flakes of cheese are put into a fluid alkali they are dissolved, while a considerable quantity of ammonia is separated, formed by a decomposition of the cheese, and the subsequent union of its hydrogen and azote. The alkaline solution of cheese, when heated, becomes brown, and deposits a portion of animal matter. When this matter, held in solution, is separated by acids, it is black, melts in the fire like thick oil, and, when cold, is greasy; the remaining hydrogen, with the oxygen, forming oil, and, with the alkali, becoming saponaceous. When the cheese is separated from the alkali by an acid, an hepatic odour is perceived. The caseous matter is completely dissolved by vinegar, and has a greater affinity to the vegetable acids than to any other.

Whey, when fresh, is sweetish and somewhat saline; but when filtrated, pellucid. It contains some caseous matter dissolved by an acid, which is separated on the addition of an alkali, and a small portion of sugar of milk.

The milk of women is thin, of a bluish colour, of a mild sweet taste, and a pleasant odour. Its specific gravity is 1029. On exposure to air, it is covered with a very thick white matter; but, from this, no butter could be procured. On standing, the portion which separated was still more butyraceous, though still incapable of forming butter. When distilled, water, a strong empyreumatic oil, ammonia, an acid, and inflammable gas, came over. The fluid, then, which was deposited from this unctuous matter, was a butter milk; but its transparency was not changed by alcohol or acids. After evaporation, it afforded sugar of milk, with some cheese. Female milk, when skimmed, did not, in a warm temperature, coagulate in five days; but became turbid and acid. Crystals of sugar of milk were formed, and the thick mother ley afforded muriat of soda. Pellicles rose on heating, as on cow's milk. *Human milk is coagulated as cow's milk, except by acids.* These, even with the assistance of heat, had no effect. It was also not coagulated by alkalis, but the kali gave it a brown, a red, and at last a black, colour; lime water, a deep yellow. The earths, the neutral and metallic salts, alcohol, or the electric fluid, produced no change except on the colour; but the infusion of oak bark and sour milk, previously coagulated, produced a coagulum. The cheese which it affords is finer and more tender than that of any other milk, but does not form a mass. Sixteen hundred parts of this milk afforded 137 of cream; forty-eight of a matter resembling butter; forty-three of cheese, and 117 of sugar. Three hundred parts of this sugar afforded eighty-five of lactic acid. Human milk scarcely becomes sour after a long period. It never passes either to the vinous or putrid fermentations.

Human milk differs so essentially in different women, and even in the same woman, at different times, that the results of experiments greatly vary. Parmentier found the results so contradictory, that he suspected some deceit, and employed only milk which he drew himself. The results of his trials were, however, still contradictory. This may, perhaps, account for Dr. Clark's assertion, that human milk contains no caseous part, and he could not succeed in coagulating it, by any means, or in any temperature. (Transactions of the Royal Irish Academy for 1788.) What has been supposed, therefore, to be a coagulum of the caseous part, may have been only cream; and during the period of the first and second colustrum only was it found yellow. At every other time it is white.

The milk of the ass is whitish, with some degree of transparency, of a peculiar smell, and a saltish taste, mixed with its sweetness. Its specific gravity is 1023. Alcohol, the metallic salts, rennets, and all the acids, except the fluor, and the cream of tartar when cold, coagulate it. Alkalis produce a slight coagulation, and different changes of colour Neutrals render it thinner. It coagulates with difficulty when at rest, and the coagulum is weak. The cream is of a yellowish white, sweet, and at first thin. Afterwards it acquires a greater consistence. The whey is sweetish and yellowish. Sixteen hundred parts of this milk afford forty-seven of cream; fifty-three of cheese; seventy-two of sugar of milk, which contains about one fourth of acid. The coagulum of this milk does not depend on its caseous matter, for this is spontaneously separated, falling to the bottom in the form of very tenacious particles. The cream is neither thick nor copious, and, with difficulty, assumes the form of butter, which is soft and white, without any peculiar taste, but quickly becoming rancid. The butter milk, which has a mild pleasing taste, must be carefully separated, or it soon again dissolves the butter. The sugar is in small proportion, and it contains also a little calcareous muriat, sometimes muriat of soda. It agrees with human milk in being soon converted into whey when the caseous matter is deposited; and in proportion to this deposition the sweetness increases.

The milk of the goat is very white, sweetish, and of an unctuous taste. Its specific gravity is 1036. It is affected by re-agents nearly as asses' milk. The cream is very thick, of a mild agreeable taste, and slowly proceeds to acidity. It easily forms butter, which is white, firm, and consistent; and, from its thickness, is easily converted into a very rich cheese, which is not soon injured by keeping. The butter milk abounds with cheesy matter, which may be separated by acids. The quantity of cheese which this milk affords is its chief characteristic. The curd is so copious that the whey separates with difficulty. The curd is also gelatinous and consistent, while in female or asses' milk it is in

divided particles. The cheese is peculiarly rich and agreeable. The butter is white and rich, but not as from asses' milk in consequence of a mixture of the curd, for none is deposited on melting. On this account it keeps long without spoiling. Sixteen hundred parts of this milk contain 127 of cream; 72 of butter; 146 of cheese; 70 of sugar of milk, of which one fourth is lactic acid. The saccharine matter appears to be less than in female or asses' milk. Its sugar white when the serum spontaneously evaporates. When artificial heat is used it becomes a jelly, and the crystals are coloured. The serum contains a very small proportion of common salt.

The milk of the sheep greatly resembles that of the cow. Its specific gravity is 1035, and it readily runs into the acetous fermentation in summer. When at rest, a thick, rich, sweet, yellowish cream rises in considerable quantities, which affords much butter; but it is oily to the taste, and its consistence is not considerable. It easily becomes rancid if not well washed. Its cheese is rich and viscous, but mild and agreeable. The serum affords a very white sugar. Sixteen hundred parts afford 185 of cream; ninety-three of butter; 246 of cheese; and sixty-seven of sugar, of which one fourth was lactic acid, and as much was obtained from the remaining fluid. All the acids (except the carbonic acid gas), alum, and liver of sulphur, coagulate it. Kali and soda render its colour dark; if caustic, red; ammonia, which also attenuates it, yellow. The neutral salts have no effect on it. The characteristics of this milk are the quantity of cream it furnishes, the quantity and richness of its cheese. The famous Roquefort cheese owes its excellence to the mixture of sheep's curd. Annales de Chimie, iv. 31.

The milk of the mare retains the smell of the animal, and it tastes as if water was mixed with it, though its specific gravity is 1045. The mineral acids coagulate it; the phosphoric deprives it of its colour and opacity; the fluor and saccharine acids slightly coagulate it when warm. Lime water precipitates a caseous matter when warm; alcohol renders it slightly curdy; rennet has no effect on it. Mare's milk is remarkable for its fluidity, but it is less so than female's or asses' milk, and more tasteless than either. Parmentier informs us that it easily boils, and is not difficult to coagulate. Its distilled water is nearly inodorous, and its franchipan less copious and unctuous than that of the cow. On a slight heat this milk is covered with pellicles, and the first are the most unctuous. The cream rises soon, is yellowish and clear, but produces no butter. The skimmed milk resembles that of the cow, but the vegetable acids separate slowly the cheese, and in a form resembling that from human milk. The serum afforded a vitriolated lime in needle like crystals, and sugar of milk in the form of a saline concretion. The mother water was found to contain muriat of lime. Sixteen hundred parts afforded only thirteen of cream; twenty-six of cheese; 140 of sugar of milk, of which about forty were lactic acid. From mare's milk the ardent spirit is chiefly procured. The art of making it is of great antiquity, and consists in not permitting the separation of the component parts of the milk, or again uniting them, if separated, till an acidity is observed. The spirit is apparently developed at the same time with the acid.

It is remarked by Parmentier, that when cows are diseased, the albuminous curd is the only part changed. The corresponding part of other animal fluids seems, alone, to suffer from a morbid state of the body.

Stipriaan gives a short comparison of different milks, which we shall subjoin. The most *aqueous*, he observes, is the milk of the ass. Then follows that of the mare, the human female, the cow, the goat, and the sheep. *Cream* was most abundant in sheep's milk; next in the human, the goat's, cow's, ass's, and mare's milk. *Butter* was in the largest proportion in sheep's milk, next the goat's, cow's, and human milk. *Cheese* abounded most in sheep's, then successively in goat's, cow's, ass's, human, and mare's milk. Most *sugar* was afforded by mare's milk, followed by the human, the ass's, the goat's, the sheep's, and the cow's milk. Parmentier divides milks into two classes, the serous and the caseous, or butyraceous. The first contains asses, mares, and human; the second, the cow's, the goat's, and the sheep's milks.

These facts, which have not been hitherto collected in any medical work, point out the absurdity of numerous directions, which fill the volumes of dietetic writers, and those authors who have written on the diseases of children. Women's milk, as we have said, is so various, that general rules can scarcely be drawn; but if any fact respecting it is better established than another, it is, that acids will not coagulate it. We have already observed, that milk must be coagulated before it can become subject to the digestive powers, and this is consonant to another fact, noticed in the article Digestion, q. v. that, unless the food or drink is delayed in the stomach, though absorbed, it is soon again carried to the excretory organs, as a substance foreign from the habit. This is even the case with water. That milk must be coagulated in the stomach is proved, not only by these circumstances, but by infants vomiting milk as it is taken in, when any disease occurs in the stomach, and their occasionally vomiting it in a coagulated state, when the discharge has been accidental, or from fulness. We recollect some experiments made, many years since, by Mr. Wilson, though we believe not published, in which, after the most attentive examination, no acid could be detected in the stomach of infants. We now see, that if it had been there it would not have produced coagulation. Acid, we know, does occasionally abound in the stomachs of infants, because we find it changing the colour of the bile; but it is not constantly present, and still less is it necessary to assist the digestive process. To assist in this enquiry, we mentioned the effect of rennet, (the stomach of the calf,) though carefully washed and dried, in coagulating cow's milk, and added a fact from Spallanzani, that the liver of the turkey would produce a similar change. Why may not the stomach of a child, and, in a less degree, that of an adult, occasion the coagulation? But, though this be not granted, we have seen that, when human milk has been once coagulated, the former coagulum is sufficient to produce this change in fresh milk; and this is certainly the most common cause. From these observations, we may, at least, draw one inference, that absorbents are too commonly given to children. Acid in the stomach seldom produces any bad effect. It is carried off like any foreign body, and soon neutralized by the bile. Our predecessors, in practice, used them freely; but by

employing the animal earths, they fortunately did not always exhibit an absorbent, and only threw into the stomach a small quantity of an indigestible powder, which was soon again discharged. Such was the Gascoyne's powder, the pearls, and a great variety of costly and fashionable medicines.

In the directions for a milk diet, equal absurdities prevailed. To prevent coagulation, we are sometimes advised to add aqua ammoniæ or lime water (Motherby, fifth edition). We now know that these produce other changes not salutary, and coagulation appears really necessary. We may, indeed, admit, that the coagulum of cow's milk is sometimes too firm, and, with that view, a small stimulus may be necessary to enable the stomach to conquer it; and, for this purpose, a small portion of rum is sometimes added, and, perhaps, some of the warmer spices may be occasionally substituted with more advantage. But to add a medicine which will *promote*, in order to *prevent* coagulation—to prevent what is essentially necessary to the digestion of the milk, is an accumulation of absurdities without example, except in the work we are now attempting to improve.

Milk, we have seen, holds a middle place between vegetable and animal foods. It is milder than the latter, and more stimulating than the former; but in its effects on the constitution it approaches more nearly to animal than vegetable aliment. (See Aliment.) The milks preferred as medicinal are chiefly cow's, ass's, mare's, and female milk. The goat's whey is preferred to its milk.

Cow's milk, we have found a rich nutritious fluid; but, by carefully choosing the kind, the age of the milk, the time of milking, &c. it is thinner and more digestible. In many stomachs it is, however, heavy and indigestible; and the idiosyncracy of the patient should be considered when it is prescribed. The quantity should, however, be also limited; for, if in excess, it produces great inconvenience from its bulk. Physicians have been so much afraid of its coagulating, that they have not employed a very convenient form of cow's milk, the slight curd produced by rennet. Cow's milk is often prescribed in hectic cases, sometimes in fevers, and in cases where the fluids are supposed to be acrimonious, as in cancers, cutaneous eruptions, and similar complaints. In many of these diseases it is, however, too stimulating, particularly in fevers, occasionally in hectics; and, as it has been observed, in the usual preparatory diet for the inoculated small pox. In these cases it is diluted with water, with decoctions of the farinacea, as in gruel, and with whey. Butter milk and whey have been sometimes substituted.

Ass's milk is, we have seen, a less stimulating fluid, and less nourishing. Its oily matter is in much less proportion, its coagulum weak, and, what is apparently of the greatest consequence, the caseous matter is not entangled with it, but precipitated. The little butter which it contains is readily dissolved in its serum. On these accounts, it appears peculiarly adapted to those states in which every stimulus is highly injurious, as in hectics. In the choice of this milk, there is not, however, sufficient discrimination. If many take the milk of the same animal, convenience, rather than the nature of the disease, determines the time; and the richer fluid of the last milking may be thus brought to the most irritable habit. The age of the foal is also seldom attended to, and the laxative colostrum of the early period may be given to those whose bowels are particularly irritable.

Female milk has been seldom employed, nor are we well aware of its medical effects. It contains a large proportion of cream, and a small one of cheese. Its coagulum is also tender, and it resists the effects of acids in producing this change. It will be, therefore, probably useful in all cases where ass's milk has been recommended; nor can we think it, from the bosom of a healthy young woman, so disgusting a remedy as from the ass. *Mare's milk* has been employed, but of its efficacy we know nothing. From its fluidity, and small portion of caseous matter, we should suppose it to be an useful substitute for ass's or human milk.

The very large proportion of cheese in goat's milk does not seem to render it an eligible aliment for invalids, and we believe the whey is chiefly employed. This must probably prove a salutary beverage in some diseases, and we have heard many instances of its success. From our own experience, however, we know nothing.

The sugar of milk is sometimes separated, but rather for curiosity than use, for it is, we believe, never given medicinally. (See Saccharum lactis.) In the Paris Pharmacopœia, it is directed to be prepared from the whey of cow's milk, clarified, filtered, and evaporated. Whey is usually prepared by adding an infusion of rennet, and is thin in proportion to the hardness of the coagulum. Cheese whey is peculiarly thin, and merely a saline aqueous fluid. The whey prepared for drinking is an opaque fluid, with a proportion of the oil, and a small quantity of the curd suspended. It is not an easy task to bring it to the most pleasing consistence; and it is said a small portion of alum is employed for this purpose. The proportion, however, is so small, that we have not found it give uneasiness even in the most irritable bowels. Whey is, of course, less nutritious than milk, but is a mild soft demulcent, highly useful in the early stages of fever, in hectics, in coughs, and inflammatory complaints of every kind.

Milk is used as an intermede, or *vehicle*, at least to suspend, if not, in part, to render some medicines more miscible with water. Bark, in powder, is covered very successfully by milk; and with a small proportion of a decoction of liquorice is agreeably disguised. The volatile tincture of guaiacum, and similar preparations, are also very conveniently exhibited in milk.

See Dioscorides, lib. ii. cap. 64. Voltelen de Lacte Humano; Jacquin's Chemistry; Scheel's Works; Fourcroy and Chaptal, Annales de Chimie, vol. vii. x. and xxxi.; Jahrig; Parmentier and Deyeux, Journal de Physique, 1790, and 1791; Greive on the Koumiss, Edinburgh Transactions, 1788; Clarke on Human Milk, Irish Transactions, 1788; Stipriaan, Livisens, and Bondt, Memoires de la Societé de Médecine Paris, 1787, and 1788; Hoffman's Dissertatio de Sero Lactis; Medical Musæum, vol. iii. p. 361, &c.; Cullen's Materia Medica.

Lac ace'tosum. See Alcaol.

Lac amy'gdalæ. Milk of almonds. See Emulsio.

Lac asini'num artifici'ale. See Eryngium.

Lac ca'lcis. Milk of lime; water whitened by a solution of quick lime, which is also in part suspended in it.

LAC SPUMO'SUM. See APHROGALA.

LAC SU'LPHURIS. See SULPHUR PRÆCIPITATUM.

LAC VIRGINA'LE. See BENZOINUM.

LA'CCA, (from the Arabic *lakah*). LAC, or GUM LAC; *ancosa;* is a concrete brittle substance, of dark red colour, brought from the East Indies, incrusted on pieces of sticks, internally divided into cells. It is the gummy resinous substance from two species of ficus, viz. the *f. Indica* and *religiosa* Lin. Sp. Pl. 1514, effused in consequence of the puncture of a species of coccus. The nest in which the insect also is sometimes found adhering to the branches is called *stick lac*. In the cells small red bodies are often observed, which appear to be the young insects. If the stick lac is broken into small pieces, and infused in warm water until it ceases to give any tincture to the liquor, the remainder appears of a transparent, yellowish brown colour, and is called *seed lac :* and on raising the heat so as to melt the seed lac, it rises to the surface, and is formed into what is called *shell lac*. When melted, and cast in cakes, it is styled *lac in tablets*.

The seed and shell lacs being robbed of the colouring animal matter, seem to be of an intermediate nature between that of wax and resin, and to partake of the nature of both. They crumble on chewing, and do not soften or unite again ; laid on a hot iron, they inflame, and soon burn. If distilled like wax, they yield an acid spirit, and a butyraceous oil. Alkaline lixivia, and volatile alkaline spirit, dissolve them into a purplish liquor. With the help of heat, they dissolve in rectified spirit of wine. Alum promotes their solution in boiling water. Lac is not used in medicine; but the colouring matters serves as a paint, and the remainder is an ingredient in sealing wax. See Neumann's Chemical Works. Lewis's Materia Medica.

From lac an acid is procured, styled the *laccic acid*. Dr. Anderson, in 1786, received from the interior parts of Hindostan nests of insects, resembling cowry shells, which he found to be the coverings of the females of an undescribed species of coccus. Some of this matter, which resembled bees' wax, was sent to England ; and, in 1794, Dr. Pearson, in the Philosophical Transactions, published an analysis of it.

About one quarter of this white lac contains a reddish acid, which tasted saltish, and not sour, though it changes paper, stained with turnsole, to a red colour. When heated, the smell is that of newly baked bread. The properties of this acid are very distinct ; but as it has not been employed in medicine, they need not detain us.

LACCO'PEDON. See SCROTUM.

LACERATU'RA, (from *lacero, to tear*). See VULNUS.

LACE'RTULI and LACE'RTUS, (from *lacertus, an arm*). BUNDLES of FIBRES. In every muscle, long, slender, soft fibres are found, possessed of some elasticity, running parallel with each other, surrounded with a large portion of cellular membrane, and collected into what are called *lacertuli*, in shape like the arm from the elbow to the wrist. These, bound together with a looser, generally adipose, membrane, run into large bundles, divided by cellular stripes, or partitions, and are then called *lacerti*. The lacerti running parallel, or inclined, surrounded with a thin cellular membrane, continuous with the partitions, and separated by a thicker cellular texture from the neighbouring fleshy parts, are considered as one muscle. See BRACHIUM, where the word lacertus is used in another sense.

LA'CERUM FORA'MEN, (from λακιζω, *to tear,*) one of the inner foramina in the head, through which the third, fourth, first branch of the fifth, and the sixth pair of nerves pass.

LACERUM is also applied to a leaf whose margin is irregular.

LA'CRYMA, (from δακρυμα, *a tear*). A TEAR; and the gum of a tree, which appears in drops like tears.

LA'CRYMA ABIE'GNA. See TEREBINTHINA.

LA'CRYMA JO'BI, *lithospermum, millium arundinaceum,* REED MILLET, JOB'S TEARS. *Coix lachryma Jobi* Lin. Sp. Pl. 1378. The seeds resemble tears; and are said to be lithontriptic, but are little used. Raii Historia.

LACRYMA'LIA O'SSA, (from *lacryma, a tear*). See UNGUIS OSSA.

LACRYMA'LIA PU'NCTA, are two small orifices at a little distance from the internal angle of the eye, on the edge of the eye lids, which lead to the lacrymal canals and sac.

LACRYMA'LIS GLA'NDULA. See GLANDULA LACRYMALIS.

LACRYMA'LIS NE'RVUS. The first branch of the fifth pair of nerves is called the *orbitary;* and this is subdivided into three others, the last of which is called the *lacrymal branch;* as it is chiefly dispersed on the lacrymal gland.

LACI'NIA COROLLÆ, (from *lacinio, to perforate*). Any part into which the border of a monopetalous corolla is cut. It is applied also to monophyllous calices, and a calyx which has two laciniæ is said to be bifid; or to divisions on the borders of leaves ; hence called

LACINIA'TI, *jagged*, implying an irregularity in the division and subdivision : laciniæ, according to Linnæus, is the same with a part, segment, or cleft.

LACO'NICUM. See BALNEUM.

LACTA'NTIUM TABES, the hectic of nurses, chiefly from debility. See LACTATIO. It is characterized by every symptom of weakness in the animal and vital functions, to which evening exacerbations and morning sweats succeed, even when there is no peculiar affection of the lungs. Indeed the lungs are apparently never affected, unless there is a constitutional predisposition to phthisis. In this disease, the bark and mineral acids, where no pulmonic affection exists, and Griffith's mixture, with myrrh and steel, when such is suspected, are the best remedies. If decided hectic symptoms come on, the disease must be treated as a true PHTHISIS, q. v.

Weaning is often essentially necessary ; but we have in general found it more useful first to try whether lessening the quantity of milk which the child takes will not succeed. Even where hectic symptoms have come on, we have thought moderate suckling rather advantageous than hurtful. Much, however, must depend on the mother's health, on that of the child, and many minute circumstances which it is impossible to detail.

See Fothergill in the Medical Observations, vol. v.; and Walker on the Memoirs of the Medical Society.

LACTA'RIA, (from *lac*, *milk*). See LACTICINIA.

LACTA'TIO, (from *lacteo*, *to suckle*). SUCKLING. The child should suck, if possible, during the first month; for the early milk is not only advantageous to the child, but the discharge prevents many inconveniences to the mother. If, however, from extreme debility, a deficiency of milk, or too short nipples, this is impossible, it should be consigned to a healthy young woman, whose milk is nearly of the age of the child.

In general, the health of women during suckling is better than at any other period of their lives. Their appetite is excellent; the sleep they have, sound and refreshing; their spirits free; their temper cheerful. If the nurse fails in any of these respects, suckling will be less beneficial either to herself or infant. If she fails in the greater number, particularly in appetite or sleep, she should decline the office.

When the new born child is to be suckled by the mother, it should be applied to the breast in ten or twelve hours after delivery; for the milk is by this means sooner and more easily supplied; fever and inflammation of the breasts more certainly prevented.

If the mother does not suckle her child, her breasts should be kept warm with flannels, or with a hare skin, to keep up a constant perspiration. If she does suckle, she should carefully cover the breasts when she first opens her bosom, and when the child is taken from it, as the cold air is sensibly felt in that tender organ, the skin quickly corrugated, to which pain, inflammation, and abscesses often succeed.

A wet nurse should be young, of a healthy habit and an active disposition, a mild temper, and whose breasts are well filled with milk. If the milk is good, it is sweetish to the taste, and totally free from saltness: to the eye it appears thin, and of a bluish cast. The regular recurrence of the menses is generally an objection; and it is often a very strong one. The inconveniencies arise from the child being slightly disordered at the commencement of the return; and the symptoms of teething are often aggravated by the irritation which these returns produce. The menses are sometimes supposed to be advantageous, and are said to *renew* the milk when it is old; but this is an idea without the slightest foundation.

A hired nurse is generally kept from her husband; but by this restriction the temper is often ruffled, and more injury than advantage is sustained by the infant. If the nurse's child is of the same age with that she suckles, she will not probably be again with child till the period of weaning arrives. If older, the greater is the probability of her being again pregnant, and the separation from her husband more necessary. A child may be safely weaned at seven months, but should not suck more than ten. Changes of nurses should, if possible, be avoided; yet this is rather the caution of experience, perhaps of prejudice, than of reason.

Nurses should eat, at least, one hearty meal of animal food, with a proper quantity of vegetables, every day. Thin broth, or milk, is more proper for their breakfasts and suppers than tea; and if the strength should seem to fail, a draught of good ale may be occasionally allowed; but spirituous liquors should be avoided.

Every mother should, for her own sake, as well as her infant's, attempt to suckle. Yet some constitutions are so peculiarly weak and nervous, that the dread of increasing these complaints is a frequent impediment. It should not, however, at least, hinder the attempt; for weak habits have suckled with advantage even to themselves. If, however, the milk is scanty; if, though copious, it is thin and watery; above all, if the child is restless and uneasy; if it frets and pines; a healthy nurse should be procured. But the experiment should first be made, and the attempt should not be given up unless the child suffers. Let every young mother, however, reflect, that if she cannot give up midnight orgies; if she cannot, when her child, by the most pathetic cries, demands, yield it a genial balmy food, uninjured by fatigue, agitation of mind, or indigestion, let her resign her task, or rather forsake her duty. This she may, in part, compensate; but to destroy the health, the constitution of her infant, by the opposite conduct, must for ever be a thorn in her heart; A CRIME WHICH SHE CANNOT EXPIATE HERE, PERHAPS NEVER.

LA'CTAS, (from *lac*, *milk*). *Lactat.* Salts produced by the union of the acid of the LACTIC ACID, q. v., with different bases.

LACTE'A FE'BRIS, (from *lac*, *milk*). The MILK FEVER. It is a frequent custom to apply the child only to its mother's breast, when the milk flows freely, on the third or fourth day. A fever is thus, from the irritation of the milk, brought on; but it rarely happens to those who have applied the child early to the breast. Where there is a secretion of milk, its due discharge is as necessary as that of the lochia; and the stoppage of either produces fever. Cold, or any cause of fever on the coming on of the milk, may occasion similar inconveniences.

The more immediate causes are a distention of the vessels of the breasts, readily distinguished by the swelling of the glands in the axilla; and an absorption of milk becomes acrid by stagnation. It is known by a rigor and looseness coming on after the breasts have been inflamed and painful, followed by thirst, headach, and burning heat. If the disorder is not violent, it soon spontaneously vanishes by a copious perspiration.

If the patient is full and robust, blood may be taken from the arm; but this evacuation is rarely required. A young, strong, hungry child should be applied to the breast; and linen cloths, dipped in fresh cool drawn linseed oil, laid over them: the bowels should be emptied by a cooling purge, and the saline mixture, with the usual antimonial preparations, given. These, with a thin cooling diet, will generally remove the disease. If the breasts should suppurate, see ABSCESSUS PECTORIS and MAMMÆ; Kirkland on Child-bed Fevers.

LACTE'A VA'SA, *galactophori ductus*, (from γαλα, *milk*, and φερω, *to carry*). The LACTEAL VESSELS. These vessels were not unknown to Erasistatus and Herophilus, and are distinctly mentioned by Galen. It was supposed, very early, that they conveyed the nutriment from the intestines; but, as usually the liver was considered to be the part in which the blood was elaborated, these vessels were said to terminate in that organ. Plates still exist in which they are represented as taking this course, though it had been contradicted by Galen. To Asellius the credit of the discovery has been given, and the exact day fixed, viz. the 23d of June, 1622,

when opening a dog for an experiment of a very different nature: but, in reality, he saw them only as Galen and his predecessors had done; and so far from tracing their course to the thoracic duct, he described them as terminating in the liver. He saw, however, their valves, and conjectured, rather than demonstrated, that they receive their contents by orifices opening into the intestines. It is singular that he had not connected with this discovery the description of the thoracic duct by Eustachius, in 1563, which would at once have cleared up the principal circumstances of this *lesser course* of the lymph or chyle.

Asellius never saw the lacteals in the human body, but supposed their existence from analogy; and it was twelve years afterwards, viz. in 1634, that Veslingius first discovered them, and added, in the year 1649, the revival of the discovery of Eustachius, viz. the existence of the common receptacle of the lacteals and lymphatics, the thoracic duct. Rudbeck, nearly at the same era, without any previous communication, discovered the lymphatics in quadrupeds; and about the year 1654 traced the duct in the human body. About the same time our countryman, Dr. Jolyfe, also discovered the lacteals and lymphatics without any knowledge of Rudbeck's success. As these authors discovered them in man and in quadrupeds, so Bartholine seems first to have seen them in fish.

Thus the existence of an absorbing system was apparently ascertained; and, since that period, gradual additions were made to its extent; but the great questions remained undecided: was the absorbent system of vessels general in every part of the body; and were these newly discovered vessels the only ones destined for this purpose? The answer to the first question would, in part, decide the second; for were they general, they were probably the only absorbents. As the extent of their range was increased, therefore the opinion of their being exclusively absorbents was stronger; but, in 1757, Dr. Monro published, at Berlin, a short dissertation, by which he endeavoured to prove, by a few simple and decisive experiments, that the lymphatics were a general system of absorbents. The honour of the discovery was soon after claimed by Dr. Hunter, and a controversy of some asperity was for a time carried on. The observations which we offered on the discovery of the circulation will apply precisely to the present dispute; nor was it without design that we have called the system of the lacteals the "lesser course," comparing it to the lesser circulation through the lungs. In fact, the former discoveries had placed this so much on a level with even a common capacity, that it required not the reach of a giant to grasp it. Dr. Monro had undoubtedly the honour of first bringing it forward in a compact scientific form.

At that time, however, and long since, the question was not decided, whether the lymphatics were exclusively absorbents. It is admitted that red veins *do* perform this office, in the fœtal part of the placenta, for instance, and in the corpora cavernosa penis. We cannot, therefore, deny their powers; and as the lymphatic system seems not to be equally extensive in every part, it is still possible that the veins may supply their place. We consequently have left the question apparently at issue in the articles Absorbentia vasa and Absorptio; but have little hesitation in offering our opinion, that the *lymphatics, except in parts of a peculiar construction*, are *exclusively absorbents*.

We have thus spoken of the lymphatics and lacteals as the same. In fact, they are the same in structure, in direction, and office. The lymphatics sometimes carry a milky fluid, and the lacteals a serous one; each conveys occasionally blood, dissolved or suspended osseous matter; in short, every thing which nature requires to be removed from the cellular or other cavities of the body.

The lacteals arise from the cavity of the intestines, from beginnings almost imperceptible. The discriminating eye of Lieberkühn, assisted by good glasses, perceived, on examining the villous coat, vesicles like a small egg, which he styled *ampullulæ*. These, he thought, were either the extremities of lacteals, or, at least, the receptacles of the chyle immediately absorbed. Later authors have denied the existence of these vesicles, and thought that the small ovoid receptacles were only convoluted arteries and veins surrounding the nascent lymphatic. From a careful comparison of the descriptions, we think it highly probable that Lieberkühn was deceived, and that these ovoid vesicles are really convoluted vessels. We know that the reputed acini of many glands have been found to be vascular. If also the chyle be absorbed by capillary attraction, we know that the vessel must be very minute, or the cohesion of the fluid very inconsiderable. The chyle is, however, a milky fluid, and most probably, like all such, its molecules possess a greater attraction to each other than those of water. A vesicle, therefore, is not well adapted for absorption, and would rather impede than assist the progress of the chyle, thus opposing a function of importance, which often requires a rapid exertion. It seems more probable that the orifices of the lacteals open into the intestines, and that their mouths are very numerous, actually constituting the villi, from which the internal coat has its name, and that each villus has its artery, vein and nerve. In the usual state the villi are apparently pendulous; but when the minute arteries are excited to action, that they are erected like the fimbriæ of the Fallopian tubes; and that in this way their apetures are contracted, so as to become of a proper diameter to absorb the chyle by capillary attraction.

We must not, however, conclude that anatomists of eminence and character, who have described these ampullulæ, were wholly mistaken. They have been seen by Lieberkhün, by Sheldon, and by Cruickshanks; but as it is impossible to inject them, it is doubtful whether the chyle may not impart a white colour to the mass of convoluted arteries; and we rather suspect this may be the case, since, in the moment of the discovery, it seems to have been doubtful whether the supposed orifices were not rather the interstices between the adjoining vesicles. If they were the orifices, our objection lies with additional force, that such vesicles are not adapted for capillary attraction. If, too, these were the beginning of the lacteals, they should be scattered in much greater profusion than they are represented.

When the lacteals arise from the cavity, they run along the intestines in a longitudinal direction, freely anastomosing with each other; but the course of the contents of these vessels is opposite to that of the blood. This longitudinal direction is continued for some way,

and the lacteal then turns towards the mesentery, at an angle more or less acute. This lengthened course is probably designed for some peculiar purpose, probably for the animalization of this newly introduced aliment. The vessel then proceeds to the glands interposed, in which they are lost, and from which similar vessels of larger size, but less numerous, emerge. These are styled glands of the first order, as in their course to the thoracic duct other glands are found. In the whole of their progress, numerous valves are interposed to prevent regurgitation; so that sometimes a lacteal, injected with quicksilver, resembles rather a string of silver beads than a continuous vessel.

In the course of the lacteals to the first order of glands, there are few anastomoses; but before entering the glands they are minutely divided. It sometimes happens also, that a lacteal, when it arrives at a gland, will creep over it without being immersed in it; and, at others, a trunk will pass at a little distance. The former fact we do not remember being noticed in any author; but we have often seen it in injected lacteals. Both circumstances are important, as they show how the body may be occasionally nourished when all the glands are apparently obstructed. This also appears the object of nature, in offering different orders of glands, since it is equally necessary that the body should be nourished, and the new fluid elaborated, so that the vessel which escapes the first order may be immersed in some gland of the second, and one that has passed through the first, may escape the second. The lacteals, however, which come off at the upper portion of the canal, pass through fewer glands than those from the ileon; and in old age many of the glands are obliterated. In the duodenum, perhaps, the more perfect chyle is separated; and in old persons the fluids are so highly animalized, that less precaution is necessary in preparing the new aliment. In the colon, the cœcum, and rectum, no lacteals have been discovered; though from the numerous lymphatic glands in the mesocolon lacteals must be found there. From the glands the lacteals pass on to the thoracic duct, and probably, in their course, anastomose with some of the lymphatics.

For the structure of the lacteals, see LYMPHÆ DUCTUS, and for the glands, LYMPHATIC GLANDS. See also DUCTUS THORACICUS; Monro de Venis Lymphaticis Valvulosis; Meckel de Finibus Venarum, &c.; Monro's Three Treatises, and his Observations Anatomical and Physiological; Hewson's Experimental Inquiries, part ii.; Sheldon on the Absorbent System; Cruickshanks' Anatomy of the Absorbent System; Mascagni Vasorum Lymphaticorum Corporis Humani Historia.

The *chylifera vasa* are also called *venæ lactæ* because their valves are disposed as those of the veins are, and because, like them, they convey their contents from smaller to larger tubes.

Dr. Harvey discovered the lymphatics in the year 1616. In 1627, they were published by another author. Uzzalius discovered the lacteals in a dog, running to the mesenteric glands, in the year 1662. See Winslow's Anatomy.

LACTESCE'NTIA, (from *lactesco, to become milk*). The plants whose juices are milky. See LACTIFERUS.

LACTIC ACID. The lactic acid is found in whey when kept till the acetous fermentation has commenced. It was first shown to be a distinct acid by Scheele in the Stockholm Transactions for 1780. This acid will not crystallize, but in the open air deliquesces, and probably differs very little from the acetous. Its affinities are nearly the same. See AFFINITY.

LA'CTICA. See TYPHOS, and TYPHODES.

LACTICI'NIA, (from *lac, milk*). *Galactina, lactaria;* aliments prepared of milk. See ANIMELLÆ.

LACTI'FERI DU'CTUS, vel TU'BULI, (from *lac, milk*, and *fero, to bring*). LACTIFEROUS DUCTS or TUBES. The glandular body of the breast consists of a collection of membranous ducts, narrow at their origin, broad in the middle, and contracted again as they approach the papillæ, near which they form a circle of communication. See MAMMÆ.

LACTI'FERUS, (from the same). The term, though strictly applicable to plants which abound with milky juices, sometimes comprehends those which discharge white, red, or yellow fluids when wounded. The juices of the *euphorbium, papaver, asclepias, campanula*, and many of the plants in the first division of the class *syngenesia*, afford a white fluid; those of the *chelidonium, bocconia, sanguinaria*, and *cambogia*, a yellow; of the *rumex sanguineus* a red.

LA'CTIS FLOS. See APHROGALA.

LACTU'CA, (from the milky juice it produces on being wounded). LETTUCE; *marillium, eunuchion*, is a plant with slender but firm stalks, which yield, as well as the leaves, a milky juice. The flower consists of a number of flat flosculi, set in a small scaly cup, followed by short flat seeds, pointed at both ends, and winged with down. It is also the name of some species of chondrilla.

LACTU'CA ANGI'NA; *locusta, valeriana campestris inodora major, valerianella arvensis præcox humilis semine compresso, album olus, valeriana locusta* Lin. Sp. Pl. 47, α, LAMB'S LETTUCE, and CORN SALAD.

LACTU'CA HORTE'NSIS. *Lactuca sativa* Lin. Sp. Pl. 1118. GARDEN LETTUCE.

LACTU'CA MARI'NA. (See FUCUS.) In general lettuces are very slightly nutritious, refrigerant, and diuretic: they should be eaten raw. They are easily digested, but afford very little nourishment. Their milky juices inspissated resembles opium; but as a medicine they are of no importance, though the seeds triturated with water are mucilaginous, and supposed to be useful in ardor urinæ.

LACTU'CA VIRO'SA. STRONG SCENTED WILD LETTUCE; *lactuca virosa* Lin. Sp. Pl. 1119. The upper leaves only of this plant are jagged at the edges In Britain it is indigenous; found in hedges, and by the sides of ditches; flowers in June; smells strongly of opium; and appears to participate in no small degree of its virtues. The narcotic power, noticed by Haller, resides in its milky juice. It is said to quench thirst, to be gently laxative and diaphoretic, powerfully diuretic, not disordering the stomach; but during its operation plentiful dilution is allowed. Out of twenty-four dropsical patients, twenty-three were cured with this medicine, according to the account of Dr. Colin of Vienna. It is given in the form of an extract, made from the expressed juice, and recommended in small doses; though in dropsies of long continuance, from visceral obstructions, it has been administered to the

quantity of half an ounce a day. This plant is, however, now neglected even in Vienna; Quarin and Plenciz have either spoken of it with faint praise or rejected it wholly. In this country it seems never to have been fairly tried.

LACTUCI'MINA, (from *lacteo, to suckle;* a disease of children while they suck). See APHTHÆ.

LACTU'MEN, (from *lac, milk;* because the eruption is covered with a white scab). See ACHOR.

LACTU'MINA, (from *lac, milk*). Little ulcers or crusty scabs in the skin, chiefly occurring in children at the breast.

LACU'NÆ, are excretory ducts in the vagina and glans, or their excretory ducts in the urethra. The term sometimes implies drain or furrow (from *lacus, a standing pool*).

LA'DA. See PIPER NIGRUM.

LA'DA CHILLI. See PIPER INDICUM.

LA'DANI EMPLA'STRUM. See EMPLASTRUM STOMACHICUM.

LA'DANUM, (from *ladon*, Arabic,) *labdanum, cistus, cistus ladanifera, ledon Cretense.* The TRUE LADANIFEROUS SHRUB. *Cistus ladaniferus* Lin. Sp. Pl. 737, or rather *c. Creticus* Lin. Sp. Pl. 738. The gum labdanum is a resinous juice which exudes upon the leaves of the shrub, which grows plentifully in Arabia, Candia, and other parts of the Archipelago. The juice is collected during the summer with a kind of rake, which hath several leather thongs fixed to it instead of teeth, with which the leaves of the shrub are lightly brushed: the juice adhering to the thongs is separated with knives, and formed into regular masses for exportation. The plant grows on the sea shore; and much sand is consequently mixed with the gum.

The best sort is in dark coloured black masses, of the consistence of a plaster, which grows still softer when handled: the other is in long rolls curled up, harder than the former, but of a paler colour.

In general, this gum agrees in virtues with the balsam of Peru; but is rarely used except in external applications. It hath an agreeable smell, and a light, pungent, bitterish taste. Rectified spirit of wine dissolves nearly the whole of the pure gum; and water takes up much of its smell and taste. By distillation with water an essential oil arises, leaving behind it a brittle resin.

Heat quickly destroys the specific flavour of this gum, which was formerly given as a pectoral and astringent in catarrhal affections and dysenteries; but is now confined to external use in the form of a plaster (see EMPLASTRUM STOMACHICUM), or in fumigation. See Lewis's Materia Medica; Neumann's Chemistry.

LÆDE'NTIA, (from *lædo, to hurt*). See JUVANTIA.

LÆ'MOS, (from λαυω, *to feed*). See ŒSOPHAGUS.

LA'GAROS. LOOSE. An epithet for the right ventricle of the heart, from its looser texture. See COR.

LAGOCHEI'LOS, (from λαγος, *a hare*, and χειλος, *a lip*). See LABIA LEPORINA.

LA'GON. The FLANK.

LAGO'NDI. See BERIBERI.

LAGOPHTHA'LMIA, and LAGOPHTHA'LMUS, (from λαγος, *a hare*, οφθαλμος, *an eye*). See ECTROPIUM.

LAGOPO'DIUM, and LA'GOPUS, (from λαγος *a hare*, and πους *a foot*,) *pes leporinus; trifolium arvense humile spicatum;* HARE'S FOOT TREFOIL, or TRINITY GRASS; *trifolium arvense* Lin. Sp. Pl. 1083; is a low spreading plant with narrow hairy leaves like a hare's foot; the flowers are of a purple colour; the root perishes in winter. It grows amongst corn, and in fallow fields; flowers in June and July: the whole plant is reckoned astringent; but rarely used.

LA'GOPUS. HARE FOOTED; the name of some species of trifolium. See ATTAGEN.

LAGO'STOMA, (from λαγος, and στομα, *os, the mouth*). The HARE LIP. See LABIA LEPORINA.

LA'LO. See BAOBAB and COUSCOUS.

LA'MAC. See GUM ARABICUM.

LAMBDACI'SMUS, (from λαμβδα, the Greek letter λ). A defect in speech, consisting in an inability to pronounce certain consonants, particularly L.

LAMBDOI'DES, *piroræ sutura*, (from the Greek letter Λ, and ειδος, *likeness*). The name of the suture which runs betwixt the ossa occipitis and parietalia, called from its resemblance to the Greek letter Λ, *lambda*. It is also a name of the os hyoides.

LAMELLÆ. LITTLE LAMINÆ.

LA'MINA, (from ελαμινη, from ελαω, to *beat off*). A bone, or any substance resembling a thin plate of metal. The lap of the ear.

LA'MINA CRIBRO'SA. The cribriform lamella; the horizontal plate of the os ethmoides, through which the olfactory nerves pass.

LA'MINÆ SPONGIO'SÆ INFERIO'RES. See CONCHÆ NARIUM INFERIORES.

LA'MIUM, (from *lama, a ditch*, where it usually grows). DEAD NETTLE.

LA'MIUM A'LBUM, Lin. Sp. Pl. 809, *urtica mortua, Archangelica flore albo, urtica alba, urtica iners.* WHITE ARCHANGEL, or DEAD NETTLE.

LA'MIUM LUTE'UM; *galeopsis galeobdolon* Lin. Sp. Pl. 810, *galeopsis, leucas montana.* See GALEOBDOLON. YELLOW ARCHANGEL.

LA'MIUM MACULA'TUM, Lin. Sp. Pl. 809, *galeopsis lutea, milzadella, urtica lactea.* SPOTTED ARCHANGEL.

LA'MIUM RU'BRUM, also called *lamium purpureum fœtidum, galeopis; lamium purpureum* Lin. Sp. Pl. 808. RED ARCHANGEL, or SMALL DEAD NETTLE.

Infusions of these plants are commended in the fluor albus; but experience hath not supported the high character given them by popular report.

LA'MPATAM. See CHINA ORIENTALIS.

LAMPOU'RIS, (from λαμπω, *to shine*). See CICINDELA.

LA'MPSANA, (from λαπαζω, *to evacuate;* because it relaxes the bowels,) *papillaris herba, napium, endivia erecta*, &c. DOG CRESSES, NIPPLE WORT, is a rough plant, bearing small yellow flosculous flowers; annual; growing wild in fields, and by the sides of the roads. It is one of the bitter lactescent plants, nearly similar in virtues to dandelion and endive. It hath been applied to ulcerations on the nipples, whence one of its names; but the present practice does not notice it. It is also a name of rapistrum.

LA'NA, (from *lanio, to tear*). WOOL. Burnt wool is escharotic.

LA'NA SU'CCIDA. SORDID or YOAKY *(unwashed)* WOOL; *aplytos* by the Greeks.

LANA'RIA, (from its woolly leaves). A name of the *lychnis sylvestris, saponaria*, and *verbascum.*

LANA'TUS, applied to leaves covered with a downy softness.

LANCET. A well known surgical instrument.

LA'NGUOR, (from *λαγγιω, to pine*). WEAKNESS OF MIND AND BODY.

LA'NGUOR PANNO'NICUS. See AMPHIMERINA HUNGARICA.

LANI'GERUS, (from *lana, wool*, and *gero, to bear*,) an epithet of trees, which bear a woolly or downy substance, like what is contained in the catkins of the willow.

LA'NTANA. See VIBURNUM.

LANU'GO, (quasi *lanam ago, bearing wool*). DOWN. The seeds of plants surrounded by a downy substance which carries them in the air are termed *lanuginous*, or *pappous*. See CHNUS.

LACO'NICA CURA'TIO. A method of curing the gout by warm applications.

LA'PARA, (from *λαπαζω, to empty*). The FLANKS, which seldom appear distended.

LAPAROCE'LE, (from *lapara, the flanks*, and *κηλη, rupture*). A rupture through the side of the belly.

LA'PATHUM, (from *λαπαζω, to evacuate;* because it purges gently). DOCK.

LA'PATHUM ACU'TUM; *rumex, oxylapathum*, SHARP POINTED DOCK; *rumex acutus* Lin. Sp. Pl. 478. This species, denominated from its sharp pointed leaves, hath a bitter astringent taste, with no remarkable smell: its roots discover their astringency, both by the taste and by striking an inky blackness with a solution of vitriol; and this astringency is stronger in the present than in any other species. It is also slightly laxative; and its affinity with the rhubarb is equally conspicuous in a botanical and a medical view. Water takes up all their virtue, and in spring they are used with the greatest advantage.

LAPATHUM ALPI'NUM, *hippolapathum rotundifolium, lapathum montanum*, BASTARD MONK'S RHUBARB; *rumex alpinus* Lin. Sp. Pl. 480. The leaves are very broad like those of burdock; the root is extremely brown, and intensely red within. It has, however, no peculiar virtue, except that it is supposed to be more active as a laxative than the other species.

LA'PATHUM AQUA'TICUM; *hydrolapathum, herba Britannica, lapathum palustre*, GREAT WATER DOCK. The hydrolapathum of the Edinburgh Pharmacopœia is referred to the *rumex aquaticus, foliis cordatis acutis, floribus hermaphroditis, valvulis integerrimis nudis* Lin. Sp. Pl. 479. Muntingius has taken great pains to prove this species the herba britanica of the ancients; not from Britain, but from *britanicus*, a Teutonic word, which signifies a power to fasten loose teeth. Linnæus, however, gives the preference to a species which he styles "*Britannica;*" but Lobelius, with great reason, supposes it to be a species of cochlearia. The leaves of the rumex aquaticus are from two to three feet long, said to be laxative, but are very inconsiderably so: the roots are blackish on the outside; internally white, having a faint reddish tinge, which, in drying, changes in some parts to a yellowish or brown. It is found in most parts of England by river sides; and supposed to be a powerful antiscorbutic, if freely taken internally. A strong decoction of it is supposed to heal spreading ulcers in the mouth and tonsils; to cure spongy gums, &c. Boerhaave, from his own experience, commends it in scurvy, rheumatism, as well as in disorders of the skin, and from obstructed viscera. It is probably useful in flatulent complaints, and seems occasionally to assist digestion. Linnæus speaks highly of its utility.

The root dried and powdered is said to be antiseptic, useful in nervous disorders, an useful dentifrice, and a good substitute for the bark. Where the powder is unacceptable as an internal medicine, the decoction may be used: half a pound of the bark of the root is boiled in three to two quarts of water, and half a pint drunk four times a day.

The bark of the root contains the greatest proportion of the active parts; but the whole plant resembles in its medical virtues the root. See Medical Musæum, vol. i. p. 46, &c. It seems, however, to be in no respect superior to other astringents, and inferior to many of this class.

LA'PATHUM HORTENSE; *rhabarbarum monachorum, patientia, hippolapathum*, MONKS' RHUBARB; *rumex patientia* Lin. Sp. Pl. 476. The stalk of this dock is red, and branched towards the top: the root is thick at the head, but soon divides into several branches of a brown colour outwardly, and a deep yellow within. Its virtues are similar to those of rhubarb, but it is less purgative and more astringent.

LA'PATHUM CHINE'NSE ORIENTA'LE. See RHABARBARUM.

LA'PATHUM RU'BRUM; *lapathum sanguineum, sanguis draconis herba*, BLOOD WORT; *rumex sanguineus*. Lin. Sp. Pl. 476: the leaves are recommended as laxative, and the seeds for restraining uterine fluxes.

LA'PATHUM UNCTUO'SUM. See MERCURIALIS.

LA'PATHUM VU'LGARE; *anaxyris;* BROAD LEAVED WILD DOCK, or COMMON DOCK; *rumex obtusifolius* Lin. Sp. Pl. 478. The leaves are large, roundish at the points, and sourish to the taste; the root bitter, astringent, and of a pale or yellowish colour. In France the root is most frequently used, and for the same purposes as the great water dock. The largest grow in moist grounds, the smallest and most astringent in dry.

LAPIDES CANCRORUM. See CANCER.

LAPIDI'LLUM, or LAPIDI'LLUS, (from *lapis, a stone*). The name of a kind of spoon, formerly used to take out small stones and fragments from the bladder.

LAPI'LLI, (a dim. of *lapis, a stone*). See OCULI CANCRORUM.

LAPIS, *λαας*. A stone differs from an earth in consistence only; but there are some bodies, evidently stony, which contain no earth, as the diamond. The mineralogists who arranged fossils from their external forms, of course distinguished *stony bodies*, but this arrangement has been superseded by the chemical systems of the moderns; and Wallerius is the last author of credit who has followed it. Stones are defined by that naturalist as hard bodies which cannot be cut with a knife, seldom rasped by a file, brittle, without ductility, insoluble in water or oil; but falling into small particles by exposure to air.

We need not pursue the qualities of stones farther than to mention Wallerius' subdivisions of this class of bodies into *calcareous, vitrescible, fusible*, and those *unaffected by fire*. The compound stones he styles *rocks*.

It will be obvious from the medical bodies styled "*stones*," which follow, with what little accuracy the

term has been bestowed. It is, however, now disused in a very great degree, and will not be again revived. Wallerii Systema Mineralogicum. See MINERALOGY.

LA'PIS CALAMINARIS. See ZINCUM.

LA'PIS CALCAREUS. Lee CALX.

LA'PIS AMPELI'TES. CANAL COAL. See AMPELITES.

LA'PIS A'LCHERON. See BEZOAR BOVINUS.

LA'PIS BE'NZAHAN. See BEZOAR FOSSILE.

LA'PIS BEZO'AR, and PERUVIA'NUS. See BEZOAR ORIENTALIS and OCCIDENTALIS.

LA'PIS PORCI'NUS et MALACE'NSIS. See BEZOAR HYSTRICIS.

LA'PIS SEPTICUS. MELTED KALI.

LA'PIS NEPHRITICUS is a variety of the jaspis, the *jade* of Haüy iv. 368; of the Sciagraphia; and of Kirwan, vol. i. p. 171. It is very hard, but melts in the focus of a mirror, to a transparent glass, with some air bubbles. Its specific gravity is about 3. Its look and touch greasy, and it contains about 0.38 of magnesia. It is celebrated for relieving the pains of gravel, and even of destroying the calculus. It has this effect, it is ridiculously supposed, when hung about the neck. Boot Gemmarum et Lapidum Historia, ii. 110.

LA'PPA, (απο τϑ λαβειν, from its sticking to the clothes). See BARDANA MAJOR, MINOR, and ARCTIUM.

LAPPA'GO, (a dim. of *lappa*). See HIPPOPHÆS; sometimes the aparine. Blanchard.

LA'PPULA CANA'RIA, (from *lappa burdock*). See CAUCALIS.

LAPSANA COMMUNIS, Lin. Sp. Pl. 1141. DOG CRESSES or NIPPLE WORT. It is cooling, and somewhat astringent, but differing little from the endive or succory. As its name implies, it has been most commonly used as an application to sore nipples.

LAQUE'US, (from the Hebrew term *laquah*). See BROCHOS.

LAQUE'US GU'TTURIS. A malignant inflammation of the tonsils.

LA'RDUM, (from *lar*, *a chimney*, in which it is dried). BACON. See ALIMENT.

LA'RIX, (λαρος, *pleasant*, from its beautiful appearance). The LARCH TREE; *pinus larix* Lin. Sp. Pl. 1420. The leaves are long and narrow, produced out of small tubercles, but fall in winter; the cones are small and oblong; the branches regular; common on the Alps, and in several parts of Germany: from it is produced the Venice turpentine. Raii Historia. It is also a name for several species of cedar. See CEDRUS.

LA'RVA, (from *lar*, *a shadow*, or *familiar spirit*). A MASK. When the face is burnt with gunpowder, &c. the application is a linen mask, moistened with proper remedies, and applied to the face: it is tied behind with six tapes. The appellation also of insects in the form of caterpillars, which is considered as their disguised state, since their perfect form, in which the species will be reproduced, is that of a butterfly.

LARYNGÆ'Æ ARTE'RIÆ, (from λαρυγξ, *the larynx*). See GUTTURALIS ARTERIA.

LARYNGOTO'MIA, (from λαρυγξ, *the throat*, and τεμνω, *to cut*). See TRACHEOTOMIA.

LA'RYNX, (a Greek primitive). See ASPERA ARTERIA.

LASCI'VUS, (from *lacio*, *to ensnare*). See CHOREA SANCTI VITI.

LA'SER. LASERPITIUM. See ASAFŒTIDA.

LASERPI'TIUM, (from the Arabic *lazar*,) the name of the *oreoselinum*, and of the *silphium*, the *altiht* of the ancients.

LASERPI'TIUM VULGA'RE; *bupleuron arborescens salicis folio; gentiana alba; cervicaria nigra et alba; Libanotis; Thapsia; seseli Æthiopicum;* the LESSER HERB FRANKINCENSE; LASERWORT; *laserpitium latifolium* Lin. Sp. Pl. 356; is a plant found in Switzerland, and on the Pyrenean mountains. The root is supposed to be alexipharmic and uterine; the seeds are somewhat acrid. It flowers in August.

LASSITU'DO, (from *lasso*, *to weary*). MUSCULAR DEBILITY.

LA'TA LIGAME'NTA. The BROAD LIGAMENTS of the womb are properly only a duplicature of the peritonæum, reflecting from the loins to the uterus, and are long enough to admit it to hang down into the vagina.

LA'TER, (from *latus*, *broad*). A BRICK. Bricks are heated and applied to various parts of the body, or on cataplasms, to continue their heat. An oil is made by quenching hot bricks in olive oil until the whole is imbibed, which is afterwards drawn off. This oil is named *oleum lateritium*, *philosophorum*, *sapientiæ*, *perfecti magisterii*, *divinum*, *benedictum;* but it is now deservedly neglected.

LATERA'LES MUSCULUS, (from *latus*, *a side*). See MASSETER.

LATERA'LIS MUSCULUS NA'SI. See OBLIQUUS NASI.

LATERA'LES PROCESSUS OSSIS SPHENOIDES. See SPHENOIDES OS.

LATERA'LIA, (from *latus*, *a side*). LIGAMENTA. On the body of the os humeri there are two particular ligaments, which may be called *lateral* or *intermuscular:* they are long, flat, thin, narrow, fixed on one edge along the two lower thirds of the bone, and reaching to both condyles. They are braced pretty tight, and are very narrow at the upper part, but broader towards the condyles, from whence they are expanded like a goose's foot, and form the brachio cubital and brachio radial ligaments.

LATERI'TIUM OLEUM. See LATER.

LATERI'TIUM SEDIMENTUM. A SEDIMENT IN THE URINE, resembling *brick dust*, observed after the crises of fevers, particularly intermittents; and the most certain mark of a salutary termination of a gouty paroxysm.

LATHY'RIS, (from λαθω, *to forget*, as affecting the memory). See CATAPUTIA MINOR, OCHRUS.

LATI'SSIMUS, *dorsi*, *musculus*, (from *latus*, *broad*). ANISCALPTOR, because it bends the arm backward. This muscle rises from the fascia lumborum at its lower part; and higher, from the sixth, seventh, or eighth vertebræ. At its anterior part, it rises from the ninth, tenth, eleventh, and twelfth ribs: its fibres run round the posterior and inferior angle of the scapula; and its tendon is inserted into the posterior ridge of the groove of the biceps.

LAUCA'NIA, (from λαυω, *to receive*). See ŒSOPHAGUS.

LAU'DANUM, (from *laus*, as worthy of praise,) generally confined to preparations of opium. See OPIUM.

LAURE'OLA FŒ'MINA, (a diminutive of *laurus*, *laurel;* which it resembles,) *mezerion*, *chamælæa*, *thymelæa folio deciduo*, MEZEREON, SPURGE OLIVE, WIDOW WAIL; *Daphne mezereum* Lin. Sp. Pl. 509; is a small tree, or bush, with pale purplish or white flowers, followed by bay shaped leaves; flowers in January; the berries, called *cocci cnidii*, ripen in August and September. This plant, especially when fresh, if retained in the mouth, and chewed a little, is so very acrid as to occasion violent heat and inflammation in the fauces and throat. The berries have the same effects, and when swallowed prove a most destructive poison. The bark and berries have been long applied externally, in different forms, to old and ill conditioned sores. The former is strongly recommended in France as an application to the skin, producing, by proper management, a serous discharge, without blistering, which may be continued as a perpetual blister, with less pain and inconvenience than the cantharides. It has been used as a seton in inflammations of the eyes. The recent bark, about three quarters of an inch broad, and one inch long, after macerating a little time in vinegar, is applied for this purpose to the skin; over which is placed an ivy or plantain leaf; and the application is renewed night and morning till it brings on a serous discharge. A renewal once in twenty-four hours is afterwards sufficient to continue it.

A decoction of the cortical part of the fresh roots is a powerful remedy in many venereal symptoms, especially when assisted by the hydrargyrus muriatus. The best grows in a light soil. An ounce of the fresh gathered bark must be boiled in twelve pints of water to eight; and at the end of the boiling an ounce of liquorice root added: of the strained liquor half a pint may be drunk four times a day. Dr. Russel strongly recommends the use of this decoction, particularly when nocturnal pains are violent in the syphilis; and for washing those nodes which proceed from a thickening of the membrane of the bones. See Lewis's Materia Medica; London Medical Observations and Inquiries, vol. iii. p. 189, &c.

It is said to cure the remains of the lues venerea, where mercury has failed. Dr. Cullen and Dr. Home found it not only cure scirrhous tumours, and obstinate ulcers, which remain after the venereal disease, but that it sometimes healed scirrhi from other causes. In cutaneous affections, in chronic rheumatisms, and palsy, it has sometimes been successful. In the case of a difficulty of swallowing, thought to be occasioned by a paralytic affection, Dr. Withering directed a thin slice of this root to be chewed as often as the woman could bear it. Though the complaint had been of three years standing, she was relieved within a few weeks.

LAURE'OLA MAS, *chamædaphne*, *eupetalon*, *thymelæa*, *laurifolia semper virens*, *daphnoides*, SPURGE LAUREL, *daphne laureola* Lin. Sp. Pl. 510; is a small shrub: its leaves are less than those of the laurel, and the flowers consist of one leaf, which is greenish, and appear in April; the berries open in September. The leaves, berries, and bark, are highly acrid, burning and inflaming the mouth: if swallowed, they vomit and purge. See Raii Historia; Lewis's Materia Medica.

LAURIFO'LIA MAGELLA'NICA, (from *laurus*, and *folium*, *a leaf;* because its leaves resemble those of the laurel). See WINTERANUS CORTEX.

LAURI'NUM OLEUM, (from *laurus*). See LAURUS VULGARIS.

LAU'RO-CAMPHORI'FERA, (from *laurus camphora*, and *fero*). The CAMPHOR BEARING LAUREL, or BAY TREE. See CAMPHORA.

LAU'RO-CERA'SUS, (from *laurus*, and *cerasus*, *cherry;* because it bears a cherry, and has leaves like the laurel,) *padus cerasus*, *cerasus avium nigra*, *cerasus racemosa fructu non eduli folio laurina*, or *trapezuntina*. BAY CHERRY, LAUREL CHERRY, or CHERRY BAY, *prunus lauro cerasus* Lin. Sp. Pl. 778.

The root of this tree or shrub is large, rough, and furnished with many fibres. The branches are woody, numerous, brown on the outside, and white within. The leaves are large, fleshy, oblong, shining, pointed at both ends, and slightly serrated at the edges: their upper surface is smooth, and of a light dark green colour; the under side is of a light green, rough, strongly marked with fibres. The flowers appear towards the superior part of the branches; are pentapetalous, in five leaved cups, followed by clusters of berries resembling cherries, and containing an oblong stone. It flowers in May, and ripens its fruit in September.

The leaves have a bitter taste, with a flavour resembling that of bitter almonds, or the kernels of peaches and apricots, which is communicated to water and alcohol by infusion or distillation. These preparations are so suddenly deleterious, either in the stomach or rectum, or applied to wounds, as sometimes to occasion instant death. Dr. Mead relates, that a few spoonfuls of laurel water killed a large dog before it could be supposed to have reached the stomach; and it acts by destroying the mobility of the nervous power without exciting inflammation, or producing any sensible change in the state of the fluids. Like all other powerful sedatives, it produces violent spasmodic motions of the whole body; though, when in a concentrated state, it is often immediately fatal without such previous symptoms.

As it evidently lessens or destroys the irritability of the nervous system, increasing at the same time, according to Wurtzer, the action, he thinks it useful in great nervous irritability, particularly where from this cause the heart is affected with palpitations.

On dissection, no uncommon appearances are observed in the stomach or intestines; the arteries are found empty, and the veins turgid with blood. The sinuses of the brain, and the veins of the pia mater, are distended; the effect rather of the convulsions than the particular properties of the poison. Less than two spoonfuls of the first runnings of the simple water of laurel leaves killed, within a short time, a healthy young woman, previously producing violent convulsions. Various have been the speculations respecting the action of this poison. It has been supposed to affect exclusively the vital functions, as it produces death independent of sleep; but the brain is the great source of every power, and we are not yet prepared to say, that different portions of it may be affected, to any considerable degree, without an affection of the whole; or that functions of any kind are connected with a determined part of the organ. The disputes, whether it coagulates or dissolves the blood, are still more trifling; for the extravasations observed are very certainly owing to a loss of tone in the vessels. It has been employed as a medicine in the cure of intermittents; in resolving scirrhous

tumours, and in phthisis pulmonalis; but neither its dose nor its powers are so properly ascertained as to enable us to speak of it with precision; and its deleterious effects are so striking, as to deter us from even the most cautious trial.

Although the poison of laurel appears to consist in the essential oil which it affords in distillation, yet it is suspected that an infusion of the leaves is also injurious. Even the flavour communicated in some galenical and culinary processes has been dreaded, though without reason. The mucilage dissolved with the essential oil seems a sufficient guard.

It hath been generally observed, that if the animals that had swallowed this poison vomited it up readily, they recovered; but its action seems too speedy on the human race to hope for relief by any means. See VENENUM; Wilmer on Poisonous Vegetables; and Cullen's Materia Medica.

LAU'RUS ALEXANDRI'NA, (from *laus, praise;* as it was the reward of victors). *Hippoglossum epiglossum, daphne, diglossum, epiglottis, ruscus latifolius, bonefacia, coracobotane gazar, uvularia; ruscus hippoglossum* Lin. Sp. Pl. 1474, LAUREL OF ALEXANDRIA. The root of this plant is knotted at the head; the stalks tough and pliant; the leaves placed alternately; on the middle of the back of each grows a small mossy flower, succeeded by a red berry. It grows in the mountainous part of Italy and Hungary, and is said to be diuretic.

LAU'RUS VULGA'RIS, *diahexapela diahexapte*, COMMON LAUREL, OR BAY TREE, *laurus nobilis* Lin. Sp. Pl. 529; is an evergreen, with oblong, stiff, smooth leaves, flowers of a palish yellow colour, followed by oblong dry berries, containing, under a thin black skin, an horny shell, within which are lodged two dark brownish seeds joined together. It is a native of the south of Europe, and common in our gardens. The flowers appear in April or May, the berries ripen in September; but those which are used in the shops are generally the fruit of the laurus Alexandrina, from the Mediterranean.

The leaves have a light agreeable smell, and a weak aromatic rough taste. In distillation with water they yield a small quantity of a very fragrant essential oil; and with rectified spirit a moderately warm pungent extract. They are, however, rarely employed except in an enema, and the decoctum pro fomento, Pharm. London; though sometimes the infusion is drunk as tea. The berries are stronger than the leaves, and yield more essential oil: the expressed oil is fluid and insipid; but when the berries are ripe and boiled in water they afford a thick oil of a yellowish green colour, the oil of bay, which is bitter, acrid, and an useful application in palsies, or nervous disorders. The oil of bay berries is called *daphnelæon* and *oleum laurinum*. The berries are an ingredient in the emplastrum cumini; and Bergius thinks them stomachic, resolvent, promoters of the menses, urine, and perspiration, recommending them, however, only in hysteria. They have long been thought to act with peculiar power on the uterine system, and improper to be used during pregnancy. The essential oil of the berries may be taken in doses of from one to five or six drops on sugar, mixed with mucilage, or in the spirit of wine.

LAU'RUS CA'SSIA. See FOLIUM.

LAU'RUS RO'SEA. See NERION.

LAVA'CRA, (from *lavo, to wash*). WASHES, designed to improve the skin.

LAVE'NDULA, (from *lavando washing;* because it was used in baths). LAVENDER, *stæchas*.

LAVE'NDULA LATIFO'LIA, *nardus Italica, spica mas, pseudonardus aspic*, COMMON BROAD LEAVED LAVENDER, OR SPIKE LAVENDER, *lavendula spica* Lin. Sp. Pl. 800. β, is a shrubby plant, with its leaves set in pairs, the stalks square while young, and round when old: on the tops of the branches are naked spikes of bluish, sometimes of white, flowers; and this species hath by much the larger spike, though the flowers are less. Of all the verticilated plants, this alone bears a spike, and from hence its trivial name is taken. It is common in the southern parts of Europe; stronger both in smell and taste than the narrow leaved; and by distillation yields near twice the quantity of essential oil, which is both heavier and more pungent than that from the other kind, but of a less pleasing flavour. The water and spirituous extracts from each sort are nearly alike.

In the south of France, where both species are indigenous, the broad leaved is only used for obtaining the oil called *oil of spike*, named *daveredon*, and *oil of aspic*, which, if genuine, is limpid, though sometimes yellowish. The flowers contain almost all the oil, and should be macerated some days before they are distilled. This oil is adulterated with oil of turpentine, and with rectified spirit of wine; but, if genuine, it dissolves sandarac, and copal; and is the best known solvent of amber.

LAVE'NDULA ANGUSTIFO'LIA, *spica fœmina*, and *vulgaris, pseudo nardus*, COMMON LAVENDER, SPIKE, OR NARROW LEAVED LAVENDER, *lavendula spica* Lin. Sp. Pl. 800. α. The leaves of this variety are very narrow and somewhat hoary; native in the southern parts of Europe, but growing in our gardens vigorously. The flowers appear in June or July, are very fragrant and agreeable, bitterish, and pungent; sometimes used as a mild stimulant and corroborant, in vertigos, palsies, tremors, and other debilities of the nervous system. Dr. Cullen assert that, both externally or internally, it is a powerful stimulant of the nervous system, chiefly exciting the nerves of the animal functions, seldom those of the vital. It will consequently be safer in palsies than the warmer aromatics, if not given in a spirituous menstruum, or with more heating aromatics.

Water extracts by infusion near all the virtue both of the flowers and leaves; but the flowers are greatly superior: they afford the most oil when ready to fall off spontaneously and the seeds to appear.

The essential oil when fresh, and from flowers in perfection, is of a pale yellow colour, of a pungent taste, very fragrant, and of the peculiar smell admired in the flowers. These may be separated from the plant by drying, and then gently beating them; they should be immediately committed to the still, and the process conducted with a gentle heat. The oil is given internally as a cordial, from one drop to five, and used as a stimulant in palsies, lethargies, and the various debilities of the nervous system, particularly of the animal functions. Murray forbids it when any danger from stimulating the sanguiferous system exists. If soft paper moistened with it is applied to any part infested

with cutaneous insects, as the pediculi inguinales, they will soon be destroyed.

Rectified spirit extracts the oil most completely, and in distillation carries some of the odoriferous part with it. The *simple spirit*, according to the London college, is prepared by adding a gallon of proof spirit to a pound and half of the fresh flowers, and distilling five pints. The formula for the *compound spirit* follows: ℞. spt. lavendulæ m. libras tres, rorismarin. m. ℔ i. corticis cinnamomi contusi, nucis moschatæ contusæ singulorum, p. unciam dimidiam; santali rubri, p. ʒ i. Digere per dies decem et cola. Ph. Lond. 1788. This used to be called the *English palsydrop*, or *English drop*. The dose is from ten drops to a tea spoonful. See Lewis's Materia Medica.

LAVAPRA'TAS. See Mamanga Frutex.

LA'VER, (from *lavo*, *to wash*, plants generally found in streams by which they are washed). A name for the *becabunga*, *sium*, *nasturtium aquaticum;* but more commonly applied in the west to the sea weed; *ulva umbilicalis* Lin. Sp. Pl. 1633. See Aliment.

LEVIPE'DIUM, (from *lavo*, *to wash*, and *pes*, *the foot*). See Pediluvium.

LA'XA CHIMO'LEA. A purging medicine, principally designed for the venereal disease. Paracelsus. Johnson says it is a salt which grows on stones, resembling in appearance the anatron, or usnea lapidea, *lichen chalybeiformis* Lin. Sp. Pl. 1623.

LAXA'TOR MEMBRA'NÆ TY'MPANI, (from *laxo*, *to relax*). This muscle arises from the upper part of the bone, above the membrana tympani, runs inward, and is inserted into the thick process of the malleus; *mallei musculus internus* Winslow.

Laxa'tor exte'rnus; *externus tympani auris;* rises in the upper sinus of the auditory passage, and is inserted in the membrana tympani, with a slender tendon to the malleus, drawing the membrane upward and outward.

LAZARETTO. See Pestis.

LA'ZARI MO'RBUS, or MA'LUM. The disease of Lazarus. See Elephantiasis.

LEAVEN, strictly speaking, is dough which has attained the acetous fermentation. It sometimes, however, means beer in a state of fermentation, when the air is entangled so as to form barm or yeast. See Fermentum.

LECHE'NEON. See Cerebrum.

LECTUA'LIS MO'RBUS, (from *lectus*, *a bed*). A disease which confines the patient to his bed.

LE'CTULI, (from *lectus*). Couches, stuffed with proper ingredients coarsely powdered, whose qualities were supposed to affect the patient laid on them.

LE'CTULUS. See Epithema.

LE'DON CRETE'NSE. See Ladanum.

LE'DUM PA'LUSTRE, Lin. Sp. Pl. 561; *cistus ledon*, *rosmarinum sylvestre*, marsh cistus, or wild rosemary, rises with a slender shrubby stalk about two feet high, dividing into many slender branches, garnished with narrow leaves, not much unlike those of the heath. The flowers are produced in small clusters at the end of the branches, shaped like those of the strawberry tree, but spreading wider at the top, of a reddish colour, and succeeded by seed vessels, filled with small seeds which ripen in autumn. It grows naturally upon bogs and mosses in many parts of Yorkshire, Cheshire, and Lancashire; hath a strong though fragrant smell, and is bitter to the taste. It is considered to be possessed of sedative powers, from its narcotic and inebriating qualities; and has been said, without any previous evacuation by emetics, and purgatives, alone to cure the dysentery. See Linnæi Materia Medica, and Richter's Observations.

LEGUMINO'SA. See Fabago.

LEGU'MEN, (from *lego*, *to gather*, usually gathered by the hand). The seeds of the leguminous plants are called *pulse*, as pease, beans, &c. Ray calls all those plants *leguminous* which have a papilionaceous flower. See Farinacea.

LEIO'PODES, (from λειος, *plain*, and πους, *a foot*). Even footed; *plancus*, splay foot. Those the soles of whose feet are without the usual hollow part.

LEIPHÆ'MOI, (from λειπω, *to be deficient*, and αιμα, *blood*). Those who have too little blood.

LEIPODE'RMOS, (from λειπω, and δερμα, *the skin*). See Preputium.

LEIPOPSY'CHIA, (from λειπω, and ψυχη, *the soul or life*). A fainting fit, languor; synonymous with adynamia.

LEIPOTHY'MIA, (from λειπω, and θυμος, *the mind*). A fainting fit, a swooning. See Lipothymia.

LEIPY'RIA, (from λειπω, *to leave*, and πυρ, *heat*). A dangerous species of tertian, in which the internal are scorched, whilst the external parts are cold.

LEMNIA TE'RRA. Earth of Lemnos, the dried pulp of the adansonia baobab. See Baobab.

LE'MPNIAS CA'LCIS. Scales of brass, which separate when beat with a hammer.

LE'NOS, (from λεαινω, *to bruise*). Hollow troughs where grapes are bruised. In surgery, a channel or excavation, made in some machines for extending and reducing fractured bones. Hippocrates. See Cerebrum.

LENS, (*à lentore*, *viscidity*, from their glutinous quality). Lentils, *phace*, or *phæcos*, are shaped like tares, but less, and are a flatulent indigestible food; *ervum lens* Lin. Sp. Pl. 1039. It is not now used in medicine. Lens is also the appellation of the crystalline humour of the eye, so denominated from its shape. See Oculus.

LE'NTA FE'BRIS. Slow fever. See Hectica.

LENTI'CULARIA, (from *lenticula*, *a lentil*). See Millefolium.

LENTI'CULÆ, LENTI'GENES, (dim. from *lens*). A smaller species of lentils, and freckles on the face or breast. See Ephelides, Effila, and also Petechia.

LENTI'CULA PALU'STRIS. Duck meat, *lens palustris*, *aquatica*, *lenticularia minor*, *lemna minor* Lin. Sp. Pl. 1376; grows on the surface of stagnant water, and is in appearance simple and foliaceous; its roots slender, capillaceous, and pellucid. Externally it is supposed to be cooling.

LENTI'CULA PALU'STRIS MA'JOR, and AQUA'MICA TRISU'LCA; *hederula aquatica*, *lemna trisulca* Lin. Sp. Pl. 1376; its qualities are similar to the former.

LENTICULA'RE. A lenticular; a rugine.

LENTICULA'RE OS, (from *lenticula*, *lentil*). A name of the fourth bone in the first row of the wrist; *os orbiculare*, and *pisiforme*.

The os lenticulare, or orbiculare, of the ear, Dr. Hunter thinks, is part of the incus, as its extremities stand upon a narrow neck, and are soon broken off: in the adult it is one continued bone with the incus.

LENTICULA'RES, GLA'NDULÆ, (from the same,) small glands of the intestines, so called from their size. See PETECHIÆ.

LENTI'GINES, (from *lens*, *a lentil*). FRECKLES. See EPHELIDES.

LENTI'SCUS, (from *lentisco*, from the clamminess of its juice). *Mastiche;* the LENTISK or MASTICH TREE, *pistachia lentiscus* Lin. Sp. Pl. 1455, is an evergreen, with soft branches hanging downwards, and small stiff leaves pointed at both ends. Some trees produce reddish flowers, others blackish berries with white kernels: each is a native in the southern parts of Europe, but bear the usual winters of our climate. We chiefly receive it from Aleppo and Smyrna, but in Turkey, where it grows, plantations are made for the sake of the resinous gum, called *mastich;* though the Indian mastic is called *moll.* It is obtained from incisions made in the trunks, and flows in drops in August. The wood is sometimes brought from Marseilles, in thick knotty pieces, covered with a brownish bark; internally of a whitish or a pale yellowish colour.

The wood is mildly balsamic and astringent; the small tough sprigs are stronger than the larger ones, and the bark is more so than either. No part is of much value in medicine; though a decoction of the wood hath obtained the name of *aurum potabile.* The wood itself has been highly extolled in dyspepsia, gout, hæmorrhages, and dysentery. The resin, usually called *gum mastich*, by means of gum arabic, is rendered miscible with water, and supposed to possess the virtues of turpentine, and is sometimes used as a masticatory. See Lewis's Materia Medica; Neumann's Chemical Works.

LENTI'SCUS FOLIIS SPINOSIS, FLORE SPICATO, &c. See BONDUCH INDORUM.

LE'NTOR, (from *lentus*, *viscid*). A VISCIDITY or SIZINESS; in the humoral pathology, the supposed source of many diseases. See MORBI FLUIDORUM.

LE'O, (from the Hebrew *levia*). The LION, the name of several preparations of the Spagirists, of the leprosy, &c.

LEONI'NA LE'PRA, or LEONTIA'SIS, or LEO'NTION, (from *leo*, *the lion*, because lions are said to be subject to it). A variety of the ELEPHANTIASIS.

LEO'NIS OS and O'RA SÆ'VA; from its prickly mouth. See ANTIRRHINUM.

LEO'NTICE VE'TERUM. See CACALIA.

LEO'NTODON, (from λεων, *the lion*, and οδους, *a tooth*). See DENS LEONIS.

LEONTOPO'DIUM, (from λεων, and πους, *a foot*, from its supposed resemblance,) *filago Alpina*, *leontopodium majus*, *gnaphalium Alpinum*, LION'S FOOT, *filago leontipodium* Lin. Sp. Pl. 1312, grows on hills, and flowers in July. The bruised roots were once famed for removing the blackness of bruises in the skin.

LEONU'RUS, (from λεων, *a lion*, and ουρα, *a tail*). See CARDIACA.

LEPIDI'UM, (from λεπις, *a scale;* from its use in cleansing the skin from scales). *Piperitis*, *raphanus sylvestris*, *iberis*, *Dionysius*, POOR MAN'S PEPPER, PEPPER WORT, DITTANDER, *lepidium latifolium* Lin. Sp. Pl. 899, is a plant with undivided leaves, small white flowers on the tops of the stalks, followed by heart shaped pods; perennial, growing wild on the sides of rivers and shady places: it flowers in June and July. The whole plant is pungent like pepper.

LEPIDI'UM A'RABIS. See DRABA.

LEPIDI'UM GRAMI'NEO FOLIO, *Iberis cardamantica*, *agriocardimum.* SCIATICA CRESSES; *lepidium iberis* Lin. Sp. Pl. 900. This species hath long narrow leaves; the lower of which are on long pedicles and serrated; the upper entire, without pedicles; annual, and raised in our gardens for culinary use.

All these plants, when fresh gathered, have a quick, penetrating, pungent taste, though almost dissipated in drying; it is retained in the expressed juice; extracted by water and by spirit; and rises with both in distillation. In external applications they have been used against the sciatica; internally in intermittents, chronic rheumatism, and palsy.

LEPIDI'UM MONSPELLIACUM. See PLUMBAGO.

LEPIDOCARPODE'NDRON, (from λεπις, *scale*, καρπος, *fruit*, and δενδρον, *a tree*, because its calyx is scaly). All the species are natives of the Cape of Good Hope, near Table Mountain, and arranged by Linnæus under the genus *leucandron;* but neither seems entitled to attention in a medicinal view; so that we need not distinguish them more minutely.

LEPIDOI'DES SUTU'RA, (from λεπις, *a scale*, and ειδος, *likeness*). See SUTURÆ.

LEPIDOSARCO'MA, (λεπις, *a scale*, and σαρξ, *flesh*). A sarcomatous and scaly tumour of the mouth. Severinus.

LEPORI'NA LA'BRA. See LABIA LEPORINA.

LEPORI'NUM RO'STRUM, (from *lepus*, and *rostrum*, *a beak*). The piece of flesh often seen between the divisions of the hare lip.

LE'PRA, (from λεπις, *a scale*). The LEPROSY. See ALPHUS.

The leprosy is a chronical disease; in warm climates infectious, but not evidently so in cold countries; though its infectious nature was formerly suspected, and the unhappy victims separated in distinct establishments from the rest of mankind. Dr. Cullen places this disease in the class *cachexiæ*, and order *impetigines;* defining it the skin rough, with white, furfuraceous, chapped eschars, sometimes moist underneath, and pruriginous. Of the only species known, Sauvages notes six varieties; but the *lepra Græcorum* and the *lepra ichthyosis* only occur in this country.

The leprosy of the Greeks has been very often confounded with the lepra Arabum, which, however, is a very different disease, and already noticed in the article ELEPHANTIASIS, q. v. The latter appears to be rather a disease of the constitution, and affects the hair, not only of the head, but over the whole body; attended with deep ulcerations, loss of sensation in the swollen parts, and fœtid sweats. The lepra, on the contrary, seems to be an affection of the cutis vera only, whose papulæ are either enlarged, or tumours of a different nature are formed on it, which press outwards on the cuticle, and occasion scaly indurations on the surface.

The first appearance of leprosy is discovered by reddish shining elevations on the skin, often on those parts where the bone is covered only by the integuments, as the skin, on the outside of the fore arm. A thin white scale is soon formed on the top of these elevations, which quickly flatten, while their bases enlarge. The enlargement of their bases continues; but the separate patches constantly preserve a roundish form, though, when they approach and unite, it is generally elliptical. When the scales either fall off by the rubbing of the linen, or are separated by violence, they are soon reproduced; but the surface below appears red and wrinkled, though the rugæ do not resemble those of the cuticle, nor are they continuations of the furrows in the contiguous sound surface. Lepra does not appear to be peculiarly the disease of the hairy scalp, though we have generally found traces of it in this part of the body, when it has before appeared on the surface. At the edge of the hair on the forehead it often first attacks, though more frequently the leg, just below the knee, or the fore arm, rising gradually to the trunk.

The stiffness of the skin is troublesome, and the itching, which is extremely distressing in hot climates, is, even in these, troublesome while the patient is warm in bed; but the general health seems in no respect affected, and nature, without assistance, will not relieve. The signs of amendment are the diminution of the ridge round the patch, the scales not reproduced when rubbed off, and the appearance of a red more natural cuticle in the centre. All the patches at the same time begin to assume a more healthy look.

The lepra is said to be hereditary. We own that we have not found it so; but Dr. Willan thinks a predisposition to it may be transmitted from parents. In more than one family where there was this *tendency*, those in whom it appeared on the surface, and who were relieved by medicine, lived long afterwards in a healthy state, while those in whom it did not appear, died young, apparently consumptive. In a constitution of this kind we once observed the phthisis from calculus. The diseases, however, in these cases, were not, perhaps, strictly leprous, though nearly resembling it. In one instance mania supervened on the disappearance of a true leprosy.

Dr. Willan thinks that a slow pulse, or a languid circulation, with what may be expected to attend them, a deficiency of perspiration, constitutes a fundamental part of the predisposition. We cannot say that we have seen the disease most frequently in such constitutions, nor does our recollection furnish any particular habits in which it has appeared most frequent. An indulgence in spirituous liquors has appeared a remote cause; but we have not seen any peculiar diet contribute to it. Those who work among dry powders are said to be subject to it; but we have only seen what resembles it in those who follow one occupation of this kind, viz. millers. Wheat, when ground, rapidly absorbs moisture, and every part of a miller's house is dry. The hands of the labourers are consequently often chopped, sometimes covered with eruptions; but the disease seemingly differs from true lepra. Bricklayers' labourers suffer from lime, and laboratory men from acids; in neither, however, is this disease peculiarly prevalent.

Lepra is a complaint of singular obstinacy, and often resists the best concerted plans. As it appears not to be influenced by diet or situation, and not to be hereditary, it may seem to be merely local; and the ancient physicians, after bleeding and purging, applied the most acrid substances from the animal, vegetable, and mineral kingdom, to cure it. These undoubtedly remove the scales, but they are soon reproduced; for the cause is beyond the reach of applications to the surface only. When internal medicines have in part removed the cause, liniments of tar, sometimes with sulphur, at others with kali, or alum, are often useful. The warm bath is a pleasant and salutary application, whose effects extend beyond the surface; but which also relax the hardened scales, and immediately remove part of the inconvenience, the stiffness. The sulphur waters of Harrowgate and Moffat combine both views, and are highly useful. The Harrowgate water may be easily imitated for this purpose by uniting the hepar sulphuris with sea salt.

The bath waters combine the good effects of a warm bath with an internal medicine which excites the action of the extreme vessels, an object of considerable importance in the cure of lepra. The minutes of the Bath hospital, on this subject, published by Dr. Falconer, give a very favourable prospect of its advantages. Sea water, used as a bath, both warm and cold, has been equally useful, especially if, like the Bath waters, it is taken internally. Other external preparations have been chiefly mercurial, as a solution of the hydrargyrus muriatus, and the unguentum, hydrargyri nitrati of the London Dispensatory. Dr. Willan does not think these applications preferable to the tar ointment.

Though it is admitted that the lepra is most commonly a topical disease, yet, from the thickness of the scales, and from the chief seat being in the cutis vera, topical remedies alone scarcely affect it. Medicines, therefore, which excite the action of the cutaneous vessels are chiefly of service. The principal of these is mercury and antimony. The most powerful mercurial is undoubtedly the hydrargyrus muriatus, which often succeeds. It is the active ingredient of Spilsbury's drops, which are highly celebrated; and the same remedy would be more celebrated in regular practice, could the scientific physician condescend to adopt the pompous boasts of the empiric, or was the same confidence placed in the man of experience and judgment, as in the pretending illiterate quack. Other mercurials are also useful, but perhaps not in an equal degree. Antimonials alone will not cure the complaint; but with calomel, as in the pill of Dr. Plummer, they will often succeed, if the calomel be not triturated too long with the sulphur auratum. We have usually directed it to be added to the mass, after the other ingredients were united. The advantages of these medicines are assisted by the warm diaphoretics of the vegetable kingdom, as the mezereon, the elm bark, the sarsaparilla, the guaiacum, and sassafras. We place them in the order of their activity, for the mezereon is most effectual; but combining them, as in the Lisbon diet drink, renders them more useful.

The mineral acids have lately succeeded in removing slighter kinds of this disease, and we think we have found them more effectual than the aqua kali puri recommended by Dr. Willan. The tincture of cantharides is better adapted to relieve tettery eruptions than lepra; in the latter we believe it very generally fails. Every plan of cure we have found greatly assisted by a

milk and vegetable diet, interposing, every two or three days, a purgative of neutral salts. This method also most effectually prevents a relapse.

We need scarcely mention many other remedies recommended for this purpose, as the water dock, if this be really the herba Britannica; the dulcamara, which seems to have succeeded with Dr. Crichton; the cucumbers, recommended by Willis; the roots of hellebore, particularly the black hellebore, used by the ancients, and particularly noticed by Oribasius. The flesh of vipers, or of chicken nourished by it, will scarcely at this time be trusted, though highly commended by the same author.

See Aretæus, iv. 13; Lorry de Morbis Cutaneis; Mercurialis de Morbis Cutis; Falconer in the Memoirs of the Medical Society of London; London Medical Transactions, vol. i. and ii.; Medical Observations and Inquiries, vol. i. p. 201; London Medical Journal, vol. i p. 94; Willan on the Diseases of the Skin, order ii. vol. i. p. 112, &c.

Le'pra A'rabum; usually considered as synonymous with the Elephantiasis, q. v. See also Lepra.

Le'pra Græco'rum, *alba*, *nigra*, and *impetigo* of Celsus. See Lepra.

Le'pra ichthyosis. Fishy leprosy; *albaras nigra* of Avicenna. This term is often applied by Avicenna to elephantiasis, and we think, with Dr. Willan, that the albaras nigra of the Arabians, and the black morphea of the Greeks, are varieties only of elephantiasis. See Alphos.

The lepra ichthyosis is a more general affection of the whole skin, while the lepra græcorum appears in patches. The name is derived from the imbricated situation of the scales, which resemble those of a fish; but round the elbow and knee they are round, prominent, and small. The neck of the scales is small, but they are flatter as they rise, and often very hard and sharp, rendering the parts hard and brittle. On the inside of the arms and thighs, in the bending of the knees and elbows, and wherever the skin is thin, there are no scales. The scales are sometimes intersected with white furrows, and the surface is often broken by inflamed and painful boils.

If the scales are picked off in warm water they do not again return, but the skin beneath is dry and hard. It must, however, be often moistened, and rubbed as much as it will bear without pain. A disease of this kind is described in the fourteenth volume of the Philosophical Transactions (Shaw's Abridgement, iii. 43,) in a letter from the famous Lewenhoeck, and another in the thirty-seventh volume (Abr. vii. 543). The sequel of this last case is given in the forty-ninth volume, and the disease there appears to be hereditary. A complaint so closely interwoven with the texture of the skin would be probably intractable; and the only method of relief is that mentioned, viz. drawing out the scales after maceration in warm water. Mercury has been tried without success. A less degree of this complaint occurs in worn out constitutions, in anasarca, &c. where it appears to be only an enlargement and thickening of the natural scales of which the cuticle consists.

Le'pra nigricans differs from the Lepra græcorum, q. v. in colour, and in appearing as a disease more strictly connected with the constitution. The spots are smaller in size, the border livid, and the incrustations, which are thin, seem to derive their hue from the lividness of the skin below. When the scales are removed they are not so soon restored, and the discharge is bloody. It affects persons exposed to great fatigue, in damp situations, and has been considered as the true lepra in constitutions where the blood is greatly dissolved. The remedies of lepra are useless or injurious; and bark, mineral acids, with sea bathing, contribute to the cure. The *black scurvy of the West Indies* seems to be the same disease, though like this, allied to elephantiasis, since a numbness is felt in the fingers and toes, the voice is hoarse, and fever supervenes.

LEPTOPHO'NIA, (from λεπτος, *slender*, and φωνη, *the voice*). See Paraphonia.

LEPTOPI'TYRON, (from λεπτος, *thin*, and πιτυρον, *bran*). See Furfur.

LE'ROS, (from λεραω, *to trifle*). See Delirium.

LESE'OLI MO'RBUS. See Icterus.

LESE'OLUS. A diaphanous salt, which cures the jaundice. Paracelsus.

LETHA'RGUS, (from λαθη, *forgetfulness*, and αργος, *slothful*). Lethargy; *veternus*. See Caros and Apoplexia.

LEUCA'NTHEMUM, (from λευκος, and ανθεμις, as it only differs from the chrysanthemum in the white floret). A name also for the common and other species of camomile. See Chamæmelum.

Leuca'nthemum be'llidis fa'cie. See Bellis major.

Leuca'nthemum Canarie'nse; *chamæmelum Canariense*. The effects are the same as those of the pellitory root, if chewed.

LEUCA'NTHE VE'TERUM, (from λευκος, *white*, and ακανθα, *a thorn*). See Calcitrapa officinalis.

LEU'CAS MONTA'NA. See Lamium luteum.

LEU'CE, (from λευκος, *white*). See Alphus.

LEUCOI'UM, (from λευκος, *white*, and ιον, *a violet*). See Cheiri, and Bulbonach.

LEUCOLA'CHANON, (from λευκος, *white*, and λαχανον, *a herb*). See Valeriana sylvestris.

LEUCO'MA, (from λευκος, *white*). See Albugo.

Leuco'ma nephe'lium. See Achlys.

LEUCONYMPHÆ'A, (from λευκος, *white*, and νυμφαια, *water lily*). See Nymphæa.

LEUCOPHLEGMA'TIA, (from λευκος, *white*, and φλεγμα, *phlegm*). In leucophlegmatia, Aretæus observes, the flesh is not wasted as in anasarca, and it is more easily cured: indeed it is only the beginning of anasarca. Sometimes this word signifies an *emphysema*.

LEUCOPI'PER, (from λευκος, *white*, and πιπερις, *pepper*). See Piper album.

LEUCORRHŒ'A, and LEUCO'RRHOIS, (from λευκος, *white*, and ῥεω, *to flow*). See Fluor Albus.

Since that article was printed, we find cantharides proposed as a remedy for this disease, in consequence of its resemblance to gleet. It was given, it is said, by Greenfield with success; and, indeed, a topical stimulant may be occasionally useful. The balsam. copaiba is probably no more.

LEVA'TOR, (from *levo*, *to lift up*). The name is given to many muscles, whose office it is to elevate different parts into which they are inserted, viz.

Leva'tor pala'ti mo'llis, rises from the basis of the skull, near the articulation of the lower jaw, runs

down the fauces, passes inwards and forwards, spreads itself on the palatum molle, and goes to the uvula.

LEVA'TOR PA'LPEBRÆ SUPERIO'RIS, ELEVA'TOR, *aperiens palpebrarum rectus*, named from its straight progress and use by Fallopius and Douglas. It arises on each side from the bottom of the orbit by a small tendon, and as the fleshy fibres of the muscle pass over the globe of the eye, they gradually spread, and afterwards terminate by a broad tendinous expansion on the superior part of the tarsus belonging to the upper lid.

LEVA'TOR SCA'PULÆ, *levator proprius* of Winslow; *musculus angularis, seu patientiæ musculus* is divided at its origin into four little muscles, from the transverse processes of the four superior cervical vertebræ. The branches join, and form one muscle on each side, inserted into the bases of the respective scapulæ above the spine.

LEVATO'RES ANI, and ELEVA'TORES, rise with a broad base from the symphysis of the os pubis, the internal part of the ileum, the membrane of the obturator internus and coccygæus, and the sharp process of the ischium, directing their course downwards as to a centre, and blending part of their fibres with those of the sphincter, the acceleratores urinæ, and the anterior part of the extremity of the coccyx, surrounding the prostate gland, the vesiculæ seminales, and the neck of the bladder, which they contribute to support. They contribute to expel the fæces; but do not, as is generally supposed, very powerfully compress the vesiculæ seminales in coition.

LEVA'TORES COMMU'NES LABIO'RUM, *elevatores labiorum*, rise from the cavity under the os jugale, in the os maxillare, and are inserted, with the zygomaticus major and others, into the angle of the lips, on each side.

LEVATO'RES COSTARUM, *supracostales*, rise from the transverse processes of the vertebræ, and are inserted into the ribs: they are divided into the longiores and the breviores. The latter rise from the transverse processes, and are inserted into the next rib; the longiores run over one rib, and are inserted into the next.

LEVATO'RES LA'BII INFERIO'RIS, ELEVATO'RES, *par mentale, incisivus inferior* of Winslow, and *levator menti* of Albinus, rise from the sockets of the incisores and are inserted into the lower lip.

LEVATO'RES LA'BII SUPERIO'RIS, ELEVA'TORES, rise from the os maxillare, and descend obliquely under the skin of the upper lip, orbicularis muscle, and the outer part of the alæ nasi.

LEVIGA'TIO, (from *levis, light*). The pharmaceutical operation, by which hard substances are reduced to an impalpable powder; but unless the instrument is very hard, as much of the stone as of the medicine may be discovered in it. In many instances the substances are levigated with water, and suffered to dry on chalk; sometimes the fine powder is separated, after levigation, by washing. If the whole is agitated in water, the coarser parts will subside, while the finer ones may be poured off with the fluid, and will subside after a longer rest. Thus the powder may be obtained of any degree of fineness, according to the time suffered to elapse before the water is first poured off. We observe, however, in the Encyclopedia Britannica, a very convenient instrument called a *fanner*, which separates the finer powder by a blast of air, on the same principle as the machine for winnowing corn acts, but know not how it really succeeds in practice, so that we shall not fill our page with the description.

LEVI'STICUM, (from *levo, to assuage;* from its relieving painful flatulencies). *Ligusticum, angelica montana perennis.* COMMON LOVAGE; *ligusticum levisticum* Lin. Sp. Pl. 359; is a tall umbelliferous plant, with leaves divided like those of smallage; the root thick, fleshy, juicy, branched, and of a brown colour outwardly; a native of the south of Europe. It is perennial, flowers in June, and its seeds are ripe in August. This plant hath a strong and peculiarly ungrateful smell: to the taste it is warm and aromatic, resembling angelica, but less agreeable; and its yellowish gummy resinous juice much resembles opoponax.

The seeds are warm and pungent, of a more agreeable flavour; the roots sweetish, and more pleasant than the leaves; its essential oil is in a small proportion, and an extract made with rectified spirit retains both the aroma and the sweetness. Lovage is similar to angelica and masterwort, as a carminative, sudorific, and deobstruent, and might be a good substitute for either, had we not more effectual medicines in the galbanum and asafœtida. The leaves, eaten as salad, are accounted emmenagogue. See Raii Historia; Lewis's Materia Medica.

LE'VITAS INTESTINO'RUM, (from the food passing quickly). See LIENTERIA.

LIBANO'TIS, (from λιβανος, *frankincense*). *Cachrys, cachrysea*, FENNEL HERB, FRANKINCENSE, *athamanta libanotis* Lin. Sp. Pl. 351, more probably *laserpitium ferulaceum* Lin. 358, grows on mountains in Italy and Sicily, and flowers in May. It is also a name for several sorts of *laserpitium, ferula glauco folio, ferula minor, rosmarinus, oreoselinum opii*, and several other plants.

LI'BERANS A'QUA. See CALCIS AQUA MAJUS COMPOSITA.

LIBI'DO. See PRURITIS.

LI'BRA, (from λιτρα, *a pound*). See PONDUS.

LICHA'NDOS, (from λειχω, *to lick;* because used in the action of licking). FORE FINGER. See INDEX.

LI'CHEN, (from λειχω, *lambo, quia lambendo serpant,*) a cutaneous disease called *lichen*, from its resemblance to the spots scattered over the tuberculated lichen. It is a papulous eruption, sometimes rising into tumours of a more considerable size; but in its milder forms rather a deformity than a disease. The term has been variously applied, and the eruption confounded with herpes, scabies, impetigo, &c. The confusion is of little consequence, since the complaint is usually trifling; and we may define it, with Dr. Willan, an extensive eruption of papulæ affecting adults, connected with internal disorder, usually terminating with scurf, recurrent, not contagious. This genus he divides into five species, the *lichen simplex, agrius, pilaris, lividus*, and *tropicus*. The first commences with slight feverish symptoms, which in a few days are relieved by distinct red papulæ about the cheeks and chin, or on the arms; and in three or four days the same appearances take place on the neck, body, and lower extremities, accompanied with an unpleasant sensation of tingling, aggravated during the night. The eruption fades in about a week, and the whole surface is covered with large scurfy exfoliations, which continue longest in the flexure of the joints. The period of its termination

is seldom the same in any two cases; and on different parts of the surface of the body there is some difference in the form of the papulæ. On the face they are large, rounded, often forming small tubercles like vari; on the neck, breast, and extremities, they are most distinct and acuminated; and on the hands they resemble obscure watery pustules, which exfoliate without any discharge of fluid. This disease most commonly affects persons of a weak irritable habit, and occurs about the beginning of summer or autumn, sometimes general, at others partial, occasionally disappearing or returning without leaving any scurf, and often without any previous fever. A light cooling diet, or if necessary, some easy laxative, is only necessary. Sometimes the simple lichen is chronical, and then styled *scurvy;* sometimes critical, and called *scabies critica*. It sometimes terminates in a dry tetter.

The *l. agrius*, from *αγριος*, *immanis*, is preceded by a fever approaching the typhus. The eruptions are of a deep dark red, with an inflamed basis, itching and tingling after any stimulating food and drink, or in the warmth of the bed. In the morning the uneasiness is inconsiderable. Straw coloured pustules are occasionally intermixed, and by the continuance of the complaint the skin is thickened, chapped, and painful. The pustules are usually confined to the upper part of the body.

Its continuance is uncertain, and it sometimes appears and disappears; but if repelled, general constitutional disorder follows. If any wound is made by scratching, it is with difficulty healed, and the disease sometimes terminates in an ulcerated psora. This species differs from the former in the nature of the fever, the greater violence and obstinacy of the complaint. It is exasperated by mercurials, though calomel has been recommended in the beginning as a laxative; and the best medicines are the bark, with the mineral acids. We know not that a perpetual blister or an issue has been tried; but it appears a probable means of relief. The itching is best relieved by the spittle or a little rose pomatum.

The *lichen pilaris* is the lichen simplex, affecting chiefly, or exclusively, the roots of the hair, and from around the hair exfoliations take place. It differs in no respect from the first species.

The *lichen lividus* seems little different from petechiæ, with which they are often mixed, and the disease chiefly confined to the poor, whose diet is frequently unalimentary; it is best relieved by the bark and mineral acids. No fever precedes. Papular eruptions, resembling the lichen lividus, sometimes occur among the secondary appearances of lues; but in this last the papulæ are smaller, more numerous, more generally diffused; their points are, after some time, depressed; they do not disappear and return, but occasionally terminate in a foul ulcer.

The *lichen tropicus* is the prickly heat of tropical climates, resembling the papulæ produced by sweating in the more temperate. It appears without any preceding disorders of the constitution; but the papulæ, about the size of a small pin's head, are numerous, of a vivid red, and elevated so as to produce a considerable roughness in the skin; but no redness or inflammation surrounds them. The eruption is chiefly confined to those parts of the body which are usually covered, and sometimes appears on the forehead contiguous to the hair, though never on the palms of the hands, the soles of the feet, or on the hairy scalp: flannel, or warm clothing, increases the number of the papulæ. Small pearly pustules, containing a limpid fluid, are often intermixed with the prickly heat, when perspiration is very copious, more especially on the breasts and about the wrists. They have no disposition to ulcerate, though violently scratched, but terminate in scales. A troublesome itching attends the prickly heat, and prevents sleeping during the night, with an acute sensation of pricking, which often also takes place suddenly after drinking any warm liquor. The eruption is sometimes stationary, appearing equally vivid in the day and night; sometimes quickly disappearing and returning, without any obvious cause; but whenever it continues for any length of time, the papulæ throw off minute scales, and are succeeded by a fresh crop, without leaving any vestiges on the skin. Persons of a fair complexion, with red hair, and a soft skin, are more liable to this eruption, and have it in the greatest quantity. Those of dark complexions have it slightly, or remain free from it. As the prickly heat is considered to be a salutary eruption, no attempts should be made for its repulsion. Its sudden disappearance is rather the effect of internal disorder than a cause, and occasioned by fever, or any slight complaint of the stomach: in the latter case a stimulus applied to that organ, as spirits, or warm liquids, reproduces it. Its appearance on the skin of persons in a state of convalescence is always a favourable sign. To alleviate the itching and tingling of the prickly heat, a light and cool dress, and avoiding warm liquors, have been found most serviceable.

A vivid eruption of papulæ, somewhat analogous to the prickly heat, appears in our own climate, on the arms, hands, face, and neck of labourers, and other persons who use violent exercise during the hot months of summer. It produces a sensation of tingling, a smarting rather than of itching, and disappears in a short time without any particular consequences. See Willan on Cutaneous Diseases.

In veterinary medicine the term lichen is applied to a species of leprosy and warts which grow on horses' legs.

In botany it is called *liverwort*, and is a floriferous and seminiferous moss, whose flowery little heads are furnished with many grains, variously shaped, producing as they ripen several little monopetalous flowers. The seeds, which are small, flat, and orbicular, are contained in some peculiar open capsules, resting upon the plane of the leaves, and are sometimes found in the same plant that bears the little heads, sometimes in other plants of the same species. Besides these flowery heads, in some species there are umbellated heads of different figures, which produce neither flower nor seed. The pedicles of both species are for the most part naked, and proceed from no vagina. The leaves are of an herbaceous consistence, and of an indeterminate figure, widely spreading, and running out into various roots from their back part. Every plant under the name of lichen is warm and astringent; and this term is applied to the *muscus pyxidatus*, *hepatica vulgaris*, &c. besides the succeeding.

LI'CHEN ARBO'REUS PU'LLUS, *muscus crustæ*. TREE LIVERWORT, *lichen plicatus* Lin. Sp. Pl. 1622, grows on trees, and is used instead of the pulmonaria arborea. It is astringent, and chiefly used in pulmonary hæmorrhages.

LI'CHEN CINE'REUS. ASH COLOURED GROUND LIVERWORT; *lichen caninus* Lin. Sp. Pl. 1616. It consists of roundish thick leaves, divided about the edges into obtuse segments, flat above, of a reticular texture below, fastened to the earth by small fibres, of an ash grey colour, by age turning darker or reddish. It grows on commons and open heaths, spreads quickly on the ground, and is found at all times of the year, but supposed to be most active from the end of autumn to the winter. A powder, called *pulvis antilyssus*, used to be formed of two parts of this moss, and one of black pepper: ʒi. ss. in half a pint of cow's milk, for four mornings successively, was to be taken fasting. (See HYDROPHOBIA.) It has now fallen into disrepute; and does not appear to be possessed of any useful degree of medicinal virtue.

LI'CHEN ISLA'NDICUS, Lin. Sp. Pl. 1611; *lichen terrestris; lichenoides;* and *rigidum;* ERYNGO LEAVED, EATABLE, ICELAND LICHEN, is a native of Britain, and grows both in Scotland and Wales. It is foliaceous, erect, large; leaves crowded, connected, about two inches high, stiff when dry, but soft and pliant when moist: they are variously divided, without order, into broad distinct segments, turned in at the edges, and fringed with short strong bristles; the upper surface is smooth, concave, shining, of a pale green, or chestnut colour, but red at the base; the under is smooth and whitish, a little pitted and sprinkled with very minute black warts: the fructifications are large, of a reddish colour, and placed on the lobes of the leaves. This plant is extremely mucilaginous, has a bitter and somewhat astringent taste, and is considered as a laxative and an anthelmintic in its recent state: but its bitterness and aperient quality are in a great measure destroyed by drying, or a slight infusion. The Icelanders make a flour of it, called *fialgras*, either by first washing and cutting the plant into small pieces, or by drying it, putting it into a bag, which is well beaten, and working it into flour by stamping. This is tolerably agreeable and grateful food. As a medicine, Scopoli and Haller recommend it in coughs and consumptions; and it has proved efficacious in dysentery and diarrhœa. Dr. Hertz found it so successful in dysentery, that after the repeated administration of emetics and cathartics he seldom used any other medicine, to which he occasionally added opium. Dr. Crichton recommends it in *phthisis* attended with hæmoptoe and pituitous or mucous discharges; and thinks he has found it of considerable service. It is given in decoction, made by boiling one ounce and an half in a quart of milk, over a slow fire, exactly a quarter of an hour. The dose is about a pint in the day. If the milk disagrees, water may be used. This medicine has lately become fashionable; but we have only found it a mild nutrient. The bitter is apparently of the narcotic kind, and at times is cold and heavy on the stomach. If this is taken away by a slight previous infusion, a mucilaginous, or rather a farinaceous matter, only remains, without apparently any distinguishing property. At Berlin it seems to have been used with differentsuccess. M. J. C. Fritze thinks it a valuable medicine, even when purulent matter is expectorated; and he added to the decoction, either in milk or water, the flowers of St. John's wort and coltsfoot. F. Fritze, in his Clinical Annals, chiefly confines its utility to its mildly nutritious powers; and Scheffer was usually unsuccessful with it, except in recent, apparently catarrhal, cases.

LI'CHEN PYXIDATUS, Lin. Sp. Pl. 1619, (from *pixis*, *a cup*, in consequence of its bearing little cups). See MUSCUS PYXIDATUS.

LICHENOI'DES, (from *lichen*, and *εἶδος*, *likeness*). See LICHEN ISLANDICUS.

LI'EN, (from *λεῖος*, *soft*, or *smooth*). See SPLEN.

LI'EN SINA'RUM. See FABA ÆGYPTIA.

LIENTE'RIA, (from *λεῖον*, *smooth*, and *ἔντερον*, *the gut*). A LIENTERY. LEVITAS INTESTINORUM, q. v. In Dr. Cullen's system it is the fifth species of diarrhœa; defined a diarrhœa in which the aliments are quickly hurried through the body in a nearly undigested state. Fernelius attributes this disorder to a weakness of digestion, Friend to an obstruction of the intestinal glands, and Fr. Sylvius to an obstruction of the orifice of the lacteals. Actuarius observes, that an inveterate diarrhœa or dysentery most commonly produces the distemper. The fault is generally in the stomach, as the digestion is not complete; and the unaltered food producing an unusual impression, excites the action of the intestinal fibres, and probably also of the mucous folicles. The chief remedies are warm strengthening medicines, with moderate exercise and warm clothing. See DIARRHŒA.

LIENTE'RIA SPONTA'NEA. See DIARRHŒA.

LIGAME'NTUM, (from *ligo*, *to tie*). *Colligamen*, *copala*, *syndesmos*, a LIGAMENT. The ligaments are tendinous, inelastic, glistening bodies. Every articulated bone is furnished with a capsular ligament, which is composed of two layers: the external layer is the stronger, formed by the periosteum; the inner is thin and uniform.

This part of anatomy, though so important in many respects, has been, however, greatly neglected, if we look at those aids which are not derived from actual dissection. The representations of the ligaments have, in general, been mean, incorrect, and inelegant. While each bone is delineated so as to display every little prominence and furrow by Albinus and Le Sue; while each unimportant muscle is represented in all its varieties by Bidloo; the ligaments have been little noticed. The minute accuracy of Soëmmering cannot find, in the fasciculi of Haller, the discriminating genius of Albinus. De Corp. Fabrica, v. xxxi.

In Vesalius we perceive the ligaments of the lower limbs delineated, and in Winslow they are described. Walter has figured and described the ligaments of the lower extremities (Disput. Anatom. Halleri, vol. iv.); Schwencke, in his Hæmatologia, those of the acetabulum: but the first professed work in which all the ligaments were described and delineated, was that of Weitbrecht, published at Petersburgh, 1742, in quarto. His dissections were numerous; and he not only collected the observations of former anatomists, but compared them with what his scalpel had shown. His engravings, however, imperfectly represent the objects; and some ligaments are omitted, particularly of the os sacrum. Yet till lately Weitbrecht was our only assistant, and his plates have been professedly copied in an elegant work on the bones by Losche, concluded at Erlang, 1796; and in another by Schenke, published at Leipsic in 1795. In these, however, the objects are

diminished, and the representations are consequently still more distant from nature.

Somewhat before these copies of Weitbrecht, Loder published his anatomical tables at Weimar, viz. in 1794; and, perceiving that this part of anatomy had received less attention than some others, introduced new plates of the fresh joints, from his own preparations. The abilities of the engraver were not equal, however, to the diligence and ability of the anatomist; yet Loder greatly excelled his predecessor. The order of time, rather than the improvement, leads us to speak of Mr. J. Bell's plates of the joints, subjoined to those of the bones. The errors of the osteology are, however, continued in the ligaments; and the plates are so miserably executed, that without the explanation no anatomist could guess at the object before him. Anatomical plates are, however, often miserably executed; and, in a Dictionary now publishing, we showed a view of the basis of the brain to several anatomists, who supposed it a herniary sac; and, indeed, every thing but what it was.

Morgagni long since observed, that many of the ligaments remain to be more accurately examined than in Weitbrecht's work; and that to which we have been indebted for our plates is, undoubtedly, the most perfect which has yet been published. We mean the Syndesmology of Caldani, published at Venice, in imperial folio, 1803. The elegance, the accuracy, and the minute precision of the descriptions have led us to copy from it freely; and we have engaged in this short account of what was before done, to show the importance of what we have added to the stock of the English anatomist.

Ligame'ntum annula're. The appellation of annular ligament, or *frænum*, is given to that on each ankle and each wrist, rather on account of their use than their figure; they confine the tendons of the muscles which pass through them.

Ligame'ntum arterio'sum. See Ductus arteriosus.

Ligame'ntum cilia're. White, striated, ligamentous fibres arise out of the choroid membrane, from the ciliary circle, which are covered with a black pigment, and are attached to the membrane of the vitreous humour, where it joins the crystalline lens. The fluctuating extremities of these striæ are spread on the edge of the lens, but not united with it. The whole is generally described under this term.

Ligame'ntum co'li de'xtrum. The mesentery having reached the end of the ileum joining the colon, the lamina which is turned to the right side forms a small transverse fold, distinguished by this appellation.

Ligame'ntum co'li sini'strum. The mesentery, here called *mesocolon*, having passed below the left kidney, contracts and forms a transverse fold thus named.

Ligame'ntum co'lli vel nuchæ. See Cucullaris.

Ligame'ntum cuta'neum o'ssis co'ccygis. It passes anteriorly from the extremity of the os coccygis; is very slender, and divides into two portions at the orifice of the anus, which run in the membrana adiposa, and, when expanded, are inserted in the skin on each side of the anus: they continue to divaricate, and are lost on the two sides of the perinæum.

Ligame'ntum dentioula'tum. Between the anterior and posterior bundles of fibres which form the spinal nerves, a ligament is connected by a number of threads, to each side of the pia matral covering of the spinal marrow, through its whole length, for its support. As this ligament is fixed by a number of teeth to the inner side of the sheath formed by the dura mater, it has been called *denticulatum*. The greater number of these teeth run transversely; some ascend, others descend; all split into fibres, which are incorporated with the fibres of the inner layer of the dura mater. From the conical lower end of the spinal marrow, a cord is produced, which reaches to the os coccygis, and there splits into threads, which may be considered as the termination of the last teeth of this ligament.

Ligame'ntum Fallo'pii. See Ligamentum Poupartii.

Ligame'ntum he'patis suspensorium, the remains of the umbilical vein.

Ligame'ntum intermaxilla're. A ligament on each side of the face, which connects the two jaws, and receives the posterior fibres of the buccinator muscle. (Winslow.) It is strong and broad, fixed to the outside of the upper jaw, above the last dens molaris, and at the side of the apophysis pterygoidæus internus. By the lower end it is fixed on the outside of the lower jaw, below the last dens molaris.

Ligame'ntum latum, or suspenso'rium hepatis, is made up of the double membrane of the peritonæum, which covers the liver on each side, and meets to be joined by the sternum.

Ligame'ntum Poupa'rtii, or Fallo'pii. Poupart's ligament. It is only the lower border of the descending oblique muscle of the belly stretched from the fore part of the os ilium to the pubes.

Ligame'ntum pu'bis interosseum, is a strong triangular ligament, fixed by two of its edges in the inferior branches of those bones, all the way up to their common symphysis; the third edge, which is lowest, is loose; and this whole membrane, the middle of which is perforated by a particular hole, is stretched very tight between the two bones, and under their cartilaginous arch, to which it adheres very closely.

Ligame'ntum rotu'ndum. The round ligament. One of these is found on each side of the uterus; and each is composed of a plexus of blood vessels upon the fore part of the ligamenta lata, running in the duplicature of these ligaments. From the corners of the fundus uteri, they pass through the annular aperture of the obliquus externus, and are lost in the middle and upper part of the fat in the groin.

Ligame'ntum suspenso'rium. See Corpora cavernosa penis.

LIGA'TIO, and LIGATU'RA, (from *ligo, to bind*). A bandage, or ligature (see Fascia): a stiffness of the joint, and sometimes that impotence supposed to be induced by magic.

Ligatu'ra ve'neris. Camphor, which is supposed to check the venereal appetite. See Camphora.

LIGNUM, (from *lego, to gather*). Wood; because its branches are gathered into bundles for domestic use; a term applied to many medical substances; as, lignum aloes, lignum guaiacum, lignum quassiæ, &c. vide in verbis.

LI'GNUM CAMPECHIA'NUM. See CAMPECHENESE LIGNUM.

LI'GNUM COLUBRI'NUM; *strychnos colubrina* Lin. Sp. Pl. 271. It is of the same genus, perhaps the same species, which affords the nux vomica, and is, like it, intensely bitter and acrid. Like every poisonous substance, it excites the greatest commotions in the system, and is emetic, cathartic, diaphoretic, and anthelmintic, seeming to affect also the intellectual powers. As its name imports, it has been given to those bitten by serpents, to cure intermittents, and to destroy worms.

LI'GNUM MOLUCCENSE vel PAVANÆ. The seeds of the tree, *croton tiglium* Lin. Sp. Pl. 1426, which affords this wood are called *grana tiglii;* and these, as well as the wood, are highly acrid, producing the most violent commotions in the whole body, with discharges from almost every excretory. The oil of the seeds is, however, perfectly mild; and the genus is nearly allied to the ricinus which affords the castor oil.

LI'GNUM NEPHRI'TICUM. It is supposed that this wood and the Behen nuts are from the *guillandina moringa* Lin. Sp. Pl. 546. The first is of a pale yellow, though it tinges wood of a fine blue colour; the taste is slightly acrid and bitterish. The nuts are mucilaginous and oily; their oil keeps long without rancidity. It has been used in itch, besides the disease from which its name is derived.

LI'GNUM RHO'DIUM, probably from the *genista canariensis* Lin. Sp. Pl. 997. Much confusion has arisen respecting the real tree from which this wood is taken, in consequence of its being supposed the same with the *aspalathus* of Dioscorides; for the *aspalathus* of Galen was a bark. The aspalathus of the moderns was the calambour wood, or the lignum aquilæ, resembling the lignum aloes. The lignum rhodium, at present sold, is in long crooked pieces, full of knots, of a reddish yellow colour. The largest, smoothest, most compact, and the deepest coloured, is preferred. The taste is bitterish, and somewhat pungent. It smells strongly like a rose; and the wood, as well as the oil, is supposed to be sudorific.

LI'GNUM SE'RPENTUM. The wood of the *ophioxylum serpentinum* Lin. Sp. Pl. 1478.

LIGU'STICUM, (from *Liguira*, the country where it flourished). See LEVISTICUM.

LIGU'STRICUM. See SESELI VULGARE.

LIGUSTRUM, (from *ligo, to bind*, from its use in making bands). PRIVET.

LIGU'STRUM I'NDICUM; *alcanna, Cyprus Dioscoridis et Plinii, elhanne Arabum.* EASTERN PRIVET; the *henna* of the Turks and Moors, and *lausonia inermis* Lin. Sp. Pl. 498. It is reckoned emmenagogue, but is little used, except to impart a red colour to the nails of women and the beards of men.

Phillyrea, or mock privet, is said to be an astringent; but, like the rest, is neglected in practice.

LIGU'STRUM VULGA'RE, *ligustrum Germanicum*, PRIMPRINT, or COMMON PRIVET; *ligustrum vulgare* Lin. Sp. Pl. 10; is a shrub with rough pliant branches, and much used for hedges in gardens; the flowers grow in spikes, and are of a whitish colour, followed by clusters of black berries: they appear in May and June; the berries are ripe in September.

There are other plants of this name reckoned somewhat astringent, and useful in hysteric disorders, but they are never used.

LILIA'STRUM ALPI'NUM MINUS, (from *lilium, the lily*, which it resembles). SPIDER WORT. *Phalangium allobrogicum, anthericum liliastrum* Lin. Sp. Pl. 445. This plant is chiefly used as an ornament in gardens, though it is said to resist poison, and to be useful in relieving cholic.

LI'LIO HYACI'NTHUS, (from *lilium*, and *hyacinthus*, because its roots resemble those of the lily, and the flowers those of the hyacinth). The LILY HYACINTH. *Scilla lilio hyacinthus* Lin. Sp. Pl. 442. The roots like those of the lily, promote suppuration.

LI'LIUM, (from λειος, *smooth, graceful*). The LILY.

LI'LIUM CONVALLIUM MINUS. See MONOPHYLLON.

LI'LIUM A'LBUM. The COMMON WHITE LILY, *lilium candidum* Lin. Sp. Pl. 433, is perennial, a native of Syria and Palestine, common in our gardens, and flowers in June. The flower gives an agreeable flavour to expressed oil, and the roots are extremely mucilaginous; boiled with milk or water, they are useful in emollient and suppurating cataplasms: but the bread and other farinaceous poultices possess equal advantages. Dr. Alston thinks the roots are of the nature of squills. Godorus, serjeant-surgeon to queen Elizabeth, cured many dropsical people, by giving them bread in which these roots were baked.

LI'LIUM CONVA'LLIUM *convellaria Maianthemum*, MAY LILY, and LILY of the VALLEY, *convallaria majalis* Lin. Sp. Pl. 451. Its flowers are smaller than any other lilies, have a penetrating bitter taste and a fragrant smell: the bitter remains both in the spirituous and watery extract; and is nearly as purgative as aloes. The dried flowers are a strong sternutatory; and the roots possess the bitter and purging qualities of the flowers. The flowers were formerly used in nervous complaints, sometimes in spasmodic asthmas, or catarrhs.

LI'LIUM RU'BRUM, *hemerocallis fulva* Lin. Sp. Pl. 462, *lilium purpurocroceum, lilium croceum.* ORANGE LILY. The leaves are cooling, and the roots aperient and stimulating.

LI'LIUM PARACELSI, a fanciful term of that enthusiast for a very pungent penetrating alkaline tincture.

LIMACES. SNAILS. The common garden snail; *limax agrestis* Lin. Syst. Natur. 1082, is viscid and glutinous, supposed to be highly nutrient, and employed sometimes, seemingly with advantage, in hectics. The gluten of the *l. maximus cinereus* L. 1081, is used as a resolvent liniment in glandular tumours. See MOLLUSCA.

LIMATU'RÆ FE'RRI, (from *lima, a file*). See FERRUM.

LIMO'NIUM, (from λειμων, *a marsh*, from its colour,) SEA LAVENDER; *statice limonium* Lin. Sp. Pl. 394, is astringent, and said to be given with success in diarrhœas, dysenteries, menorrhagia, and all kinds of hæmorrhages. The roots and leaves are chiefly used. A name also for *behen rubrum* and *beta sylvestris.*

LIMONUM (from λειμων, from the green colour of its unripe fruit, or from the Hebrew term *rimon*). The LEMON TREE; *citrus medica, malus medica* and *persica* Lin. Sp. Pl. 1100, β, is a native of Asia, but cultivated in the warmer parts of Europe. Linnæus reckons the citrons and lemons to be only varieties of one species, distinguished from the oranges only by the pedicles of the leaves being naked.

The yellow rind of lemons is a grateful aromatic, and very commonly used in stomachic tinctures and infusions, as it conceals the disagreeable flavour of many bitters. It affords an extremely volatile essential oil, of a pale straw colour, in smell as agreeable as the fresh peel, which is employed as a perfume; but often adulterated with spirit of wine, or with oil of turpentine. If it is adulterated with oil of turpentine, on adding a little spirit of wine, the mixture becomes milky; if with spirit, the addition of oil of turpentine has the same effect.

The juice of lemon is more acid than that of oranges: half an ounce of good lemon juice saturates about a scruple of fixed alkaline salt; and this mixture, with the addition of a small quantity of any aromatic water, is useful in relieving nausea and vomiting; especially if taken during its effervescence. It is called the saline draught of Riverius, is cooling, and from this effect promotes perspiration in fevers. The juice often allays hysterical palpitations of the heart, and, in jaundice, four or six ounces taken in a day are highly useful. Its other properties are similar to those of the orange juice. The salt of lemons usually sold is the salt of wood sorrel, the oxalic acid differing, however, but slightly from the citric, and flavoured with the essential oil of lemons. The concrete salt is pure acid separated from the mucilage in the way recommended by Scheele, viz. uniting it with calcareous earth, and separating the acid by means of the vitriolic. As an antiscorbutic, lemon juice is generally taken on board of ships; but it spoils by long keeping, unless a small portion of ardent spirit be added. It is sometimes boiled to the consistence of a rob; but the mucilaginous part is then burnt, which gives a bitter flavour, and the acid is in part decomposed: indeed, for all the purposes of an antiscorbutic the juice must be fresh. See Neumann's Chemical Works; Lewis's Materia Medica.

LINAGRO'STIS, (from λινον, *cotton*, and αγροστις, *grass;* from the softness of its texture). See Panicum.

LINA'RIA, (from the resemblance of its leaves to those of flax,) *osiris urinaria*, flax weed, or common toad flax, *antirrhinum linaria* Lin. Sp. Pl. 858. The common sort resembles the esula minor so closely, that it cannot be distinguished before the flowers appear but by breaking the stalk, as the toad flax is destitute of the milky juice. It is perennial, grows wild about the side of dry fields, and flowers in June and July. If the leaves, which are bitterish, and of a saline taste, resembling in smell, when rubbed, the elder, are inwardly used, they are diuretic and purgative and particularly powerful in the latter view. The plant has been supposed also an aperient and deobstruent, and used in jaundice. Externally they have been commended against the piles. A name also for a species of *elychrysum*.

LINA'RIA HEDERA'CEO FO'LIO. See Cymbalaria.

LI'NCTUS, (from *lingo, to lick*). *Lohoc eclegma*, *elexis*, *eclectos*, *illinctus*, lambative; a composition thicker than syrup, but softer than an electuary, first made to be licked from a stick of liquorice, and then gradually swallowed. A linctus is usually formed of mucilages, or of oils mixed by means of mucilage, and often slightly acidulated. It is chiefly used in disorders of the inward parts of the mouth, the fauces and œsophagus, as in aphthæ, and tickling coughs from defluctions of thin serum; but it soon palls.

LI'NEA A'LBA, vel CENTRALIS, (from *linum, a thread*, and *album, white*, from its appearance and colour, or situation). It extends from the os pubis to the cartilago ensiformis, and so high as the navel it is a mere line, but above broader. It is formed by the union of all the tendons of the abdominal muscles, which, by their united action, compress the belly. In this line the trochar, in tapping, is often introduced, and it is divided in hysterotomy, as the wound is attended with but a slight hæmorrhage.

LI'NEÆ SEMILU'NARES terminate the lower part of the external oblique muscle of the abdomen, and are lost at the upper part.

Li'neæ transve'rsæ pass between the linea alba and lineæ semilunares, formed by the tendinous lines of the recti muscles. They are not directly transverse, as often represented, but irregularly waved.

LINEA'TUS, (from *linea, a line*). A leaf whose surface is streaked with lines.

LINGO'DES, (from λιγγω, *to sound*). An appellation of fevers attended with an hiccough.

LI'NGUA, (from *lingo, to lick*). The tongue, *glotta*, *plectrum*. This term is also applied to some vegetable substances, from their similarity in shape to the tongue. In animal bodies it is composed of two parts; the inferior is a mass of muscle; the upper surface is, towards the apex, full of papillæ, which, when traced backward, become more irregular and flat, whence authors distinguish the papillæ pyramidales, capitatæ, and lenticulares; but each kind is a mass of vessels running from the basis towards the apex. Near the epiglottis the surface of the tongue is glandular; and near the middle is a chap, called the *foramen cæcum*, first described by Morgagni, and since supposed by Vaterus, without foundation, to be the orifice of salivary ducts. Under the papillæ, on the surface of the tongue, are fleshy fibres running in every direction; to these its great variety of motions is owing: under the tongue is a membranous substance, called *frænum*, or *filetum;* the part next the root is called *cephaline;* the tip, *proglossis*.

Li'ngua a'vis. The seeds of the ash so called from their resemblance. See Fraxinus.

Li'ngua cani'na. See Cynoglossum.

Li'ngua cervi'na, *calcifraga*, *phillitis scolopendrium*, *asplenium scolopendrium* Lin. Sp. Pl. 1537. Hind's or hart's tongue, is a plant with long, uncut, narrow leaves, of a bright green colour, standing on long hairy pedicles, without any stalk or manifest flowers: the seeds are a fine dust, lying in large, rough, brown, transverse streaks on the backs of the leaves. The plant is perennial, found green every season, delighting in moist, shady, stony places. The leaves are commended as aperient and corroborant, particularly in diseases of the viscera; but not at present employed.

Li'ngua serpe'ntis. See Ophioglossum.

LINGUA'LES, (from *lingua, the tongue*). The ninth pair of nerves. See Hypoglossi externi.

Lingua'les gla'ndulæ; those at the basis of the tongue. See Lingua.

Lingua'lis mu'sculus. The muscle of the tongue, rises from the basis of the os hyoides, and runs to the tip of the tongue. It consists in general of fleshy fibres, which run in many directions; but

those fibres chiefly distinguished by this appellation turn the tongue laterally and downwards.

Mr. Home has shown, that the tongue is by no means an irritable muscle, and that any part of it may be cut off with little danger.

LINIME'NTUM, (from *lino, to anoint*). Liniment, *hypaleiptον, litus, pierichrisis*, is a thin ointment, and principally designed for an application where the tenderness of a part will not admit of a hard one. Sometimes the term is applied to an application almost fluid; but when it approaches this state the appropriate application is *a wash*. The minute precision of the ancient pharmaceutists is now, however, often disregarded.

Linime'ntum a'lbum. See Spermaceti.

Linime'ntum arcæ'i. See Elemi.

Linime'ntum bitu'minis ammoniatum. R. Petrolei Barbadensis ʒi. ss. aquæ ammoniæ puræ ʒss. m. This is a strong stimulant, applied in diseases of the hip.

Linime'ntum ca'mphoræ compo'situm. R. Camphoræ ʒij. olei olivæ ʒi. aq. ammon. puræ ʒiij. m. in oleo prius solvatur camphora, deinde adjiciatur aqua ammoniæ puræ; an application of use in deep seated inflammations, and to hasten suppuration.

Linime'ntum ca'mphoræ ammonia'tum. R. Spiritus camphorat. ʒij. aquæ ammoniæ puræ ʒij. m. used in chronical enlargements of the joints, and other affections, which require the use of external stimulants.

Linime'ntum ceru'ssæ cum sapo'ne. See Plumbum.

Linime'ntum oleo'sum. See Ambusta.

Linime'ntum sapona'ceum, *linimentum saponis*, formerly called *opodeldoc*, and saponaceous balsam, and chiefly employed for external purposes in rheumatic pains, sprains, and bruises. The London college directs the following very liquid form, because the soap acts more advantageously when diluted.—Take of the spirit of rosemary, ℔i.; hard Spanish soap, three ounces; camphor, one ounce; digest the soap in spirit of rosemary until it is dissolved, and add to it the camphor. Ph. Lond. 1788. See Opodeldoc.

LINNÆA, *borealis* Lin. Sp. Pl. 880. Its leaves are bitterish and subastringent. They are employed in decoction as a fomentation in rheumatism, and the infusion in milk has been recommended in sciatica.

LINO'SYRIS, (from λινον, *flax*). An herb whose leaves resemble those of flax. See Elichrysum.

LI'NQUART. See Discessus.

LI'NTEUM, lint, (from *linum, flax;* of which it is made). When lint is used in a flat oval form it is called a pledget; when cylindrical, a dossil. It is used as a medium for applying ointments, to stop hæmorrhages, and, in the form of a dossil, to prevent wounds from closing. When merely to defend wounds is required, poultices are now preferred to lint. See Carbasus.

LI'NUM, (from λειος, *soft, smooth;* from its smooth texture). Flax. *Linum usitatissimum* Lin. Sp. Pl. 397, is properly called *line*, only while standing green in the field, without any inner bark: when the inner bark is perfected, it is called flax.

Line, or lintseed, is of a reddish brown colour, glossy, flat, slippery, nearly oval, and pointed, with an unctuous, mucilaginous, sweet taste, but no smell. On expression much oil is obtained from it, which, if drawn without heat, is insipid, but does not congeal with the winter's cold, nor form a solid soap when mixed with alkalis, but acts more powerfully than any expressed oil as a menstruum on sulphureous bodies. When this oil is sweet it is emollient; when rancid, it is said to be more powerful as an expectorant. It is supposed to be more healing than the other oils of this class, and consequently more often employed in pulmonary complaints, in colics, and constipations of the bowels. In burns and scalds, and when women's breasts are inflamed from the milk stagnating in them, it affords considerable relief. If the seeds are boiled in water, they afford a large quantity of mucilage; but if designed for internal use, an infusion is more agreeable. Infusions of lintseed are emollient and demulcent, of use in tickling coughs, stranguries, &c. A spoonful of the seeds unbruised is sufficient for a quart of water; but liquorice root is often added, and, with the addition of colt's foot leaves, it is called the *pectoral infusion*.

The mucilage obtained by inspissating the decoctions is an excellent addition for reducing powders of an unpleasant taste into the form of an electuary. The seeds may be used for promoting the digestion of abscesses after the oil is expressed from them; but such applications are generally made by stirring a sufficient quantity of the meal into boiling water to form it of a proper consistence. A cataplasm of this kind is esteemed as an emollient; but the lintseed meal alone is so mucilaginous that it requires the addition of some soft bread to adapt it for this purpose. See Lewis's Materia Medica.

It is the name also of some of the finer species of Amianthus, q. v.

Li'num catha'rticum, Lin. Sp. Pl. 401, *linum minimum, chamælinum*, mountain flax, mill mountain, and purging flax, is a small plant, with little, oblong, smooth leaves, having one rib running along the middle. The stalk is slender, reddish, divided towards the upper part into fine branches, bearing on the tops white flowers, followed, as in the common flax, by roundish ribbed capsules, with ten flattish unctuous seeds in each. It is annual, and grows wild on chalky hills and dry pasture grounds; is an effectual, safe purge; for which purpose a handful of the fresh leaves infused in wine or whey, or a drachm of the leaves in powder, is sufficient. See Raii Historia; Lewis's Materia Medica.

LIPARIS, (from λιπος). Fat.

LIPAROCÈLE, (from λιπος, *fat*, and κηλη, *a tumour*). Any tumour containing a fatty substance.

LIPODE'RMUS, (from λειπω, *to leave*, and δερμα, *the skin*). See Præputium.

LIPOMA, (from λιπος, *fat*). An indolent, fatty tumour, often fluid in the centre.

LIPO'ME. See Nævus.

LIPOPSY'CHIA. See Leipopsuchia.

LIPOTHY'MIA; Leipothy'mia, (from λειπω, *to leave*, and θυμος, *the mind*). Fainting. *Deliquium animi, defectio, exanimatio, syncope, asphyxia; virium lapsus;* in a greater degree, *apopsychia*, and *echysis; syncope* of Dr. Cullen, who places it in the class *neuroses*, order *adynamiæ;* defining it the motion of the heart diminished, or at rest for some time. The species are, 1. *Syncope cardiaca*, when it often returns without any evident cause, with violent palpitations of the heart at

intervals; from some fault of the heart, or contiguous vessels. 2. *Syncope occasionalis*, when it arises from a manifest cause, from an affection of the whole system. Each is styled idiopathic: the symptomatic species are, *syncope febrilis, exanthematica; stomachica; hysterica; arthritica; scorbutica.* The ancients named it *cardia*, when caused by anger: and what we termed syncope they called CARDIACA PASSIO, q. v.

In this disease the pulse and respiration become suddenly weaker than usual, and, to the perception of the attendants, seem often wholly to cease. In its slightest degree the patient constantly perceives and understands, without the power of speaking; and this often happens to those who are disturbed with flatulencies, without any remarkable alteration in the pulse.—If he loses his feeling and understanding, with a considerable sinking of the pulse, it is called a *syncope*. If so violent that the pulse seems totally to have ceased, without any discernible breathing, and a manifest coldness of the whole body, with a wan livid countenance, it is sometimes followed by death, and called an *asphixy*, or a total resolution. This last degree, in most instances, constitutes, according to Dr. Cullen's arrangement, varieties of apoplexy, and these chiefly of the species which he calls *venenata*.

The causes are either an excess or a deficiency of blood, a loaded or disordered stomach, violent pains, nervous complaints, passions of the mind, a polypus in some of the principal blood vessels, and opiates, or active deleterious medicines, or effluvia.

The different degrees of this disorder should be distinguished from hysteric fits, epilepsy and the apoplexy. In the two former diseases there are generally spasms; in the latter the breathing continues, and is laborious, or stertorous. When either disease is without these appropriate symptoms it becomes syncope, or distinction is of little importance, as the remedies are the same.

Those subject to frequent faintings, without any manifest cause, usually die suddenly, and polypi are found in the large blood vessels. When anger, in weak persons, or worms, is the cause, the disease is dangerous.

During the fit, cold water, or vinegar and water, may be sprinkled on the face, and a little of the same poured down the throat. Strong vinegar, or volatile spirit, may be held under the nostrils, the extremities well rubbed, and, as soon as the power of swallowing returns, a glass of wine, brandy and water, of fetid tincture, or of the spirit of hartshorn with water may be given.

When the fit is over, the cause must be diligently examined, and the morbid state of the system, from which it seems to arise, will determine the plan of treatment. When no distinct cause can be assigned, when the face is livid, and the breathing difficult; when the left hand is cold, and the patient cannot be easy on either side; when it is brought on by extraordinary exertions, by exercise, or whatever increases the circulation through the lungs, we have much reason to fear that it proceeds from an affection of the heart. This is sometimes an enlargement of its cavities, or its contiguous vessels; sometimes an accumulation of water in the pericardium or lungs, or ossifications of the valves. In such circumstances medicine is of little avail. Small bleedings, easy laxatives, camphor, with nitre, and whatever lessens the impetus of the blood, are advantageous. The most perfect repose of body and mind, the mildest food, and the most cooling liquors, are necessary. A blister from some part of the chest has also been found of service.

It often happens, however, that syncope arises from fulness of the stomach and bowels, and, in the greater number of cases, emetics, with repeated laxatives, will succeed. These, at least, should be tried before the patient is alarmed with apprehensions of a topical affection of the heart.

Excess or deficiency of blood are obvious causes, and easily removed, at least for a time; but one less within our power is that general mobility of the system where every excitement is followed by a proportional sinking. Tonics and cold bathing will have some effect; but the cure is only found in the torpor of advancing years. See ASPHYXIA.

LIPPITU'DO, (from *lippus, blear eyed*). See EPIHORA and XEROPHTHALMIA. Celsus means by it an ophthalmia.

LIQUEFA'CTIO. MELTING. The fluidity of a body when exposed to heat, probably from the combination of caloric. Though we know bodies permanently æriform, we know none permanently fluid, except alcohol and ether; and those are apparently such, because they have not been exposed to the requisite degree of cold. It is not necessary to liquefaction that the body wets; for this effect is owing to the greater attraction of the fluid particles to the body than to each other. Quicksilver is fluid, but does not wet. Melted lead does not adhere to a polished iron immersed in it.

LIQUIDA'MBAR, (from *liquidus*, and *ambar*). *Styrax liquida, acer virginianum odoratum, liquidambar stiraciflua* Lin. Sp. Pl. 1418, is a resinous juice, of a yellow colour, inclining to red; about the consistence of turpentine; by age hardening into a brittle resin. It is moderately warm and pungent, but rarely met with genuine, and chiefly used as a perfume. See Lewis's Materia Medica.

LIQUIRI'TIA, (from *liquor, juice;* or the Welch term *elikoris*). See GLYCYRRHIZA.

LIQUOR CYRENIACUS. See BENZOINUM.

LIQUOR ÆTHEREUS. See ÆTHER.

LIQUOR CERERIS. See ALLA.

LIQUOR METALLICUS. See ARGENTUM VIVUM.

LIQUOR SALIS. See CIRCULATUM.

LIQUOR VENERIS. See ÆRUGO ÆRIS.

LIQUOR A'MNII, in midwifery called the WATERS, is the fluid in which the fœtus swims during gestation. The quantity of this fluid is different in different women, and in the same woman in different pregnancies. It is largest in the earliest months, and when the mother is past the prime of life, or the child is weak. At parturition the *waters*, as they are called, exceed two quarts, and sometimes scarcely two ounces. There are, occasionally, what are styled false waters, which are frequently discharged at different periods of pregnancy; but if the amnios be really ruptured, labour is inevitable. It is now admitted that this fluid is exhaled from the vessels of the fœtus, and does not contribute to its nourishment. See FŒTUS and AMNION.

LIQUOR MINERALIS ANODYNUS HOFFMANI. Hoffman, the inventor of this medicine, highly extols it

as an anodyne and antispasmodic. In the Paris Pharmacopœia the following formula is given; but it is not certainly known to be that which Hoffman employed, as he never revealed it.

Hoffman's mineral anodyne liquor.—To one pint and a half of highly rectified spirit of wine, placed in a large glass retort, pour, by little and little, through a long stemmed glass funnel, half a pound of concentrated oil of vitriol. Stop the mouth of the retort; digest for some days; and then distil with a gentle heat. At first a fragrant spirit of wine will arise, and after it a more fragrant volatile spirit, which is to be caught in a fresh receiver: the receiver being again changed, a sulphureous volatile acid phlegm comes over; and, at length, a sweet oil of vitriol, which should be immediately separated, lest it be absorbed by the phlegm. Mix the first and second spirits together; and, in two ounces of this mixture, dissolve twelve drops of the sweet oil just named. If the liquor hath any sulphureous smell, re-distil it from a little salt of tartar. This liquor is a mixture of what is styled the *sweet* spirit of vitriol, ether, and the oleum vini; a preparation not very different, probably, from the ether of Tickel. It is imitated in the London Pharmacopœia, by adding three drachms of the oleum vini to two pounds of ether; and that of Dublin orders it to be prepared by drawing over one half of the residuum, after the vitriolic ether is separated. It is given as a sedative, and antispasmodic, in hysteric, arthritic, and other painful complaints; to adults from thirty to an hundred drops, or more, with some sugar, or in an appropriate mixture. See Æther.

LITHAGO'GUS, (from λιθος, *a stone*, and αγω, *to bring away*). An epithet for a medicine that expels the stone.

LITHA'RGYRUM, (from λιθος and αργυρος, *silver*). Litharge; *lithargyrum auri, almakanda, almakarb, chrysitis, chrysitis spodos; cycima; calciteosa, argyritis; cathmia.* Litharge was usually prepared from the lead employed in refining silver; and it was of a deep yellow, or of a whitish colour, according to the different bodies mixed with it, or according to the different degrees of heat to which it was exposed. If its colour is dark it is called litharge of gold, *alatam;* if light, of silver, *almarcarida.* This method, however, is not sufficient for the supply; and it is often prepared by melting oxidized lead by a hasty fire. There are a very great variety of medical compositions, of which litharge, or some of its preparations, make the principal, and always a material, ingredient.

LITHA'RGYRI ACETA'TI A'QUA, (see Plumbum,) is made by dissolving two pounds, four ounces of litharge in a gallon of distilled vinegar, by boiling to six pints.

Litha'rgyri aceta'ti cre'mor. See Plumbum.

Litha'rgyri composita aqua. See Lotio hydrargyri acetati.

Ceratum saponis is, strictly speaking, a preparation of litharge, and is made by boiling a pound of litharge with a gallon of vinegar over a slow fire, constantly stirring it till it thickens; then adding ten ounces of yellow wax, eight ounces of soap, and a pint of olive oil.

Collyrium lithargyri acetati.—1. Let ten drops of the water of acetated litharge be added to four ounces of rose water; 2. To the above let twenty drops of camphorated spirit be added; but mix the spirit with the acetated litharge before the water, which must be added afterwards, to prevent the camphor from separating.

Linimentum lithargyri compositum.—℞. Unguenti lithargyri cum aceto ʒss. camph. gr. viij. cerussæ acetatæ gr. xvi. opii pulverizati gr. viij. m. with this the inflamed edges of the eye lids are sometimes ordered to be anointed at bed time.

Lotio lithargyri acetati camphorati. See Ambusta.

Emplastrum lithargyri. See Emplastrum commune, and Emplastrum.

Lotio lithargyri acetati, is made by adding one ounce of rectified spirit of wine, to two pints of distilled water, mixed with two drachms of the water of acetated litharge; two drachms of proof spirit, added to the same quantities of the other ingredients, forms the aq. lithargyri acetati composita of the London Pharmacopœia.

Cataplasma lithargyri acetati. See Plumbum.

Ceratum lithargyri.—℞. Emplastri lithargyri; adipis suillæ ãã ʒiv. ceræ flavæ ʒss. colliquantur, et quando fere frigida fiat mixtura, adjiciantur aquæ lithargyri acetati ʒij. agitentur simul donec frigescant. For superficial sores, or ulcers whose edges are inflamed, this application is much recommended.

Unguentum lithargyri acetati, made by adding half a drachm of the aqua lithargyri acetati to an ounce of unguentum ceræ, is applied to small ulcers, whose edges are in a state of inflammation, and preferred to the unguentum cerussæ acetatæ, because it is more readily made, and does not soon grow rancid. See Nutritum unguentum.

Unguentum lithargyri compositum.—℞. Emplast. litharg. ℔ ss. adipis suillæ pp. ʒiv. olei olivæ, unguenti ceræ, ãã ʒvi. aceti uncias quatuor; aquæ lithargyri acetati ʒij. After the unctuous ingredients are melted together and suffered to cool, the water of acetated litharge, and the vinegar, are to be gradually incorporated. This ointment is applied with great effect in inflammations of the skin.

Ceratum lithragyri acetati.—Take water of acetated litharge, two ounces and an half by measure; yellow wax, four ounces; olive oil, nine ounces by measure; camphor, half a drachm: rub the camphor with a little of the oil: melt the wax with the remaining oil; and, as soon as the mixture begins to thicken, pour in by degrees the water of the acetated litharge, and stir constantly till it is cold: then mix the camphor previously rubbed with oil. Ph. Lond. 1788.

LITHI'ASIS, (from λιθος, *a stone*). The Gravel or Stone; more commonly the disposition to this disease. (See Calculus and Adamita.) Also a tumour on the eye lid, containing a hard concretion between its coats.

LI'THIAS, (from λιθος *a stone*). Lithiat. Salt formed by the union of the lithic acid, or acid of the calculus and different bases.

LITHODE'NDRON, (from λιθος, and δενδρον, *a tree*). Coral; from its resembling a petrified branch. See Corallium.

LITHOEIDES, (from λιθος, and ειδος, *form;* from its hardness). See Temporum ossa.

LITHONTRI'PTICUS, (from λιθος, *a stone*, and θρυπτω, *to break*). An appellation of medicines supposed to break or dissolve the stone in the bladder; *calculifragus*. Though the different stones generated in the human bladder may require different solvents when out of the body, and though art has not yet afforded a medicine, which, when injected into the bladder, will, without injury, dissolve the contained stone, we must not conclude that no medicine has this power, when taken into the stomach, for the solvents already mentioned (see CALCULUS) certainly produce some effect on the urine; and more powerful ones may be found, which will destroy the stone, without hurting the human body. The water into which the boiled white of egg melts will liquefy myrrh, but will give no uneasiness to the eye.

We have spoken already of the greater number of lithontriptics, particularly the alkalis and the bitters, which act, as we have said, by checking the acidity in the stomach, on which the formation of calculus appears to depend. To the authorities before quoted, that the alkali penetrates with undiminished properties to the bladder, or at least with properties which arise from its union with the lithic acid, we may add that of professor Mascagni, of Sienna, supported by that of Hufeland. The pure kali, it is remarked, may be taken in the quantity of a drachm daily, in a pint of veal broth, or a quart of pure water; and the carbonated kali in three times that dose. The liquor lithontripticus Loosii consists of a drachm of muriated lime dissolved in two ounces of pure water, of which thirty drops are to be taken four times a day, and the dose increased as the stomach can bear it. The aerated water, viz. water combined with carbonic acid gas, or with carbonated alkali and this gas, in excess, have been often used with success as lithontriptics.

LITHOPHY'TON, (from λιθος, *a stone*, and φυτον, *a plant*). A LITHOPHYTE, *keratophyton coral*; a species of plant of a horny substance, seeming to be of a middle nature betwixt wood and stone.

LITHOPHY'TON NIGRUM. See CORALLIUM NIGRUM.

LITHOSPE'RMUM, (from λιθος, and σπερμα, *semen*; from the hardness of its seed). *Milium solis*, *Ægonychon*, *Ætonychum*, GROMWELL, GRAYMILL, LITHOSPERMUM OFFICINALE Lin. Sp. Pl. 189, is a rough plant, with stiff branched stalks, oblong acuminated leaves, set alternately without pedicles, and whitish monopetalous flowers, scarcely longer than the cup, followed by roundish hard seeds. It is perennial, grows wild in fields, and flowers in May and June. The seeds are diuretic; but rarely used. See Lewis's Materia Medica. It is also a name for the *lacryma Jobi*.

LITHOTO'MIA, (from λιθος, *a stone*, and τεμνω, *to cut*). *Cystotomia*. LITHOTOMY, or cutting for the stone.

This operation was performed in the time of Hippocrates, but confined to one family; and, in the oath to be taken by practitioners, this operation is forbidden, apparently, because those to whom so delicate an incision was familiar would perform it more dexterously. The method employed we shall soon describe as that with the "lesser apparatus." This method was improved in the sixteenth century, by Joannes de Romanis, whose operation was styled that with the "*greater*," as it was a more complicated "*apparatus*." It is described by Marianus Sanctus, who wrote so clear and comprehensive a description of the operation, with the parts concerned, that it includes every method of opening the bladder, and very plainly hints at the improved lateral method. The high operation was first proposed by Franco, a French surgeon, in the same century. The various inconveniences which attended each rendered the attempt uncommon, till a French priest, Frere Jacques, probably catching the hint from Marianus, attempted the lateral method; which, though unskilled in operations, and indifferently provided with instruments, he executed with a success which excited the applause of the world, the indignation, and, at last the emulation, of the faculty. Various improvements have been since made, which we shall notice in their place.

We have already spoken of the symptoms of CALCULUS, vide in verbo, nor need we add to them, since the ultimate decision depends on the sound. This is, in fact, a part of the operation.

When a stone is suspected to be lodged in the bladder, and a fuller examination is necessary, an instrument called A SOUND is introduced into the bladder, if possible, to feel the stone. For this purpose, Mr. Sharp directs "the patient to be laid on an horizontal table, with his thighs elevated, and a little extended: the sound, previously warmed and oiled, is then passed, with the concave part towards the operator, until it meets with some resistance in the perinuæm, a little above the anus: it must then be turned without much force, pushed gently on into the bladder; and if it meets with an obstruction at the neck, its extremity is raised upwards, by inclining its handle. If it do not then slip in, it should be withdrawn a quarter of an inch, the fore finger introduced into the rectum, and the point lifted up, which will facilitate its admission." See CATHERISMUS.

When the sound enters the bladder, it must be moved round in every direction. It sometimes at once strikes against the stone, and by no artifice is the stone again found. Sometimes none meets the instrument. As its weight may drag the bladder down on the rectum, the finger should be introduced into the gut, and that part of the bladder raised, or the body should be moved into different positions. We have remarked, that in discovering a stone we are more often indebted to chance than to skill; but, if once found by an experienced surgeon, the operation may be performed. We say by an experienced surgeon, since it is said that pieces of sand may strike against the catheter, and give the sensation of a stone. This, however, will not mislead a person who has once felt it. The sensation imparted by the instrument is not decisive of the size of the stone; and a small stone is often as readily found as a large one: but if inclosed in a sac, or if adhering to the bladder, the wrinkles of the inner coat defend it, and the sound will not detect it. If the patient uses some exercise before the search, it may detach the stone from slight adhesions.

After the operation, children relapse more frequently than adults; and adults run greater hazards in the operation than children.

The method employed from the first attempts to

extract the stone has been called the Celsian, sometimes the Guidonian, operation, cutting upon the gripe, or with the lesser apparatus. This operation will appear to be an obvious one; but the term apparatus is improper, since it only requires a common scalpel, and occasionally a hook. The child, for it is confined to children, though Paulus of Ægina observes, that he has practised it in a more adult age, is held in an oblique position, and the finger, introduced into the rectum, is employed in pressing the stone forward against the perinæum, and confining it. The operator then cuts on it, and extracts it, assisting the extraction, if large, with the hook. Heister tells us, that he continued to employ this mode of operating in young subjects. The operation was too simple, perhaps, for modern refinement, but it had also some inconveniences. It was not easy to find the stone from the rectum, or to confine it against the perinæum, for the time necessary to extract it. The operation also was confined to young subjects, where the parts were thin, and the pressure of the stone against the very sensible bladder was often followed by mortification.

The method of De Romanis, or with the greater apparatus, was suggested by the facility with which stones are extracted from the female bladder, in consequence of the greater size of the urethra, and its running in a less curved direction. He supposed that if the urethra in men could, by any operation, be so far curtailed, as to resemble this canal in women, the operation would be equally easy. This method was discovered about the year 1520, but not publicly described by Marianus till fifteen years afterwards. We are expressly told, that the urethra must be divided from a little above its curvature, till the incision reaches the curvature. Then the urethra is strait and dilatable. It is consequently dilated by proper instruments, and the stone extracted. The plan appears plausible, but it seems, on the whole, impracticable to extract a large stone in this way; and we are led to suspect that De Romanis, under the pretence of dilating the urethra, really divided the neck of the bladder. Whether he was aware of this division, and dared not direct it, since Hippocrates had spoken of wounds in the bladder as fatal, Aphor XVIII. lib. vi., and Celsus had repeated the observation, V. xxvi. or that it was an accident which accidentally followed, is uncertain. Le Dran, however, found, on dissection, that, in almost every instance, the neck of the bladder was split or divided; and Falconet, with other authors, have contended, that this division was intended, though dilatation only was described.

The inconveniences of this operation are too obvious to be detailed. Were dilatation only meant, the effect of this violent and continued distention would be incontinence of urine. Were laceration, as must be very often the case, to take place, mortification would generally ensue, and such we find was frequently the consequence. At least, the greater number of patients died; and these fatal events gave an importance to the improvement first attempted by Frere Jacques. But one other operation was previously suggested.

Peter Franco, already mentioned, operating on a child of two years old, found the stone too large to be removed through the wound; accident suggested the possibility of opening the bladder above the pubes, which he effected, and extracted the stone with success. Yet alarmed, apparently, at his own temerity, he never repeated the attempt, and dissuaded his followers from the operation. Even candour might suggest that he really failed; but, when it was recollected that, just above the pubes, the peritonæum did not cover the bladder, and that, of course it might be opened, without opening the cavity of the abdomen; when to this was added, that the bladder, when dilated, rose far above the pubes, and that a wound might be safely made of an extent to extract any stone which might be contained in that cavity; it did not appear to be a very extravagant attempt. In fact, after Hildanus, Riolan, Dionis, and others, had given a reluctant consent to the trial, and admitted its safety, it was often attempted, before it was publicly recommended, by James and John Douglass, and practised by the latter, by Heister, by Cheselden, and others, in the former part of the eighteenth century.

There are many objections to this method; but, on again going over the subject in the original authors, for the purposes of this short history, we were surprised to find them so few and inconsiderable. It is certainly not necessary to distend the bladder very considerably; yet, on the whole, it is expedient to do so, and to retain the urine for a time longer than usual, several days previous to the operation, to give the bladder greater facility of distention. The distention need not, however, be so great as to injure its tonic power. The operation indeed, for reasons which we cannot explain, has not usually succeeded, when the patient has exceeded the age of thirty, or in those whose bladders are small. When the kidneys are diseased also, it is said that the modern method succeeds better. A singular and unexpected inconvenience, however, which the advocates of this operation endeavour to elude, is the difficulty of healing the wound. The muscular fibres of the bladder are circular, more thick and strong round the sphincter, in fact, thus forming the sphincter itself. When the distention of the bladder, therefore, excites the action of its fibres in general, the resistance is less at the wound above than at the sphincter below; and, indeed, it is so little at the wound, that when the high operation has followed, at the interval of a day, the puncture through the perinæum, the urine is discharged above. The dressings are, therefore, constantly wet, and the wound soon becomes fistulous.

But whatever may have been the advantages or inconveniences, they have all yielded to the operation proposed by Frere Jacques, whose name it has been said was Beaulieu, and who came to Paris in 1697, from the provinces, destitute of money, clothes, and victuals. He was of an open, ingenuous temper, great simplicity of manners, requiring only what would repair his instruments and mend his shoes. His operation is that which we shall soon describe as the *lateral*, but his instruments were coarse, often a razor, or a common penknife; his manner rash and violent, without any fixed plan, or any knowledge of the anatomy of the parts. He soon lost his credit at Paris, and repaired to Holland, where he scarcely succeeded better; but we find him in Germany, fifteen years afterwards, greatly improved, and very successful. It is said, that he had been the servant of an itinerant practitioner,

from whom he had learned the art, which, from want of anatomical knowledge, he was unable at first to practise with advantage.

The physicians of Paris, though they did not treat the good friar with much candour, artfully availed themselves of his hint. The same operation was supported by Meri, but first practised by Mareschal. The lateral operation was soon improved by Rau of Amsterdam, by Heister, and Cheselden; and, in its present state has superseded the three former. On this account we have not described them more particularly; but it was necessary, in giving a general view of the subject, to notice the attempts and errors of others. If our readers derive from this comprehensive sketch as much entertainment and improvement as the author has done, they will not regret the little time they will have employed in the perusal.

The lateral operation is described by Mr. Sharp in the following words from Mr. Cheselden: "The patient being laid on a table, with his hands and feet tied, and the staff passed, as in the old way, let your assistant hold it a little slanting on one side, so that the direction of it may run exactly through the middle of the left erector penis and accelerator urinæ muscles; then make your incision through the skin and fat, very large, beginning in one side of the seam in perinæo, a little above the place wounded in the old way, and finishing a little below the anus, between it and the tuberosity of the ischium. This wound must be carried on deeper between the muscles, till the prostatæ can be felt, when searching for the staff, and fixing it properly if it had slipped, you must turn the edge of the knife upwards, and cut the whole length of that gland from within outwards, at the same time pushing down the rectum with a finger or two of the left hand, by which precautions the gut will always escape wounding; after this, introduce the forceps to take out the stone. After the operation is ended, if there is an hæmorrhage from the prostate gland, a silver canula of three or four inches long, covered with fine rag, may be introduced into the bladder, and left there two or three days; for it rarely fails to check it:—the patient may also take an opiate. If the wound does not bleed, a little dry lint, or a pledget of digestive, may be laid in it. If a pain is felt near the bladder soon after the dressings are finished, a bladder of warm water may be applied over it; and if it increases, as there will be much danger therefrom, bleeding and clysters will be necessary."

The present improved practice demands, however, a minuter detail. When a stone has been discovered by the sound, and the operation is determined on, every source of irritation must be removed. The patient, if plethoric, should be bled, the bowels emptied by mild, but sufficiently active, laxatives, interposing a dose or two of calomel, and giving some doses of helleboraster to evacuate worms, should any be present. The warm bath and opiates are advised occasionally, but are apparently unnecessary. The diet should be light and mild, and diluent liquors drunk freely. It is recommended that the bladder be moderately filled previous to the operation, that, in the incision, the exterior part only should be wounded: but as the incision is made on the staff, this appears to be an useless refinement.

The patient is placed on a table, about three feet high, and bends forwards so as to take each foot in the corresponding hand; the wrists and ankles are respectively confined by a broad tape. The buttocks are then, by pillows, raised above the shoulders, and brought forward a little beyond the table.

The sound is introduced, and the stone again sought for. If it was before certainly discovered, though it should not be at this time found, the operation generally proceeds; but if the slightest doubt existed in the previous searches, and it cannot now be felt, a prudent surgeon will defer the operation. If it be determined to proceed, the surgeon makes an incision from the symphysis of the pubes, just below the scrotum, downwards and outwards to the part between the anus and the tuberosity of the ischium, a little below the basis of the process. His next incision he carries nearer the raphe and anus, to avoid dividing the pudica. He thus divides the transversalis penis and part of the levator ani, so as to enable him to feel the prostate. He must guard against cutting the crura penis, which he can easily feel, and the rectum, which is best secured by introducing a finger into it.

He must now feel for the grooved staff, which his assistant must keep against the side of the raphe, by pressing its handle back against the right side of the patient's abdomen. The operator must find the staff steadily opposed to him, from the bulb of the urethra to the prostate gland, and on this he must cut, from below upwards, till the staff can be felt perfectly bare, and the incision will admit the finger, which not only keeps the parts stretched, but guards the rectum from injury.

The next step is to divide the prostate gland and the neck of the bladder. This is sometimes performed by the knife, but the gorget, or, as the French call it, the gorgeret, is employed for the purpose. Its beak is fitted to the groove of the staff, and along it this hollow conical instrument was forced into the bladder, tearing in its passage the neck of the bladder and the prostate, till Mr. Hawkins bent the edges a little more outwardly, and gave them an edge. This *cutting gorget* is now preferred. As the groove in the staff is continued to its end, the beak of the gorget slides easily off; and this part of the operation is so nice and important, that the operator usually chooses to manage both instruments himself.

When the gorget is in the bladder, the urine flows out, and the operator usually attempts to feel for the stone with his finger. Whether he can discover it or not he introduces the forceps, and attempts to take hold of it; opening the forceps when he perceives them touch the stone, and cautiously sliding a blade under the stone, the other is of course over it. The forceps are rough at the hollows, and finely polished between these and the rivet, so that if the stone comes near the latter, it slides to the former. The operator must hold the stone with sufficient firmness to prevent its sliding, but not so closely as to break it, if brittle, and must extract it slowly and steadily. In general, one blade of the forceps should be under the symphysis of the pubes, and the other obliquely below. When the stone is small, it often falls below the line of the instrument; and, in this case, some operators recommend bent forceps, but it is better to introduce the finger

into the rectum to raise the stone, for by the bent forceps the bladder is often injured. Should the blades of the forceps appear distant, it is probable that the stone is large, or that it is held disadvantageously. The last is most frequently the case, and the operator should therefore loosen his hold in order to take it in a more convenient position. It has scarcely ever happened that the stone is too large to be extracted, if drawn forward cautiously, assisted by the finger. Should it slip and fall back at the edge of the wound, the sound and the gorget must be again introduced to guide the forceps.

If the stone is broken, the larger pieces should be extracted by the forceps, and the smaller with a scoop. Afterwards warm water is to be injected, and the patient raised to an upright posture. We think, however, that the anxiety for evacuating the smallest particles has been too great, and that their discharge may be safely trusted to the first flow of urine.

If an artery bleeds, it must be confined by a ligature; but if this is impracticable, a roller should be placed in the wound, preserving a passage for the urine by a canula. The body should then be raised, so that the wound may depend; and in this state the patient must be placed in bed.

The operation sometimes fails by the incision being made too far towards the urethra; for wounds in the urethra cannot facilitate the extraction of the stone; and, in these instances, the bladder is opened imperfectly, and the gorget slips into the cellular membrane. The urethra is indeed divided by the cutting gorget, with the neck of the bladder; but the perfection of the operation consists in making a fair and proper opening into the bladder itself. Sometimes, when the operator has not made a fair, bold incision, too much is trusted to the gorget, and the bladder is lacerated. We know from De Romanis' operation, that lacerations of the bladder are not always fatal, as well as from the lateral method, previous to the introduction of the cutting gorget. But there is much reason to believe that such lacerations are at least dangerous, and probably some of the fatal events may have been from the mortification subsequent to such violence.

Another error is carrying the incision too low, or in the lower part too near the raphe, by which the rectum is wounded, and the fæces afterwards constantly discharged from the wound. The error is not indeed fatal, but the future life is truly miserable. The place at which the proper incision must be made is indeed limited; but it is so nicely defined, that we have heard a professor declare he could perform the operation in the dark; and we once knew a celebrated operator who remarked, that he declined the operation, rather from the bluntness of his touch than of his sight.

After the operation tired nature sinks to rest; but from forty to fifty drops of laudanum are usually given to take off irritation. After a few hours, however, pains, apparently spasmodic, come on in the lower part of the abdomen. These are relieved by anodyne clysters and fomentations. Should the pain increase, and the belly become hard, the case must be treated like enteritis; but anodynes may be more freely given, and warm clysters frequently thrown up. The warm bath is in these circumstances often useful. In many cases, however, notwithstanding every care, mortification comes on, the wound appears foul and livid. In better circumstances it looks healthy; in a day or two the urine is discharged from the urethra, and a cicatrix is formed in about six weeks or two months. Incontinence of urine, which often follows, is relieved by tonics and cold bathing.

Calculus in females is by no means a common complaint, and the operation is rarely required. When the neck of the bladder and the urethra are opened from the vagina, great inconveniences occur in future labours, from the contraction induced by the cicatrices; but, when the operation *is* performed, these parts are usually divided by the cutting gorget. We suspect that, in women, what is called the high or De Romanis' method would be most advisable; but as the urethra is so easily dilated, there are few stones that could not be extracted without cutting.

Mr. Bromfield describes the following method of dilating the urethra, apparently better than by means of tents. With the assistance of a straight, blunt, director, he introduced into the bladder the closed end of the apendicula intestini cæci of a small animal; and leaving out, at a proper length, the open end, he filled it with warm water by means of a syringe, and prevented the water's escape by a ligature. He then, by twisting the exposed end of the tube, forced the contained water forwards, and this operation was repeated from time to time, till the neck of the bladder was so much opened, that the forceps might have easily been admitted, if required. The stone, however, was propelled by the urine, and the instrument was not necessary. After the passage of the stone, the parts were fomented with warm milk, and with camphorated spirit of wine. Very little inflammation came on, and no disagreeable symptom. See his Observations and Cases, vol. ii.

Mr. Gooch extracted a stone of four ounces weight, through an incision which he made from the vagina into the bladder. This operation was attended with very little trouble, either to himself or the patient; the ulcer soon healed by the use of soft balsamic injections, and no inconvenience was observed after the healing of the parts. See Cases and Remarks, vol. ii. p. 182, &c.

Stones impacted in the urethra are often discharged by the efforts of nature, and it is frequently astonishing to what a degree the canal may be dilated. Gentle means are therefore first necessary, and oily frictions, gentle pressure, with the semicupium, and large doses of opium, will often succeed. If an operation is required, the skin should be drawn forward, and the urethra divided on the stone. The skin, when restored to its former position, will prevent the urine from flowing through the wound, which will often heal by the first intention. The operation should not, however, be so long delayed as to allow inflammation to come on, for mortification would be the consequence. When the stone is impacted near the neck of the bladder, the operation is the same as cutting on the gripe. When near the orifice of the urethra, the canal may be dilated by elastic forceps. When near the scrotum, it should be either pushed backwards or forwards, and treated according to the plans already described.

See Sharp's Operations of Surgery. Sharp's Critical Enquiry. Heister's Surgery. Bromfield's Cases and Observations, vol. ii. ch. 8. Le Dran's Operations. Heister's Dissertation on the High Apparatus. Bell's Surgery, vol. ii. p. 41, &c.

LI'TRON. Nitron. See Anatron.

LI'TUS, (from *lino*, *to anoint*). See Linimentum.

LIVER OIL. See Oleum jecoris aselli.

LI'VIDUS MU'SCULUS, (from λιβος, *blackish*, from its colour). See Pectineus.

LIX, (from λις, *light;* or from the Hebrew term *lus*). See Clavellati Cineres.

LIXIVIATIO, the separation of salts by solution.

LIXI'VIUM, (from *lix*, *wood ash*). A ley. That is, water impregnated with the salts of burnt vegetables.

Lixi'vium ta'rtari. See Kali aqua.

Lixivium sapona'rium. See Kali puri aqua.

LOBE'LIA. An American plant named in honour of Lobel, found in woods and dry marshes. With the root of the *lobelia syphilitica* Lin. Sp. Pl. 1320, the American Indians cure the most virulent pox. Five or six of the plants are boiled in water, and the patient drinks as much as he can of this decoction, in the morning and during the day. It soon purges, and the strength of the decoction is increased or lessened as the patient can bear the evacuation. If any part is sore, it is to be washed with this decoction, and thus in two or three weeks a cure is performed. Every part of this plant abounds with a milky juice, and has a rank smell. The root, which is the part preferred in medicine, in taste resembles tobacco, and sometimes excites vomiting. A handful of it, dried, is boiled in twelve pints of distilled water, till they are reduced to eight. The patient begins with half a pint, morning and evening, then more frequently if the purgative effect is not too violent. Should it be so, the medicine must be omitted for three or four days, and then again taken, till the cure is completed. The ulcers are to be washed with a decoction of the root, and if deep and foul, sprinkled with the powder of the inner bark of the *ceanothus Americanus* Lin. Sp. Pl. 284. We owe this description to Sir W. Johnson's influence, who received it from the American Indians. The practitioners of their country, however, do not repose in it much confidence, and seem to think its purgative effect the most striking.

LOBE'LLUS, LO'BULUS, (a dim. of *lobus*, *a lobe*). A small lobe. The cells of fat are called *lobuli adiposi:* and the extremities of the bronchiæ, which end in little knobs, are called *lobuli pulmonum*. Winslow calls the lobe of the ear *lobus*, or *lobulus*. See Auricula.

LO'BUS ECHINA'TUS. See Bonduch Indorum.

LOCA'LES, (from *locus*, *a place*). Diseases that affect, or have their seat, only in a particular part of the body. See Morbi organici and Plagæ.

LOCA'LIS MEMBRA'NA. See Pia Mater.

LO'CHIA, (from λοχευω, *to bring forth*). The discharges of the uterus after child birth, *gynæcia*, the third species of Dr. Cullen's *menorrhagia*, which he defines, a sanguinary menorrhagia in lying-in women. This discharge arises from the distended vessels, and proceeds till the removal of the distention admits of their contraction. In weak, exhausted constitutions, the discharge often continues for several days, and then only becomes a disease. In healthy habits it continues to flow freely for an hour and more, and the discharge afterwards lessens; in a few days it becomes less red, and then greenish. The redness begins to disappear when the breasts fill with milk. Its quantity is generally less after a miscarriage than when a woman goes her full time; and it sooner stops when a woman gives suck, than when she does not.

The *lochia* may produce disease when deficient or redundant. The discharge in many women is inconsiderable; but, as this appears constitutional, no inconvenience arises. When exposed to cold, or fever comes on, the discharge often suddenly stops, the belly swells and is sore; a heavy load is felt in the lower part of the abdomen and in the loins; the pulse is full and hard; pain in the head and back; a nausea, sometimes a vomiting, and a difficulty of breathing, come on. Feverish symptoms, particularly rigor, generally precede the suppression of the discharge, rather than follow it, and are the cause, instead of the effect; though the effect so soon follows, that it is often difficult to say which has preceded. Violent passions will sometimes check the lochia, and sudden grief be equally injurious. Errors in diet, and particularly indulgence in spirituous liquors, seems occasionally to bring on a spasmodic stricture, accompanied often with fever. A diarrhœa, or any other copious discharge, will also check the flow, though with less inconvenience. The nearer the period of the suppression is to that of delivery, the greater is the danger; and the occasional returns of the discharge are symptoms of recovery. The lochia sometimes diminish gradually, and sometimes cease at once. A delirium, in many instances, succeeds, occasioning convulsions and death, and if the patient escapes with life, she sometimes continues lunatic.

In general no medicine will force the return; and our chief attention must be directed to procure a relaxation of all the extreme vessels. When the patient is full and plethoric, the pulse full and hard, the face flushed, it has been the practice to bleed copiously, and this has been attended with success, even no fever has come on. It must, however, be done early and boldly, or it will be injurious. As this then is the case, the practitioner should be cautious in what constitutions he makes the attempt.

Emetics are often remedies of importance in this complaint, and should be repeated. To these the relaxing diaphoretics should succeed; and when any organ is overloaded, in consequence of the suppression, a blister applied to the part will be of singular service.

Cathartics are equally necessary, but we should be cautious lest too great a discharge from the bowels prevent a return of the salutary evacuation. It is necessary to relieve too great fulness, and equally proper to avoid irritation; and the infusion of senna with manna, or castor oil, so as to procure two or three motions, will be sufficient. We must then return to the mild relaxing diaphoretics, avoiding great heat, and admitting free air, if not too cold.

In the usual course, the milk is the vicarious discharge of the lochia. This evacuation should therefore be encouraged by warmth to the breast, by glasses; but, above all, by applying a strong, healthy child. If a flow of milk can be determined to these organs, the woman is secure. This, however, is often with difficulty obtained; and we more frequently find, that by removing congestions of every kind, supporting the patient with mild, nourishing food, she gradually

covers without a return. We need not add, that the disease is highly dangerous.

The spirits, whatever be the cause, are usually much depressed, and it will be right to cheer our patient in this period of peculiar distress and disappointment, by every favourable representation. In fact, however, the lochia are seldom wholly checked without accession of fever, which, from the time of its attack, is styled puerperal. (See PUERPERALIS FEBRIS.) The idea of checking the discharge by rising too soon, if cold be avoided, is truly ridiculous.

The lochia are sometimes redundant; but this disease must be distinguished from flooding during labour, from an attachment of the placenta to the os uteri, or other causes. The complaint we now speak of is the discharge subsequent to labour; and, in this place, we cannot add to what we have said in the article HÆMORRHAGIÆ, q. v. As the disease is rapid and violent, so our remedies should be proportionally active and continued. Fainting should not be obviated; and the practitioner should be particularly cautious that no irritation is kept up from any accumulations in the rectum. Ligatures on the lower extremities are not only useless, but soon become injurious.

LOCHIORRHŒ'A, (from λοχια, *the lochia*, and ῥεω, *to flow*). An excess of the lochia after they become pale or whitish.

LOCULAME'NTA, (from *loculus*, *a bag*). The cells in the fruit of plants where the seeds are lodged, divided by small partitions. See CAPSULA.

LOCU'STA, (quasi *locus ustus*, because from their influence corn is apparently burnt). The GRASSHOPPER; the outer covering of the flower and grain of corn which incloses the chaff; and a name for the LACTUCA AGNINA.

LO'GAS, (from λεγω, *to elect*). The white of the eye. See ADNATA.

LO'HOC. See LINCTUS.

LO'LIUM, (from λαιον ολλυι, *segetem perdere,*) *aira, gramen loliaceum, lolium tremulentum* Lin. Sp. Pl. 122; DARNEL, IVRAY, and COCKLE.

It is distinguished from other corn by its slender flat ear, but is not used in medicine. It is said to produce drunkenness if taken inwardly, and to prevent it if applied outwardly. It is certainly a narcotic, and imprudently taken has been highly injurious. See Raii Historia.

LOME'NTUM FA'BÆ, (from λειοω, *to levigate*). BEAN MEAL, or bread made from it. See FABA MAJOR.

LONCHI'TES, (from λογχη, *a lance*, because its leaves are sharp pointed). *Filix aculeata, polypodium lonchitis* Lin. Sp. Pl. 1548. The root is aperient and diuretic, but not used in the present practice.

LONCHO'TON. See VITRIOLUM.

LO'NGANON, (from *longus*, *long*). See RECTUM INTESTINUM.

LONGI'SSIMUS DI'GITUS. See DIGITUS.

LONGI'SSIMUS DORSI, is a muscle named from its length, and has the same origin with the sacro-lumbaris. It is inserted by several digitations into the ribs on the inside of the upper part of this muscle; between it and the complexus the transversalis colli of Albinus is seated, which runs from the transverse processes of the vertebræ of the back to those of the neck, and raises the body.

LONGI'SSIMUS O'CULI. See OBLIQUUS MAJOR OCULI.

LONGI'SSIMUS PO'LLICIS MA'NUS. See FLEXOR TERTII INTERNODII POLLICIS.

LO'NGUS COLLI, (from λογχη, *a lance*). Rises from the two upper vertebræ of the back, and is inserted into the three upper vertebræ of the neck. It is made up of two plates, which decussate each other; and receives slips from some of the lower transverse processes of the neck. Its office is to bend the neck.

LONI'CERA PERICLYME'NUM. See CAPRIFOLIUM.

LOOK, a gum resin, whose source is unknown. It is a stimulant, and supposed to be a resolvent.

LOPE'ZIANA RADIX, a root brought from Goa, and first described by Gaubius in his Adversaria. It is brought to us in pieces, about two inches thick; of which the woody part is lightish and white, the medullary part more dense and reddish. The bark is rough, wrinkled, brown, soft, and apparently woolly, covered with a paler cuticle. Neither had any striking smell or taste; but it was found highly useful in colliquative diarrhœas, especially in the last stages of phthisis, appearing to act rather as a narcotic than an astringent. Gaubius thinks that it resembles the simarouba.

LOPHA'DIA, LO'PHIA, (from λοφος, *the hinder part of the neck*). See SPINA. Lophia sometimes signifies the upper part of the back of the neck.

LO'PIMA, (λοπιζω, *to decorticate*). See CASTANA.

LO'RA. See DEUTERIA.

LORDO'SIS, (from λορδος, *bowed* or *bent inward,*) is an incurvation of the spine toward the fore parts; and the opposite to gibbosity. It is synonymous with lumbago, tabes dorsalis, and with a curvature of the legs inward.

LORICA, (from *lorica*, *a coat of mail*). A lute with which glass retorts, &c. are coated, before they are put into the fire.

LO'RIND MATRI'CIS. An epilepsy, or a convulsive disorder supposed to proceed from the uterus.

LO'TIO, (from *lavo*, *to wash*). A LOTION; an external fluid application. When used on the eyes, it receives the name of *collyrium;* on the face, a *lotion;* on any other part an *embrocation.* It is the appellation of clyster, and a name of the urine.

LO'TIO ALU'MINIS. See INFLAMMATIO.

LO'TIO AMMO'NIÆ MURIATÆ, LO'TIO AMMO'NIÆ ACETATÆ. See INFLAMMATIO MAMMÆ.

LO'TIO AMMO'NIÆ MURIA'TÆ CUM ACE'TO. See INFLAMMATIO.

LO'TIO SPIRITUO'SA. See AMBUSTA.

LO'TUS, (from λω, *to desire*, from the deliciousness of its fruit). The species used in medicine are noticed under the different names they bear.

LO'TUS A'RBOR, *Celtis Australis* Lin. Sp. Pl. 1478, the LOTE or NETTLE TREE, grows in the southern parts of Europe; its berries are astringent.

LO'TUS URBANA, *trifolium odoratum, melilotus major odorato violacea, trifolium m. officinale* Lin. Sp. Pl. 1078. SWEET TREFOIL. The seeds, leaves, and flowers, are supposed to be anodyne and diaphoretic.

LOXA'RTHRUS, (from λοξος, *oblique*, and αρθρον, *a joint*). An obliquity of the head of bones, and the muscles annexed; of the joint to a degree of deformity, without luxation or spasm.

LUCE (Eau de). See Alcali.

LU'CIDUM SAL, (from *luceo*, *to shine*). See Gemmæ sal.

LU'CIDUS LA'PIS, (from the same). See Bononiensis lapis.

LUCI'NA, (from *luceo*, *to shine*). Diana. See Alilat.

LU'DUS HELMO'NTII, (from its resemblance to a die). A roundish mass, which seems to have cracked in drying, and the interstices to be filled up by a calcareous matter, which frequently rises above the surface. The whole is an argillaceous clay, and the mass consists of prisms of different sizes separated by the calcareous matter. See Haüy, iv. 455.

Paracelsus described the cubic pyritæ, which are like dice, and called them *ludi:* Helmont mistook him, and supposed this stone, which is mostly divided into squares, by the cracks to be the substance. The spar that fills up the cracks is only to be used; for it is that alone which promotes urine, and is supposed a remedy for the stone.

LU'ES, (from *luo*, *to dissolve*, because it produces dissolution; or from the Hebrew term, *laugh*, *to absorb*,) the pestilence in men, and the murrain in beasts.

Lu'es dei'fica. One of the ridiculous names for the epilepsy.

Lu'es neuro'des convulsi'va, a mild typhus.

Lu'es vene'rea. The venereal disease. *Aphrodisiacus and Gallicus morbus*, *grand gor*, *Patursa morbus Indicus and Neapolitanus*. Dr. Cullen names it *syphilis*, and places it in the class *cachexiæ*, and order *impetigines*, defining it a contagious disease, arising after impure coition, and a disease of the genitals; ulcers of the throat; corymbose papulæ of the skin, particularly at the margin of the hairy scalp, running in scabs and scabby ulcers; pain in the bones, and exostoses: one species only exists.

The source of this disease has occasioned much controversy, which, though not interesting in the result, is not without curiosity, and a slight attention to it is, on this occasion, necessary. It has been generally supposed that the venereal disease is a native of America, and was brought to Europe by Colon (Columbus); an opinion supported by the apparently minute accuracy of Dr. Astruc, whose evidence has not been carefully appreciated, neither has the whole been properly adduced. Columbus returned from his first voyage in 1494, and from his second in 1496; but there is not the slightest pretence that the disease was brought to Europe on his first return. His seamen are said to have been in good health; and in his life, collected from his own MSS., by his son Ferdinand, not a word occurs of any disease of this kind. Columbus too returned in March, 1494: at this time the disease began to rage in Naples. He landed in Portugal; but in this country the disease did not appear till two or three years afterwards. The medical authors who wrote in 1496 mention it as a new disease "*then raging*," and some of these date it two years before. Hock de Brakenaw, a professor of medicine at Bologna, fixes its era in 1494; and he wrote only eight years afterwards. Cataneus, who wrote in 1505 at Genoa; and De Vigo, physician to the pope, whose work was published in 1512, both professional men, living almost on the spot, and so very near to its first appearance, fixed its earliest era in 1494. Pintor, a Spanish physician, who resided at Rome as physician to Pope Alexander VI. from 1492 to 1502, and who wrote in 1499, fixes its era also at 1494. Fulgosius, and some other authors, assign an earlier period to its appearance; but there is much doubt whether it was known before the end of 1493. Coccius, in a work published at Venice in 1502, dates its era in 1495; and Jean de Bourdigne, the French historian, remarks, that it began to rage in *France* in 1495. The evidence of Columbus importing it, on his return from his second voyage, is more striking, but equally inconclusive. He returned in 1496, and Oviedo describes Moses Peter Margarita as affected "with the distemper." He observes, that he had so many pains that he *believes* he had also the pains of that disease. The two hundred and twenty-five soldiers who returned with him were undoubtedly in a wretched state of health; but previous to their embarkation they had been besieged in their camp by the Indians, and reduced to live on the most unwholesome food. In this state they crossed the Atlantic. They are described not as having bubos, or cutaneous eruptions, but as of the colour of saffron.

It is singular, that if the venereal disease was of American origin it should not be traced by cotemporary authors to America. The new world was never accused of sending us this scourge till after the third voyage of Columbus, and then, indeed, it was received from thence, though undoubtedly first carried there; nor has any author shown that it was endemic in America. They indeed describe a cutaneous disease, which still exists, and is styled at present the *yaws*, of which the pain is apparently a modification.

The origin of lues, though seemingly connected with the discovery of America, is more strictly so with the expulsion of the Moors, who, driven from Spain, retired to Italy, and resided on the outside of the Appian gate at Rome, when some of them clandestinely entered the city. The cutaneous diseases of that race engrafted on constitutions enfeebled by the plague, or united with the prevailing epidemic, apparently produced a new and distinct disorder. We shall sum up the whole in the words of a critic in a periodical journal, who has seemingly examined the subject with considerable attention in the original authors.

"The summary of the whole may be very short. In Italy, from the year 1491 to 1495, from the great inundations and severe droughts succeeding each other, pestilential fevers of the most fatal kind prevailed. The disease was styled the plague; but it appears to have been only a fever attended with the most violently putrid symptoms, among which were glandular abscesses, sores, and blotches, which discharged a malignant sanies. Those who recovered did not soon return to perfect health: the abscesses remained in a chronic form, and the whole mass of blood was infected. In this state the disease seems to have been communicated by infection, at first from the most general contact; and it was continued in this highly infectious state many years,

when it was attended with fever, often of the putrid kind. In better situations it sooner assumed a chronic appearance, and by degrees fixed itself in those parts, so as to be communicated only by personal connection. It is particularly observable, on a minute examination of the authors, that venereal symptoms mixed themselves with those of fever: or, in other words, the peculiar symptoms of that epidemic were such as have since discriminated syphilis. These symptoms continued subsequent to that fever, and were at last communicated by infection to those who never had the fever." See Astruc, Swediaur, and J. Foot, on the Venereal Disease; Becket, Philosophical Transactions, vol. 30 and 31; Sanchez' Historical Investigation into the first appearance of the Venereal Disease in Europe; Hensler's two Treatises on the American Origin of the Venereal Disease; Girtanner's Treatise, in 3 vols. 8vo. at Gottingen; Gruner's supplementary volume to the Aphrodisiacus of Luisinus, published at Jena; Perenottis' General and Descriptive History of the Origin, &c. of the Venereal Infection, 8vo. Turin; Critical Review, vol. 65; Second Series, vol. 5 and 10.

The lues is at present received from infection only, and it usually shows its source by the tumour of the glands, interposed between it and the receptaculum chyli, as in the lymphatic glands of the groin, when received in venereal embraces; in the axilla when by wounds in the fingers, either in dissection or obstetrical labours; and in the neck when received by children suckling, or, as was formerly the case, by kissing. Where the skin is thin, as in the first and last instances, it is absorbed from the surface, but not from the fingers, unless there is a wound. Swellings of the lymphatic glands are not always the consequence of infection. Sometimes no stoppage occurs, and sometimes, as in the glands of the mesentery, either from anastomosis, or a lymphatic escaping a gland (see Lactea vasa), no inflammation takes place. When children receive the infection from their mothers they are sometimes born with eruptions, chiefly discovered about the nates; but sometimes the disease is not discovered till after about three weeks or a month, when foul ulcers, blotches, or brown copper coloured eruptions, appear about the mouth, the nates, or other parts. It is contended by some pathologists, that, as there appears to be no infection of the blood, it is not probable that the fœtus should be diseased in the uterus. They consider, therefore, the infant as infected at the period of its passing through the vagina. If it were certain the venereal ulcers were never observed at the birth, we might admit this idea; but we think we have in more than one instance discovered them when the child was first washed; and though we admit the general mass to be without any discoverable taint, we know not but that some separation may take place in the maternal part of the placenta. It is sufficient at this time to admit that the child is often infected from the parent; and when the lues has continued, in either parent, for a long period, though then apparently free, the child will soon sink with numerous anomalous symptoms resembling, though distantly only, the lues.

As a running and discharge distinguish a gonorrhœa, so does a small, hard, irritable pimple usher in the more decided lues. This pimple, called a Chancre, q. v., is very general, we believe universal, but so little painful, that it often passes unobserved. In this state it seems to convey no infection, and for a time no matter is certainly absorbed from it; but, at an indefinite period, the glands in the groin begin to swell, and a hard, painful cord, an inflamed lymphatic, may sometimes be traced along the back of the penis to the tumid gland (see Bubo). As the chancre occasionally passes unnoticed, so a bubo, as we have said, does not always occur, and the patient continues in a delusive security, unsuspicious of any disease: yet, if either is attended to, the disease might probably be checked in its bud. We would not, however, enforce such an idea; and we have rather recommended discussing bubos, for this reason, that we avoid a troublesome sore, and at last cannot escape from a mercurial course. It is not, however, by suppuration that the future lues can be averted, but by an extirpation of the gland; yet even this, for the reasons already assigned, would not offer a perfect security.

When neither chancre nor bubo calls the attention to the disease, little inconvenience is felt for some weeks, sometimes many months. It has been contended that the infection may be dormant for many years; but this is certainly not true, and the idea has been cherished to excuse fresh infection. So frequently do patients deceive us in this respect, that it is not easy to fix the limits of the poison lurking unobserved. Perhaps from three weeks to six months some symptoms are usually to be discovered. If minutely examined, the first appearances are a sallow countenance, languor, and listlessness; copper coloured spots on the breast, the arms, and the face, particularly on the forehead, and round the roots of the hair. These by degrees become scaly, occasionally discharging a thin fluid, which forms a scab. Soon afterwards an uneasiness is felt in swallowing, and a livid, flabby inflammation is observed in the throat, with deep ulcers, covered at the bottom with a slough, whose edges are ragged. There is no very marked difference between these and the ulcers of the angina gangrenosa; but they are distinguished by the absence of fever, and their continuance with little, sometimes scarcely any, loss of strength.

These ulcers occasion a hoarseness, and, if near the Eustachian tube, a deafness; and by degrees cover the fauces, or at least extend far over them. If still farther neglected, pains are felt in the bones, chiefly in the harder long bones, as the shin and arms, often in the skull, particularly over the eyes, and at the bottom of the orbits. A swelling comes on the shin bones, and sometimes on the os frontis, which, if neglected, corrodes into a foul ulcer, with a caries, penetrating to the brain. The ulcers on the shin and humerus assume the same appearance; the palate bone equally suffers, and the meat in deglutition is returned through the nostrils. The bones of the nose soon share a similar fate, and the nose sinks flat on the face. When the pains of the bones commence, the strength begins to fail, and, long before these extremities, is so much reduced that the patient crawls with difficulty. Hectic fever comes on, and death closes the loathsome scene.

In the earlier histories of this complaint the symptoms are more various and more dreadful; but on these we need not enlarge, as we have continued the description far beyond the point at which the disease is usually suffered to arrive. In the whole of this course the

blood is apparently untainted. It will not at least communicate the infection; for the matter is largely diluted, and probably sheathed by the albumen. When deposited in the glands, without this medium, its virulence is discovered. By what power it is deposited is among the arcana of physiology, which we can only approach by conjecture (see SECRETION). The poison itself seems to possess an assimilatory property; and, when in a considerable degree of concentration, to be highly deleterious, affecting, by its sedative powers, the nervous system, and even the mind; for a despondency, which the removal of the symptoms cannot relieve, is among its effects when far advanced.

These general appearances are often accompanied by still more distressing local ones. Though we have only mentioned the chancre as the first symptom, it is sometimes followed by painful ulcers, spreading, unobserved, under the prepuce, and gradually destroying the glans, sometimes the whole penis. A suppurated bubo is often equally destructive, forming numerous extensive sinuses which assume the appearance of cancer. Abscesses form in the perinæum, producing fistulous ulcers in the bladder, through which the urine issues, and tubercles, styled *condylomata*, round the anus, almost close the sphincter, or suppurate in fetid, ill conditioned ulcers.

If such and so distressing were the forms of the disease, and they were much more so at its first appearance, we cannot be surprised at the terror which seized the earliest practitioners, who witnessed its devastations without the power of being able to check them. Mercury, its only remedy, was, however, soon discovered, and applied, apparently, at first with a happy boldness by empirics; for *quacksalber*, the German appellation of this metal, was the root of the opprobrious appellation, a quack; though quackery now in a more extensive sense may be found among those who claim a regular education, as well as those whose medical merit lies in the diploma they have purchased.

Mercury is supposed to be a specific in this disease, in other words to oppose its course by properties peculiarly its own. If we bring this idea to a more rigorous test, it will, we think, amount to this; that mercury, by a chemical combination with the virus, destroys its efficacy. This is a subject which, when treating of mercury (see ARGENTUM VIVUM), we reserved, and it is one which has occasioned much controversy. As usual, we must state the outline in a summary way. If mercury acts as a specific, its effects would probably be in proportion to its quantity; but in reality they are in proportion to its active state, or rather to its oxygenation. If, too, it acts in this way, its effects should be the same whether it produced any sensible evacuation or not, for if the poison was destroyed we should be indifferent about its discharge; but this is not the case, for it never cures without inducing some evacuation. The difficulties which stand in the way of its acting as an evacuant only are considerable. The poison is said to possess an assimilatory power, so that whatever portion is discharged, should any remain, the disease must recur. To this we can only reply that, probably, mercury promotes the evacuation more rapidly than the assimilatory power produces new supplies; and as the poison, when formed, is conveyed to the skin, from whence it is most readily eliminated by the mercury, we can easily perceive that in no long period the cause must be removed. Yet were this the only effect other evacuants should be equally serviceable; and indeed it will be alleged, that those which are determined to the skin, and possess a power of stimulating the extreme vessels, are powerful antisyphilitics. Of this kind it is said are the mezereon, the sarsa, the guaiacum, and probably the volatile alkali; those which operate by the intestines, as the lobelia, and some others, are supposed to be equally useful: but let their respective powers be urged so far as facts will warrant, or as the prejudices of their admirers will carry them, each will be found greatly inferior to mercury, except in a warm climate, where the disease is slight and manageable, often yielding to the power of nature alone. Again: were mercury a specific, its power would be peculiarly striking in the local complaints. It has been said, that the matter of a chancre mixed with a mercurial preparation will not convey the disease; but the experiment has not been so carefully made, or so attentively repeated, as to induce us to rest on it with confidence. But will any one contend, that in venereal sores mercury is not an application more certainly and speedily useful than any other? The smarting of an irritable chancre is greatly mitigated by the dry calomel in powder; the discharge of a bubo meliorated by mercurial ointment. It will be alleged that any warm stimulating application will be equally beneficial. In gonorrhœa, indeed, it will be so; but gonorrhœa and syphilis are certainly distinct in their causes, their progress, and effects. While, therefore, it is highly probable that mercury acts as a stimulant and a tonic, supporting more actively and steadily the action of the cutaneous vessels than any other medicine, we cannot deny that it has some chemical effect on the poison itself, either diminishing its virulence, or disposing it more readily for evacuation.

This peculiar quality is still in obscurity, but we may be allowed to suggest whether it is not at least connected with the oxygen of its preparations. We have occasionally indulged ourselves in conjectures, but have not suffered them to detain us long. We shall now, therefore, shortly remark, that mercurial preparations are, as already observed, active in proportion to the oxygen which they contain; that other substances containing a proportion of oxygen are useful in at least arresting the progress of the poison; that the sallow complexion, the inert, inirritable state of the sores, as well as the appearance of the matter discharged, show that there is a great deficiency of oxygen in the system. If then the mineral acids are only partially effectual in removing syphilis, may we not contend that, besides the oxygen, the steady diaphoretic effect of the mercury is required? When the sarsa and mezereon fail, may it not be alleged that the oxygen is wanting? They do not, indeed, fail in warm climates, where, though the disease is milder, the oxygen is apparently more copiously separated in the ordinary functions.

To the numerous and crowded list of remedies for this disease, M. Acharius of Stockholm has lately added tar-water. Alone, it is said to cure, or to be a powerful auxiliary to mercury or the nitric acid. We need not attempt to connect this opinion with our former observations, till experience has more fully appreciated the value of the proposal.

In whatever way mercury acts, it is admitted to be the only remedy which we can depend on in this

climate. Various are the opinions respecting the preparation to be chosen, the forms of administration, and the conduct of the plan. Every practitioner has his predilections and his prejudices respecting particular preparations; but we are coming back to the earliest views, and it is now generally agreed that the mercurial pill, and the friction with mercurial ointment, are most commonly successful. Of the other internal mercurials, perhaps calomel is equally useful with any other; and though we have, for a long time, employed mercurius calcinatus, we know not that it is superior in efficacy; but to this part of the subject we must return.

In the earlier periods, mercury was employed so freely, or rather so rashly, that the most fatal consequences often ensued. The loss of the teeth and the injury of the sight were among the slightest of these; and sometimes a fatal apoplexy has supervened, which yet occasionally happens, though the event is peculiarly rare. Terrified by these events, practitioners began to think that mercury in very large doses was unnecessary; and the quacks at last contended that their boasted nostrums contained none. In their preparations, indeed, the most active mercurials are employed, and they depend on the colour and the density of their medicine to elude the detection of the mineral; but modern chemistry has too many resources to be so easily baffled, as our remarks in the article Argentum vivum will evince; to which we could add some experiments of our own. Others, melioris notæ, assert, that they can cure the disease without salivation; and practitioners of credit do not often *require* confinement. Yet, in such cases, relapses we have found not uncommon; and though confinement may be sometimes dispensed with in warm weather, it will be more safe to enjoin it. The severity of the old process is greatly mitigated since the days of Pott, and the last author of that school who countenances it is, we believe, Mr. Howard. Yet when the disease has long continued, where the bones are greatly affected, and every part of the system seems to be contaminated, this severity should still be employed. Without it, in such cases, there is no safety. In more recent complaints, a milder course may be trusted; and a spitting, not exceeding a pint in a day, continued for about three weeks, or a month, will often effectually cure. It must, however, be remembered, that the longer the disease has continued, the more intimately it appears to have penetrated, the more active must be the salivation, and the longer should be its duration. In general, gargles, and any applications, except the mildest, should be avoided; for though the topical complaints will be sooner relieved, these should be left as indices to enable us to judge of the state of the constitution. In cases where discovery is dreaded from these local affections, this precaution may be disregarded.

It has been a question, whether, when other discharges are increased, salivation is necessary. When the cutaneous evacuation, or the urine, is evidently and copiously increased in quantity, it is highly probable that the disease will be equally removed. Yet no prudent practitioner will wholly depend on these discharges. We know only that mercury is accumulated in the system by its affecting the mouth; and unless accumulated, the disease will not be cured. Yet many persons no quantity of mercury will salivate, and to increase the dose beyond due bounds may be dangerous, as a most profuse and violent spitting sometimes attacks at once. In such instances, we have found it advantageous to employ the assistant medicines, as the mezereon, &c.; and to watch the progress of the local complaints. When these have yielded, and the constitution in general is amended, the omission of mercury may for a time be allowed, and it may at a future period be commenced with more success. When we have perceived from these indices that little has been gained, rubbing calomel on the gums, a practice recommended, we believe, first by Mr. Cline, has succeeded, though troublesome ulcers in the mouth have sometimes followed.

When mercury has conquered the general disease, the local ones often continue troublesome. The sores in the throat are, indeed, frequently the effect of the remedy, and may be distinguished from true venereal sores by their being less deep and foul, with edges less ragged, or insensibly lost in the ephelion. These may be healed by discontinuing the medicine, and using gently astringent gargles. The nocturnal pains, the gummata, tophi et nodi, and the venereal excrescences, often continue after the constitution is wholly cleared. The mezereon will relieve in many instances the pains; and the warts must be treated, like any others, with caustics, or the knife. The gummata we have already described, and need only add in this place, that if the mezereon, with the topical application of mercurial ointment, does not succeed in reducing them, they will at least be no longer painful; but, should the patient still wish to be effectually cured, the surgeon may make an incision on the bone, and cut out the tumefied part, bringing on a suppuration to complete the cure. The process is, however, painful and troublesome; nor is it advisable on the head, since the node often arises in the diploe of the scull, and each lamella is equally affected.

The doses of mercury must be managed with caution, and very slight ones first employed. If we give the mercury oxygenated by triture, about four grains of the blue pill of the Edinburgh Pharmacopœia, which contains a grain of mercury, will be sufficient, if repeated three times a day. If calomel or mercurius calcinatus is employed, a grain night and morning at first, or two grains at night, guarded with a grain of opium, lest it should irritate the bowels, will be a proper dose. If the ointment is preferred, half a drachm of the strong mercurial ointment may be rubbed in night and morning. In about a week or ten days, by either plan, the mouth will be slightly sore, and the repetition may be regulated by its degree, or by the violence or duration of the complaint. In many cases the bowels will be so much affected by the mercurial, that no doses of opium will check the pain or diarrhœa: in many the salivation comes on so rapidly that the effects on the disease cannot be depended on. Sometimes opium, sometimes the hæmatoxylon, the catechu, the kino, the oak bark, or tormentil, will check the discharge on the bowels; and the Dover's powder, pulvis ipecacuanhæ compositus, with a warm regimen, and a flannel shirt, prevent its affecting too soon the mouth.

In each instance, we must proceed very cautiously with the medicine, to accustom the constitution to its irritation.

The other preparations chiefly in use are Plenck's powder, the solution of the sublimate, the mercurius acetatus, and alkalisatus. From these we seem to derive no peculiar advantage, nor are the two latter, as is pretended, less irritating to the bowels. Plenck's gummy solution of mercury sometimes appears to be so, but is not on the whole superior. The solution of the muriated mercury, introduced by the baron Van Swieten, was for a long time trusted. It affected the bowels only in a slight degree; and when its menstruum was corn spirit, it sat easily on the stomach. It soon appeared to check the disorder, but here unfortunately its merits rested. When the complaints were diminished, the medicine would affect no more, even though the dose was increased; and in some instances, even during its use, the worst symptoms appeared to return. Fumigations, which were formerly much employed, are now seldom trusted, and seem chiefly useful by bringing on, more rapidly, mercurial effects on the salivary glands.

In a very low state of the constitution, when hectic symptoms prevail, mercury is of doubtful efficacy; but cautiously and gradually administered, it does not increase hectic symptoms; and it is not difficult, even during the progress of phthisis, to arrest, in a great measure, venereal symptoms. Though its action on the salivary glands is necessary to show that it is introduced in sufficient quantities, yet when these are soon affected, as we have said happens in some constitutions from idiosyncracy, and very generally in scorbutic habits, there is no opportunity for its power being communicated very generally to the smaller vessels. In such cases it must be resigned, if a warm regimen and the relaxant diaphoretics, just mentioned, will not direct it to bther excretories.

In these and similar cases we must apply to what may be called the accessary specifics, and we fortunately have some active medicines of this class. Among these we may reckon the MINERAL ACIDS, particularly the nitrous. The nitrous acid was warmly recommended to us from the experience of the Indian practitioners. Our expectations, often deceived by pompous promises, were not raised high when we were informed that its effects were equal to those of mercury; but, though far inferior, it is a medicine highly useful. The nitrous acid will not cure lues, but it will arrest the symptoms and restore the strength in those intervals when mercury can be no longer borne. It will sometimes in these intervals seem even to advance the cure, and we can truly add, that the methodus medendi has not for many years received a more powerful auxiliary.

The other accessary antisyphilitics are the bark, opium, china root, guaiacum, sassafrass, astragalus, lobelia, *lupulus*, dulcamara, sarsa, and mezereon. We have arranged them in what seems the order of their efficacy, commencing with the least powerful; omitting the volatile alkali, muriated barytes, the juniper, the cicuta, the green rind of the walnut, the bardana, and saponaria, as of very inconsiderable, if any, power. On the individuals of the former class we shall add a few remarks.

The peruvian bark has, alone, no power of checking the progress of the syphilitic infection. Yet it is often highly useful in lues, when mercurial ulcers occur in the mouth; when the ulcers of suppurating bubos assume a livid appearance, or those in the perinæum are foul, with deep sloughs. It has been contended that it meliorates venereal symptoms; but, in reality, it only lessens their painful irritation by diminishing irritability. The cicuta, and the green rind of the walnut, in the second class, act in the same manner, if indeed they have *any* effect.

Opium has been celebrated as a certain antisyphilitic, and, in many instances, it has had apparently a powerful effect. This, however, is temporary only, and the symptoms have returned with increased violence. It acts like the former medicine by lessening irratibility, and in some measure perhaps as a diaphoretic. In this way it is peculiarly useful in mercurial ulcers. The *china root*, the *guaiacum*, *sassafras*, *astragalus*, *escapus*, *lobelia syphilitica*, *lupulus*, and *dulcamara*, are not found to answer the high expectations formerly entertained of them. The three first are occasionally ingredients in diet drinks, and the three last are, in this country, scarcely ever prescribed.

The *sarsaparilla* has retained a considerable credit, and is even now generally employed. What its effects may be in a recent state we know not, but we have found its powers inconsiderable in this country, though we have given large doses in substance. It appears to be chiefly mucilaginous, with few sensible properties, which would lead us to suppose it active.

The *mezereon*, on the contrary, is a powerfully stimulating diaphoretic, from a plant strongly narcotic, and seems to combine the united virtues of the rest. It has alone often effected all that has been expected from the others, which in many instances seem to overwhelm instead of adding to its powers.

If we examine these antisyphilitics we shall find them in general narcotic; in a few instances merely mucilaginous, and in general diaphoretic. If the sarsa is not merely mucilaginous, it is diaphoretic. From each property we perceive that some advantages may be derived in lues; and when all are combined, the effects may be more salutary. In the mezereon we combine the diaphoretic and the narcotic; in the sarsa, the former with the demulcent; in juniper, the bardana, the sassafras, and the guaiacum, we have probably only the diaphoretic, or with a less degree of the mucilaginous; in the dulcamara, lupulus, astragalus, the green rind of walnut, bark, and opium, the narcotic only. The same views assist us in forming a judgment of their comparative merit; but their order was long since fixed by experience, before we had occasion to examine the source of their efficacy. Above all we must reflect, that those which have any claim to a diaphoretic power are given in decoction, by which the active particles are attenuated and conveyed to the skin; and these only are useful where the disease has penetrated to the minutest vessels.

Mr. Bell observes, in his Treatise on Ulcers, that those which are the result of a venereal taint of a long continuance, are singular in the appearance of their discharge. It is at first thin, but soon becomes tough and viscid; having a very loathsome, though not the ordinary, putrid smell, and a singular greenish yellow colour. In such ulcers as have a lues of long continuance

for their cause, we should depend on the effect of mercury given internally, contenting ourselves with such external applications as will keep the sore clean. In this manner the different ulcers are, as we have said, indices that the disease is eradicated from the habit. Venereal ulcers are apt to inflame, and are then painful; but a saturnine poultice will relieve the inconvenience, and the unguentum cereum Pharmac. Edinb. will be only required. If the ulcer is seated near a bone, the appearance of fungous flesh will lead to a suspicion of caries; and besides the proper treatment for carious bones, mercury must be administered. These ulcers are often obstinate, though every venereal symptom is removed; and this is frequently owing to some other disease, which will require attention. The sores, however, will sometimes not heal from the effects of mercury, and then the bark, opium, or both, with a nourishing diet, a pure air, and moderate exercise, will usually succeed. If the sloughs on these ulcers are tough, dressings that gently stimulate will be required; and two drachms of the nitrated quicksilver may be added to an ounce of the unguentum resinæ flavæ for this purpose. When a gland is the seat of an ulcer, a salutary suppuration is with difficulty produced, and the gland, at least the hardened part of it, must be destroyed by repeated applications of the argentum nitratum. See Bell on Ulcers, vol. vi. p. 381, &c.

An eruption of the skin is sometimes also the consequence of a free use of mercury, attended with a fever, usually idiopathic. The skin is affected with a prickling sensation, and a rash follows, which terminates in branny scales. The skin, however, is left in a state peculiarly tender and irritable, which is relieved by bark or opium, but, above all, by the mineral acids.

When venereal ulcers appear cancerous, fresh air, a fuller diet, abstinence from mercury, and hemlock applied outwardly, or given inwardly, will sometimes succeed. A more speedy effect has been observed from eating several lemons in a day. See some observations of this kind in the London Medical Transactions, vol. ii. p. 338, &c. Venereal ulcers in the throat may be conveniently relieved with the following: R. Hydrargyri muriati, gr. x. acidi muriatici, gut. v. tinct. lav. c. ʒi. m. cap. gut. v.—xx. bis. die, in aq. pura vel jusculi avenacei.

Astruc on the Venereal Disease, or Chapman's Abridgment of Astruc; Heister's Surgery; Fordyce's Elements, part the second; Falck's Treatise on the Venereal Disease; Fordyce's Review of the Venereal Disease; White's Surgery, vol. iv. p. 399, 423; Swediaur, Plenck, Howard, Bell, and Hunter, on Venereal Complaints; Pearson's Observations on the Effects of various Articles of the Materia Medica in Venereal Complaints.

LU'JULA, (corrupted from the diminutive ALLELUJULA, q. v.). ACETOSA.

LUMBA'GO, (from *lumbus*, *a loin*). Pain in the loins. See RHEUMATISMUS and ARTHRITIS.

LUMBA'GO PSOA'DICA, and APOSTEMATOSA. See ARTHROPUOSIS.

LUMBA'LIS MU'SCULUS, (from the same). See PSOAS.

LUMBA'RES NE'RVI, (from the same). The LUMBAR NERVES pass out from the spinal marrow through the vertebræ of the loins, and become larger from the first to the last. The first lumbar nerve throws a large branch backward, and two filaments to the intercostal: the trunk of the nerve goes through the psoas muscle, then to the spine of the os ilium, at whose anterior superior process it throws off several branches to the muscles, and one to the spermatic cord in the male, and to the round ligament of the female. The first going to join the second, sends off two filaments; one of which goes to the spermatic cord, the other passes under the Poupart's ligament to the groin; from this the pain felt in the thigh during a fit of the stone is explained.

The second lumbar nerve lies on the inside of the psoas muscle, goes through its head, and runs along it; then passes through the annular aperture of the obliquus externus to the scrotum in males, and the labia in women. The second lumbar nerve joins with the third; and that again communicating with the fourth, forms the crural nerve. See CRURALIS.

The fourth and fifth lumbar nerves, and the three first sacral, form the sciatic nerve, which, passing out at the great sciatic notch, runs down between the tuberculum ischii and trochanter major, along the internal and posterior part of the thigh, between the biceps and seminervosus, as far as the ham, rather nearer the inner condyle of the os femoris than the outer. See CAUDA EQUINA.

LUMBA'RES ARTE'RIÆ go out posteriorly from the inferior descending aorta, in five or six pair, in the same manner as the intercostals. The upper ones send branches to the neighbouring parts of the diaphragm and intercostal muscles, and supply the place of semi-intercostal arteries; they are also distributed to the psoas, and other adjacent muscles; and, by perforating the oblique muscle, they become external hypogastric arteries. They also go to the vertebral muscles, and enter the spinal canal.

LUMBA'RES VE'NÆ proceed from the vena cava, near the bifurcation, and principally on the right side; sometimes from the left iliac vein; this branch communicates with the azygos and intercostal veins.

LUMBA'RIS EXTE'RNUS. See QUADRATUS LUMBORUM.

LUMBA'RIS INTE'RNUS. See PSOAS.

LUMBA'RIS REGIO. The REGION OF THE LIONS is the posterior external region of the belly, extending from the lowest ribs on each side, and the last vertebra of the back, to the os sacrum, and the neighbouring parts of the os ilium. The sides of this region are strictly called the loins, and include also the musculus quadratus lumborum on each side of the lower portions of the sacro-lumbares, of the longissimi, and latissimi dorsi, the musculus sacer, &c.

LUMBRICA'LES MU'SCULI, (from their resemblance to a worm,) *vermiculares*, *fidicinales*, *flexores primi internodii digitorum*, the productions of the flexors of the fingers and the toes: originating from their respective tendons, after encircling the basis of each finger and toe they join with the extensors. Their office is, when the extensors have done their utmost, to finish the extension, and, when the flexors have done their utmost, to finish the flexion.

LU'MBRICI, (*à lubricitate*, from their slipperiness). The lumbricus, which abounds in the intestines of young persons, resembles so nearly, in its general

appearance, the earth worm, that it has been considered as the same animal. It is, however, distinct, and is the Ελμις στογγυλα of the ancient physicians, distinguished from the earth worm by wanting the elevated ring in the middle of its body. The body of the ascaris lumbricoides, for this is its generic name, is round; its head furnished with three vesicles, placed in a triangular form; generally from twelve to fifteen inches in length, and about the diameter of a goose quill. The head may be distinguished by the three vesicles mentioned, and the triangular space between is the mouth of the animal. The tail terminates suddenly in a very sharp point, and near it the orifice of the anus may be distinctly seen. Near the middle of the body is a circular depression about three lines in extent, in which is an aperture like a small point. This band is most conspicuous when the body of the worm is distended, and it seems wanting when the body is collapsed. Just below the mouth are two small transverse clefts, which Bruguiere calls *stigmata*, and thinks them the organs of respiration.

Two longitudinal lines extend through the whole body of the worm, which are the tendons to which the semicircular muscles are attached. The animal, however, does not move, like the earth worm, by a vermicular motion, but curls its body in circles, from which it extends the head. A number of vesicles surround the intestinal tube, which proceeds, without any change of direction, from the head to the anus, but they do not extend beyond the depressed band. Below it the connecting medium appears to be a common cellular substance. These vesicles are filled with a mucous, probably a nutritious, fluid. The intestinal canal contains a dark green fluid, resembling the meconium of infants. But even from the lower part of the canal filaments appear to arise, which probably convey a portion of nourishment, though the great reservoirs are in the upper portion. The most singular part of the worm is what may be considered as its uterus. Just below the depressed band a white vessel is seen, which soon divides into two, and after running some way in a cylindrical form, they quickly become smaller, and at last are minutely convoluted, embracing on all sides the intestinal tube. These vessels, forced by the agonies of the worm through the particles of the abdomen, appeared to Mr. Church the young of the animal, which he, of course, considered as viviparous. It is, however, generally agreed that the lumbricus intestinalis is oviparous.

The lumbricus terrestris has but one vesicle, is flat towards the tail, and has bristles on its under side, which it can erect at pleasure. Its annular muscles are large, and of a dusky red; and on its under surface is a large semilunar fold of the skin, into which the animal can draw its head. It has also three lines on its upper surface.

The intestinal lumbricus is seldom solitary, but in very few instances appears to be injurious. Its source is unknown; for it has not been found in any other situation. When first discharged they are semitransparent, and of a dilute red colour, but they soon become yellowish. They are usually found in the jejunum and ileum, rarely in the large intestines, and still more so in the stomach. In each they appear to be escaping from the body, when fever renders their situation uncomfortable, or active anthelmintics force them with the mucus from their seats.

Lamarck Systeme des Animaux sans Vertebres; Histoire Naturelle des Vers, par Deterville, (suite de Buffon); Pallas de intra Viventibus; Hooper's Memoirs of the Medical Society, vol. v. See Vermes.

Lu'mbrici la'ti. See Tæniæ.

LUMBRICO'RUM SEMEN. See Santonicum.

LU'MBRICUS TERRE'STRIS. (See Lumbricus intestinalis.) The earth worm is supposed to have an antispasmodic and diuretic virtue. If worms are moistened with vinous spirits to prevent their putrefaction, and placed in a cellar, they deliquesce; and the liquor, when mixed with alkaline salts, is said to yield crystals of nitre. They have been employed for the same purposes as snails.

Lu'mbricus e'dulis. A species of lumbricus found on the southern sandy shore of Batavia, is considered as a delicacy; it is described by Pallas, who thinks it the same as the teredo, described in the twenty-sixth volume of the Philosophical Transactions. See Spicilegia Zoologica Fasciculus, x. 10.

LU'MBUS, (à *lubidine*). The loin.

Lu'mbus ve'neris. See Millefolium.

LU'MEN, (quasi *lucimen*, *à luceo*, *to shine*). The effects of light on the human system have not yet been explained. We have of late only began to perceive with clearness the causes of its influence on vegetables and some chemical preparations. We find, in general, that light separates oxygen; that it changes the nitric into the nitrous acid, and the oxymuriatic to common muriatic acid. We find, also, that it deprives many preparations of their peculiar colour, particularly phosphorus; and it seems greatly to influence the process of crystallization. Some preparations must be exposed to a strong solar light, as carmine; for a cloud, it is said, will spoil the colour, and the argentum fulminans requires to be exposed to the light of the sun for many days.

If we ascend to the vegetable kingdom, we shall find that the absence of light deprives the leaves of their colour; and Humboldt, who discovered some vegetables in the deepest shafts of mines, found that the shapes of the leaves were not the same. If plants, then, will grow without light, we must not consider their growth as wholly depending on the decomposition of water, in consequence of light; but we have reason to consider the colour as depending not only on the decomposition of the water, but of the carbonic acid gas also.

Animals confined without light are often of a white colour; but this must be confined to those who usually live in the open air; for the mole, the pangolin, and some others who scarcely ever see the day, are not white. The particular cause of this change has not been examined. It is not apparently from a deficiency of oxygen. Some animals emit light in their motions, and this light is connected with their life and activity, as in the lampyris, the glow worm, the insects in oyster shells, and those which illumine the sea in a storm. In these it seems that light enters into the composition of those fluids to which their activity is owing, and, indeed, every fact now noticed shows that light is a body, and may form a component part of other bodies. We are not acquainted with the effects of light on the human body. We know that the oxygen is a powerful

stimulus, and that colour, health, and vigour, are often in excess when this air is breathed; but it seems probable that this is the case when the oxygen is in a loose uncombined state, and that light is salutary in promoting its separation. These speculations are, however, uncertain, and it is still more so, whether light is really a component part of our bodies. When we reflect, however, that the general health is apparently connected with light, that the peculiar acid of the animal system, the phosphoric, has a powerful attraction for this element, and appears to contain it, not only in a chemical combination, but, when in the form of an oxide, unites with, and allows it to separate without decomposition, we may suspect it to be a more powerful agent in the animal economy than has yet been supposed.

For the physical properties of light, see Haüy Traité de la Physique, vol. ii.; Cavallo's Natural Philosophy, vol. iii.; and the article Oculus. For the chemical, see Exeter Essays.

LU'NA, (from the Hebrew term *lun, the night).* See Argentum.

Lu'na philospho'rum. See Antimonium.

LUNA'RE OS, (from *luna, the moon).* The second bone of the first row in the wrist, because one of its sides resembles a crescent. See Carpus.

LUNA'RIA, (from *luna, the moon;* from the shape of its leaves, like a crescent). An appellation of many plants whose leaves are reniform, but more peculiarly applied to the *osmunda* of Linnæus.

LUNA'RIS PILU'LA, (from *luna, silver*). See Causticum lunare, under Argentum.

LUNA'TICA, ischu'ria, (from *luna, the moon).* A periodical suppression of urine, noticed by Sauvages. See Ischuria.

LUNE'TRIA is, in the chemical jargon, a species of hectic, curable in one period of the moon.

LUPA'RIA, (from *lupus, a wolf;* supposed to destroy wolves). *Aconitum Ponticum folio Platani, Lycoctonum luteum, aconitum lycoctonum* Lin. Sp. Pl. 750. Yellow wolf's bane. Like the other species, it is poisonous.

LU'PIA (from λυπεω, *to molest*). A kind of tumour like a ganglion, hard, and not peculiar to any part of the body: when it is in the inside of the eyelid it is called *chalaza;* when about the joints *lupia.* Dr. Cullen uses it as a generic term for wen. See Nævus.

LU'PULUS, (λυπη, *dislike;* from its bitterness,) *humulus convolvulus perennis, humulus lupulus* Lin. Sp. Pl. 1457. The hop. This plant hath hollow stalks, and broad serrated leaves, cut into three or five sharp pointed sections. On the tops grow loose scaly heads, among which are small flat seeds. It is perennial, grows wild in hedges, and the bottom of hills, in various parts of Europe; but those used are cultivated in plantations. In August and September the scaly heads are dried in kilns with a gentle fire.

The scaly heads have a bitter, warm, aromatic taste, yielding their virtue to proof and rectified spirit, by maceration without heat; and to water, by warm infusion. The extract obtained from the spirituous tincture is an elegant bitter; but hops are only at present used for preserving malt liquor. Like many other bitters, the cold infusion is more grateful than that made with boiling water; but the quantity must be larger. Hops have been suspected of a narcotic power, and there is said to be an act of parliament prohibiting their use in beer. On the other hand, a pillow of hops has been said to procure sleep. Hops have been lately, like other narcotic bitters, recommended in gout. The Spaniards boil a pound of hop roots in a gallon of water to six pints, and drink half a pint of the decoction, whilst in bed, every morning, as a remedy for the lues venerea. See Lewis's Materia Medica.

LU'PUS. The wolf cancer; because it devours rapidly the flesh, like a wolf. It is the *noli me tangere* in the seventh order *tubercula* of Willan. See Cancer.

Lu'pus philosopho'rum. See Antimonium.

LUSCIO'SUS, and LUCI'TIOSUS, (from *luscus).* One who only discerns objects that are very near the eye. See Nyctyalops.

LUSITA'NICUM DECO'CTUM. See Sarsaparilla.

LUTE'A, LUTE'OLA, (from *lŭtum, mud;* because it grows in muddy places, or is of the colour of mud,) *struthium,* dyer's weed. *Reseda luteola* Lin. Sp. Pl. 643. The root, boiled with salt, dyes wool of a fine yellow colour. Dioscorides recommends it as useful in the jaundice, and, indeed, every thing yellow was employed in the same disease; but the present practice does not notice it.

LUTUM, (from λυτος, *soluble).* Lute. Cæmentum. Many chemical vessels require to be covered with coating, to preserve them from being broken or melted in the fire, or to close exactly their junctures. These coatings are, in general, called *lutes.* Glass vessels may be covered with a mixture of equal parts of coarse sand and stiff clay, mixed with water and a little hair, so as to form a liquid paste, which must be spread with a brush upon the glass; and when dry, covered with another coat, until the covering is sufficiently thick. When a glass is to be exposed to the action of the fire, a coating of fat earth and fresh horse dung is recommended: the earth is suffered to macerate for some hours in water; and, when properly softened, it must be kneaded with the horse dung into soft paste, to be spread with the hand upon every part of the retort. The horse dung is useful, as containing a serous fluid, which hardens by heat, strongly connects all the parts together, and with filaments of hay, contributes to cement them very firmly. The dung must be fresh: for, when altered by fermentation, it does not possess the same virtues. Retorts, luted in this manner, resist the action of the fire very powerfully, and the adhesion of the lute is such, that, even should the glass break during the operation, the distillation may be still carried on.

The lutes with which the joining of vessels are closed are of different kinds, according to the nature of the substances to be distilled. When vapours of watery liquors, and such as are not corrosive, are to be prevented from escaping, it is sufficient to surround the joining of the receiver to the nose of the alembic, or of the retort, with slips of paper, or of linen covered with a mixture of wheat flour and water, of the consistency of soft paste; slips of bladder, wetted, will be often sufficient if carefully applied. When more active vapours are to be secured, the lute may consist of a soft paste made of quick lime extinguished in air, and mixed with the white of egg. When corrosive acid vapours

are to be confined, what is called the fat lute is necessary. Fine clay, well dried and powdered, must be sifted through a silken scarce, then moistened with water, and beat into a stiff paste with boiled lintseed oil, applied to the junctures, and secured by means of slips of linen: these slips must be covered with the lute made of quenched lime and white of egg. Chaptel's Elements of Chemistry.

LUXA'TIO, LUXATU'RA, (from *luxo, to dislocate*). *Dislocatio; aberratio; eluxatio; emotio; elongatio; ecptoma; ecclysis; lygismos; delocatio; exarthrema; olisthema;* a LUXATION, or DISLOCATION. A slight dislocation is termed *diacinema; parathrema;* an incomplete one, *contortio* or *declinatio.* Dr. Cullen places it in the class *locales*, and order *ectopiæ*, which he defines a bone removed from its seat in the joints. To which may be added, "causing an impediment to voluntary motion:" a compound luxation is when a wound, fracture, or a violent contusion, attends.

Luxations from internal causes are thus distinguished: 1. The limb is so relaxed, that it may be easily moved in any direction. 2. A cavity about the joint, and a hollowness between the bones, may be felt with the fingers. 3. The dislocated bone, if replaced, soon escapes spontaneously, from the weakness of the ligament and muscles. 4. The dislocated limb is frequently longer than the sound one, and attended with neither pain, inflammation, nor convulsion. 5. It generally happens to the upper part of the femur, or humerus, and sometimes to the articulation of the foot with the tibia. When owing to an external injury, the diagnostics are uncertain, when the joint is swollen from a violent contusion or distortion. In such cases we must suspend our judgment; and could we decide until the inflammation and tumour were abated, attempts towards a reduction would be improper. The more readily to discover a luxation, it may be observed, that when the head of a bone is removed out of its place, the other end will be distorted in an opposite direction. A tumour is also generally observable where the dislocated part of the bone is seated, and an hollowness from whence it receded; though, in a muscular part, the tumour and cavity are not easily perceived.

In consequence of a luxation, the symptoms differ as the parts affected are different: in general, there is an immobility, or a defective motion of the dislocated limb; a distraction of some muscles, and a relaxation of others; violent pain and inflammatory tension of the joint; a torpor of the subjacent parts; a compression of the neighbouring vessels, from whence an atrophy, gangrene, pain, œdematous swellings, or convulsions, may ensue.

Compound luxations are more dangerous than compound fractures. Boerhaave observes, that the worst luxation is produced by a solution or a separation of the epiphysis from the body of the bone. In general, the prognostic should be cautious, but the difficulties and uncertainties are greater in proportion to the distance of the dislocated bone from its proper place; the figure of the luxated limb; the part in which the luxation is seated; the parts pressed, or intercepted; the pain, inflammation, or other violent symptoms.

It will be obvious that a partial dislocation may be more easily reduced than a more complete one; and a fracture attending will render the cure more doubtful: indeed, if a fracture near the joint is accompanied with a luxation, a stiff joint must be expected, if the limb *can* be saved. After a limb has been some time luxated, it forms a socket for itself, and its old cavity is usually filled with a fatty substance, but not with inspissated synovia, as has been asserted. The attempt is, in this case, hopeless, and generally unnecessary; for the limb, in its new position, retains some degree of motion, and is perhaps more serviceable than it would be after the inflammation which would arise from unsuccessful attempts. In delicate constitutions, and advanced periods of life, luxations are more easily reduced than in the young and strong, whose muscles resist very powerfully.

The object of the surgeon is to reduce the luxation, an operation called *embole;* and to retain the limb in its proper situation. If inflammation or tumour is considerable, they must be removed before a reduction is attempted. Mr. Pott justly observes, that the resistance of the muscles is the only cause of the difficulty of reducing luxations; that much force is never required, provided the muscles are relaxed by a proper position of the limb; and that in recent cases, at least, the capsular ligament will rarely, if ever, impede. The extension should be gradual and continued, until the dislocated bone is on a level with the cavity from whence it receded. If the head does not then spontaneously return, it must be assisted by pressure, employing the dislocated bone as a lever. Dr. Hunter seems to think that a rupture of the capsular ligament is a greater impediment to reduction than the contraction of the muscles. It cannot be denied, that, in violent luxations, this ligament is often broken; but this is by no means an universal consequence. Both recommend gentle extension, and to avoid violence.

When the external parts are violently bruised, general and topical bleeding, saturnine applications, &c. are necessary. The limb must be laid in an easy posture, and the tumour allowed to subside before the real nature of the case can be understood, or any attempt made to reduce the displaced bone. The great impediment, we have said, is the strong power of the muscles, which not only resists the extension, but often throws the bone into a different cavity from that to which we wished to direct it. When a fracture accompanies dislocated bones, a firm callus must be allowed to form before the reduction is attempted; but, if the fracture be at a distance from the dislocation, or in very small bones, where the power of the muscles is inconsiderable, this precaution may be neglected.

After the luxation is reduced, leeches and saturnine applications should be employed, the pains moderated by opium, and fever diminished by cooling medicines, laxatives, and a low regimen in every respect. The most perfect tranquillity is absolutely necessary.

1. CA'LCIS LUXA'TIO O'SSIS. *Luxation of the heel bone.* Whether luxated inward or outward, a cavity on one side, and a tumour on the other, discovers it; and the pain is severe. The treatment is the same as is directed when the bones of the hand are luxated.

2. CA'PITIS LUXA'TIO vel CRA'NII. *Luxation of the head.* A separation of the bones of the cranium from the hydrocephalus is by some called a luxation of the head; but in general, is meant a luxation of the upper vertebra of the neck. In this case, the patient

being seated upon the ground, and supported by an assistant, the surgeon standing behind should raise the head from the breast. The assistant should press down the shoulders, and the head be gradually drawn up, till the dislocation is reduced. If this does not happen with moderate extension, it may, at the same time, be gently moved from side to side. A sudden crack or noise is heard on the reduction being completed. See Bell's Surgery, vol. vi. p. 183, 195.

3. Ca'rpi luxa'tio. *Luxation of the wrist.* One or two of the bones in the wrist are sometimes removed from their place, which is discovered, as usual, by a tumour and a cavity, with violent pain. If the luxation is recent, it must be treated as a luxation of the hand. Bell's Surgery, vol. vi. p. 89, 246. White's Surgery, p. 163.

4. Clavi'culæ luxa'tio. *Luxation of the clavicle.* When this accident happens, the sooner the reduction is performed the better; for long continued luxations of the clavicle are rarely cured.

The clavicle may slip from the sternum either outward or inward; in the first case a preternatural tumour is observed about the joining of the bones: in the latter case a sinus is observed in the part affected, the aspera arteria, the carotids, the contiguous nerve, and the œsophagus, are compressed. The general directions recommended, in case of a fractured clavicle, when the accident hath happened near the breast bone, are sufficient in this as well as with respect to a luxation happening next the acromion. The last is sometimes not easily distinguished from a luxated humerus. Paré observes, that in this case the upper part of the clavicle starts upwards, and a hollow cavity is observed where the clavicle is separated from the acromion: the pain is violent, and the patient cannot move the arm upwards. If the reduction is not speedily effected, the arm will soon become paralytic.

The greatest care is required in the use of bandages, lest a stiff or a luxated arm should remain. If the bone is luxated near the sternum, and is started outward, besides bolsters to depress the end of the bone, the capelline bandage should be applied; but if inward, the stellate bandage is preferable, on account of its keeping the shoulder back. If the luxation is next the scapula, the spica with two heads may be used. If both clavicles are displaced, the double spica must be employed, as directed in luxations of the humerus and scapula. See Bell's Surgery, vol. vi. p. 204; White's Surgery, p. 157.

5. Co'ccygis o'ssis luxa'tio. *Luxation of the os coccygis.* This bone may be forced inward by a blow, or outward by a difficult birth. In this case, the pain is felt in the lower part of the spine, and inflammation, sometimes with suppuration, in the rectum, is produced. Independent of these symptoms, the sight and touch will discover the disease. In the latter case the bone may be replaced by pressure with the thumb: in the former the fore finger dipped in oil must be introduced up the anus, to press the bone outward, while the other fingers, applied externally, guide it to a proper place.

The T bandage is necessary, and the patient must be kept in bed; and, when he rises, sit in a perforated chair. See Bell's Surgery, vol. vi. p. 201; White's Surgery, p. 157.

6. Co'lli luxa'tio. *Luxation of the neck.* A luxation between the head and the upper vertebra of the neck is immediate death, from the pressure on the medulla oblongata, or medulla spinalis. When a man is said to have broken his neck, there is a partial luxation of the first or second vertebra only; and in this case the chin is fixed to the breast, which prevents his speaking, swallowing, or moving the parts below. If an assistant is at hand, he must follow the directions given for the luxation of the head; or, to gain more power, he should immediately turn the patient on his back, and setting his feet against his shoulders (being, himself seated on the ground), place his hands below the patient's ears, and draw the head towards him, gradually increasing the force with which he pulls, and, in pulling, move the head from side to side.

After reduction, the part should be bathed with spirit of wine. White's Surgery, p. 186.

7. Costa'rum luxa'tio. *Luxation of the ribs.* If a rib is forced inwards, the pleura is injured, and excruciating pains, inflammation, difficulty of breathing, cough, ulcers, and immobility of the body, follow. These complaints, with the external appearance of the side, evidently discover the misfortune. This luxation happens between the rib and the spine.

Luxations internally are with difficulty reduced, because neither the hands nor any instrument can be applied to elevate them. The patient may be laid on his belly over some cylindrical body, and the anterior part of the rib being moved gently towards the back, or shook a little, the head may probably recover its situation. If this fails, the method proposed for fractures of the ribs, when they are forced inwards, and a splinter offends the pleura, may be employed. But, if the symptoms are not urgent, nor the heads of the ribs much removed, every violence should be avoided, as luxated ribs have often remained so without danger.

The bandage should be a napkin and scapulary, and compresses squeezed out of camphorated spirit of wine applied. See Bell's Surgery, vol. vi. p. 208.

8. Digito'rum ma'nus luxa'tio. *Luxation of the fingers.* The joints of the fingers may be luxated in every direction; but an easy extension, and gentle pressure with the finger and thumb will readily reduce them. See Luxatio metacarpi 16; Bell's Surgery, vol. vi. p. 249; White's Surgery, p. 163.

9. Digito'rum pe'dis, et o'ssium pe'dis luxa'tio. *Luxation of the toes and bones of the feet.* A dislocation of these bones produces great pain, inflammations, and sometimes convulsions, if speedy assistance is not obtained. They are reduced as directed in the case of bones in the hand being the subjects of this accident. The toes are treated as directed for the fingers. See White's Surgery, p. 167.

10. Fe'moris o'ssis luxa'tio. *Luxation of the thigh bone.* A fracture of the neck of this bone is sometimes mistaken for a luxation. The head of the thigh bone may be luxated downwards, forwards, inwards, outwards, and backwards. This luxation, like that of the humerus, is always perfect, and most frequently happens inward and downward, the head of the bone tending towards the large foramen of the os pubis.

When the luxation is outwards, the bone generally slips upwards at the same time; if inwards and down-

wards, the leg is longer and more bent than the other, and the knee and foot turn outwards: the head of the bone is thrust near the lower part of the inguen and the foramen of the os pubis; sometimes the pressure of a nerve, which communicates with the bladder, or of the crural, causes a suppression of urine, or a numbness in the leg. A hollow cavity is perceived in the buttock, usually filled by the great trochanter; and if the reduction is long neglected, the limb withers. The patient will be always lame; the knee of the luxated limb cannot be brought to the other; and the chief pain will be felt in the groin, without the grating observed when the bone is fractured, on moving the limb. If the luxation is backwards, the limb is drawn upwards, and a cavity is perceived in the groin, with a tumour in that part of the buttock where the head of the bone and the trochanter are lodged. The limb is shortened, the foot bends inward, the heel does not touch the ground, but the patient seems to stand on his toes, and the luxated limb is more easily inflected than extended: in this case, many stand and walk firmly without the bone being reduced, provided their shoe has a higher heel.

A fractured neck of the thigh bone is distinguished from a luxation of its head, when the thigh bone is luxated by an abscess, without any external violence, but only by walking or rising up; when unattended with pain, tumour, or inflammation; or when the whole limb may be bent, and turned about the acetabulum without the noise usually heard in fractures: the contrary signs indicate a fracture.

In reducing the luxated head of the thigh bone, a longitudinal extension will not suffice, but it must be according to the direction of the cervix. "When a thigh is dislocated inward, or outward, follow," says Mr. Kirkland, "Celsus's advice in laying the patient on one side, so that the part into which the bone hath slipped be always uppermost, and that from which it hath receded, lowermost; by which means the extension may be made in any direction you have a mind, and your own invention will point out to you twenty ways of securing the patient upon a bed (for a table is usually too high), so that a proper resistance be made to the extension. This done, the knee bent, and a towel fixed properly above it, you must place yourself on that side of the thigh to which the bone is dislocated, with your knee near the head of the bone, and both hands on the opposite side of the knee of the patient, an assistant being fixed at the ankle. The extension may then gradually be begun by three or four men, with the thigh rather in a state of flexion; and when there is reason to think that the head of the bone is brought to a level with the socket, the extension being steadily continued, the knee may be bent near to the abdomen, and, at the same time, whilst the knee pushes the bone towards its place, the ankle must be moved in the same, but the knee of the patient in a contrary, direction. Thus the head will always go into the socket, provided a due extension is made before you attempt to return it."

Sometimes the head of the thigh bone is pushed between the ischium and sacrum; in this case, except the patient is exhausted, before attempting the reduction, it will be most eligible to reduce him by brisk cathartics, given at short intervals; for the case, in this way, is better ascertained, and the reduction more easily effected. London Medical Journal, vol. v. p. 412; Bell's Surgery, vol. vi. p. 252; White's Surgery, p. 163; Edinburgh Medical Commentaries, vol. ii. p. 40.

11. Fi'bulæ luxa'tio. *Luxation of the fibula.* This bone may be separated from the tibia, either at the lower or superior part. In the former case it generally proceeds from a luxation of the foot externally; this bone must, therefore, be reduced, bound up, and the case treated according to the directions given for luxations of the knee and patella. See Bell's Surgery, vol. xi. p. 273.

Malle'oli luxa'tio. *Luxation of the ankle.* See N° 21.

12. Ge'nu luxa'tio. *Luxation of the knee*, is usually partial. If complete, it is easily reduced, but cannot be retained, because the cross ligaments are broken. A luxated knee pan is a necessary attendant of a luxated knee, and often taken for it; but in a proper luxation of the knee the tibia recedes from the femur, either backwards or to either side, but never forward, because the patella hinders it. In this part dislocations are easily discovered.

If the luxation is partial, the patient must be placed on a table, one assistant taking hold of his thigh, and another extending his leg; in the mean time, the operator may reduce the bone with his hands. In children and young persons, if the extension is made with violence, it endangers a separation of the epiphyses, a worse disease than the luxation. See Bell's Surgery, vol. vi. p. 269; White's Surgery, p. 165.

13. Hu'meri luxa'tio. *Luxation of the humerus.* The head of this bone may slip out before, behind, (even under the scapula,) or downwards; but never upwards, except the acromion and coracoid processes are fractured. When the humerus is luxated downward, there is a cavity in the upper part of it perceptible to the eye in some instances, but to the finger in all, and a tumour in the arm pit, because the head of the bone is lodged there. The luxated arm is longer than the other, and when it can be moved or extended, it gives exquisite pain in lifting it to the mouth.

Fresh luxations are most easily reduced; those of long continuance are restored with difficulty; but if the head of the humerus adheres to the adjacent parts, which after a long time usually happens, a reduction cannot be effected by any means. See Medical Observations and Inquiries, vol. ii. p. 340.

To reduce the humerus, bend the fore arm, and let an assistant support it; then elevate the arm so that the elbow may be advanced somewhat above the shoulder, bringing it a little inward. An assistant must then make the extension, whilst another counteracting him, draws the inferior angle of the scapula backward toward the spine, and presses the acromion a very little downwards: the operator, with his fingers in the axilla, presses the head of the bone upward as soon as he perceives the extension to be sufficiently made, and at the same time, with his other hand, brings the elbow of the luxated arm to the patient's side. An extension made downwards, or even horizontally, more frequently fails, than when it is made in some degree upward.

When the luxation is forward, that is, when the head of the humerus is under the pectoral muscle, there is a cavity under the acromion, but the head of the luxated bone projects towards the breast more than when in the

axilla; and if the arm be moved, a more acute pain is felt than in the preceding case; for the great artery and the nerves of the bones are much pressed. If this luxation is not easily reduced by the method directed, when the head of the humerus is in the arm pit, let a pulley from the top of a room be fastened to the luxated arm, just above the elbow, and the patient gradually raised from the ground by it: this at least brings the head of the humerus into the axilla, and it may be restored into its proper place by the means just described. In this process the fore arm must be brought toward the breast, that the muscles may be relaxed.

If the luxation is backward, the elbow approaches the chest, and the head of the bone is prominent on the outside of the shoulder; the arm cannot be moved from the breast, nor extended without great agony, and the lower angle of the scapula will be somewhat pushed out. In this case the general process may be the same as when the head of the humerus is under the pectoral muscle.

If there is no pulley, a tall strong man may take the patient's arm over his shoulder, and gently raise him from the ground, and the operator may push the head of the dislocated bone into its place as the body becomes suspended. This method of suspending the patient is not so severe as it may seem; for as no force is used about the shoulder to make a counter extension, the patient does not suffer from those troublesome excoriations and contusions which too commonly attend the other methods.

It is generally agreed that machines for reducing a luxated humerus are never needful. Freke's commander is preferred to all the other instruments used for this purpose; as in the use of it the limb may be moved in all directions during the extension, and the situation of the head of the bone can be examined; but great care is required to keep it perpendicular to the side of the patient.

As in other luxations, bleedings, &c. to prevent or check inflammation and swelling, must be used after the reduction, and the arm suspended by a sling. See Medical Observations and Inquiries, vol. ii. p. 373; Bell's Surgery, vol. vi. p. 211; White's Surgery, p. 158.

14. Ma'nus luxa'tio. *Luxation of the hand.* The hand may be luxated backward, forward, and on each side; but a luxation backward or forward is most frequent. Each accident is readily distinguished.

From the distortion of the strong ligament, and the pressure on the tendons, there is exquisite pain and a rigidity of the fingers; and inflammation, tumour, abscess, gangrene, and a caries of the spongy bones of the carpus often follow, seldom curable but by amputation. A recent inconsiderable luxation is more easily managed, and it should be speedily reduced, by extending the hand and arm in opposite directions; and by placing the cavity of the extended hand on a table or some other flat body, that the tumour may be depressed. This method is necessary, whatever part of the hand is luxated. See Luxatio metacarpi, 16.

15. Maxi'llæ inferio'ris luxa'tio. *Luxation of the lower jaw.* This bone is usually luxated forwards on one or both its sides. If one side only is luxated, the chin inclines to the opposite side, and on the dislocated side the mouth is wider open. When both sides are dislocated, the mouth gapes wide, the jaw starts forwards, and the chin falls towards the breast, so that the patient cannot shut his mouth, speak distinctly, nor swallow with ease. This accident may happen from a blow, or from yawning.

When one side only is dislocated, it is easily reduced; but when both sides suffer, the patient must be placed in a low seat, with his head secure against the breast of an assistant; then securing the thumbs from being bit, place them on the patient's teeth, as far back as you conveniently can, at the same time fixing your fingers on the outside of the jaw: when you have secure hold of the jaw, press it downward, backward, and upward. If all this is done almost in the same instant, the reduction will be complete; or, as Mr. Bell says, when the fingers are applied as directed, the surgeon must pull the under jaw forward, till he finds it move somewhat from its situation; and he should then press the jaw forcibly down with his thumbs, and moderately backward with the palms of his hands, when the ends of the bone will immediately slip into their situation.

If only one side is luxated, the same mode will succeed, if the affected side be pressed most forcibly downwards and backwards. Bandages are useless in this case. See Bell's Surgery, vol. vi. p. 189, 190; White's Surgery, p. 155.

16. Metaca'rpi luxa'tio. *Luxation of the Metacarpus.* See Manus luxatio.

Mr. Bell observes, that in the reduction of these dislocations (viz. of the metacarpus and fingers), the bone should not be pulled down till it be somewhat raised or elevated from the contiguous bone; for, as all the bones of the fingers and thumbs, as well as those of the metacarpus, are considerably thicker at their extremities than in any other part, these projections are apt to be forced against each other when the extension is made in a straight direction. See Bell's Surgery, vol. vi. p. 249, 251; White's Surgery, p. 163.

17. Na'si o'ssis luxa'tio. *Luxation of the bone of the nose.* This accident is easily discovered by the eye and the touch. The reduction is effected by a quill put up the nostrils, and then with the fingers replacing the bones. After the reduction a sticking plaster may be applied. Bell's Surgery, vol. vi. p. 184.

18. Olecra'ni luxa'tio. *Luxation of the elbow.* A perfect luxation of this joint rarely happens, except the olecranon is fractured, or the ligament greatly weakened. This luxation may be backward (which is most frequent), forward, outward, or inward. If backward, the arm appears crooked and shorter, and cannot be extended: in the internal part of the flexure the humerus will be prominent; in the external, the olecranon, with a large cavity between both bones. When from the fracture of the olecranon, the elbow is pushed forward, the os humeri will stick out behind, the ulna is prominent on the fore part, and a cavity appears in proportion to the luxation. If external, the tumour is so too, and vice versa.

In a violent luxation, or one of long standing, the bone cannot be replaced without great difficulty, as the ligaments are strong and the processes numerous. Recent and slighter luxations are more easily restored.

If the ligaments and tendons are rigid, emollient applications should be used some time before attempting the reduction; the egg liquor is useful in this case. See Anchylosis.

In reducing this luxation an extention must be made, until the fore arm can be bent; and then the reduction is easily accomplished by bearing upon the lower end of the humerus with one hand, and by taking hold of the wrist and bending the elbow with the other. If it is on either side, the hand of the patient must be turned inward or outward, at the same instant, as the case requires. After reduction, the arm should be hung in a sling for some time, that the parts may recover their tone. See Bell's Surgery, vol. vi. p. 239. White's Surgery, p. 162.

19. Pate'llæ luxa'tio. *Luxation of the knee pan*, may happen externally and internally. In order to its reduction, the patient's leg must be pulled straight, or if he can, he may stand on it erect; then the operator, taking firm hold of the patella with his fingers, may force it into its place. Nothing but rest is afterwards required. Bell's Surgery, vol. vi. p. 267. White's Surgery, p. 165.

20. Pe'dis o'ssium luxa'tio. See 9.

21. Ta'li luxa'tio, seu malle'oli. *Luxation of the ankle.* Dr. Hunter observes, that when there is a luxation of the malleolus internus, there is generally a fracture of the fibula; but that if the person is of a weak constitution, ligaments may be relaxed without a fracture.

If the ankle is luxated inwardly, the bottom of the foot turns outward; if outwardly, the contrary. If forward, the heel becomes shorter, and the foot longer than usual; if backwards, the heel is lengthened, and the foot shortened. This kind of luxation is usually attended with great pain, and other very violent symptoms; and the difficulty of reducing the ankle is proportioned to the violence of the cause. The patient should be placed on a table or bed, and the leg, with the knee bent, firmly secured by an assistant or two. The foot is now to be put into that situation which tends most effectually to relax all the muscles which belong to it; and an assistant must be desired to extend it in that direction till the most prominent point of the astragalus has clearly passed the end of the tibia, when the bone will slip, or may be easily forced into its place. The patient should keep in bed until the fever and the symptoms of irritation leave him, and he is in some measure able to rest upon his ankle. See Bell's Surgery, vol. vi. p. 274. White's Surgery, p. 166.

22. Vertebra'rum luxa'tio. *Luxation of the vertebræ.* The vertebræ are rarely perfectly luxated. Those of the neck and loins are more subject to this accident than those of the back, because they are more moveable and smooth, are destitute of those cavities with which the vertebræ of the back are furnished, and have a thicker cartilage interposed betwixt each. Luxations of the vertebræ must be imperfect, unless attended with a fracture, and a laceration of the spinal marrow, an accident quickly fatal. The imperfect luxations are scarcely less fatal; and they most frequently happen in the upper vertebræ of the neck. Dislocation or crookedness of the dorsal vertebræ sideways, is called *contortio.*

The vertebræ of the back cannot move in any great degree without a fracture: their upper or lower apophyses, and sometimes only one, is misplaced; for great violence is generally required in order to a partial luxation. When a vertebræ is luxated without a fracture, the body leans to one side, or forward: if the left side is affected, the patient leans to the right, and vice versa.

The common signs of a luxation of the vertebræ in the back are, that the back is crooked and unequal; the patient can neither stand nor walk, and his whole body seems paralytic; all the parts below the luxation are insensible and immovable; the excrements and the urine are retained, or discharged involuntarily; the lower parts mortify, and the patient soon dies.

All the luxations in the spine are very dangerous, from the injury done to the spinal marrow, and the difficulty of reducing them. The danger is also greater, the nearer the luxation is to the head; as from the vertebræ of the neck and back, the nerves which supply the heart and intestines are chiefly derived. When several vertebræ are luxated, the bad symptoms are not so violent.

For reducing the vertebræ of the neck, see Colli luxatio. When both the apophyses of the vertebræ are dislocated, the patient must be laid on his belly over some round body, and two assistants may depress both ends of the luxated spine on each side, which elevates, and gradually extends the vertebræ, the spina dorsi being thus bent in form of an arch. The surgeon next presses down the inferior dislocated and prominent vertebra, and, at the same instant, expeditiously pushes the superior part of the body upwards. If the first attempt fails, it must be repeated two or three times. When the left apophysis only is displaced, after the patient is laid in the same posture, one assistant may depress the left coxa, and the other the right humerus; and the reverse, if the injury is on the other side. After the reduction, it may be necessary to take some blood, and compresses wrung out of spirit of wine should be applied, and then the napkin and scapulary. See London Medical Journal, vol. i. p. 326, 327. Bell's Surgery, vol. vi. p. 196; and White's, p. 156. Boerhaave's Aphorisms. Petit's Diseases of the Bones. London Medical Observations and Inquiries, vol. ii. p. 99, &c. Gooch's Cases and Remarks. Pott's General Remarks on Fractures and Dislocations. Kirkland's Observations on Pott's Remarks. Medical Museum, vol. ii. p. 406. Heister's, Wiseman's, Bell's and White's Surgery.

LUXU'RIANS, (from *luxurio, to exceed*). A flower is called luxuriant, when the teguments of its fructifications are augmented so as to exclude some other essential part. Double flowers, which are luxuriant ones, seldom produce fertile seeds.

LYCA'NCHE, (from λυκος, *a wolf*). A quinsy; because the noise in breathing is supposed to resemble the howling of a wolf. See Angina.

LYCANTHRO'PIA, (from λυκος, *a wolf*, and ανθρωπος, *a man*). Lycanthropy; by the Arabians *cutubuth*, from an animal which perpetually moves up and down on the surface of stagnant waters; by Ætius, *cynanthropy*, as well as *lycanthropy*. It is supposed to be the disorder with which the demoniac, mentioned in scripture, who dwelt among the tombs, was affected. Oribasius informs us, that persons affected with this disease "leave their houses in the night time, in every thing imitate wolves, and wander about the tombs until break of day." Actuarius adds, that "they then return to their homes and their senses." Their looks are said

to be pale, their eyes dull, hollow, fixed, dry, and without the moisture of a tear; their tongues dry, their legs, from the bruises they receive in the night, (and, according to Ætius, from the bites of dogs,) full of incurable ulcers. It is the *melancholia errabunda*, *erratic melancholy* of Sauvages. Bleeding, blisters, purgative medicines, interposing anodynes, with gentle treatment, are the principal means of relief.

LY'CHNIS, (from λυχνος, *a torch*, because its leaves were usually rolled up as torches).

Ly'chnis se'getum ma'jor. See Nigellastrum.

Ly'chnis sylve'stris. See Antirrhinum, Ocimastrum, Behen album vulgare, and Saponaria.

Ly'chnis visco'sa ru'bra. See Muscipula.

Ly'chnis corona'ria Dioscoridis, rose campion, is cultivated in gardens, flowers in June, and its seeds are cathartic.

LYCHNOI'DES SE'GETUM, (from *lychnis*, and ειδος, *likeness*). See Nigellastrum.

LY'CIA. See Cerus Cypri folio.

LY'CIUM, (from *Lycia*). The *nandia agiahalid*, *arbor spinosa*, the Indian thorn, probably a species of prunus, grows in the East Indies, is very large, resembling the wild pear; fruit bitterish and styptic; the leaves sour and astringent. This last property its inspissated juice preserves, and is called *cate*, as it is mistaken for the terra Japonica.

Ly'cium bu'xi fo'lliis, *pyracantha*, box thorn. *Celestrus buxiformis*, or *pyracanthus* Lin. Sp. Pl. 285, grows in hot countries. The rob of the fruit is astringent, but it is often adulterated, or the rob from the berries of periclimenum substituted for it.

LYCOCTONUM, (from λευκος, *a wolf*, and κτεινω, *to slay*, because it was used for the purpose of destroying wolves). See Aconitum.

LYCOPE'RDON, (from λευκος, *a wolf*, and πεφδη, *crepitus*). Puff ball, supposed to spring from the dung of wolves.

Lycope'rdon vulga're, *crepitus lupi*, *bovista*, *orbicularis fungus rotundus maximus pulverulentus*; dusty mushroom, puff ball, *lycoperdon bovista* Lin. Sp. Pl. 1653, is round, or egg shaped, whitish, with a short and scarcely any pedicle, growing in pasture grounds. When young they are covered with tubercles on the outside, and pulpy within. By age they become smooth externally, and are filled with a fine light brownish dust. It is a very powerful vegetable styptic when externally applied. Gooch prefers it to the agaric of the oak, and every other fungous substance. It is softer and more absorbent than lint, and, if cut into slices, might answer the purpose of the sponge, recommended by Dr. Kirkland, after amputation.

LYCOPE'RSICON, (from λευκος, *a wolf*, and περσικον, *a peach*, from its exciting a violent degree of lust). Wolf's peach, *solanum peruvianum* Lin. Sp. Pl. 267. It partakes of the poisonous properties of the other solana.

LYCOPO'DIUM, (from λευκος, *a wolf*, and πους, *a claw*,) *muscus clavatus*, *terrestris*, *squamosus*, *plicaria*, *cingularia*, wolf's claw, club moss; *lycopodium clavatum* Lin. Sp. Pl. 1564, is a fertile moss, destitute of pedicles and capitella, differing from the selago, because its capsules, instead of being scattered in the sinuses of the leaves, are collected into a club; for each scale covers a kidney shaped and bivalve capsule, which loses no part when ripe. It grows on heaths and hilly places, flowers in July and August, and is reckoned cooling and astringent. Its pollen is sprinkled with advantage on tender skins, to prevent excoriation. M. Bucholz, of the academy of Erfurth, has lately examined this singular substance, and found that the seeds contained one-sixteenth of a fat oil, of a brownish yellow colour, soluble in alcohol; a portion of true sugar; an insipid, viscid, brownish yellow extract, leaving a residuum of peculiar properties, not explained, but which is said to be a peculiar product of the vegetable kingdom. The yellowish appearance of the seeds is supposed to arise from their containing a pigment, and their oil occasions their inflammability and their separation from water. See Plica polonica.

LYCO'PUS, (from the same). See Marrubium aquaticum.

LY'DIUS LA'PIS, (from *Lydia*). See Magnes.

LYGI'SMOS, (from λυγιζω, *to distort*). See Luxatio.

LY'GMOS, (from λυζω, *to hiccough*). See Singultus.

LY'MPHA, quasi *nympha*, (from νυμφη, *water*). Lymph is a pellucid, insipid, pure liquor in the human machine, and the purer parts of the serosity generally obtain this appellation. The gelatinous parts of this fluid were supposed to nourish all the solids, its finer aqueous parts to be circulated through the lymphatic vessels, and, by means of the valves and conglobate glands, again conveyed to the heart. These ideas are, however, now exploded; but, in the Boerhaavian school, we still hear of lymphatic arteries, which are properly those which will not admit the red globules. They have corresponding veins distinguished by the same appellation. The source of the lymph, which we find in the cavities, as the pericardium, the ventricles of the brain, &c. either in the healthy state, or when accumulated in dropsical swellings, is uncertain. Dr. Hunter has attributed it to exudation through the inorganic pores, as he found his injections, the bile, and other fluids, exude after death. This opinion is, however, untenable, from many views, but particularly the numerous and dense coats of the vessels; for it is not probable that the pores should be sufficiently large for this purpose, without danger of all the serosity escaping; or that, in each coat, the inorganized pores should so minutely correspond. It is, therefore, with much reason, supposed that the exudation which he found was in consequence of the relaxation occasioned by death, and that all the watery fluids are either exhaled from the open orifices of arteries, or separated by a simpler species of secretion. There is, we think, little doubt of the vessels in a state of health confining the fluids by their tonic power. Indeed, they seem to pass off in a state of halitus.

LY'MPHÆ DU'CTUS, (from *lympha*, and *duco*, *to carry*). *Vása lymphática*. Lymphatic vessels. The lymphatics arise from the cells of the membrana cellularis, the cavities of the intestines, of the urine and gall bladders, and of every other viscus, carrying a pellucid liquor towards the receptaculum chyli and thoracic duct, in which they almost exclusively terminate. The coats of these vessels are thin and transparent, much

crowded with valves, so as, like the lacteals, to resemble, when injected with quicksilver, strings of beads. The lymphatics frequently anastomose, and in their way pass through the lymphatic glands, ramifying before they enter a gland, and uniting in their passage from it. See LACTEA VASA, DUCTUS THORACICUS.

The course of the lymph and of the chyle is from the extreme parts of the body towards the centre; and the lymphatics commonly lie close to the large blood vessels of the extremities. All the lacteals, and most of the lymphatics, open into the thoracic duct, which lies upon the spine, and runs up towards the neck, where it commonly opens into the angle between the jugular and subclavian veins of the left side; and thus both the chyle and the lymph are gradually mixed with the blood.

The coats of these vessels are thinner and more pellucid than those of the blood vessels, but stronger; for they can support the weight of quicksilver, which will rupture the coats of even the arteries. The internal coat is smooth, dense, and highly polished, projecting by little duplicatures into the cavity of the vessel forming the valves. The second coat consists chiefly of muscular fibres, running in every possible direction; but usually in a circular one, surrounding the internal membrane. The outward coat is similar to the pleura, or peritonæum.

The coats of the lacteal and lymphatic vessels have, in common with all other parts of the body, arteries and veins for their nourishment, and nerves for their animation: from the blood vessels running through them they are subject to inflammation, and, from their numerous nerves, they are more irritable than any other vessels in the human body. Their valves are two in number, of a semilunar shape; and are so frequently interposed, that three or four pair may be sometimes found in the space of one inch. They are occasionally fewer, and in some parts wholly wanting.

The lymphatics, like the lacteals, open into the cavities, and draw in the various fluids which these contain by a capillary attraction. It is probable, as we have said, that they convey fluids only, or solid substances very minutely divided. That they carry the bony matter we know, from the fact recorded by Mr. Cheston, where, in a case of mollities ossium, the thoracic duct was filled with an osseous matter. Bones are not, however, absorbed so rapidly as the frequently quoted experiment, with madder, would lead us to believe; for it is now found, that, though the colouring part of madder has a considerable affinity to the phosphat of lime, of which the bones consist, it has greater affinity to the serum of the blood. In such experiments the colouring matter is, therefore, only deposited, and again washed away, without any other corresponding change on the earthy salt. The fluids, when once absorbed, are carried, by the action of the vessel, or by the pressure of the adjoining muscles, beyond the first pair of valves; and, by the frequent recurrence of these valves, every action assists the progress of the fluid, since regurgitation is prevented. It is by no means certain that all the lymphatics pass into the thoracic duct. Some trunks have been discovered which escape it, and there is rather a probability that lymphatics occasionally terminate in veins farther distant from the heart.

Lymphatics, as well as lacteals, are not always excited to action: in other words, their extremities are not erected so as to become capillary tubes, a circumstance depending on a variety of causes, of which we can perceive with distinctness only general debility, or a sufficient supply already in the system. We have had occasion also to suggest, that an elective affinity seems to influence the admission of some fluids, and the rejection of others. Perhaps sedatives may, for a time, paralyze the sensible orifices of the lacteals; stimulants excite them too violently, or astringents contract them too much. This may be deemed conjectural; but some facts might be adduced in favour of each supposition.

The lymphatic vessels of the lower extremities are the superficial, or those more deeply seated. The former lie between the skin and the muscles, and are connected with the surface, and the cellular membrane, which lies immediately under it, absorbing fluids from each; one branch of the superficial lymphatics runs upon the top of the foot, another generally under the inner ankle. The branch on the foot runs up on the outside of the tendon of the tibialis anticus, until it rises above the ankle; and running over the shin bone, it divides and forms a plexus, still ascending in the cellular membrane to the inside of the knee, from whence it advances up the inside of the thigh under the skin, and, arriving at the groin enters the lymphatic glands. These glands are seven or eight in number, some of which lie in the angle between the thigh and the abdomen, and others a little below on the fore part of the thigh. Into these upper glands only lymphatic vessels of the genitals enter, so that the venereal bubo, which arises in consequence of an absorption of matter from these organs, is always seated in these; and the lower glands are never affected, except from their vicinity to the glands first diseased. As the upper glands are affected from the genitals, so the lower are usually inflamed from the absorption of acrid matter in the parts below them. The lymphatic vessels of the genitals having joined those of the thigh, a net work is formed, which enters the abdomen under the edge of the tendon of the external oblique muscle, called Poupart's ligament: some branches of this plexus embrace the iliac artery. As no considerable branches can be distinguished on the outside of the leg or thigh, it is probable that all the lymphatic vessels of those parts bend towards the inside. Upon these superficial vessels, from the foot to the groin, there is scarcely in any instance one gland. Besides the superficial lymphatic vessels which lie above all the muscles, or in the cellular membrane under the skin, there is some seated amongst the muscles, accompanying the crural artery. Of these the principal trunk can be discovered by cutting down to the posterior tibial artery, near the inner ankle. From this part the vessel passes up with the posterior tibial artery, and is hid amongst the muscles on the back part of the tibia. About the middle of the leg it enters a small gland met with in most subjects, and from hence runs up to the back part of the ham, still lying close to the artery, and in the ham it usually passes through three glands. After it has passed these glands, this single vessel commonly divides into two or three branches, which still accompany the crural artery, and pass with it through the perforation in the triceps. Having passed the muscle, they go up with the artery and enter a gland deeper seated than those which appear on the groin, from which they pass into the superficial gland.

The lymphatics of the lower extremities having now reached the trunk of the body, and passed under Poupart's ligament, appear upon the sides of the ossa pubis, near the pelvis. Some pass up with the iliac artery upon the brim of the pelvis; and others dip into the cavity of the pelvis, and join the internal iliac artery near the sciatic notch. At this place they are joined by the lymphatics from the contents of the pelvis. Besides those which sink into the pelvis, on the inside of the external iliac, others keep on the outside of that artery upon the psoas muscle: of these a part goes up to the loins, and passing under the aorta in different branches, from the left side to the right, joins the thoracic duct. Another part passes under the iliac arteries, and appears upon the os sacrum, making a beautiful net work, joining the lymphatics of the right side, and passing under the iliac artery, to form the net work upon the upper part of the right psoas muscle. The lymphatic vessels of the right side, joined by some from the left, having reached the right lumbar region, appear there in the form of a plexus of large vessels, and pass through several glands. At this part, they receive likewise large branches under the aorta, from the plexus on the left side of the loins; and having at last got up as high as the second lumbar vertebra, they all join, and form a single trunk called the thoracic duct: at this part they are joined by the lacteals. See LACTEA VASA.

Into the thoracic duct the lymph from the other abdominal viscera enters. This is brought by a number of vessels, a plexus of which may be traced from each kidney, lying principally behind the emulgent artery, and opening into large lymphatic vessels near the aorta: these the lymphatics of the glandulæ renales generally accompany.

The lymphatic vessels of the spleen pass from the concave side of that viscus, along with the splenic artery in the sinuosity of the pancreas, by the lymphatic vessels of which they probably are joined.

To the stomach belong two sets of lymphatics, the one running upon its lesser, and the other upon its greater, curvature. The former accompanies the coronary artery, and passes through some lymphatic glands which lie by its side. The other set passes from the great curvature of the stomach, through some lymphatic glands that lie close to the arteria gastrica dextra. Descending by the pylorus, it meets the plexus that accompanied the coronary artery, and near the lesser curvature of the duodenum forms a considerable net work. Into this not only the lymphatics from the spleen enter, but likewise those from the gall bladder, together with those of the liver, which are very numerous both in its convex and on its concave side. Several branches proceed from this net work, some running under the duodenum, and others over it; which all open into the thoracic duct.

The lymphatics of the liver, the spleen, and the kidneys, are generally in two sets; one of which lies upon the surface of the organ, and the other accompanies the large blood vessels in its centre. In the liver, these two sets have been found to communicate with each other; so that, by injecting mercury into the lymphatic vessels which lie upon its convex surface, Mr. Hewson hath filled those which accompany the pori bilarii and vena portæ in its centre. Most of the lymphatic vessels which lie upon the convex surface of the liver, run towards its falciform ligament, and pass down by the side of the vena cava; but some run towards the right ligament of the liver, where they pass down upon the diaphragm to reach the thoracic duct. The lymphatics on the concave surface run towards the porta, where they join those which come from the centre of the liver, along with its large blood vessels. The lymphatic vessels of the stomach enter with others into the thoracic duct. All the lymphatics of the viscera, with their different plexuses, are beautifully figured by Mascagni.

The lymphatics of the lungs are in two sets. One set passes on the posterior part of each lobe by its root into the thoracic duct, near the middle of the thorax; the other from the fore part of each lobe rises towards the jugular and subclavian veins. Some of the lymphatics, on the posterior part of the left lobe, creep under the aorta to the thoracic duct. Those from the anterior part of the left lobe proceed to the angle between the jugular and subclavian vein of the same side, joining the thoracic duct at its termination; while those from the fore part of the right lobe do not communicate with the thoracic duct, but pass into the angle between the right jugular and the right subclavian vein.

By the side of each internal jugular vein is a large lymphatic vessel, the trunk of those of one side of the head and neck. Smaller lymphatics are seen near the branches of the external carotid. From various circumstances, it is highly probable that there are lymphatic vessels on the external parts of the head; and, though none have been discovered, on the brain also. The small lymphatics which accompany the branches of the external carotid artery unite upon the neck, and form a large trunk, which accompanies the internal jugular vein, passing through some lymphatic glands, near the termination of this trunk, in the angles between the jugular and subclavian veins. The glandula thyroidæa has many lymphatic vessels, which can sometimes be inflated by blowing air into the cells of the gland: these vessels pass on each side of the trachea, one part going into the angle of the right subclavian and jugular, and the other joining the thoracic duct upon the left side.

Like the leg, each arm hath two sets of lymphatic vessels; one immediately under the integuments, belonging to the skin and the cellular membrane, connecting it to the muscles; the other accompanying the large arteries, from the parts deeper seated.

The lymphatic vessels, discovered and delineated, are in general only to be considered as the trunks, since every part of the body has probably vessels of this kind; for wheresoever variolous matter is inserted, the lymphatic vessels carry it into the body, as is shown by its inflaming the conglobate glands through which these vessels pass.

It is by the action of the absorbent system that many noxious materials are introduced into the habit; as the matter of the small pox, the lues venerea, the miasmata of fevers: and it is also by their means that mercury rubbed externally is received into the constitution, and produces similar effects on the interior parts. See Fordyce's Elements, part 1st. Dr. Hunter's Commentaries. Monro's Description of the Human Lacteal Sac and Duct. Hewson's experimental Inquiries into the Lymphatic System. Sheldon's History of the Absorbent System. Mascagni Historia.

The *diseases of the lymphatics* are not numerous. They are undoubtedly irritable, and in an inflamed state, at least, acutely sensible; but they never seem to be affected with inflammation from any cause but the acrimony of their contents. In hydrophobia, in lues venerea, and similar complaints, a hard, tender cord may be often traced from the wound previous to the inflammation of the gland. On the other hand, they seem sometimes deficient in irritability; a circumstance on which SCROFULA, vide in verbo, apparently depends.

Amongst these disorders, however, Mr. White properly places the *depôt laiteux sur la cuisse* of Puzos; *ischias a spargonosi* of Sauvages. Most writers have attributed this complaint to a redundancy of milk, and it hence has been often called *œdema lacteum;* by others *phlegmatia dolens;* but it might be more appropriately denominated *ecchymoma lymphatica.* Mr. White describes this disorder more accurately than any other writer, and is the first author who escaped from the trammels of the former doctrine. In about twelve or fifteen days after delivery, he observes, the patient is seized with a great pain in the groin of one side, accompanied with a considerable degree of fever, seldom preceded by a shivering fit and cold rigor. This part soon becomes affected with swelling and tension, which extend to the labia pudendi of the same side only, and down the inside of the thigh, to the ham, the leg, the foot, and the whole limb: the progress of the swelling is so quick, that in a day or two the limb becomes twice the size of the other, and is moved with great difficulty; is hot and exquisitely tender, but without external inflammation. The pain in the groin is generally preceded by a pain in the small of the back, sometimes by a pain at the bottom of the belly, on the same side; and the parts which suffer the most pain are the groin, the ham, and the back part of the leg, about its middle. The pain indeed extends over the whole limb, owing to the sudden distention; but in a day or two it becomes less considerable. It is very hard, smooth, shining, pale, and equable, except where the conglobate glands are situated, which in some cases are knotty and hard, as in the groin, the ham, and about the middle of the leg, at its back part; neither pitting on pressure, nor discharging water when punctured. This disorder generally comes on about the second or third week after delivery; but in one instance it occurred to Mr. White so early as twenty-four hours after delivery, and in another so late as five weeks; but each is uncommon. The first parts that begin to mend, both as to pain and swelling, are the groin, and the affected labium; the thigh next subsides, and lastly the leg. The fever, which is apparently hectic, in some patients declines in two or three weeks, in others it continues six or eight. It sometimes, though rarely, attacks both the extremities. After the disorder has subsided, it is not uncommon for the sound leg to swell towards evening, and become œdematous; but the groin and thigh of that side are not affected; the leg is much softer than the other, and pits when pressed.

It attacks women of all ranks, and of different habits, and is not influenced by the discharge of the lochia, suckling, the nature and duration of the labour, or the mode of delivery, but rather attacks the side on which they lay during labour. The healthy and the diseased; the strong and the weak; the lean and the corpulent; the sedentary and the active; the young and the middle aged, equally suffer; but it seldom happens after a miscarriage, nor to a woman more than once, though she has afterwards more children. It occurs at all seasons and situations; but neither attacks the arms, nor other parts of the body; never suppurates, nor proves fatal.

The period of the attack, and the elasticity of the swelling, distinguish it from every other disease; and Mr. White supposes it to arise from the child's head pressing the lymphatic vessels, which arise from one of the lower extremities, against the brim of the pelvis, during a labour pain, so as to stop the progress of the lymph, and produce a rupture with a consequent effusion. The extravasation in some habits is re-absorbed readily, in others with difficulty; and by lying out of the course of its circulation, it will press against the uterus and bladder, and occasion forcing pains, and even suppressions of urine. When the orifice made in the ruptured vessel is healed, and the diameter of the tube is contracted or closed, the lymph is retained in the lymphatics, distending the glands of the limb and parts around, and the swelling always begins in that part next to which the obstruction is formed. When the obstruction is in part or wholly removed, or the lymph has found a fresh passage, the part next to it is consequently first relieved. This opinion has been opposed by different authors. Mr. Trye, in his work, published in 1792, considered the disease as owing to an inflammation of the lymphatic gland; Dr. Ferriar, in the third volume of his Medical Histories (1798), thinks its cause an inflammation of the lymphatics of the side affected. Dr. Hall, in an essay on this disease, which he styles *phlegmatia dolens*, published in 1800, supposes it to arise from inflammation and an effusion of coagulable lymph.

We strongly suspect that the nature of the disease is not understood. The fever is apparently idiopathic, and the swelling seems to be a critical deposition, not of pus or of water, but of coagulable lymph. Were Mr. White's opinion correct, it should always appear within a few days, and the fever should be the consequence of obstruction. Were Mr. Trye in the right, the gland should first inflame; and was Dr. Ferriar's system true, pain should be previously felt in the course of the lymphatics. Dr. Hall seems to approach nearer the fact; but the nature of the fever, and the circumstances which influence the deposition, are obscure. Milky depositions, as they have been called, are not uncommon after delivery, particularly in the peritonæum in the peritonitis puerperarum, and other parts; but these are, perhaps, rather depositions of gluten than of milk, or are observable when the milk is checked. In this case the disease is not connected with the suppression of milk; and the only use we can make of the fact is, to show that in such cases the effusion of gluten is not uncommon. If, from fever, such effusion should take place in the legs, we know that, from its density, it cannot be readily absorbed; and it is probable, also, that the lymphatics, by the pressure which usually occasions œdematous swellings in the latter months, may be weakened, so as to be still less equal to the conveyance of the glutinous lymph to the thoracic duct. The circumstances of the delivery, or of the position of the child in utero, may have an effect of determining to one side rather than another.

According to Mr. White, in the first or inflammatory stage, antiphlogistics are necessary, in the degree which the patient's strength will permit. The bowels should be kept lax, the pains alleviated by opiates internally, by anodyne fomentations, and by the warm and vapour bath; blisters on the upper part of the thigh, and emollient injections into the vagina, have been found useful; antimonials, the saline draughts given in the act of effervescence, cool acidulated liquors, and cool air, are supposed useful in relieving fever. In the second stage, when the pain abates, the swelling and tension of the parts lessen, though the quickness of the pulse and some degree of fever remain, the patient may be allowed a little wine and a fuller diet. A dose or two of calomel, of two grains each, given at proper intervals, have seemed useful in this stage. Fifteen grains of myrrh two or three times a-day, in a neutral draught in the act of effervescence, may be taken; or to a saline draught, with myrrh, two grains of the ferrum ammoniacale may be added. The limb may be chafed with warm oil, and bathed at first in water of 82 degrees of Fahrenheit, and afterwards of 76. In the third stage, when no complaint remains, except the swelling of the limb, and perhaps a general relaxation, the bark, with or without steel, will be necessary, dipping the limb in cold water, or embrocating it with spirit of wine and camphor. A circular calico bandage applied to the limb will also assist in the recovery; and if the swelling is confined to the small of the leg, the bandage may be changed for a straight or laced stocking, or for a half boot. Exercise on horseback, and gentle friction, will be of advantage; but walking, or whatever promotes a greater secretion of lymph, will be injurious in every stage of the disease.

Mr. Trye endeavours at first to relieve the fever by evacuants, and then, according to his doctrine, attempts to relax the inflamed vessels by fomentations, leeches, and blisters; to promote absorption by emetics, and in the latter stage by friction with mercurial ointment. Dr. Ferriar applies leeches, with cooling remedies; and Dr. Hull, like Mr. White, treats the complaint at first as inflammatory, and at last as asthenic. In our hands it has appeared an intractable disease, though relieved at last by the efforts of nature. If the patient is truly such, and the practitioner so unprincipled as to continue medicines which he must know will have little effect, he will at last gain the credit of the cure which nature effects. In our hands the fever has yielded to emetics, evacuants, and opiates. The deposition, which soon assumes a chronic form, scarcely yields to any remedies. The Dover's powder, at night, with occasional laxatives, and at last the bark and the squills, have appeared as serviceable as any of the boasted remedies.

See Mauriceau's Traité des Maladies des Femmes Grosses, &c. edit. 5, 4to.; Puzos' Memoire sur les Dépots Laiteux, appellés communement Lait Répandu; Levret's Art d'Accouchement, ch. iii. sect. 7; Van Swieten's Commentary on Boerhaave's Aphorism, 1329; M. Raulin's Traité des Maladies des Femmes, en Couche; White's Inquiry into the Nature and Cause of that Swelling, in one or both of the lower Extremities, which sometimes happens to lying-in Women: Trye's Essay on the Swelling of the Extremities of Puerperal Women; Ferriar's Medical Histories, vol. iii.; Hull on the Phlegmatia Dolens; and White's Inquiry, part 2.

LYMPHATIC GLANDS are those bodies through which the lymphatics pass. Their structure has never been demonstrated; for while some anatomists suppose them to be cellular, others contend that they are merely masses of convoluted vessels. As we know nothing of the change which the lymph undergoes in these glands, we cannot assist demonstration by theoretical induction. We perceive only that nature anxiously delays the passage of the lymph into the blood; as, previous to their entering the gland, the lymphatic vessels are divided into minute branches. This purpose might perhaps be equally answered by convoluted vessels, as by stagnation in cells, since we find the semen elaborated in the lengthened tubes of which the testis consists. Ye the force of the argument, that some secretion takes place in the cells to animalize this new fluid, is not inconsiderable. Since the end is undisputed, we need not contend for the means. Let us, however, only add, that in either case, if the contents are viscid, or the irritability of the vessels preternaturally lessened, stagnation must be the unavoidable consequence.

LY'RA, (from λυρα, *a lyre*). The inferior surface of that part of the brain called *fornix*, because its medullary lines resemble the strings of the lyre. See CEREBRUM.

LY'RUS, (from *lyra*, *a lyre;* because its leaves are divided like the strings of a lyre). See ARNICA MONTANA.

LYSIMA'CHIA. YELLOW LOOSE STRIFE, or WILLOW HERB, *ænothera*, *lythrum salicaria* Lin. Sp. Pl. 640, (from Lysimachus, the supposed discoverer,) is a small plant found about the sides of rivers, said, without much reason, to be astringent. A name of a species of the *mummularia cassida*, and other plants.

LY'SSA, (from λυω, *to dissolve*, *à solutione integritatis sensuum*). The madness of dogs and wolves, or of men who are bit by them. When from dogs, it is called *cynolyssa*.

LY'THRON, (from λυθρον, *blood*). Dust mixed with sweat; sometimes menstrual blood. Hippocrates.

M.

M. or m. In prescriptions it signifies *misce*, mix; or *manipulus*, a handful. In the late British pharmacopœias it means *mensurâ*, by measure.

MACA'NDON, (Indian,) *cada palava*, a coniferous tree mentioned by Bontius, unnoticed in modern systems, growing in Malabar. Its fruit resembles the pine nut, is rather insipid to the taste, the flowers resembling those of the honeysuckle. The fruit is roasted, and eaten as a remedy for dysenteries, the cholera morbus, and other complaints. Raii Historia.

MACAPA'TLI. See SARSAPARILLA.

MACAXOCOTLI'FERA. The name of a tree in the West Indies, about the size of a plum tree: its fruit is called *macaxocotl;* is red, oblong, of the size of a walnut, yellow within, sweet, and laxative. Two other species are the *atoyaxacotl*, and *coztieaxocotl*, though said to be a species of mirobalans. The other species are *atoyaxocotl chichiltic;* and *chichiaxocotl*, which signifies *running down with sweat.* A decoction of the bark of these trees cures the itch, and its powder heals ulcers; but the plant does not occur in any botanical system. Raii Historia.

MACEDONI'SIUM SE'MEN. See HIPPOSELINUM.

MA'CER, (from the Hebrew term *masa*). GREGIAN MACER. It is brought from Barbary; its thick yellow bark and dried root are astringent. Its fruit, called *macre*, is said to destroy worms. The plant is not known; but the bark so nearly resembles, in appearance and sensible qualities, the simarouba, that they are probably the same. See SIMAROUBA.

MACERA'TIO, (from *macero, to make soft by water*). MACERATION, is an infusion or the continued action of water, or any other fluid, on bodies, to lessen their cohesion, or extract their virtue. See DURATUS.

MACERO'NA. See HIPPOSELINUM.

MA'CHA-MO'NA. A sort of calabash in Africa and America; the pulp of which is agreeable, and serves instead of rennet for curdling milk. It does not occur in any systematic author.

MACHÆ'RIA. See PERSICARIA.

MA'CHLIS, (quasi *achlis*, ab *a* priv. and *χλιω*, *cubo*, *quod non cubet*). See CERVUS RANGIFER.

MA'CIA. See ANAGALLIS.

MA'CIES, (from *maceo, to become lean*). Diseases in which the body, or particular parts, are wasted. See MARCORES.

MA'CIS, (*το μακις, cortex aromaticus, aromatic bark*). MACE, the middle bark, of nutmegs, enveloping their shell, of an oily nature, and of a lively red colour when fresh, growing paler from age. It is dried in the sun upon hurdles, fixed one over another, which gives the appearance of fractured edges, and sprinkled with sea water to prevent its crumbling in carriage. It hath a pleasant aromatic smell, and a warm, pungent, bitterish taste. Its qualities are similar to those of nutmeg; but mace is warmer, more bitter, less unctuous, and sits easier on weak stomachs; yielding, by expression, a more fluid oil, and, in distillation with water, a more subtile volatile one.

The essential oil of mace is moderately pungent, very volatile, of a strong aromatic smell, like the mace itself, thin, limpid, and of a pale yellow colour, with a portion of thicker and darker coloured oil at the bottom. There are three kinds in the shops, though expressed from the nutmeg. The oil of mace is often prescribed as a carminative and antispasmodic. As such it relieves often in colics, and sometimes in nephritic cases. Externally applied, it sometimes relieves vomiting and hiccough. Its internal dose seldom exceeds five or six drops. See NUX MOSCHATA. See Lewis's Materia Medica.

MACROCE'PHALOS, (from *μακρος, long*, and *κεφαλη, the head*,) long headed. Some Indians, and many of the Asiatics, have, by pressure, given this form to the heads; and what was at first artificial seems to have been continued by inheritance.

MACROPI'PER (from *μακρος, long*, and *πιπερις, pepper*). See PIPER LONGUM.

MACRO'PNUS, (from *μακρος, long*, and *πνεω, to breathe*). A person who inspires at long intervals.

MA'CULA, (from the Hebrew term *machala infirmity*). A SPOT, a BLEMISH; a cutaneous efflorescence which changes the colour, sometimes the texture, of the cuticle, but seldom connected with any disorder of the constitution.

MA'CULA LA'TA. The SHINGLES. See ERYSIPELAS.

MA'CULÆ, or MA'CULA MATRICIS; *nævus maternus;* the spots, or marks, supposed to be impressed by the mother's imagination on the fœtus. See NÆVUS.

MA'CULÆ A'LBÆ. See ALBUGO OCULI.

MA'CULÆ HEPA'TICÆ. HEPATIC SPOTS, or efflorescences proceeding from a dissolution of the blood.

MA'CULÆ OCULO'RUM. See CATARACTA, or SUFFUSIO.

MA'CULÆ PESTILENTES; SPOTS, or efflorescences, frequent in malignant disorders.

MA'CULÆ VOLATICÆ; FUGITIVE SPOTS, such as are often seen in children.

MADARO'SIS, (from μαδος, *bald*). A loss of the hairs of the eye lids, from an acrimony of the fluids, from eruptions, exanthemata, or inflammation. See DEPLUMATIO.

MADE'LION. See BDELLIUM.

MA'DISIS, (from μαδος, *bald*). See ACOSMIA.

MA'DOR, (from the Hebrew term *matar*, *water*). *Ephidrosis*. The sweat which arises during faintness.

MADRE'PORA VULGA'RIS, (from μαδος, *smooth*, and πωρος, *a pore*). See CORALLIUM ALBUM RAMOSUM.

MADRO'TES, (from μαδος, *bald*). See ACOSMIA.

MÆMA'CYLON, (from μαιμαω, *to desire;* from its beauty). See ARBUTUS.

MAGDALEO'NES, MAGDA'LIÆ, MAGDA'LIDES, (from μασσω, *to knead*). *Cylindri;* masses of plaster, or of other compositions reduced to a cylindrical form.

MAGELLA'NICA AROMA'TICA A'RBOR. See WINTERANUS CORTEX.

MAGISTE'RIUM, (from *magister*, *a master*). The ancient chemists meant by this term a peculiar and secret method of preparing any medicine; but at present it is applied to powders made by solution and precipitation (see BENZOINUM, BISMUTHUM, and CALAMINARIS LAPIS), to resins, or resinous extracts, or any white powder peculiarly subtile and light. The term generally implies that some of the menstruum remains. At present we have no general idea, or established characteristic, to distinguish magistery from precipitate. Every magistery is some kind of precipitate; but every precipitate is not a magistery.

MAGISTRA'LIS (from the same). See MEDICAMENTA EXTEMPORANEA.

MAGISTRA'NTIA, (from κατ εξοχην, *magistro*, *to rule;* so called by way of eminence. See IMPERATORIA.

MA'GMA, (from μασσω, *to blend together*,) ECPIE'SMA. In a more general sense it is any thick ointment that will not melt with the heat of the body, or a poultice that will not easily spread: more strictly the fæces of any ointment after the thinner parts are strained off: Galen limits the term to the fæces of myrobalans.

MA'GNA ARTE'RIA. The LARGE ARTERY. See AORTA.

MA'GNES. The LOADSTONE. *Calamita*, *lapis Lydius*, *antiphyson*, *lapis Heraclius*, from Heraclea, a town in Lydia. The term, however, is singular in many respects. Its origin is uncertain, but its application and influence have been peculiarly extensive: various cities have been styled Magnesia, and the Magnetes constituted no inconsiderable nation in Asia. Many of these cities have been mentioned as the origin of the name; but it is not our object to determine the question. The stone itself was long known before it was employed to direct the course of the navigator; and is usually of a dirty black colour, though in this respect it varies, and is sometimes whitish, from the mixture of silicious particles in such a proportion as to render it fusible. Whether from its colour, its weaker powers, or any other cause, this was styled the *female* magnet, and magnesia. When the white earth, precipitated from salts, similar to the Epsom, was observed, this was supposed to resemble the female magnet, and, of course, called magnesia, with the distinction from its greater whiteness, of *alba*. When another dark metal, similar to the magnet, was discovered, it had the same appellation; but as it did not attract iron, some distinction was necessary, and it was called *mangnet*, *manganet*, and *manganese*. The magnet, our present object, is the *amorphous*, oxidulated iron of Haüy, iv. 13, often found in Europe, in a matrix of magnesian earth, though sometimes in a ferruginous sand, or a sulphurated lime. Its obvious quality of attracting or repelling iron is well known, and in this experiment the north and south poles are attractive, and each repulsive to its own points in other iron or other magnets. Every, the smallest, portion of a magnet has its two poles, not verging to the real poles of the world, but to those of the magnetic meridian, which varies sometimes a little to the east, sometimes to the west. The smaller magnets are more active in proportion than the larger. Magnets, like all iron ores, are astringent, but not used in medicine. They have been recommended by ignorant quacks in ruptures, to attract the intestine upwards, and to destroy the lentor of the blood, by separating the particles of iron in it. Such are the absurdities that deceit will feign and credulity believe. See MAGNETISM.

MA'GNES ARSENICA'LIS, a preparation of arsenic, which we omitted under that article, but which we noticed under CANCER, vol. i. p. 332, col. 2, q. v. Its name was derived from its supposed power of attracting the morbid poison. Geoffroy adds, that it opens, cleanses, and heals scrofulous ulcers, without the assistance of an ointment of any kind. See CANCER.

MA'GNES EPILE'PSIÆ. See CINNABARIS.

MAGNE'SIA, (from *magnesia*, *the female loadstone*, *magnes*). (See ETHEL.) Among the alchymists it means the matter of the philosopher's stone, or sulphur; it sometimes signifies melted tin, with which mercury is incorporated, forming into a brittle white mass; sometimes a mixture of silver and mercury, and a very fusile metal, called *magnesia philosophorum*. But enough of such nonsense.

MAGNE'SIA A'LBA, was a general term which chemists formerly gave to all substances which had the power of attracting any principle from the air. Thus an earth which, exposed to the air, yielded vitriol, was called *magnesia vitriolata*. More modern chemists, supposing that it had attracted the nitrous acid, in its preparation, called it *magnesia nitri:* but, from its colour, it soon obtained its present name, the WHITE MAGNESIA, *albus Romanus pulvis*, *Comitissæ Palmæ pulvis*. It was introduced as a medicine in the beginning of the eighteenth century, by count di Palma, at Rome, and continued a very lucrative secret. It is a very white, subtile powder, and now known to be a peculiar earth, and the basis of the Epsom salt.

Magnesia was, as we have said, for a long time a lucrative secret, and it scarcely emerged from the language and appearance of a quack medicine, at the time it was first prepared by Mr. Glass of Oxford. Mr. Glass took the form of preparing the medicine from Hoffman,

and was not aware of its nature, or the effect of the addition of the alkali. To Dr. Black we are indebted for the discovery of its being a distinct earth. The Oxford preparation was light and elegant, though unequal; but the imputation of its being adulterated with calcareous earth brought on a dispute between Dr. Glass, the brother of the proprietor, and Mr. Henry. It is now of little consequence where the truth lay; for it is every where prepared with sufficient fidelity. Mr. Henry's process we shall add.

"Dissolve any quantity of sal catharticum amarum in its own weight of water; filter, and add to it, by degrees, a filtered solution of pearl ashes, in an equal quantity of water, stirring them gently, until the mixed liquors have acquired the appearance of a complete coagulum; then cease adding any more of the alkaline lixivium, and immediately throw the mixture into a large vessel of boiling water; keep it boiling for a quarter of an hour, take it out, and put it into a glazed earthen vessel: as soon as the powder hath subsided, and before the water is quite cold, pour it off, and add a fresh quantity of boiling water, till the liquor hath entirely lost its saline taste; next let it be so agitated as to suspend the finer parts of the powder, in which state decant it into other vessels; and having separated the water from the magnesia, by inclination, put it on large chalk stones, until a considerable part of the humidity is absorbed; then wrap it up in sheets of white paper, and dry it before the fire. Pour hot water upon the remaining powder, stir and decant it in its turbid state, and separate the magnesia from the water as before; thus the whole, or the most of it, will be reduced to an equal degree of fineness.

"The larger the quantity of water into which the precipitated powder is cast, the more speedily and perfectly will the vitriolated tartar, which is formed by the alkali uniting with the acid of the sal catharticum, be washed off. The neutral salt should be washed off as quick as possible, otherwise, by allowing the mixture to stand for some time, the powder concretes into minute grains, which, when viewed with a microscope, appear to be assemblages of needles diverging from a point. These concretions cannot be re-dissolved by any washing, however long continued. Dr. Black orders four times the quantity of water to that of the solution to throw the coagulum into, but that is far too little. The water should be pure; distilled is the best; but it should be kept until its empyreuma is gone off. Hard or impure water makes magnesia coarse and disagreeable. The chalk stones on which the magnesia is dried should be exposed to a moderate heat, that the moisture may evaporate quickly. Cleanliness should be particularly attended to through the whole."

Magnesia, when pure, is white, loose, and light, of the specific gravity of 2.330 nearly. It is perfectly infusible in the focus of the most powerful mirror, except when it contains particles of flint, which, if the alkali is impure, sometimes happens. When the volatile alkali is employed in the process, no flinty particles are found in it. Magnesia melts, however, with borax, and with some of the earths, though more certainly when the earths and alkalis are united. A new manufactory of china, resembling the sève, is established at Berlin, in which, instead of the kaolin, a magnesian earth, containing flint and an alkali, is the chief ingredient. Magnesia is nearly insoluble in water, but retains a small portion of this fluid within the interstices of its particles with some obstinacy. When, however, the carbonic acid gas is previously united with the water, the magnesia dissolves readily.

Magnesia contributes to the diffusion and suspension of many resinous substances, and, triturated with camphor, renders this medicine more miscible with water. It is supposed also to increase the solubility of bark in water, if triturated with it previous to infusion or decoction: but it seems to produce some chemical change in the constituent principles of the medicine, as the colour is not only deeper but more red. Whether it is more active as a medicine than the common decoction has not, we believe, been ascertained.

As magnesia contains about seven-twelfth parts of fixed air, it should be calcined before it is administered, at least when flatulence abounds. The air, however, which is expelled by heat, is greedily recovered by exposure to the atmosphere, so that it should be kept in a phial carefully closed. The magnesia contracts no acrimony by calcination.

Like all absorbents, it corrects acidities in the stomach, relieves the heart burn and pain in the stomach, colics and convulsions in children, with every other complaint arising from acidity. It is preferred to other absorbents, on account of its laxative quality, when united with an acid. If mixed with rhubarb, it is said to prevent the rhubarb from leaving a costive habit. If the magnesia does not meet an acid, it is inert, and is sometimes supposed to load the stomach as a heavy cold mass. It has been doubted whether it is proper in bilious or putrid fevers, and much idle disquisition has been employed on this subject; for a prudent practitioner will be led, in such cases, to employ medicines of very different qualities. Magnesia can do no good in either disease. See Hoffman's Observationes Physicæ Chemicæ, lib. iv. Obs. ii.; Black's Observations on the Magnesia Alba, in the Essays Philosophical and Literary of Edinburgh, vol. ii; London Medical Transactions, vol. ii.

MAGNE'SIA OPA'LINA; *magnesia rubicunda antimonii.* OPALINE OR RUBY COLOURED MAGNESIA OF ANTIMONY. In making the hepar antimonii, decrepitated sal ammoniac is sometimes added to the antimony and nitre, and the result is, the opaline magnesia. It is a weaker emetic than the liver of antimony, and may be given in considerable doses to horses, to produce sweating. Lemery directs it to be made of equal parts of antimony, nitre, and decrepitated sea salt.

MAGNE'SIA VITRIOLA'TA. See CATHARTICUS SAL.

MAGNETISMUS. MAGNETISM, from its effects on the human body, can be scarcely an object of our attention; yet, as folly and fraud have brought it forward in a conspicuous view, it will be necessary to ascertain its real nature, and the advantages which may have certainly been derived from it in medicine. Add to this, that quackery is too fascinating to the human mind to be long without an object, and the exploded artifice of to day may, at a future time, revive in a new form—alter et idem.

Magnetism is strictly the power by which an iron ore attracts or repels a piece of iron, according to the point presented, or attracts only a rude mass. The iron ore,

or magnet, can communicate this property to a piece of soft malleable iron, so as to make it much more powerful than any natural magnet. Iron, also, which has long stood in one position, acquires at either end its power of attraction or repulsion. This property is confined to iron, though cobalt and nickel are suspected of having a small degree of magnetism; and to posses the power of attraction, iron must be in a soft, malleable state. When oxided in a slight degree, the magnetic power is weakened; when hardened, or in the state of steel, it receives this power in a small proportion. It is equally necessary that its structure (may we be permitted to call it organization?) should be entire; for a magnetic wire, twisted round a stick, does not lose its virtue, while it has not been so much bent as to destroy its elasticity; but, when it can no longer restore its former shape, the magnetism is lost. A smart blow will sometimes destroy, or, in turn, give this power.

Two important errors on this point must be corrected: the one, already noticed, that the magnetic needle, freely suspended, does not lie in the direction of north and south, but a little on the east or west, according to its "*variation*." This fact is repeated to add, that a needle only becomes spontaneously magnetic by lying in the *magnetic* meridian. Another error is, that the magnetic influence resides in the earth. In fact, it seems to pass over its surface; for it is much less obvious in caverns than on the *earth*. The opinion of its cause being one great magnet at the centre of the earth is, of course, without foundation.

It has been usual to suppose the attraction and repulsion of magnetic bodies to be owing to two different antagonizing fluids. This opinion, supported by the authority of Æpinus, Coulomb, and Haüy, should not be rashly rejected. It is, however, seemingly borrowed from the two electricities; and, as we have found that the electrical phenomena with which we are in this work engaged, might be explained on the supposition of a single fluid, so we think the phenomena of magnetism equally compatible with one fluid. Some analogy has been observed between magnetism and electricity; but, if there is any resemblance, magnets are like the electrics per se. Instead of iron being peculiarly attractive of the magnetic fluid, it appears to be the only body which resists it. From this resistance the phenomena apparently arise. Electrics per se equally resist the electrical fluid; but these, if powdered, are changed into conductors. Powdered magnets are still magnetic.

Magnetism differs from electricity in being influenced by very different laws. Magnetism attracts large bodies, electricity small ones; magnetic attraction is constant; electrical variable: the former limited to about two feet, the powers of the latter are unlimited. The magnetic power is also permanent for ages, if not destroyed by an opposite current of a similar nature, as laying two magnets together, with the north poles contiguous, and is not, or very slightly, affected by moisture, water, and oils, nor at all influenced by an electrical atmosphere. A magnet in action may be electrified without disturbing that action, which is also equally active in a vacuum. Heat also diminishes the magnetic power, and entirely destroys it when the iron becomes red; but it is again recovered on cooling.

These observations are sufficient to show that, if magnetism has no power of its own, little medical effect is to be expected from any fancied analogy to elecricity; and, indeed, magnetism has no analogy to any part of our system, except the small quantity of iron in the blood, which is too much diffused to be influenced by it. In fact, magnetism has no effects but in the promises of the artful, and the delusions of the credulous.

Not many years have elapsed since what is called *animal magnetism* was supposed to cure every disease, and to free the mind from the trammels of the body, the load of earth which confines its active excursions, enabling it to pervade, at will, through distant regions, unlimited by time or space. This imposition has had a variety of professors in different countries; and, at one time, seems to have fascinated minds even of a superior order. It affected chiefly the imagination; and the delusion was, in general, confined to the female world, and the weaker classes of mankind. An hysteric paroxysm was produced, and the wanderings of a disturbed imagination were received as the dictates of inspiration. In these wanderings, medical questions were proposed and answered; but all the answers, like those of the ancient oracles, were vague and indecisive. The gesticulations of the professors were directed to particular parts, and supposed to remove the complaints of those organs. While the fancy was inflamed, the effects were thought supernatural. When that cooled, the power lost its influence. The professors have published their secret, which is a strange mixture of absurdity and fanaticism. They are to powerfully excite the attention, to will an end, with views strictly benevolent, moral, and religious. They were not conscious of any means, and this all-powerful influence was to be excited by the volition of the weakest, meanest, sometimes the most infamous, of mankind. The bubble is now burst, and the experience of this age will, for a time, prevent its revival.

MA'GNUM OS; the third and largest bone of the second row in the wrist. See CARPUS.

MA'GNUS MO'RBUS. The EPILEPSY. Hippocrates.

MAGU'DARIS, (from μαγυδαρις). See SILPHIUM.

MAHMOO'DY. See SCAMONIUM.

MAHO'GANI. This beautiful wood is procured from the *swietenia mahogani* Lin. Sp. Pl. 548, and the bark resembles, in appearance and qualities, very nearly the Peruvian bark. The trees which produce them are also closely connected by botanical affinities.

MAIA'NTHEMUM. See LILIUM CONVALLIUM.

MAIDEN-HAIR TREE, brought originally from Japan, by Thunberg, was styled the tree of forty crowns, from its usual price; but it is easily propagated by cuttings, and now common. The appellation was derived from its leaves resembling those of the adiantum, and Linnæus formed a genus, which he styled *ginko;* found only in one of his later mantissa. This plant was the *ginko biloba.* It flowered for the first time in England in 1796, and the president of the Linnæan society referred it to a new genus, calling it *salisburia*, with the trivial name of *adiantifolia* (Linnæan Transactions, iii. 330). It is chiefly cultivated for its beauty and its nuts, which are not produced till the tree is old. They are said by Kempfer to be nutrient and corroborant.

MAIL-A'NSCHI. A species of rhamnus, growing in Malabar; *Lawsonia spinosa* Lin. Sp. Pl. 498. A

decoction of its root is commended in gout, and of its leaves in jaundice.

MAIL-E'LOU, and MAIL-E'LOU-KA'TOU, are tall evergreen trees growing in Malabar, which are not found in modern systems. A decoction of the bruised leaves and bark is said to be useful in the after pains, and to promote the lochia.

MAJORA'NA, (*quòd mense Maio floreat*, because it flowers in May). Marjoram.

Majora'na cre'tica, vel Syria'ca. See Marum Syriacum.

Majora'na majo'ri fo'lio, *amaracus*, *sampsuchus*. Sweet marjoram. By amaracus the ancients meant sweet marjoram; but by lesser marjoram, the marum. The Egyptians and Syrians call the sweet marjorum by the name of *sampsuchus*. It is the *origanum majorana* Lin. Sp. Pl. 825, a low plant, with slender, square branched, woody stalks; and little, oval, somewhat downy, leaves, set in pairs. On the tops grow scaly heads of small whitish labiated flowers, whose upper lip is erect and cloven, the lower divided into three segments. It is sown annually in gardens for culinary and medicinal uses; but the seeds rarely come to perfection in this climate, and are brought from the south of France, where the plant is indigenous.

The leaves and tops have a pleasant smell, a warm aromatic bitterish taste. Infusions in water have a strong smell, but a weak and unpleasant taste: a tincture made with rectified spirit of wine hath more taste than smell. In distillation this plant yields its virtues to water, and affords an essential oil, in the proportion of ℥ i. from ℥ lxiv. of the leaves slightly dried, though Beaumè obtained a much smaller proportion. This oil is hot, not so agreeable as the marjoram, and when carefully drawn is of a pale yellow colour; though by long keeping it turns reddish, and if distilled with too great heat is red at the first. The dose is two drops.

The aromatic matter rises almost wholly in distillation, so that an extract possesses very little of the virtues of the plant, which is, like the lavender, a warm, stimulating, nervous medicine. The powdered leaves, the essential oil properly diluted, and the distilled water, are agreeable errhines. In its recent state we are told that it has been successfully applied to scirrhous tumours of the breasts.

Majora'na olera'cea, sylve'stris. See Origanum Anglicum.

MA'LA, (from a resemblance to *malum*, *apple*). The prominent part of the cheek. (Martinius.) See Buccæ.

Ma'la Assy'ria. See Citreum.

Ma'la aura'ntia. See Aurantia Hispalensis.

Ma'la au'rea. See Amoris poma, and Aurantia Hispaliensia.

Ma'la coto'nea ma'jora, et mino'ra. See Cydonia.

Ma'la i'nsania ni'gra. See Melongena.

Ma'la pu'nica. See Granata mala.

MALABA'RICA HE'RBA. See Coru Canarica.

Malaba'rica pru'na. The fruit of the *eugenia janbos* Lin. Sp. Pl. 672. The fruit is subacid and salutary, and a mildly astringent conserve is prepared from the flowers.

MALABA'THRI O'LEUM See Cinnamomum.

MALABATHRI'NUM, (from *malabathrum*). Ointment of malabathrum, compounded of myrrh, spikenard, malabathrum, and many other aromatic ingredients. See Dionysos.

MALABA'THRUM, (from *Malabar*, and *betre*, *a leaf*). Into this word the Greeks corrupted the Indian appellation *tamalapatrum*. See Folium.

MA'LACA RA'DIX. See Sagittaria alexipharmica.

MALA'CIA, (from μαλαχιον, *a ravenous fish*). See Pica.

MALACOI'DES, (from μαλαχη, *a mallow*, and ειδος *a form* or *likeness*,) *malva betonicæ folio*, *malope malacoides* Lin. Sp. Pl. 974, a plant similar in appearance and qualities to the mallow.

MALACO'STEON, (from μαλακος, *soft*, and οστεον, *a bone*). See Morbi solidi simplicis and Rachitis.

MALA'CTICOS, (from μαλασσω, *to soften*). See Emollientia.

MALAGMA, (from μαλασσω *to soften*,) βαος; synonymous with *cataplasma*, from its effects; but formerly malagmas were made of many other ingredients.

Malagma a'rabum. A cataplasm for strumous swellings and tubercles.

MALAGFUE'TTA, or MALAGU'ETA. See Paradisi grana.

MALA'RUM O'SSA. The cheek bones, *zygomatica* and *jugalia ossa*, are the irregular square bones, placed on the outside of the orbits. Their corners are reckoned processes; the longest, viz. the posterior and superior, are called the *superior orbitar processes*; the anterior and superior, which end in acute angles, are the *inferior orbitar processes*: the anterior and inferior, which are the shortest, are denominated the *maxillary*; the posterior and inferior, *zygomatic*.

MALATS. Neutral salts, composed of alkalis, or earths, and the malic acid. They are little known, and have not been hitherto used in medicine. See Malic acid.

MALAVI'SCUS, (from *malva*, *the mallow*, and *viscus*, *glue*, from its viscidity). See Althæa.

MALAXA'TIO, (from μαλασσω, *to soften*). The softening of any thing.

MALAZISSA'TUS. *Emasculatus* and *mulieratus*; an appellation of those whose testes have not descended into the scrotum.

MA'LE. See Axilla.

MALIC ACID. A vegetable acid found chiefly in unripe apples, as well as in plums, gooseberries, elderberries, barberries, and even in the houseleek. It becomes oxalic by the addition of nitric acid, and carbonic acid by distillation. See Chemistry.

MALICO'RIUM, (from *malum*, *an apple*, and *corium*, *the rind*; because it outwardly resembles an apple). See Granata mala.

MALI'GNITAS, (from *malignus*, *evil*). Malignity, when applied to fevers, means a high degree of putridity; and its signs are, a slight coldness and shivering, quickly followed by a great loss of strength, a small, quick, and contracted pulse, fainting, if in an erect posture, drowsiness without sleep, or the sleep not refreshing, but followed by a greater decay of strength and delirium. There is little pain, thirst, or

other troublesome symptom, and yet the patient is uneasy, the features contract and sink, the extremities become cold, the pulse intermits, and death soon terminates the scene.

MA'LIS. *Cocyta.* A pungent pain from an animalcule lodged in an ulcerous tumour; or pain from an insect lodged in any part without ulcer or tumour. The insects which produce this pain are various. In Persia it proceeds from the gordius medinensis, or dracunculus persicus; in America by the pulex, and sometimes even by the pediculus.

MALLAM-TO'DDALI. *Celtis orientalis* Lin. Sp. Pl. 1478. The name of a tree in Malabar, whose root, bark, leaves, and fruit, are esteemed specifics in the epilepsy. Raii Historia.

MALLE'AMOTHE, *Pavette, erysipelas curans arbor, pavetta indica* Lin. Sp. Pl. 160; a shrub which grows in Malabar. The leaves boiled in palm oil cure the impetigo; the root powdered and mixed with ginger is said to be diuretic. Raii Historia.

MA'LLEI MU'SCULUS EXTE'RNUS vel SUPE'RIOR. See TENSOR MEMBRANA TYMPANI.

MA'LLEI MU'SCULUS INTE'RNUS. See LAXATOR MEMBRANÆ TYMPANI.

MALLE'OLUS, (from its resemblance to a mallet). The ANKLE. (See ASTRAGALUS.) In BOTANY, the cuttings of vines, with joints of the old wood at their bottom, resembling a little mallet.

MALLEO'LUS EXTE'RNUS; the talus or ankle bone, or the inferior extremities of the tibia and fibula. See FIBULA.

MA'LLEUS. A MALLET, and one of the bones in the ears. (See AURIS). This bone hath a large round head, which contracts the whole way from the neck, whence the processus Ravianus arises, and on the outside a short process projects outward, pointing against the membrana tympani. From this part the manubrium or handle is continued down, and its extremity, fixed to the tympani membrana, pulls it inward. When the malleus is in its proper situation, the neck and head are turned upwards and inwards, the handle downwards, its short process upwards and outwards near the upper part of the edge or the tympanum, and the processus Ravianus forwards, reaching to the articular fissure in the os temporis, whence we may distinguish the malleus of one ear from that of the other. The handle of the malleus is tied to the membrana tympani by a fine membranous duplicature. This bone hath three muscles, viz. the *laxator* and *tensor membranæ tympani*, and the *musculus externus, auris* Du Vernii.

MALPI'GHIA, (in honour of *Malpighi*). BARBADOES CHERRY TREE. *Cerasus Americana, Malpighia punicifolia* Lin. Sp. Pl. 609. The fruit is eaten by the native Americans, but has no medicinal virtue.

MA'LUM. A DISEASE. (See MORBUS.) In a strict sense it is applied to the unnatural protrusion of the *apple* of the eye, called *procidentia oculi;* consists in an enlargement or protusion of the eye ball, when the eyes exceed the bounds of the eye lids. Its more general meaning is the fruit, *apple*, which in inflammatory and other febrile complaints is allowed as food when roasted. Sliced and infused in boiling water, apples make a pleasant diluting drink. When thoroughly roasted, the soft pulp is applied to the eye in form of a cataplasm, in cases of ophthalmia, if the eye itself should not be too irritable. Its advantages consist in its very slow communication of heat, in consequence of its texture, so that it continues cold for a long time. See CALIDUM.

MA'LUM CI'TREUM. See CITREUM.

MA'LUM GRANA'TUM. See GRANATA MALA.

MA'LUM MO'RTUUM. A malignant species of lepra or scab, which renders the body livid, with crusty ulcers, void of sanies and of pain.

MA'LUM TE'RRÆ. See ARISTOLOCHIA ROTUNDA.

MA'LUS, (from *μαλον, an apple*). The APPLE TREE. The many sorts of apples known in this country are varieties only of one species: at least the crab is our only indigenous apple. Our most valuable species are derived from France, as the names import, the pippin (pepin), quarington (charenton), nonpareil, &c. Some valuable varieties are, however, derived from these, under our own hands, which it is unnecessary to enumerate. The apple, when raw, is a cold and flatulent food, not suitable to weak stomachs. The wilding of different countries is the origin of the more improved species, and from it a kind of vinegar is made. Its juice is, however, acerb, and not acid; for it hastens rapidly into fermentation, and if this is carefully checked, it becomes a vinous liquor, resembling old *hock*, which will not by any artifice become vinegar.

MA'LUS SYLVE'STRIS, *agriomela, agrestis, malus acido fructu sylvestris.* The CRAB TREE, the WILDING, *pyrus malus* of Lin. Sp. Pl. 686, *α.*

MA'LUS AURA'NTIA. See AURANTIA HISPALIENSIA.

MA'LUS CYDO'NIA. See CYDONIA.

MA'LUS I'NDICA. See BILIMBI.

MA'LUS MALABA'RICA. See CANIRAM.

MA'LUS ME'DICA, and PE'RSICA. The CITRON, LEMON, and PEACH.

MA'LUS PU'NICA. The POMEGRANATE. See BELAUSTIUM and GRANATA MALA.

MA'LVA, *μαλαχη*, (from *μαλαττω, to soften*). The MALLOW, *malva rotundifolia sylvestris* Lin. Sp. Pl. 969; sufficiently known. Its leaves and flowers are slightly mucilaginous, have no remarkable smell, and are merely emollient. A conserve is made from the flowers; the leaves are used in decoctions for clysters, for emollient fomentations, and in cataplasms. The roots have been employed as a pectoral: they have a soft sweet taste, resembling that of liquorice, but without any remarkable smell. An extract from the tincture is very sweet. The leaves possess powers similar to the althea; and their use is superseded for internal purposes by those of the latter. See Raii Historia; Lewis's Materia Medica.

MA'LVA ARBO'REA MARITI'MA; *althæa arborea maritima, lavatera arborea* Lin. Sp. Pl. 972. The MALLOW TREE agrees in virtues with the common mallows.

MA'LVA BETO'NICÆ FO'LIO. See MALACOIDES.

MA'LVA RO'SEA FO'LIO SUBRO'TUNDO; *malva arborescens, malva hortensis, dendromalache, alcea rosea* Lin. Sp. Pl. 966. TREE OR GARDEN MALLOW, and the HOLLYHOCK. This plant is chiefly cultivated as ornamental in gardens; and in medical virtues is similar, but inferior, to the common mallow.

MA'LVA VERBENA'CEA; *alcea, alcea vulgaris major, malva alcea* Lin. Sp. Pl. 971. VERVAIN MALLOW, is

distinguished from the common mallow by its leaves being deeply cut at the edges. It is similar to, but less mucilaginous than, the other mallows.

MA'LVA VI'SCUS. See MALAVISCUS and ALTHÆA.

MALVA'SIA, MALMSEY; *marvisium;* a rich generous wine of Spain and the Madeiras, supposed to be the arvisium of the island of Scio.

MALVERN WATER rises in Worcestershire, and it contains lime with a small proportion of magnesia, suspended chiefly by carbonic acid gas. A very small quantity of sea salt is occasionally found in it. The proportion of fluid is very large, and this is one of the purest of our cold mineral waters. It is applied in inflammations of the eyes, and drunk in all complaints of the kidneys and bladder, scrofula and cutaneous diseases.

Dr. Wilson, in a late elaborate work on this water, seems to think that its solid contents, though in a small proportion, may be useful, especially as they are of the kind used in the diseases for which the water is celebrated. He found in a gallon of *Holywell* water above five grains of carbonate of soda, and nearly three of the sulphat of soda. It contained also about a grain and half of common salt, nearly a grain of carbonate of magnesia, and about the same quantity of carbonate of lime. The carbonate of iron scarcely exceeded half a grain. The ingredients of St. Ann's Well were the same, but in a much less proportion. He found the waters laxative; but, at first, they sometimes produced nausea, and occasionally feverish heat.

MAMÆ'RA FŒ'MINA. See PAPAYA FŒMINA.

MAMA'NGA FRU'TEX, an arborescent shrub in Brasil, called by the Portuguese *lavapratas*, but not included in the botanical systems. Its leaves are applied to wounds and ulcers, and the expressed oil of its pods is used in maturating poultices. Raii Historia.

MAME'I. The *mammæa Americana* Lin. Sp. Pl. 731, *mammoe, momin*, or TODDY TREE, is a fine tall tree, constantly of a beautiful green colour, somewhat resembling the walnut tree. Its trunk rises to the height of seventy feet, and is terminated by a number of branches which form a vast pyramidal crown. The fruit is twice as large as the fist, and is very agreeable. This tree is found in different parts of the West Indies, but the best are those on the island of Hispaniola. From incisions made in the branches a copious discharge of pellucid liquor, called *momin*, or toddy wine, is produced, which must be drunk sparingly, as it is a powerful diuretic; but it is esteemed a preservative from, and a solvent of, the stone. The fruit is sweet, and of an aromatic flavour; but the two first shells, as well as the pulp which surrounds the kernels, must be removed, since the latter leaves a very permanent bitter in the mouth. It is usually eaten at tables, cut in slices, and macerated in sweet wine. Excellent marmalade is prepared from it by the addition of sugar and spices, which is often brought to Europe as a dry preserve. Brandy distilled from the flowers is highly pleasant, and called the *Creole liqueur*. The gum of the bark kills the chiques which often infest the feet of the Creoles. The Asiatic species is referred, by modern botanists, to the new genus *butonica*, formed chiefly from the *eugenia* of Linnæus, with the *baringtonia*, the *commersonia* of Foster, and some others. A plant which appears to be of this genus, the *mammea humilis*, Vahl suspects to be the *rhedia laterifolia* Lin. Sp. Pl. 719. See Raii Historia.

MAMI'RA, is said by Paulus Ægineta to be the root of a plant of a detergent quality. It has been supposed the root of the *doronicum;* but it has not been correctly ascertained.

MAMIRA'AN, is a a plant which grows in the water, resembling in its leaf the convolvulus; its taste is hot and bitter, and the seed resembles that of sesamum.

MA'MMÆ, (from μαμμα, *mamma*, plural *mammæ*). The BREASTS. In the breasts we distinguish the mammillæ, or nipples, the areola, the brownish circle around the nipples, and the lactiferous vessels. The breasts are composed of a glandular substance and fat; the glandular part is hard, white, and irregularly mixed with fat, seemingly composed of tubes called *tubi lactiferi*. See LACTIFERI DUCTUS.

Though the breasts are usually spoken of as single glands, they are in reality a congeries of glandular bodies, of a small size, and a somewhat flattened shape. Mr. Cruickshanks has described them as acini; but other authors, with more reason, have supposed these small bodies to be merely convoluted vessels. From these small glands tubes emerge, which enlarge and anastomose freely; but, when approaching the nipple, near the areola, contract and open by distinct apertures. Fifteen of these are often counted on a small nipple, though other anatomists lessen the number. The areola is covered with a skin much more soft and fine than that of the general surface, resembling rather the ephelion of the lips and mouth, and interspersed with sebaceous glands, obvious even to the sight, to defend this tender covering from the pressure and the saliva of the child's mouth. The nipple itself is formed of a congeries of these small tubes. The different vessels, either lactiferous or secretory, are minutely divided by fat, and thus give the roundness, the fulness, and firmness of a well proportioned mamma.

The colour of the areola greatly differs even in different women; and, in some, it is so brown, as even in the natural state to give a suspicion of impregnation. (See MEDICINA FORENSIS.) In chlorotic and unhealthy women it is pale; in the Samoeids and negresses black; and in brown persons of a deeper colour. The hue is evidently derived from a fulness of the arteries, though in what manner it is modified we cannot easily say; probably by the colour of the rete mucosum; for all the sexual organs have a brownish tint. In women of the most brilliant and delicate complexions, the colour of the areola resembles that of a rose.

The female mamma sympathizes very pointedly with every part of the genital system, generally with the clitoris, more sensibly and strictly with the ovaria and the uterus. At the approach of the menses the breasts enlarge; at their cessation they wither. After the lochia cease, the milk begins to flow, and this connection is so intimate, that it has been attributed to the anastomosis of the extreme branches of the epigastric and mammary arteries on the abdomen. This is, however, highly improbable; for their union is inconsiderable, and not peculiarly distinct at any particular periods. The sympathy, however, is so striking, that the Hottentots and the Scythians (Herodotus) irritate the vagina to increase the flow of milk from their cows and mares. It is highly probable that the milk is carried to the nipple, and often

discharged from it by the action of its own vessels, and that the child drains the breast, not so much from its own powers, as by exciting the action of the lactiferous tubes. Thus a sensation is felt, when the child approaches, of some internal commotion of the mamma, which females distinguish by the term *warping*, and they are excited so much by the irritation of the vagina, as to render it doubtful if it is always prudent to deprive the hireling nurse of the company of her husband. A sentimental feeling also influences the secretion: thus the milk does not flow so freely on the application of a strange child as of a woman's natural offspring; and exciting the attention, especially if this is accompanied with a little terror, will wholly suspend the discharge.

The connection of the secretion of milk with the general state of the nervous system is also strongly marked. The maternal office of suckling is always attended with a calm serenity of mind, scarcely felt in other situations, and the suppression of the milk, on its first appearance, with irritability, languor, or despondence. The last, indeed, sometimes attends the period of suckling, though the milk continues to flow, from causes that cannot be ascertained. It seems to affect the young and the strong, rather than those of the middle period of life, or of weaker constitutions; the first lyings-in rather than future ones. The apprehensions of death, in those rare and inexplicable cases, are, however, so strong, that nothing can conquer them: the dejection so firmly fixed as to bid defiance to medical aid. In some cases it has continued for some years, but another pregnancy is usually an infallible cure.

Though the final cause of the connection of the uterine with the lactiferous system is obvious, yet, as usual, nature acts by general laws. Thus a false conception is attended with a fulness of the mammæ, and the want of ovaria, as we have seen, has occasioned the breasts to remain in the state of the earliest periods. The irritation of a cancerous tumour in the uterus has, however, no effect of this kind, for it seems of a sedative nature; or perhaps the principium and fons of the irritation must be in the ovary.

It is a circumstance singular and inexplicable that men should have all the organs which produce and convey milk like women. Is it that the sex is determined after the rest of the body is formed, or that, in cases of necessity, men should be able to supply the office of the woman? The first is highly improbable; and though we have one instance of a man affording his motherless offspring this sustenance, the experiment has not been again tried, or not succeeded. Yet, on birth, when all the fluids begin to circulate freely, male children, as well as females, have often milk in the breasts. On the whole, were men subject to a partial plethora like that which takes place in menstruation, and were there an established sympathy between the breasts and genital organs, it is probable that they might become nurses. But neither the plethora nor the sympathy exist; and though we have found tumours in breasts of men, we have never heard of their becoming cancerous. Girls of the best character, by the irritation of a child sucking, have become able to support it. A woman of sixty-eight is recorded in the Philosophical Transactions to have suckled a grand child; and one of eighty, in a Swedish Journal, is said to have performed the same office. Russel mentions a similar fact respecting a barren sheep, in his treatise De Tabe Glandulari, p. 64.

The number of teats in different animals correspond to the usual number of their young; but it is singular that, however the numbers differ, they are always even. Animals that do not give suck are generally oviparous; but some of the vipers, and some reptiles styled viviparous, are not strictly such; for their young are inclosed in eggs, which are hatched some time previous to the birth. A step between these and animals who are really viviparous may be observed in the didelphis, of which the kangarou is a species. These animals produce their young in an unformed, imperfect state; but they are for a long time concealed, and protected in a second uterus, formed under the belly by a duplicature of the skin, in which the nipples are found. While thus speaking on comparative anatomy, we may add, that the horse was supposed to have no nipples; but Daubenton discovered them under the prepuce.

The arteries and veins are ramifications from the arteriæ and venæ subclaviæ, and from the axillares. The nerves are principally from the costales, which communicate with the nervi sympathetici. The lymphatics pass through the axillary glands, though Meckel suspects that he has traced them into the subclavian veins. See Kolpin de Structura Mammarum, Sabatier Traité d'Anatomie.

MAMMÆA'RA MAS et FŒ'MINA. See PAPAYA MAS FŒMINA.

MAMMA'RIÆ ARTE'RIÆ, (from *mamma*, *the breast*.) The ARTERIES OF THE BREAST. The *external* are branches from the axillary arteries, and called the superior thoracic. The internal proceed from the anterior and lower side of the subclaviæ, near the middle of the clavicles, and run down for about a finger's breadth, behind the cartilages of the true ribs, an inch distant from the sternum. In their passage they send branches to the breasts, and to several of the adjacent parts; they afterwards go out of the thorax on one side of the appendix ensiformis, and are lost in the recti muscles of the abdomen.

MAMMA'RIÆ VE'NÆ INTE'RNÆ. The right springs from the vena cava, a little below the bifurcation, and runs with its corresponding artery along the internal edge of the sternum. The left springs from the subclavian, or from the axillary vein.

MAMMEA AMERICANA, Lin. Sp. Pl. 731, the plant which affords the grateful salutary fruit, the mammè.

MAMMIFO'RMES, or MAMILLA'RES PROCE'SSUS. See TEMPORUM OSSA.

MA'NACA. The name of a bacciferous shrub in Brasil. The root is powerfully emetic and cathartic, and used on some occasions by the natives (see Raii Historia); but the plant is not found in modern systems.

MANATE'A LA'PIS, (from *manati*, *the sea cow*). *Trichecus manatus* Lin. Syst. Natur. 60. The part of this animal which hath been used in medicine is the os petrosum of the head, which is of various forms, hard, and white, resembling a stone and ivory.

MANCANI'LLA, *hippomane mancinella* Lin. Sp. Pl. 1431. The MANCHINEAL TREE is as large as the oak; the juice of the bark, while fresh, is caustic; the fruit and leaves are equally so, though eaten by goats. The wood is sawed into planks, and brought into England

as ornamental wood. It is of a dusky colour, with brown veins and yellow clouds. It is supposed that the shade of the manchineal tree, as well as the dew beneath it, is injurious; but this is fabulous. Dutour has often rested under its shade without feeling any bad effects; though he suspects, for reasons which he does not assign, that the air is unwholesome, and advises travellers not to seek shelter under it during a whole night. The Indians poison their arrows with its juice; and Valmont de Bomare mentions an experiment with an arrow, which had been dipped in this juice a hundred and forty years before; but a wound inflicted by it on a dog was soon fatal. See Raii Historia.

MA'NCORON, probably sugar, since it is a sweet substance found in cane. Oribasius.

MANCURA'NA. See ORIGANUM.

MA'NDARU, *assitra*, *bauhinia variegata* Lin. Sp. Pl. 535, the pod bearing Malabarian tree with bifid leaves. The flowers purge; and the roots, if chewed, relieve pains in the teeth. All the species of Bauhinia appear to possess similar qualities.

MANDI'BULA, (from *mando*, *to chew*). A JAW. See MAXILLA.

MANDII'BA, MANDII'BABURA, MANDII-BU'MANA, MANDII'PEBA, MANDIO'CA. See CASSADA.

MANDRA'GORA, (from the German *man dragen*, bearing or resembling men). *Canina malus; dudaim;* the MALE MANDRAKE, *atropa mandragora* Lin. Sp. Pl. 259, hath monopetalous, multifid, bell shaped flowers; its fruit is soft, globular, and contains seeds, which are generally kidney shaped. It is common in Spain, Italy, and other hot countries: is anodyne, narcotic, and cathartic; but only used internally as a discutient.

The roots of the marsh mallow, of the arundo, and of bryony, are made to resemble the male mandrake roots.

MANDRAGORI'TES, (from μανδραγορα, *mandrake*). The MANDRAKE WINE is made by putting half a pound of the bark of the mandrake to nine gallons of wine. After standing three months the process is complete.

MANDUCA'TIO, (from *manduco*, *to chew*). See MASTICATIO.

MANDUCATO'RES MUSCULI, (from the same). See MASSETER MUSCULUS.

MA'NGA. (Indian.) *Mangas*, *amba*, *ambalam*, *mao*, *conchifolia*, the MANGO TREE, *mangifera Indica* Lin. Sp. Pl. 290, is a native of the East Indies. The fruit is larger than a goose's egg, flattened, shaped like a kidney, and of a gold yellow colour. It is pickled unripe in the acid milk of the cocoa nut, the kernel filled with garlic, and, in that state, sent to Europe. See Raii Hist.

MA'NGA. See ABALAM.

MANGANESE. *Magnesium*, *magnesia nigra*, and *siderea*, *manganese oxydè* Haüy iv. 243, is of a black brown colour, with occasionally a little of the metallic splendour, of a specific gravity from 3.70 to 4.75. Some varieties which stain the fingers are much lighter. It is divisible in rhomboidal prisms of about 100° and 80°, and colours borax of a violet hue when exposed to the blow pipe. It was long supposed to be an ore of iron, and though shown in 1770 by Kaim to contain a peculiar metal, it was only completely reduced by Gahn about the year 1774. Manganese attracts oxygen more rapidly than any other body, except phosphorus and the black oxide; that most commonly employed contains sixty parts of the metal and forty of oxygen. In this variety the oxygen seems in excess, and the excess only is yielded in decomposition; for the white manganese retains its oxygen with great obstinacy.

It is needless to enlarge on the preparation of manganese, as its chief use is in preparing the oxygenated acids and salts. M. Alyon has recommended an ointment composed of the black oxide of manganese with axunge, in the proportion of one drachm to an ounce, which he recommends in a variety of external diseases, where the oxygen is apparently deficient, but whose boasted merits experience in this country has not supported. In the preparation of oxygen for respiration, manganese is chiefly used, and it is the principal ingredient in Guyton's box to secure from contagion. Those, however, who prepare oxygen gas should recollect the observation of M. Seguin, that some manganese at first yields a portion of azotic gas.

MANGARA'TIA. See ZINGIBER.

MA'NGLE. See GUAPARAIBA.

MA'NGOSTAN. *Garcinia mangostana* Lin. Sp. Pl. 635. A tree which has been transplanted from the Molucca islands to Java, and at Batavia is admired as an ornament in gardens. It resembles the citron tree, has a straight trunk, an equal and regular head, and rises from eighteen to twenty feet in height. The mangostan, in the works of modern naturalists, is of the natural order *guttiferæ*, as some of the species afford a gummy resin, resembling, in appearance and power, the *gutta gamba*. The fruit is equally pleasing to the smell and taste. The odour resembles that of the strawberry: the flavour is said to unite the sweetness of the cherry, the orange, and the grape. The mangostans are wholesome, refreshing, and never produce any inconvenience. Dr. Solander, who was at the point of death from a putrid fever at Batavia, found them so refreshing, that he attributed his recovery to them. The fruit itself is laxative, the bark styptic and astringent. The decoction of the bark is given in dysenteries, and employed as a gargle in aphthæ. The Chinese employ the bark in their black dye. The only other species of the system of nature affords a much more acid and less grateful fruit; and, indeed, it seems a variety only. To this genus Gærtner has referred the gambogia gutta of Linnæus; but on this subject we have already spoken; and Lamarck has added two other species.

MA'NIA, (from μαινομαι, *to rage*,) *delirium maniacum*, *paraphrosyne*; *phrenitis apyreta*, *heracleius*, MADNESS. (See also MELANCHOLIA.) This disease receives different appellations, according to its violence, its causes, and attending circumstances. Melancholy is the primary disorder, and madness is supposed, though inaccurately, to be the higher degree.

Madness, in all its species, is a chronical disorder, and has been defined, "The perception of objects not existing, or at least not corresponding to the senses," and is consequently a preternatural state of sensation. Dr. Cullen places it in the class *neuroses*, and order *vesaniæ*, defining it an universal insanity. This definition is, however, very defective, since the chief term is the object of the definition. That of Sauvages is still more exceptionable, as he confines madness to errors of judgment with fury. Those of Linnæus, Vogel, and Sagar, either define mania by insania, or confine it to fury and boldness. Dr. Battie, who styles it false perception, is equally imperfect. It may, perhaps, be more

correctly defined an irregular exertion of the mental powers, particularly those of perception and judgment, without fever, often with great violence. Dr. Cullen distinguishes three species; the *mania mentalis*, when wholly from the affections of the mind; *mania corporea*, or *inanitorum*, when evidently from a fault in the body; *mania obscura*, when not preceded by any evident mental affection or disorder of the body.

These species are, however, incorrect; but a mere nosological disquisition would not have detained us, had not this view of the subject led to erroneous ideas of the disease. Perhaps there is no disorder purely mental. When affections of the mind produce corporeal complaints, they first act by injuring the functions of the body; when the mind also is diseased, bodily changes first appear; and, in the case before us, the most purely mental maniæ are found to arise from topical affections of the brain. (See MENS and MENTALES.) There is not even a sufficient foundation for distinguishing those species which arise from atonic gout, repelled eruptions, syphilis, &c.; for, though originating from bodily causes, they continue like the apparently mental diseases. In short, there is no foundation for the subdivision of species in this complaint; since, like many other reputed genera, it is only itself a species.

The union of mania with melancholy is, we have said, equally inaccurate; for the melancholic mania is a variety only. We shall find melancholy distinguished as a peculiar temperament, marked by languor and inactivity in all the functions; and, while it occasionally rises to insanity, even in its last stage, it is clearly distinguishable from other varieties of mania. The phlegmatic, the sanguine, the bilious, as well as the melancholic temperament, are subject to insanity.

Some authors have unnecessarily varied the species from the circumstances or causes of the disease, almost realizing the axiom of the porch, that all fools are mad; but these are only varieties, and scarcely admit of any difference in the practice.

Dr. Battie, we have said, considers madness to consist in false perception; but this is a partial view; for the perceptions are often correct, but the reasoning or the judgment are defective; yet the perception is more frequently in fault than the reasoning. The mind is all alive, but its exertions are irregular; indeed the mental excitement is so great, that mad persons are often not subject to the effects of cold, nor generally susceptible of the infection of fever. On the contrary, other diseases are cured by madness coming on. We remember to have seen a most inveterate asthma immediately relieved by a maniacal paroxysm, and the asthma returned when the madness lessened. It has been said, on the contrary, that madness is itself removed by the access of an intermittent; but we hesitate in admitting observations made at a time when intermittents were thought highly salutary.

M. Pinel, in a late work on insanity, has hazarded a more singular opinion, viz. that the violence of maniacal paroxysms may be only efforts of nature to relieve some latent disease. Though this idea may be, in some measure, countenanced by the facts mentioned respecting asthma, yet its general absurdity is too striking to require our employing a moment in its refutation. The species of mania, according to this author, are less exceptionable. These are melancholia, or delirium, on one subject exclusively; mania without or with delirium; dementia, or the abolition of the thinking faculty; and idiotism, or the obliteration of the intellectual faculties or affections. The second species only requires a remark. It is defined "a perversion of the active faculties, marked by abstract and sanguinary fury, with a blind propensity to acts of violence, without any sensible change in the intellectual functions." There is, however, some doubt, whether this is properly a species. The instances are, in part, those of violent passions, in support of the axiom *ira furor brevis;* and, in part, of paroxysms truly delirious. Periodical mania, according to M. Pinel, is only a form of madness, and not a distinct species, classed as a variety of the third.

The false perception, or false reasoning, which distinguishes mania, sometimes pervades every subject, but very frequently one only. Of the latter Don Quixotte affords an admirable specimen, drawn in a style truly interesting and correct, and supported with the precision which the most minute medical observation could not improve. In Le Sage and Smollet we have pictures of the same kind delineated with equal skill, though not equally extended. In general, the subjects on which this kind of insanity is conspicuous, are those less familiar to the patient's general habits of life, and on which he is imperfectly informed. The tradesman is bewildered in his calculations for paying the national debt; and the debauchee in investigating the mysterious ways of Providence, or reconciling the sublime truths of revelation with the shallow views allotted to human reason. As religion is of all subjects the most interesting, and least within the powers of the human mind, it is the most common cause of insanity, and of the most obstinate cases of the disease.

Insanity seldom attacks at once: its approaches are gradual; and, as suspicion and cunning are the most striking mental symptoms, these are often conspicuous in the earliest stages. In delineating the symptoms, we must distinguish between the idiotic insanity, the melancholic, and the sanguine; for these are the most striking varieties. We mean not at present to dispute the propriety of distinguishing complete idiotism as a species, but merely to mark that languid state peculiar to leucophlegmatic habits, and approaching with slow, undistinguishable steps.

The *idiotic insanity* commences with silence and reserve; with muttering, inattention to the person who speaks; and a want of recollection of what has lately passed. The muttering becomes more distinct; and it then appears that some images are presented to the mind different from the objects before the patient. In fact, if "*false perception*" does not take place, objects do not make their usual impression, or the mind, less impressed with the objects around than with its own ideas, suffers the latter only to have any influence. In this state the sleep is usually disturbed, though sometimes sound and uninterrupted; but, when sound, the patient is not refreshed, nor is the mind more steady when awakened. In general, the head appears loaded, and the eyes red; though, in some cases, each symptom is wanting, but the bowels are always slow in their action, and stools are unfrequent; the patient is insensible to the calls of hunger and thirst, to the impressions of cold, but not indifferent to worldly objects. On the contrary, distrust

and suspicion predominate; and the greatest cunning is exercised to obviate the effects of what the patient supposes most detrimental to his interest. The pulse is often little affected, and the urine copious and pale.

Even in this situation opposition will excite to violence, and strength, apparently incompatible with the general weakness will be exerted, to counteract what the patient may dislike. In this case the eyes become quick and fiery, the countenance is animated, while the extremities are cold, the hands tremble, and every function, except what is roused to opposition, appears peculiarly weak.

The *melancholic* madness does not greatly differ; but the patient, when roused to answer, appears to have lost none of his mental faculties. Often, while his fancies prevail, he will reason with acuteness in their support, and his precautions to guard against injury, when he fancies himself a brittle vessel, are ingenious and well conducted. In these circumstances the pulse is languid, the bowels peculiarly torpid, the urine limpid, the sleep often heavy, but without relief, or, when it occurs, the patient is insensible of it, and denies, with violence, having slept. The mind, in this kind of madness, rests on one idea, with unusual pertinacity, and the violence, on contradiction, is peculiarly vehement. The distinction between these two varieties does not seem to consist so much in the temperament, as in the wandering in the former, and the permanent ruling idea in the latter. To which we may add, that the first is the disease of a weak, and the latter of a strong mind. Aretæus describes the melancholic mania with singular precision. "Those who are affected with melancholy are sad, dejected, and dull, without apparent cause. They tremble for fear, are destitute of courage, affected with watchings, and fond of solitude. They are prone to anger, changeable in their tempers, and ask a reason for the most trifling and inconsiderable occurrences. They are at some seasons so covetous that they will not part with any thing, but soon become silly and prodigal. They are generally costive, sometimes discharge no fæces at all, at other times their excrements are dry, round, and covered with a black and bilious humour: they discharge a small quantity of urine, which is acrid and bilious. A large quantity of flatulencies are discharged from their mouths; and sometimes they vomit a certain acrid humour with the bile. Their countenances become pale, their pulse is slow. They are lazy and weak, but discover a preternatural voracity in eating their aliments. When the disorder advances to madness, the patient, when provoked to anger, becomes raging mad. Some wander far from home; some cry out in a hideous manner; some shun the sight of men, betake themselves to solitude, and only converse with themselves; others tear and mangle their bodies. In the highest degree of this disorder they perceive red images before their eyes, so that they in a manner think themselves struck by lightning. They are immoderately inclined to venery, so that they caress publicly, without either dread or shame. But when the disease is in its decline, they become stupid, calm, and mournful; and coming to the knowledge of their misfortune, they are dejected on account of their calamitous and miserable situation."

The *sanguine* mania greatly differs. It is at first marked by irregularity of spirits, sometimes highly elevated, and proportionally depressed; in either case without sufficient reason. This kind of insanity is often the effect of sudden and excessive joy; and madness was more commonly the effect of success in the South Sea year, than of disappointment. An early symptom is a loud and rapid elocution when speaking on common subjects, a feeling of peculiar high health, and boasting declarations of health and spirits. The sleep is very disturbed, and the watchfulness often unremitted. The subjects are as various as the fancy; each is suddenly indulged, and as quickly superseded by another. The persons most loved, before, are now detested, and strangers, or the most indifferent people, are sought after with anxiety. The eye appears wild and red, quickly glancing at every object; the face flushed, a tingling in the ears is perceived, and suspicion is alive in apprehension of intended injury; for there is always an enemy in the rear, which is often one of the nearest relations. It is not an uncommon fancy to suppose those around them mad, and their greatest amusement to contrive stratagems in order to secure and confine them. When any object is in view, disappointment does not distress them. The object still remains, and it is to be accomplished on another occasion. The prospect is always cheerful, and success constantly at hand. The pulse, in this case, is often natural, but frequently quick: the tongue is always dry, the skin without the softness of health, the urine generally high coloured.

Though we may declaim, "what a wonderful piece of work is man!" yet, when we view him in this state, where his boasted reason, instead of assisting, misleads him; when we see him exposed to elemental war, insensible of cold, of the comforts of cleanliness, of the dictates of religion, of even common decency; when we hear him uttering blasphemous execrations, employing the grossest and most obscene language, language abhorred in the lucid moments, when recollection often adds to the horrors of his situation, we may truly exclaim, "Alas, poor humanity!"

We have sketched only the outline of the picture, the discriminating features of the object. To fill it would require a volume; for, so various, so singular, and so numerous are the eccentricities, when judgment no longer guides, that it is impossible to detail them. In the general conduct of the human mind, when the balance of judgment or of authority is wanting, the wildest absurdities are equally the consequence; and, within the pale of reason, we observe conduct which almost realizes the stoical maxim already alluded to.

Mania often remits, and at times recurs periodically. It has been found to return at the full and new moon, or, at least, to be exasperated at those seasons. Mania is, however, always considered as varied by lucid intervals, and in a certain degree is so; but this seems rather a salutary fiction of the law (see MEDICINA FORENSIS) than the result of medical observation. The violence of the maniacal patient, indeed, often remits, and is exasperated.

We know no peculiar constitution predisposed to mania except the melancholic. A tendency to the sanguine variety of this disease is shown by a flighty, irregular, and variable conduct, rising to exuberant spirits from the lowest depression, and again sinking,

from the former, into grief and despondency; to the melancholic, by a fixed attention to one object, from deep thought, never alternating with cheerfulness, and seldom varying its views. The idiotic frenzy appears from a generally variable, trifling temper, with little reflection, and less judgment. This kind is, however, unfrequent; nor would we condemn every trifling male or female because they are such. Our receptacles must, in that case, be particularly numerous and roomy.

A very frequent corporeal remote cause is gout; either not brought out, repelled, or not properly supported. Repelled eruptions, or a check of any usual discharge, are by no means uncommon causes. Mania sometimes attends each succeeding pregnancy, and, in turn, the melancholia lactantium, as we have said, is cured by pregnancy. An asthmatic fit has, on its recession, been succeeded by madness; and a maniacal paroxysm has, in turn, yielded to a spasmodic asthma. The mind is intimately connected, as we have seen, with the genital system; and the denial of those enjoyments which nature claims, is a frequent cause, though an unsuspected one, of mania; in men chiefly of the melancholic, in women of the sanguine, kind.

Among the mental, remote, causes, or rather the causes originating from mind, we may mention disappointment, grief, hope long delayed, or destroyed by unexpected reverses, wild extravagant joy from unexpected prosperity. These produce the corporeal changes, which often induce madness.

Mania is undoubtedly constitutional, and propagated from parents to children, sometimes leaving one whole generation unaffected, and appearing again in the next. It is apparently propagated with the form, the features, and complexion, like scrofula; nor is this the only argument in favour of its being a truly corporeal, organic affection.

The most striking and constant corporeal change in mania, is fulness of the vessels of the brain; and, though this is less apparent in the wandering, idiotic mania, it very frequently exists. In that wandering, which arises from weakness and inanition, no such fulness occurs; but this cannot be called mania, and in those temporary derangements of intellect, which arise from deleterious substances taken into the stomach, it is equally absent. These, also, our definition excludes. Yet, when even these are separated from our view, it would be rash to assert that a distention of the vessels of the brain is constantly found in mania.

Dissection certainly discovers such distentions in a great variety of instances; but we are informed also, that sometimes a preternatural dryness and hardness of the medullary part, sometimes an undue softness, is found in the contents of the cranium. More frequently tumours, sometimes abscesses at the base of the cerebrum, sometimes exostoses from the cranium, are discovered, though the last are more commonly the cause of convulsive paroxysms. The leading symptoms of mania are inconsistency and a disturbance of the usual associations, and these necessarily arise from a want of communication between its different parts, or an irregular distribution of the nervous power. The want of communication may arise from mechanical obstruction, from a destruction of the organization of some part of the brain, perhaps from a change in the qualities of what we have styled the nervous fluid. The irregular distribution may be owing to increased excitement of one portion of the medullary substance, or to the diminished power of another. Dissections countenance all these opinions; but unfortunately we have few cases in which the symptoms are connected with the appearances on dissection, so as to explain the influence of the organic changes in different circumstances. In general, we know that the medullary substance, in cases of idiotic insanity, is usually soft and watery; in melancholic cases, hard and dry; while in the wild, furious mania, some active irritating power is generally discoverable. Abscesses at the basis of the brain are usually attended with a low muttering delirium.

The form of the cranium has been supposed a cause of mania, and it has engaged much of the attention of Pinel. He finds, however, no very striking connection between its form and maniacal affections, except in idiots, where the upper part of the head is shortened, the sides flattened, and the whole cranium elongated. In general, the most distinguishing marks of the skulls of maniacs are a flatness of the temporal bones, and a retracted occiput. A thickness of the skull is sometimes found on the dissection of maniacs; but this is by no means a peculiar or a constant attendant. Pinel seems not to have observed the softness or dryness of the medullary portion of the brain, mentioned by other authors. In his dissections, the fulness of the vessels appears to have chiefly attracted his notice.

The prognostic in this disease is usually unfavourable, except when it arises from repelled eruptions, imperfect gout, or the stoppage of the discharge of a fistula in ano. When it arises from a constitutional organization, or without any distinct cause, it is seldom cured. The idiotic mania is more frequently intractable than the violent, and the disease from religious impressions very rarely yields to any plan of relief. When from violent and continued grief, from disappointment, particularly disappointed love, the disease is particularly obstinate. If sleep does not relieve; if emetics and purgatives fail of their effect; if convulsions come on, or considerable debility is observed; the complaint will be obstinate, or death soon ensue.

The diagnosis is not difficult. The absence of fever clearly distinguishes mania from any disease with which it can be confounded.

The cure of mania is simple, or at least art, often disappointed, has ceased to interfere with activity. The wandering delirium from inanition, the singular fancies from swallowing deleterious substances, vanish with increasing strength, the evacuation of the cause, or its continued impression which soon becomes habitual. The varieties of mania which we have mentioned may appear each to require a different plan; but the conduct of receptacles for lunatics is often empirical, and, even when under the direction of a physician, seldom conducted with scientific views. We may not improve, but shall endeavour to connect, the scattered limbs found in different authors.

In each variety of mania we always find a considerable determination to the brain; and, even when the disease arises from some organic affection, which seems to interrupt the free communication between its different parts, this interruption appears to act as a local obstacle, which excites the action of the vessels around. On this view whatever is rational in the

conduct of the cure seems to depend; and the remedies we shall mention in the order of their importance.

Emetics have been generally and principally employed, and the source of their advantages are sufficiently explained in that article. Without any other assistance, they have often removed a maniacal paroxysm; and, when repeated at regular and not very distant intervals, they are often highly useful.

In general, common emetics from the torpor of the stomach will not produce the evacuation, and antimonials are required. To these the vitriolated zinc, with mustard whey, must be often added; and the tobacco, the juice of the asarabacca, or groundsel, are often required. The objection made to emetics by those who have never used them, that they determine too powerfully to the head, we have already considered. See EMETICA.

Cathartics are, however, chiefly depended on, for reasons which will be sufficiently obvious, and these are particularly useful in melancholic mania. In the sanguine variety the saline are preferable, but they are scarcely sufficiently active in the melancholic; and when the disease arises from the want of the necessary evacuations from the lower belly, those purgatives which chiefly excite the action of the colon and rectum are most useful. The ancients used hellebore, but they diminished its activity by their mode of preparing it; and we do not find that it possessed peculiar powers, though if the plant they used be, as we have reason to suspect, a species of adonis, it probably combined the qualities of an anodyne with those of a cathartic.

What has been remarked respecting the large proportion of the vital fluid contained in the extreme vessels will sufficiently explain the effects of DIAPHORETICS. Yet we find no striking instances of their utility; and the impatience of maniacs, which leads them to throw off their clothing, seems to counteract this discharge. In fact, however, the heat is above what has been styled the sweating point, and the diaphoresis is best secured by moderating its excess. The only remedy of this kind which seems to have been peculiarly useful is vinegar. It was given with camphor by Dr. Locher of Vienna, but was found equally or more effectual without the camphor. Mr. Pargeter has recommended a camphorated vinegar in this country, but we have not found it peculiarly beneficial. Warm bathing, which is a remedy of this kind, has been highly commended, and is certainly useful when the heat is moderate, not exceeding 96° or 98°. We have not mentioned BLEEDING, because it is not peculiarly advantageous; but when the mania rises to violent delirium it is necessary, and the blood must be drawn with a decisive boldness, so as to excite deliquium. Bleeding from the jugular veins, and topical bleeding with leeches, or the cupping glass, if the quanity drawn is considerable, will be highly useful; but this, too, is confined to the violent state, when the mania becomes phrenetic.

Blisters, with similar views, have been applied; but they are not favourite remedies. Is it that their discharge is more adapted to relieve active inflammation, and less suited to the chronic fulness; or that danger is supposed to arise from their irritation, which has led practitioners to doubt of their utility? We believe, indeed, that they are not particularly useful, and that the deeper, purulent discharge from a seton is more advantageous. A blister, to be really beneficial, must be applied to the vertex.

Dr. Mead speaks of the utility of *diuretics*, but we know not that modern experience supports their credit, for we have not had sufficient confidence in this class of remedies to employ them. The diuretic preferred was the alkaline salts, and the opinion of obstruction, from lentor, was then so common, that we can easily guess the source of the recommendation, and of the good effects attributed to it.

Sedatives are most obviously indicated, and the whole tribe has been employed with varied success. Each medicine has had its sanguine advocates, and each has, at different times, succeeded. The refrigerants are chiefly trusted, and the neutral salts, combining this power with their purgative effects, are very commonly administered. Nitre is less often employed; but cold, in all its forms, is found peculiarly salutary. The clay cap has yielded to cold affusion of water, or fomentations of the coldest water and vinegar; and madmen have been kept under water by violence till nearly suffocated. The maniac, who has escaped from confinement, and remained exposed to the greatest cold, has returned in his senses; and those who have been with difficulty saved from drowning have escaped from the danger and the disease.

The sedative antispasmodics are the fœtids, musk, and camphor. The former are comparatively weak; musk is more powerful, but rarely genuine, and always expensive. Camphor is more active than either, and we have found it, in large doses, a valuable medicine. Less than a scruple at each dose would be, perhaps, useless; and few can bear more than half a drachm. The warm bath seems to have been sometimes successful in this view.

The narcotics have been employed in all their variety, particularly by the German and English physicians. Storck used the stramonium; Colin the cicuta and aconite. The ancient hellebore, we have said, was probably a species of adonis; Willis gave the extracts of cicuta and henbane; Fothergill, of Bath, the henbane only. Lately, the digitalis has been given, in this country, to a considerable extent. These narcotics have been often useful, and have as often failed, for the disease is generally incurable. Perhaps the digitalis promises most favourably, and the hyosciamus and stramonium appear to be the next in rank.

These medicines often act as hypnotics; but the chief of this class, opium, has been commended, and rejected rather from theoretical prejudices than observation. Where opium usually agrees, it is a medicine of considerable importance in mania; but it should not be given till the stomach and bowels have been freely emptied, till the vessels of the head have been, in some measure, depleted by active topical bleeding, by blisters, or a seton. In these circumstances, with a large dose of camphor, it is often highly useful, though like other medicines, in an intractable disease, it must occasionally fail. Borax, in a large dose, was used by Dr. Monro to procure sleep.

We have observed, that there are cases where the interruption of the balance between the different parts of the brain are owing to diminished activity of one portion of this organ. But these, we have said, are few and indistinct. Cases of this kind are chiefly the

transient wanderings after being awakened from sleep, or the want of recollection after long fevers, or other causes of weakness. Should mania occur, in such situations, a nutritive diet, tonics, with perfect tranquillity, are the best remedies.

The mental regimen, or, as Pinel calls it, the moral treatment, is confessedly of the greatest importance; and the medical exertions in the most celebrated receptacles are generally slight, but strictly supported. Tales have been told, that the patients in some of these houses are not suffered to sleep; that the severities have been unusually cruel; that, in the language of Julian, the *populous* hair has been recruited, designedly, with new colonies; and that derivation to the skin has been kept by the infection of a cuticular disease. Of the truth of these stories we cannot judge; but it is, we believe, a fact, that when the mind is restored it is often at the expense of the constitution; for patients have come to us, from some asyla, with their general health and strength completely broken. It is not for us to say that the regimen and severities were unnecessary, or even to hint that the mind is recovered at too great an expense, by the diminution of the vital power. Yet, when the maniacal fancies are harmless; when the disease seldom rises to violence, and the patient is usually manageable, if relief by common treatment is improbable, we cannot say that such severities are advisable. The violent and continued excitement is, however, alone sufficient to account for the subsequent debility.

As we have declared that we are not of the initiated, we might decline all farther remarks on the mental regimen; but we must add what the experience of others, aided by our own, has taught us, that the maniac is always a coward. With the strength of twenty men he will crouch to an infant, if that infant assumes a haughty and firm tone. A look of confidence will soon have the same effect; and the dread of severities which he has felt, or has reason to expect, will render that look irresistible. With this cowardice, the maniac is cunning, and it is necessary to guard with the utmost care against his artifices; but the great advantage is derived from the prompt and ready obedience which the look ensures. This checks every idle fancy, and stands in the place of the reason and judgment which were once his own. The mind, in this way regulated, assumes spontaneously its usual trains, and by steadily persevering in this tract, reason often returns. Thus, in the case alluded to in common life, when the conduct is no longer regulated by judgment or authority, the wildest eccentricities are the consequence. Should a justus et propositi tenax interfere, the whole order is restored with its wonted regularity. If severities should be required, they must be truly such, to prevent the necessity of their repetition; and the proper waistcoat, made with sleeves to fasten by running strings beyond the fingers, and by these to confine the arms across the body, is often necessary to prevent the maniac from injuring himself or others.

The moral treatment, according to Pinel, is of the greatest importance. It seems to consist in yielding to the more harmless fancies, and firmly correcting the more dangerous ones; at the same time endeavouring to bring back the usual and healthy train of ideas. What numerous cases of insanity has the French revolution produced!

This command ensures also the punctual obedience in taking the few remedies prescribed. These are, we apprehend, chiefly laxatives of the saline kind, nitre, camphor, and opium, with drains from the head by means of a perpetual blister or a seton, remedies chiefly, if not exclusively, useful in lessening the impetus of the fluids to the head, certainly the principal object in the treatment of the disease.

The diet should be regulated with the same view, and should be mild, light, and not highly nourishing. The drink chiefly water. Exercise, when the case will admit of the mind being amused, is highly proper; and cheerful company, who possess steadiness sufficient to repress the ruling fancies, and discretion to lead to proper subjects, without continuing the conversation so as to fatigue, is often highly salutary. Music, too, which steals the mind from its favourite train of thought, and leads on the attention by its peculiarly fascinating powers, to those who are fond of it, contributes greatly to the relief.

See Aretæus, Alex. Trallian, Celsus, Sennertus, Hoffman, Sydenham, Boerhaave, Beattie, and Arnold on Madness; Muzzel on Melancholy; Cullen's First Lines, vol. iv. p. 144; Pinel on Insanity.

MANIGUE'TTA. See PARADISI GRANA.

MA'NIHOT. See CASSADA.

MANI'BA. See CASSADA.

MANIO'DES, (from *mania*, *madness*). MANIACAL. See FERINA.

MA'NIPEY. See JACARANDA ALBA.

MANIPU'ERA. See CASSADA.

MANI'PULUS, (*quod manum impleat*). A HANDFUL, *desme*, *dragma*, *fasciculus*; as much as can be contained at once in the hand.

MANJAPU'MERAM is a large tree common in the West Indies; *nyctanthes arbor tristis* Lin. Sp. Pl. 8; its flowers are distilled, and the water is used in inflammations of the eyes. See Raii Historia.

MANJE'LLA KU'A. See CURCUMA.

MA'NNA, (from the Syriac term *mana*, *a gift*; as it is supposed to be the food bestowed by God on the children of Israel). *Manna Calabrina*, *ros Calabrinus*, *aeromeli*, *alusar*, *drosomeli*; and when of a rosy colour, *nuba*.

The miraculous food bestowed on the children of Israel is said to have been more probably sugar than manna, as it exuded on the reeds and grass; but it fell also on the stones, and was mouldy and fetid if kept beyond the day, except *that* day was the sabbath. It could therefore be neither, but a miraculous substance, of which we can form no idea.

The officinal manna has been supposed to be an exudation from the *fraxinus ornus* Lin. Sp. Pl. 1510; but on this subject authors speak with indecision and doubt. In fact it is produced from the fraxinus with the rounded leaf: the leaf of the f. ornus is smaller and pointed. Later naturalists have called these species the f. rotundifolia; and a full description of the tree is given in the Memoirs of the Society of Agriculture at Paris (an. 1788, trimestre d'Hyver) by Gaspard Carramone, who has examined it on the spot. We shall only transcribe from this memoir the distinction between the true species and the common ash.

The common ash is found in flat marshy places, particularly near the sea: the ornus, by which he means

the round leaved ash, on the clifts of mountains. The surface of the bark of the former has not the white spots so conspicuous on that of the latter. The leaves of both are decompounded, but the last foliole of the common ash is always larger than the lateral folioles, which is not the case with the true manna tree. In the latter the leaf is unbroken and oval; in the former dentelated, and a long ellipsis.

The Calabrians distinguish different sorts of manna; the manna di spontana, which exudes spontaneously; m. forzatella, that which is procured by incision; m. di fronde, which exudes from the leaf; m. di corpo, which proceeds from the body of the tree. Manna flows spontaneously from the 20th of June to the end of July, from twelve at noon to the evening, in the form of a clear fluid. It is collected on the following morning if the night is fair, for otherwise it is washed off by the rain. This, when hard, is the picked manna, or the sorted manna of the shops. About the end of July, when the spontaneous exudation has ceased, incisions are made in the body of the tree, when more copious exudations take place, which fall to the ground like masses of wax. This, when dry, becomes reddish or brown, and is full of impurities.

What is collected from the leaves is styled grain manna, in little masses, about the size of a millet seed, and is found in the months of July and August. The Calabrians sometimes introduce a straw into the incisions, and the manna flows through and around it like stalactites, sometimes in very large pieces. This is very white and pure, called manna in tears. Many other species of the ash afford manna, and it has lately been found in asparagus, by M. Robiquet, Annales d'Chimie, vol. 55.

Manna resembles sugar in taste, but greatly differs from it in many other respects. Its sweetness is in a very small degree owing to its truly saccharine particles; for it admits only of a partial fermentation, and the product, though slightly vinous, never resembles alcohol (Dupuytren et Thenard, Annales de Chimie, Jüillet, 1806). Ardent spirit dissolves a large portion of manna, which is almost wholly deposited in cooling, so as to fill the vessel with the precipitate, and with nitric acid, a large proportion of mucous acid is produced. It is chiefly, therefore, a mucous substance; and these experiments explain why, even in large doses, it does not produce heartburn, or prove in any degree inconvenient during pregnancy.

The finer manna of commerce is in oblong, roundish, single pieces; or in stalks, moderately dry, friable, of a whitish or pale yellowish colour, light, and somewhat transparent; internally it is seemingly composed of fine capillary crystals. The inferior kinds are moist, unctuous, brown, mixed with small pieces of wood and other impurities, and in irregular lumps; the manna di corpo before described.

The whitest, driest, lightest, purest, the most crystalline, and that slightly pungent to the taste, is preferred. The manna in flakes is supposed to be the best, but the smaller pieces are as good, if white, or of a pale yellow colour, very light, of a sweet not unpleasing taste, and free from impurities. The fat honey like manna hath either been exposed to moist air, or is damaged by sea water, or a mixture of oily substances.

Manna is often adulterated by compositions of coarse sugar, starch, and some purgative medicine, as scammony; but the fraud is discovered by the taste, weight, compactness, want of transparency, and its chemical affinities.

This concreted juice liquefies in a moist air, dissolves readily in water, and, by the help of heat, in rectified spirit, leaving only the impurities. A great part of the saturated spirituous solution separates on cooling, concreting into a flaky mass, of a snowy whiteness, and a very grateful sweetness: the remaining fluid, when inspissated, is unctuous, dark coloured, and disagreeable.

Manna is one of the mildest purgatives, and may be given with great safety to children and pregnant women, to the delicacy of whose frames and situation it is particularly adapted; it is an useful auxiliary to the purgative neutral salts, sheathes acrimony, is beneficial in coughs and disorders of the breast, particularly such as are attended with fever and inflammation, and in bilious complaints; but is apt to create flatulencies and cholics, which are prevented by a warm carminative. It purges in doses of from ʒ i. to ʒ ij. and this quality is increased by a small addition of cassia. When administered in bilious disorders, Geoffroy recommends quickening it with a small proportion of antimonium tartarizatum, to evacuate the bilious serum without nausea or colic. Sydenham recommends the addition of lemon juice to manna, as a remedy for the gravel, and adds, that the acid renders the manna a quicker purgative, diminishing at the same time the nausea which it sometimes excites, renders it easy on the stomach. In bilious complaints tamarinds are usefully joined with manna. In the gravel, the hooping cough, and when all possible irritation should be avoided, the manna may be given in milk. Modern practice does not very often employ this medicine alone, for the dose is so large as to cloy the stomach, and produce nausea. See Raii Historia; Tournefort's and Lewis's Mat. Med.; Neumann's Chemistry.

MA'NNA THU'RIS. See OLIBANUM.

MA'NNA TERE'NIABIN, and TRANGEBIN. See ALHAGI.

MANNI'FERA A'RBOR, (from *manna*, and *fero*, *to bear*). See MANNA.

MANSO'RIUS MU'SCULUS, (from *mando*, *to chew*). See MASSETER MUSCULUS.

MANTI'LE, (from *manus*). The name of a bandage.

MA'NUS, (from *manah*, *to prepare*, Chald.). The HAND is divided into the carpus, metacarpus, and fingers. The posterior part is convex, for greater firmness, and the internal part concave, for the convenience of grasping. The concave side is called the palm of the hand.

MA'NUS DE'I. A resolvent plaster described by Lemery: an appellation also of opium.

MANY'L-RARA. A tall tree, growing in the East Indies. Its fruit resembles an olive, and is eaten to promote appetite and digestion. The plant is not included in any system.

MAY. See MANGA.

MARA'NDA. A plant resembling the myrtle, not yet reduced to any genus, growing in the island of Ceylon: a decoction of the leaves is recommended in the venereal disease.

MARA'NTA GALA'NGA. See GALANGA.

MARASMO'DES. A hectic fever in its last stage.

MARA'SMUS, (from μαραινω, *to render lean*,) an ATROPHY. (See ATROPHIA.) The species also of hectic fever common and fatal to old men.

MARATHRI'TES, (from μαραθρον, *fennel*). See FŒNICULUM.

MARATHROPHY'LLUM, (from μαραθρον, and φυλλον, *a leaf*). See PEUCEDANUM.

MARA'THRUM, (from μαραινω, *to wither;* because its stalk and flower wither in the autumn). See FŒNICULUM.

MARCASI'TA. (German.) See PYRITES and BISMUTHUM.

MA'RCHED. See LITHARGYRUM.

MARCHI'ONIS PU'LVIS. MARQUIS'S POWDER, of the Leyden dispensatory, designed as an anti-epileptic, consisting of peony roots, misleto, elk's hoof, coral, ivory, &c.

MA'RCOR. A preternatural drowsiness.

MARCO'RES, (from *marceo, to become lean*,) the first order of Dr. Cullen's class *cachexiæ*, which he defines, diseases attended with wasting of the whole body. It is similar to the Macies, and Emaciantes, of other authors.

MARGARI'TTÆ, (from *margarita a pearl*,) *pirlæ, uniones*, PEARLS, are small morbid excrescences, of a calculous kind, of a bright semi-transparent whiteness, formed on the inside of the shell of the *concha margaritifera*, or mother of pearl fish; of oysters, muscles, and other shell fish. The finest pearls are brought from the East, inferior ones from the West Indies, and our own shores. The oriental have a more shining silver hue than the occidental, which are somewhat milky. Those not fit for ornament are called rag and seed pearls, and are employed in medicine.

True pearls in the fire become quick lime, and readily dissolve in all acids, except the vitriolic. They resemble, therefore, oyster shells, and have no virtue but what is common to these substances. See Lewis's Materia Medica; Neumann's Chemical Works.

MARGARI'TA, (a rabbinical term, *margalith*). See STAPHYLOMA and ALBUGO OCULORUM.

MARGINA'TUS, (from *margo, a margin*,) BORDERED, applied to the seeds of plants which have a thin leafy border round them.

MARI'NUM, vel MARINUS SAL, (from *mare the sea*). SEA SALT; *esebon; communis, culinarius, et cibarius sal;* COMMON SALT.

The salt is not only extracted from the sea water by evaporation, but is also found in extensive strata. (See GEMMA SAL.) It is composed of the marine acid, and the mineral alkali; dissolves in about thrice its weight of cold water, though, when heated, it scarcely requires less.

The solution of this salt, if gently evaporated, affords cubical crystals, which are the common or alimentary salt. A small quantity of the sal catharticum amarum is next produced; but the chief part of this salt remains in what is called the mother water, which is oily, and on that account will not admit of its farther crystallization.

Common salt, when dried in the temperature of 80°, contains 38.88 of acid, 53 of soda, and 8.12 of water: by others the acid is said to be 33.3, and the alkali 50. Its specific gravity is 2.120; it decrepitates in the fire, renders water colder than before, though, from the addition, it is more difficult to freeze. Common salt is the most generally useful condiment, and the best antiseptic to preserve meat from putrefaction, and butter from rancidity. It furnishes a firm and cheap glazing for earthen ware, and is of considerable use in the process of dying. The separation of soda from sea salt is a problem of considerable importance in the arts; and it has been completely solved, if the removal of the duty on salt would render it practicable with advantage. This is not the place for disquisitions not connected with medicine; but we may remark, that iron, litharge and lime, in proper circumstances, will effect the decomposition. The lime in the soil of Egypt and Tripoli seems the means by which the soda has been separated in such considerable quantities. Acetite of lead will equally effect the separation of the alkali; but it is too dear for commercial purposes.

In the animal economy common salt is of general utility. (See CONDIMENTS.) It seems to check putrefaction; but is of more service as a general stimulant. Animals pine when deprived of it, and few nations have been found who have not added this condiment to their food. In the animal process the fixed alkali is seemingly changed to the volatile, and we have suspected that the muriatic acid is changed to the phosphoric. Chemistry has not yet elucidated this subject, and we offer it chiefly as a conjecture which we could support by inductive reasoning, were this the place for such disquisitions. Beyond its general stimulus we do not perceive any salutary action of sea salt in the proportion usually taken. In large quantities it is used as an emetic, as a remedy for hæmorrhage from the lungs, and in the form of sea water as a laxative and a remedy for scrofula. (See HÆMOPTYSIS and AQUA MARINA.) Externally it is used in palsies, and in apparent death from drowning. In these cases, as in almost every other, it seems to act as a simple stimulus only.

The sea water, gradually evaporated by the sun's heat, on the rocks, or in circuitous canals made for this purpose, is called bay salt, and is formed into large crystals; it does not liquefy in a moist air, and is more powerfully antiseptic.

Spiritus salis marini Glauberi, or the muriatic acid, is made by gradually adding six pounds of vitriolic acid, mixed with five pounds of water to ten pounds of dry sea salt: the acid is then separated by distillation. In this state the acid comes over in a gaseous form, and requires condensation by means of water. As a gas it is elastic and invisible, incapable of supporting animal life or flame, has a pungent smell, and acid taste, and a specific gravity nearly of .002315, about double that of common air. Water absorbs it copiously and freely; but it is unchanged by the strongest light and heat. Ice absorbs it also, but boiling water admits of no union with it. In the process just described, the acid of vitriol unites with the mineral akali, leaving its acid free, which rises in distillation; and, in the usual form, that of a colourless or a pale yellow fluid: its specific gravity is 1.196, though the acid of commerce is seldom more than 1.17. The strongest liquid acid is supposed by Mr. Kirwan to contain about an equal part of water. The dryest gas contains a small portion of water, which is only separated by electrical explosions.

The specific gravity directed by the college is to that of distilled water, 1.170, to 1000.

The muriatic is the weakest of the mineral acids, but

stronger than any of the vegetable kind: it requires a greater fire to distil it than that of nitre, yet it is more readily dissipated by the action of the air. It has no effect on oxygen gas or inflammables. The muriatic acid oxidates metals, but requires for all, except iron, a greater or less degree of heat. It combines with all alkalis, earths, and the greater number of metallic oxides.

Its composition (see CHEMISTRY) is not yet ascertained. The latest experiments are those of M. Brugnatelli, in the sixty-second volume of the Journal de Physique, p. 298. He certainly found the muriatic acid produced, when the galvanic fluid was passed through water, by means of gold, platina, iron, or the black oxide of manganese; but some other metals, particularly silver, produced, in the water, soda. We can connect this only with one fact, that water, evaporating from iron, produces a positive electricity, and from silver a negative. In these experiments of De Saussure it is, however, clear that the water is decomposed rather than evaporated. In Brugnatelli's experiments the positive pole seemed to produce in the decomposition of the water the acid, and the negative the soda.

It is chiefly used as a tonic and antiseptic, in the dose of from ten to sixty drops, in water, or any other convenient liquid. In putrid fevers, after having cleansed the primæ viæ, it supports the strength, and corrects any remaining putrefaction on the contents of the stomach and bowels; but seems not to carry its antiseptic quality into the general mass, which indeed is seldom in a putrid state. It was Recht's boasted remedy for fevers, which the Prussian government bought at a considerable price. In bilious fevers it has been recommended; but it is not peculiarly useful, and, in general, its good effects are confined to the parts in immediate contact with it.

In acidulated gargles for ulcerated throats it has been strongly recommended, but seems to be in no respect superior to the vitriolic acid; and, diluted with the tincture of benzoe, has been applied, it is said, with success to putrid ulcers.

Linnæus remarks, that, if properly diluted, and applied to chilblains, it radically cures them. If half an ounce of good bay salt is dissolved in four ounces of water, and two drachms of the muriatic acid be added, it will form a mixture, of which a tea spoonful, in a glass of water, is said to improve the appetite, and frequently stop vomiting.

The muriatic acid, combined with volatile alkalis, produces the officinal sal ammoniac; with fixed vegetable alkali the sal digestivus Sylvii; in modern language, muriated potash. See CHEMISTRY.

The acidum muriaticum, combined with calcareous earths, forms a calcareous muriat, which deliquates in the air, and dissolves both in water and in rectified spirit of wine. It is contained in a considerable quantity in sea water, but remains in the mother water after the crystallization of the muriated soda, and is said to be antiseptic, diuretic, and lithontriptic. The medicine, commonly sold under the name of *liquid shell*, appears to consist only of calcined shells dissolved in marine acid. These combinations are made by mixing the calcareous earth with sal ammoniac, and urging the mixture with a gradual fire, until the volatile alkali of the salt is either dissipated or collected by sublimation when the acid unites with the earth.

The *muriat of lime* has lately become a fashionable remedy in scrofula, in scirrhi, and other diseases supposed to arise from inspissated lymph. From half a drachm to half an ounce, diluted with water, is given, according to circumstances, every day.

For the *murias ferri*, v. FERRUM; and for the *murias barytis*, v. BARYTES.

See Lewis's Materia Medica; Neumann's Chemical Works.

MARIPE'NDAM, is a plant in the island of St. Domingo. The distilled water from its tops is greatly esteemed in pains in the stomach. The plant has not been properly examined. See Raii Historia.

MARI'SCA, a FIG. An excrescence about the anus, like a fig. See CONDYLOMA and HÆMORRHOIDES.

MARI'SICUM. See MERCURIALIS FRUCTICOSA.

MARJORA'NA, (*marjorana*). See ORIGANUM.

MARMARY'GÆ, (from μαρμαιρω, *resplendeo*,) a variety of *pseudoblepsis imaginaria*. Sparks or corruscations which seem to flash before the eyes, from a fulness of the vessels of the brain.

MARMOLA'RIA, (spotted like *marble*). See ACANTHUS.

MA'RMOR, (from μαρμαιρω, *to shine*). MARBLE. A calcareous stone, chiefly used for the carbonic acid gas it contains, employed in preparing the acidulous mineral waters. See CALX.

MARMORA'TA AU'RIUM. See CERUMEN.

MARMO'REUS TA'RTARUS, (from its hardness). See CALCULUS.

MARMORA'CEA VENE'NA. Such poisonous substances as are fatal in doses not exceeding the bulk of a grain of wheat.

MAROCO'STINUM. The epithet of a cathartic extract originally made by Mindererus, in which marum and costus are ingredients, designed for discharging serous humours, but now neglected. See Pharmacopœia Augustana. *Pillulæ marocostinæ* Lemery and Bates.

MARO'TTI. A tall tree in Malabar, with leaves like those of the bay tree, and a fruit which contains an oily kernel. The oil expressed from the kernel is often medicinally used by the natives. (See Raii Historia.) It has been figured by Reed, in his plants of Malabar, vol. i. pl. 36, but has not been reduced to a place in any system.

MARRUBIA'STRUM. See BALLOTTE.

MARRU'BIUM, (from the Hebrew terms *mar rob, a bitter juice*). HOREHOUND; *mauromarson;* which rather means the black sort. It is also a name for the *cardiaca*, *leonurus cardiaca* Lin. Sp. Pl. 817, and some other plants.

MARRU'BIUM A'LBUM; *prasium album.* COMMON WHITE HOREHOUND, *marrubium vulgare* Lin. Sp. Pl. 816, is a hoary plant, with square stalks, and roundish unwrinkled leaves, set in pairs on long pedicles, from the bosoms of which arise thick clusters of whitish labiated flowers, in striated cups, whose divisions terminate in sharp points or prickles. It is perennial, grows wild in cultivated grounds, and flowers in June.

The leaves have a slight aromatic, but not at first an agreeable smell; their taste is bitter, penetrating, diffusive, and durable in the mouth: in large doses they

prove laxative. This plant is said to be an useful aperient and corroborant, in humoral asthmas, pulmonary consumptions, cachexies, menstrual suppressions, scirrhous affections of the liver, jaundice, and several other chronic disorders. The ancients had an high opinion of its efficacy, particularly in pulmonic and visceral obstructions; and, amongst the common people, horehound tea in coughs and asthmas is a common remedy. Dr. Cullen disputes its virtues as a pectoral, as well as a deobstruent, and thinks the authorities of Forrestus, Zacutus, Lusitanus, and Chomel, very insufficient. A drachm of the dried leaves in powder, two or three ounces of the expressed juice, or an infusion of half a handful of fresh leaves, are commonly directed as a dose. See Boicinenga.

The dry herb gives out its virtues both to water and to spirit. The expressed juice, gently inspissated to an extract, is the best preparation: the dose is from gr. x. to ʒ ss.

Marru'bium aqua'ticum, *lycopus Europæus* Lin. Sp. Pl. 30, water horehound, found on the sides of brooks, but inferior in virtue to the white.

Marru'bium ni'grum fœ'tidum. See Ballotte.

Marru'bium verticilla'tum, *marrubium Hispanicum* Lin. Sp. Pl. 816; Galen's mad wort; the base horehound. These species are usually neglected. See Lewis's Materia Medica; Neumann's Chemical Works.

MARRULLIUM. See Lactuca.

MARS DIAPHORE'TICUS. See Ferrum.

Mars sacchara'tus, and solu'bilis. See Ferrum.

MA'RSAS. See Bonduch Indorum.

MARSUPIA'LIS, (from *marsupium*, because it is shaped like a purse). See Obturator externus and internus, and Gemini.

MARTIA'NUM UN'GUENTUM. Martian's soldier's ointment. ℞. Ol. laur. f. ℔iij. foliorum rutæ, recent. ℔ij. ss. majoranæ ℔ ij. menthæ ℔ i. salviæ. absynth. communis. balsamitæ maris et basici, āā ℔ ss. olei olivæ, ℔ xx. ceræ flavæ ℔ iv. vini Malagens, ℔ ij. m. f. unguentum. This was employed to preserve the limbs of soldiers from the injuries of cold in the camp.

Martia'num pomum See Aurantia hispan.

MA'RTIS ESSE'NTIA, oleum per deliquium, sal, tinctura, and extractum. See Ferrum.

MA'RUM, (from the Hebrew term *mar*, *bitter*,) *samsuchus*, *clinopodium mastichina Gallorum*, *thimbra Hispanica*; *Jaca Indica*, mastich thyme, or common marum, *thymus mastichina* Lin. Sp. Pl. 827, is a low shrubby plant, with small oblong leaves, pointed at both ends, set in pairs without pedicles; at the tops of the branches stand woolly heads, containing small white labiated flowers, whose upper lip is erect and cloven, the lower divided into three segments: each flower is followed by four seeds, inclosed in the cup. It grows spontaneously on dry gravelly grounds in Spain, and in similar soils it bears the ordinary winters in England. Its virtues are similar to those of the Syrian marum, but less powerful.

Ma'rum Syriacum, vel Creticum, *majorana Syriaca vel Cretica*, *marum cortusi*, *chamædrys incana maritima*, marum Germander, or Syrian herb mastich, *teucrium marum* Lin. Sp. Pl. 788, is a low shrubby plant, with small oval leaves, pointed at each end, and set in pairs without pedicles, of a dilute green colour above, and hoary beneath; in their bosoms appear solitary purple labiated flowers, each of which is followed by four roundish seeds inclosed in the cup. It is said to be a native of Syria, and does not bear our winter's cold without shelter.

The leaves are bitter, pungent, and aromatic to the taste; their smell excites sneezing; and they agree with the canella alba in their virtues.

This plant loses but little in drying, gives out its active matter partially to water, but completely to spirit; the watery infusions retain the smell, but little of the taste; the tinctures retain more of the taste than the smell. Distilled with water, it yields an highly pungent, volatile essential oil, stronger than that of scurvy grass, and of a less perishable pungency; the remaining decoction is bitterish. Rectified spirit carries off only a part of the smell and pungency of the marum. This plant is supposed to possess very active powers, and to be an important remedy in cachexy, hysteria, and nervous debility, acting as a warm tonic and a powerful emmenagogue. The dose is ʒ ss. of the powdered leaves given in wine. In the present practice it is chiefly used as a sternutatory, and is one of the ingredients of pulvis asari compositus of the London Pharmacopœia. See Raii Historia; Lewis's and Bergius' Materia Medica.

MA'RVISUM. See Malvasia.

MASCHA'LE, (μασχαλη). See Axilla.

MASCHALI'STER, (μασχαλιστηρ). See Spina.

MA'SLACH. A form of opium used by the Turks.

MA'SPETA, and MA'SPETUM. See Silphium.

MA'SSALIS, and MA'SSARIAM. See Argentum vivum.

MA'SSÆ AD FORNA'CEM. See Candela fumalis.

MASSE'TER MU'SCULUS, (from μασσομαι, *to eat*). *Lateralis*, *manducator mansorius*. The masseter muscle rises on each side from the cheek bone and the interior part of the zygomatic process of the os temporis; and is inserted into the whole length of the lower jaw, particularly the angle.

MA'SSOY, a species of bark mentioned by Ray, from a tree hitherto undescribed. It is gratefully fragrant and heating.

MASTICA'TIO, (from *mastico*, *to chew*,) *manducatio*; *commanducatio*. Mastication comminutes the parts of our food, and intimately combines it with the saliva and mucus of the mouth. Due mastication is essentially necessary to digestion; but it is doubtful whether any portion of our food is absorbed during this process; for every thing which has not passed through the operation of digestion seems to be injurious when mixed with the circulating fluids. V. Digestio.

MASTICATO'RIUM, (from *mastico*, *to chew*). A masticatory. See Apophlegmatica.

MA'STICHE, (from μασσω, *to express*). Mastich. See Lentiscus.

MA'STICHEN. Odora'tum fu'ndens. See Nux Virginiana.

MASTICHI'NA GALLO'RUM, (a dim. of *mastiche*). See Marum.

MASTOIDÆUM FORA'MEN. See Styllomastoidæum foramen.

MASTOIDÆUS MU'SCULUS, (from μαστὸς, *a nipple*, and εἶδος *forma*, *the mastoid process*, *resembling a nipple*,) *sterno mastoides*, *sterno mastoidæus* of Dr. Hunter, who observes that it rises by two distinct portions from the sternum, with that part of the clavicle articulated to the sternum, and is inserted into the mastoid process. This last portion Albinus considers as a distinct muscle, and calls it *clino mastoidæus*, but it is not divisible from the other without art. Winslow calls this muscle *mastoidæus anterior*, or *sterno mastoidæus;* and the splenius the *mastoidæus superior*.

MASTOIDÆ'US LATERA'LIS. See COMPLEXUS MINOR.

MASTOIDÆ'US PROCE'SSUS. See TEMPORUM OSSA.

MASTOIDY'NIA, (from μαστὸς, *a nipple*, and ὀδύνη, *pain*). SORE OF PAINED NIPPLES. But more commonly pain in the breast from inflammation. See INFLAMMATIO MAMMARUM MULIERUM.

MASTURBATIO; *manustraptatio*, *Onanismus*, the sin of Onan, from a perverted passage in the Pentateuch. The discharge of semen from a preternatural stimulus; the vice, it is said, of the solitary monk, and, perhaps, of other recluses, to whom more natural enjoyments are denied. It is a habit of the most destructive tendency, enervating, in the highest degree, both the body and mind. Nature seems to have fixed a strong mark on those disposed to every unnatural enjoyment, and however secret their practices may be, so indelible is this mark, that they cannot escape detection from that *tact* which has been peculiarly distinguished by the term of *sensus medicus*. In general, the countenance is sallow, with a peculiar dejection in the look. The voice is hurried and unsteady; the face often covered with dark coloured pustules, hard in the skin, and the whole frame displaying peculiar debility. The dejection, at times, almost amounts to insanity, and every complaint appears to threaten instant death. The tremor and apprehension prevent the natural enjoyments, by which they might be otherwise weaned from this destructive habit; and the whole life is alternated with doubts, apprehensions, and despair. Unfortunately, the practice is never forsaken, at least, notwithstanding every assurance, we have reason to think so.

The apprehensions of discovery and the despair render those unfortunate persons the dupes of quacks, and it may be remarked, that every quack bill holds out delusive hopes to those who experience the bad effects of such indulgences. Regular practice exhausts the whole tribe of tonics and stimulants with little effect. The warm balsams, of which the quack medicines consist, are either rejected from the hands of the physician, or not continued a sufficient time; and even cold bathing, the best remedy, does not fix the imagination so strongly as the solar tincture, or the balm of Gilead. If not too long continued, a prudent marriage may recover the patient; but it would be unjust, cruel, and impolitic, to condemn a healthy young woman to the shadow of a man. This remedy, however, we have often found effectual in cases where the constitution was not wholly exhausted.

Tissot on Onanism, and the Appendix to his Dissertation on Bilious Diseases; Gruner and Husche Dissertationes de Masturbatione.

MATALI'STA, MATBALI'STIC. See JALAPA.

MA'TER, (from μάω, *to desire*). See DURA MATER.

MA'TER PERLA'RUM, *concha margaritifera*, *concha mater unionum*, *concha valvis æqualibus*, *nacre*. MOTHER OF PEARL. This is the pure pearl like part of the shell in which pearls are found, possessing the antacid properties of the pearls themselves. See MARGARITÆ.

MATERIA, (from *mater*, *a mother*). MATTER; SUBSTANCE. In strictly logical disquisitions, *material* is in opposition to *modal*, the one signifying as a cause, a substance, the other a peculiar state; thus a sword inflicting a wound is a material cause of pain, spasm only modal. To come nearer, a calculus in the gall duct is a material cause, the same effect from violent passion modal only. This is nearly the meaning of Dr. Cullen, when he distinguishes sensation of impression from sensations of consciousness; but this distinction is seldom attended to in the undiscriminating, flowery, pages which by courtesy are now styled medical. If we were to refer to works where strict logical discrimination is pursued with rigour, they would be those published during the presidency of Stahl at the university of Halle. The minute precision of the author's reasoning (Stahl himself) is highly gratifying, while the obscurity of the language and manner would repel every modern reader.

MATERIA MEDICA. The last article suggests to us a logical inaccuracy in the title, which strictly implies *material* substances employed in the cure of diseases. We must, however, extend these views, and, with the spirit of the best authors, follow their example, by considering, under this title, every means of relieving the maladies to which human nature is subject. The field which this inquiry opens to our view is immense. It not only includes a consideration of the properties and use of each of these means, but the mode of investigating these properties, of arranging our copious list of remedies, so as to assist not only our explanations of their virtues, but the choice of our remedies in any given emergency, and to point out the distinctions which, from different circumstances, may guide us in our preference of one to another. Not the least important object in this disquisition is the conduct and merits of the different authors in this department of medicine.

The knowledge of medicines must have been coeval with the existence of the human race. Mankind was always subject to diseases and accidents, and would naturally seek for remedies. There is consequently no race, however uncultivated, but has its materia medica, and modes of cure, often rash, violent, and injudicious, but sometimes discriminated with precision, and adapted with skill. It were to be wished that botanical inquirers had more often, in their itineraries, preserved these rude modes of treatment as Linnæus has done in his Flora Laponica. The scattered limbs, however, exist, and will repay the trouble of collecting.

The Greeks, who made every thing their own, and often created a fabulous personage, to whom they gave the honour of a discovery, for which they were indebted to their neighbours on the continent of Asia, attributed the achillea to Achilles, the teucrium to Teucer, and the artemisia to Artemis. Their famous Æsculapius was probably only an Egyptian title (haskelab), the father of wisdom. The materia medica of Hippocrates (for it would be to fill our pages very uselessly to copy all the fables recorded on this subject) was very

simple; but even the few remedies which he employed were in part rejected by Erasistratus. The empiricism and credulity of Serapion and his followers introduced numerous disgusting and ridiculous remedies; many of which were continued in the foreign pharmacopœias in the last century, and Vogel even condescends to notice several of them. Themison, the supposed founder of the methodic sect, gibeted in the satires of Juvenal as a most unsuccessful practitioner, recommended medicines of activity, as the aloes, the scammony, &c. He first employed leeches, and preferred these and cupping glasses to general bleeding. He seems to have rejected with indignation the ridiculous remedies of the empirics; but if we may trust his copyist Cœlius Aurelianus, employed some which were scarcely less absurd. The rage for compound medicines seems to have begun with Themison, but it increased with his followers, particularly Andromachus and others, down to the era of Galen, to whom the materia medica is greatly indebted for his attentive inquiries into the nature and country of the different medicines, though the real knowledge of their effects was obscured by the numerous ingredients of each formula. The authority of Galen, and the use of compound medicines continued, we know, for many centuries; and we have not long escaped from the trammels of his authority.

While, however, the infallibity of Galen remained unquestioned, the Arabians greatly enriched the materia medica by those medicines which their climate, or their connection with India, had introduced to their notice. The purgatives of their predecessors were the mild herbaceous vegetables, or the more acrid drastics; but the Arabians introduced the manna, senna, and myrobolans. They varied also the formulæ, and rendered them more agreeable by the addition of syrups; and they were undoubtedly acquainted with distillation, though they seem to have only employed this process in the preparation of simple waters and distilled oils. They added also musk, mace, cloves, &c. which are still retained; the precious stones, leaf gold, and silver, which are now neglected. They injured this branch of medicine by their fondness for compounds, in which they exceeded the Greeks; and, by their hieroglyphics, their metaphorical language, their comparison of the stars with diseases, and the metals with remedies, are supposed to have occasioned those wild extravagances which for ages led philosophers in pursuit of the art of making gold, and physicians in that of compounding an universal medicine.

Whether this latter conjecture of Boerhaave is well founded or not, the chemical physicians soon succeeded, and the language of Bacon, the earliest of these in the thirteenth century, seems to prove that the torch was lighted from the Arabian flame. Bacon endeavoured only to ward off old age; with Raymond Lully, in the following century, the pursuit of the universal medicine commenced. This pursuit was continued, and the materia medica greatly augmented, by acquisitions from chemical preparations by the Isaacs, Basil Valentine, and many others, down to Paracelsus and Van Helmont, the last of whom lived in the beginning of the 17th century. The absurdities of this sect are inconceivable; but they were succeeded by philosophers and physicians, who pursued the same path with more rational views and better success. Sylvius de le Boe, Tachenius, Quercetanus, Glaser, Schroeder, Lemery, Glauber, and others of the chemical school, the great benefactors of the materia medica, have in succession greatly enriched this science with the chemical remedies which we still employ. During this period the appearance of the lues venerea also added to the materia medica the sarsa, the guaiacum, the china, and some other medicines.

The discovery of Harvey, in the beginning of the seventeenth century, gradually turned the attention of practitioners from the active remedies of the chemists to those which were supposed to act mechanically; and mechanical reasoning soon overturned the whole system of medicine, and changed the language which had been hitherto held respecting the operation of remedies. The good sense of Boerhaave led him to retain the remedies of the chemists while he employed and extended the language of the mechanical physicians, while he studied and enforced the medical observations of Hippocrates and his successors.

With the downfal of the humoral pathology the materia medica experienced little improvement. Dr. Cullen, who, like Boerhaave, was a chemist before he had completed his medical system, still retained a predilection for chemical remedies, and for the more active forms. He introduced, it is said by Dr. Fordyce, the emetic tartar; and he supported, by his recommendation, the corrosive sublimate, not only in lues, but in diseases of the skin: a remedy employed externally for this latter complaint by the Arabians. We mention chiefly these circumstances to speak of a new sect, the introducers of medicines formerly accounted poisonous. Van Swieten, by his adopting the use of the corrosive sublimate from the Russians, seems to have first excited the attention of the physicians of Vienna to the vegetable poisons, the hemlock, the aconite, the belladonna, the napellus, the phytolacca, lactuca virosa, &c.; an impulse followed by the introduction or revival of the digitalis, the arsenic, &c. It is not our present object to appreciate the value of this new step; for it belongs to the separate articles. In general, however, we may add, that the real merits of the greater number have by no means answered the expectations excited. Our materia medica, as established by the decision of the colleges of London and Edinburgh, is, at present, confined in the number of its articles: but these are well chosen, active, and effectual. Each practitioner will probably add, from his own predilections, some others; but others, we suspect, will not be found necessary.

The ACTION OF MEDICINES depends on a relation between their properties and the living solid, differing in different parts of the system. This relation is, in general, obscure. It is, however, sometimes, and perhaps more frequently than has been supposed, chemical; sometimes purely physical; scarcely in any instance mechanical. It is occasionally connected with the more obvious properties, as the smell and taste of the medicine, but confined in this respect to the vegetable, less strictly to the animal, kingdom. It is sometimes connected with the chemical analysis, or with the natural affinities of a plant. Each mode has been employed in investigating the powers of medicines, and to each we must direct our attention; not perhaps as of

peculiar importance, for few medicines have been discovered in this way, but to explain the language and the conduct of authors, and sometimes to correct them.

The olfactory organs are peculiarly acute in the brute creation, but of no great importance to us in our investigation of the properties of medicines. The utility of the SMELL is limited chiefly to vegetables: but few animal substances discover their powers by these organs, and the insects and the vermes are either without smell, or give faint indications of their qualities in this way. In general, pleasing smells are salutary, and nauseous or fœtid ones injurious. Pleasing and nauseous are, however, relative terms; and to our neighbours on the continent the fumet of tainted venison is highly gratifying. Authors who have investigated the powers of medicine by the smell are Linnæus and Lorry, each of whom we must notice, as they have considered the subject in very different views; while former authors, as Boyle, considered effluvia chiefly as philosophers, and contemplated only the surprising divisibility of matter; or, as Boerhaave, Venel, and Roux, treated of odour as chemists, and endeavoured to separate or combine it in a more durable form.

Linnæus divides the ODOURS of medicines (Amœnitates Academicæ, iii. 183.) into AROMATIC, FRAGRANT, AMBROSIACAL, ALLIACEOUS, HIRCINE, STINKING, and SICKLY. The three first are pleasant, the three last disagreeable, smells. This enumeration is not perhaps correct, nor the classes distinct; but the Linnæan language is employed by many respectable physicians of his school, and consequently merits our attention.

The *aromatic* smell is distinguishable in various families of plants, as the laurels, the umbelliferæ, and the labiatæ, and is found in every portion of a vegetable, often in every part of the same plant. The iris, the rosemary, and the sage; lavender, *flowers*, and pinks; canella and winter's *bark;* sassafras *wood;* laurel *berries;* cummin and carui *seeds; gum* benjamin and balsam of capivi, are striking instances of it. They are generally stimulating, not without a suspicion of a narcotic power; often induce the calm serenity which we feel from tea, and destroy irritability rather than give strength. The exhalations themselves, from the experiments of Ingenhouz, are chiefly azotic, and, in many constitutions, highly deleterious.

The *fragrant* smell is not very clearly defined. It contains some of the more pungent smells, and seems to be a connecting link between the aromatic and the ambrosiacal. The instances are the flowers of the lily, the jessamin, the tuberose, some species of pinks, and saffron. They are more actively analeptic than the fragrant odours, and more certainly antispasmodic.

The *ambrosiacal* smells are very penetrating and active, when concentrated, as in ambergris and musk, but generally disagreeable. When greatly diffused they are more agreeable. The species of geranium, mallows, rose, and garlic, styled *moschatæ*, are of this kind; the fruits of the pine apple, of some kinds of apples and pears, musk, civet, and burnt animal substances, are instances of this species of odour. They appear to be stimulant, but are strictly sedative, and powerfully antispasmodic.

The *alliaceous* smell is particularly distinguishable in garlic, and its congeneres, in the scordium, asafœtida, and what are styled the warm fœtid gums. These odours belong to very active stimulants, which powerfully excite the vessels of the skin, and increase the discharge not only from these but from every gland in the human body.

The *hircine* smell is that which resembles the odour of the goat; and, in the vegetable kingdom, we find it in the herb robert, the orchis, some mushrooms, particularly the phallus impudicus. In general, these fetids are sedative, and often deleterious.

Stinking smells are exemplified in opium, nightshade, and hemp, which are all narcotics; and the *sickly* in hellebore, tobacco, colocynth, putrid meat, senna, and rhubarb. All such substances are powerfully emetic, and, if they escape the stomach, are also cathartic; and all are narcotic.

M. Lorry has proceeded in a different way, and has considered the smells, which are essential to the medicine, and which continue, independent of very minute analysis. These are the CAMPHORATED, NARCOTIC, ETHERIAL, VOLATILE ACID, and ALKALINE.

The *camphorated* is found in the labiated, the composite, the terebinthinated, and the aromatic plants, as well as in the laurels and myrtles. Its characteristics are, extreme penetrability, a singular volatility, a strong attraction for oily and spirituous menstrua. Though easily dissipated in the air, yet, when united with resins, in the leaves of plants it is preserved from evaporation, and contributes to their preservation. This principle resists the activity of fire, and the most powerful agents. Even musk and opium will not disguise it: its medical power we have already detailed. See CAMPHOR.

The *narcotic* odour is that virose effluvium which destroys the principle of life. It exists in the poppies, the nightshades, the borrage, the cucurbitaceous and umbelliferous plants, with many others; often disguised by the distinguishing principles of the vegetable, and obvious when these are separated by putrefaction or fire. This is the most fixed and adhesive of all smells. It corrects the volatility of the others, and often disguises all, except the camphorated. Even in a small proportion it is discoverable among the most fragrant smells, as in the rose, the jessamin, the tuberose, and the violet. These flowers exhale the true narcotic odour, when their aromatic and camphorated smells are dissipated. This smell is simple, sometimes concealed under that of aniseseed or garlic, occasionally imitating the smell of radishes, or the offensive odour of bugs. The same odour is found in animal substances. Virgil speaks of the virosa castorea; and animal oils, though rectified by distillation, exhale this narcotic smell.

The *ethereal* odour is volatile, incoercible, and of extreme tenuity. It escapes so easily that we can only recognise it for a short time. Art produces its most striking example; but we find it in the pine apple, in melons, some kind of pears and apples, in strawberries, and the greater number of fruits which grow under the burning sun of the torrid zone. It is sometimes discovered on the first appearance of the sceptic process, to which sweet fruits are exposed. This odour combines with the alkaline, and the narcotic smell of opium giving it a striking volatility, and moderating its narcotic property. It unites also with camphor, and adds to its sedative and

soothing powers in a manner well known to practical physicians.

The *volatile acid* odour is usually combined with an aromatic volatile spirit. It is distinguished in lemons, oranges, gooseberries, cherries, &c. combined and disguised in many plants, as in the lemon thyme. This odour is in general pleasing and refreshing, and it destroys the effects of narcotics. It is often combined with the ethereal smell, as in the aromatic spirit of vinegar, and is destroyed by putrefaction.

The *volatile alkaline* smell is distinguished by a biting acrimony, which irritates the eyes. The horse radish, mustard, scurvy grass, with all the alliaceous vegetables, are examples of this odour, which is in part destroyed by acids. It is generally confined in plants by mucilages and oils, and is very durable, since even putrefaction will not wholly separate it. In asafœtida it is combined with the virose odour; and the most fetid smells seem to be combinations of this kind, which lead us to suspect some hepatic combination.

The TASTES of plants conduct us more certainly to their medical properties; but the similarity of terms may contribute, without care, to confound them with the smells. Our chief guide in this path is Linnæus himself; but Bergius, assisted by the comprehensive Linnæan language, has greatly extended our distinctions of taste; though employing terms and comparisons generally known, he scarcely requires an interpreter. Taste has been considered as a cause of the action of medicines, or at least as a means of discovering their properties in almost every era of medicine since that of Hippocrates; and, besides Linnæus, Wedelius, Walther, Hebenstreit, Koenig, and Tauvry, have paid particular attention to it. The two last have, however, confined themselves to mechanical explanations of taste; and, like Willis, have supposed acrid particles needles, oily ones spheres; bitter, salt, acid, and styptic tastes, owing to forked, irregular, polyedral, conical, or hooked particles respectively.

Tastes greatly differ; and though, as in smells, we say in general that substances of an agreeable taste are salutary, and those which are unpleasing to the palate injurious, yet the question of pleasantness or its opposite is relative. Pungent tastes are universally painful; but, when diluted, they become agreeable. In fact, as we shall find in the operation of medicines, every thing in excess is stimulant: we only perceive either peculiar properties, or flavours, when the proportion is suitable to the circumstances. Fourcroy divides tastes into those which are highly pungent or painful, as the caustics; those which excite moderate sensation, as the sweets and bitters; such as only affect the stomach, and very slightly, if at all, the palate, as the antimonials; and such as act only through the medium of the nerves. We need not add that this is to extend the subject beyond its proper limits. It is singular, that the people on the coast of Malabar, among whom medicine is in a very rude state, divide their remedies according to taste. Grundler, the Danish missionary who visited that country in the beginning of the last century, has given an extract from the Voya da-satyram, which contains all their medical science, where the remedies are divided into acids, sweets, bitters, acrids, and astringents. We may just add, that Braun, the son-in-law of Haller, an officer in our service in Indostan, has informed us, that, in the ancient seminary of Benares, no other part of medicine is cultivated except what relates to the virtues of vegetables; and in the Gottingen museum, a valuable hortus siccus of Malabar plants in twelve volumes folio, with their names and properties annexed, was some time since preserved.

Linnæus divides the taste of medicines (Amœnitates Academicæ, ii. 335) into the SWEET and ACRID; the FAT and STYPTIC; the ACID and BITTER; the VISCID and SALT; the WATERY and DRY. The *styptic* is a compound taste, sometimes consisting of the dry and acid, when it is styled *austere;* or of the dry and bitter, distinguished by the term acerb. The *nauseous* taste produces an inverted motion of the œsophagus and stomach. It is a compound, but its ingredients are not easily ascertained. We are informed by Quercetanus, that the medicines styled by Hippocrates bitter, acid, and sweet, are, by Galen, in conformity to his theory of the humours, called hot and cold, wet and dry.

The property of *sweetness* is conspicuous in the roots of the polypody and liquorice; all ripe fruits; in milk and in honey. The sweets, either saccharine or mucilaginous (vide MANNA) are, as we have seen, nutritious, chiefly adapted to dry, lean habits, and advanced life. They are also demulcent, and supposed to be expectorant; but the latter quality rests on a doubtful foundation.

Medicines distinguished by an *acrid* taste are heating, irritating, and, in excess, corrosive. In large doses they are the most destructive poisons. Externally, they are rubefacient, sometimes discutient, or occasionally suppurative. By their general stimulus they promote every evacuation, and are sometimes the most active emetics. Their powers as cathartics are less conspicuous, and they are generally useful in cold, phlegmatic habits. Examples of this kind are the pure alkalis, and the metallic salts; the roots of bryony, pyrethrum, horse radish, and of the alliaceous tribe; the leaves of the soldanella, persicaria, tithymalus and cochlearia; the bark of the elder; the seeds of the mustard; euphorbium, gamboge, and cantharides.

The *fat* taste is conspicuous in the almond, cocoa nut, lintseed, and axunge. It is owing to an oil combined with a mucilage, and is lost when they become rancid. They are in general demulcent, and useful when the fibres are stretched, or the mucous membranes abraded. From this last circumstance, they sometimes relieve diarrhœas, though many of this class are naturally laxative.

The contraction of the mouth, which arises from tasting *styptics*, is sometimes communicated to other parts. Alum is a striking example; but it does not follow that styptic vegetables, as has been supposed, contain an argillaceous sulphat. We find this taste in vitriolated iron and zinc; the roots of tormentil, bistort, and quinquefolium; the barks of the tamarisk, the capparis, and the fraxinus; the gall nut; the leaves of the centinodium, the myrtle, and the oak; the flowers of pomegranate, and in red roses; the juice of acacia, catechu, &c. These remedies are, in general, astringent; and, as they all contain tanin in a considerable proportion, we find the foundation of their properties in the separation of the gelatin. See ASTRINGENTIA.

Of the *acid* taste we require no examples; but if we speak of this as a natural one, we must exclude the mineral acids, which rather belong to the styptics. With this exception, we shall find acid substances cooling and sedative, neutralizing in some degree the bile, and destroying putrid acrimony in the stomach. They allay thirst, promote a discharge from the kidneys, and often from the skin. They prevent accumulations of fat in the cellular membrane; but do not, as has been said, coagulate the fluids; for they do not reach the circulating system with their properties unchanged.

The *bitter* taste is confined to the oily and resinous juices of vegetables, and to the inflammable oxides. It is communicated to all vegetable substances by what is styled by the French chemists their combustion, in consequence of their union with nitric acid. Many of the vitriolated neutrals are also bitter; but in detailing their properties we must confine ourselves to the bitter vegetables; for there is no reason to suppose that our artificial bitters agree with the natural. We find the pure bitter chiefly in the roots of the gentian, the male fern, and the white dittany; in the bark of the simarouba, the orange and the lemon peel; in the leaves and flowers of the carduus benedictus and the camomile; in the wood of the quassia; in the tops of the centaury and hop; in the seeds of the carduus benedictus and mariæ; in the juice of the wild cucumber; in the aloes, the myrrh, and the bile of animals. It is seldom pure, and even in some we have mentioned it is joined with a little acrimony; in others with astringency, or acidity. The affinity of the acid with the bitter principle is very striking, since many plants which in some parts are bitter, in others are acid. We need not add any thing to what we have already said in the article Amara, q. v. except to observe, that some of these mentioned are actively purgative, a quality which certainly does not belong to the pure bitter.

The *viscid* taste is exemplified in the mallows, lintseed, and almost all the pure gums, the cartilages and tendons of animals, particularly young animals. All these substances are demulcent and relaxant; consequently by sheathing abraded membranes, particularly of the urinary system and bowels, they relieve pain, and often appear to check immoderate discharges. They sometimes appear, when taken in excess, to destroy the appetite; and we have suspected them, when swallowed in large quantities, of lessening the urinary discharge.

The *salt* taste is most pure in the muriated soda and the common culinary salt, for all others appear to join different flavours with it. In the vegetable kingdom, we find it, though less pure, in the crithmum, the halimus and salicornia. In the shell fish and the fuci, the taste appears to be derived exclusively from the sea water. See Marinus sal.

The *watery* taste chiefly arises from the excess of the aqueous fluid, diluting every peculiar flavour. The most striking instances are the oleracæ, and some of the etiolated plants; and among the roots, the turnip. These substances are slightly nutritious, diluent, and demulcent. They were supposed to be of considerable and extensive use when diseases were attributed to lentor or viscidity of the fluids.

The sensation of *dryness* in the mouth arises very generally from stypticity; but by a dry taste is generally meant that which is produced for instance, by chalk. All the earths in a carbonated state are dry. The insipid woods and barks, the leaves of the ivy, and the dust of of the polypodium, are examples, in the vegetable kingdom. In the animal, the hart's horn, the crab's claws, the mother of pearl, and coral, are distinguished by a dry taste. These substances, however, unless capable of absorbing acids, are of little utility in medicine, but are by no means so injurious as have been supposed.

In general, we may remark that tastes have a much more pointed and clear connection with the medicinal properties of bodies than smells, and will, in many instances, explain, *a priori*, their virtues. Yet tastes are so infinitely varied by nature, that their composition cannot often be ascertained; and though the expressive language of Bergius conveys ideas peculiarly discriminated and exact, even this, in many instances, fails.

A very important distinction of tastes relates to their fugacity or permanence, their immediate impression, or their perception after some interval, their affecting the tip, the middle or back part of the tongue, or the throat. On these subjects our chief assistance is from Grew and Bergius; but we have not been able to connect these different sensations with the properties of the bodies. In general, the stimulants are immediately perceived to increase the heat chiefly on the fore part of the tongue; the narcotics only act after some time, and on the throat. The impressions of salt substances are generally diffused; of styptics confined to the cheeks and anterior fauces.

When the operations of chemistry attracted the attention of physicians, it was at once supposed that they would unravel every secret of nature, and among the rest, the constituent parts of medicines, so as to explain their operation. The members of the French academy laboured very earnestly in this department of the materia medica: Mr. Boyle and some others of the English and German chemists were equally assiduous; but they soon found, that aliments and medicines, the most salutary foods and the rankest poisons, were equally resolvable into acids, oils, and salts, scarcely differing in their properties. In fact, in resolving the compounds of nature, they formed new ones of art, and were not nearer the destined goal. Neumann and Cartheuser did not wholly forsake the former path, but they interrogated nature by milder methods, and extracting different component parts by the peculiar affinities of water and alcohol, or by their volatility in a gentle heat, taught us what portions of gum, resin, and oil each vegetable contained. But even at a much later period, so rash was the analysis, and so powerful the means employed, that we have only of late discovered what is now styled the extractive matter, or that portion of the gum and resin combined with the peculiar oil and mucilage of the plant, which renders it equivalent to the vegetable itself, deprived only of its air, some portion probably of its water, and the woody fibres. When, therefore, in the vegetable analysis, the proportion of gum and resin with that of the extractive matter is mentioned, the quantity of the two former, or rather of the resin, shows the degree of decomposition which in general has taken place; we say in general, for in many plants, particularly in

the roots, the resin exists in a separate state. Rhubarb is a striking instance of this kind.

Analysis, conducted with care, leads us, however, to form some conjecture of the nature of the vegetable. The expressed juices of the green and watery plants (the oleraceæ) are slightly laxative and cooling; in the language of the Boerhaavians, aperient; of the cruciform plants (the tetradynamiæ of Linnæus,) antiscorbutic. Bitter extracts are tonic, often anthelmintic; oils and mucilages demulcent; essential oils generally stimulant and carminative; and resins either purgative or diuretic. Whatever opinion, however, be formed of the advantages of analysis in investigating the nature of plants, it has certainly assisted the pharmaceutical treatment of vegetable remedies, and, in the animal kingdom, has been of the greatest utility in showing the fallacy of many boasted remedies, from the identity of their nature, or their insolubility. Even musk and castor we find nearly approaching in their nature to resins, and the gluten of vegetables to animal substances. In the mineral kingdom, our obligations to chemistry are too numerous for repetition, and too obvious to detain us. We shall only remark, among these, the antidotes discovered to some of the most active poisons, and the advantages we derive from our power of preparing artificial mineral waters.

The utility of NATURAL HISTORY in investigating the properties of medicines is very considerable. To be able to acertain with certainty the identity of any plant is an object of no little importance, as it prevents our disappointment in future trials. Were it not for the assistance of natural history, the greater part of the experience of the ancients would have been useless; and were it not for the aid of Caspar Bauhine, we should wander through their works, like the first travellers in the American forests. All around would be unknown: we could neither appreciate their views, nor follow their examples; yet we have known commentators on the ancient authors, who, supposing they meant some given medicine, were little anxious what it might be. A deep knowledge of botany, however, is unnecessary. We now know more than 50,000 species, and of these scarcely a hundred are employed in general practice; and of the latter, two-thirds, or even a greater proportion, are useless. Yet the principles of the science should be known, for the reasons just mentioned; and, above all, the foundation of the natural orders for the reasons and purposes already assigned. (See BOTANY.) One great advantage is, that if a given plant cannot be procured, a similar one may be selected from its natural order; and the author of the little tract on botanical analogy has shown, in a variety of entertaining examples, how the same remedy has been extolled and forgotten; repeatedly, at different periods, and under different names, revived.

OBSERVATION and EXPERIENCE are, on the whole, the safest guides; but here again we are lost in wildernesses or fogs. Numerous remedies, recommended as certain, are found to fail: what we have ourselves, at different times, considered to be firmly established as proofs of holy writ, at others we have found less substantial than the shadow of a shade. In every step we feel the truth of the Hippocratic axiom "experientia fallax." If those whose education and experience contribute to point out the danger of deception, find that the *post hoc* is not always equivalent to the *propter hoc*, how many sources of deception must surround those not accustomed to such observations? Yet medicines are commended by men of the first character, rank, and abilities, as certain remedies; every newspaper teems with affidavits, and we are deemed incredulous indeed if we disbelieve a bishop or a judge. Medical evidence differs greatly from every other: we are obliged to act on the result of reasoning often extremely insufficient; our decisions on the effects of medicines, on the contrary, require the most rigorous examination. If a man asserts, for instance, that he has been cured of a consumption by Godbold's syrup, it implies several positions extremely doubtful. How can he ascertain that the disease was a consumption? for in this respect the most judicious practitioner is often deceived. But, admitting that it is so, we know that vomicæ are often completely discharged: we know that an ulcer spontaneously heals, and it is as probable that diet and regimen may have effected the cure, as a medicine equally inconsiderable in its powers. If then we cannot trust to experience, what must be our resource? Though nothing may be certain in the operation of medicines, and our evidence only establish different degrees of probability, yet a rigorous scrutiny in the investigation of every fact respecting this part of the science will greatly facilitate our progress in similar circumstances. Authors on the materia medica abound with assertions respecting the properties and use of every medicine, and the most inert is often represented in colours too glaring for even the most active. This partly arises from the want of discrimination just mentioned, but more often from an anxiety to display the extent of their own learning; and such are the accumulated recommendations which the student finds, that he thinks his only labour a selection. So frequent are his disappointments, that he at last mistrusts even the most respectable authorities. Who will cleanse this Augæan stable? It will require an Herculean hand; and the little that can be done in a general work like this can scarcely lessen the labour. We shall not, however, mispend our time, if we examine shortly the conduct of the best authors on this subject.

In this enumeration we should have omitted the systems of the astrologers and the signaturists, but that the fancies of the latter still remain. The former we may safely neglect, though not wholly forgotten by the empirical old women of the country, who still prefer collecting plants at the full or new moon. The signaturist prefers plants which resemble the part diseased; and euphrasia is still used for complaints of the eyes, though its original claim to notice arose from a black spot in its corolla resembling the pupil; and the pulmonaria is employed in diseases of the lungs, because its form, its texture, and its spotted areolæ, afford a distant resemblance to these organs. Crollius is the great authority of this sect: but to return to more rational authors.

The earliest therapeutical authors were the natural historians; for to their descriptions of plants were usually added their medical virtues. The herbals, as they may be called, from the time of Theophrastus and Dioscorides to Gerarde, &c. are full of extravagant commendations of the most inert vegetables. The latter authors were indeed compilers only; and, if they added

to the bulk of their volumes, were little anxious about their value. They are, in general, careful to tell us in what degree a medicine is hot or cold, to what temperament it is best adapted: but to distinguish the diseases, or the periods of any disease in which a given plant would be most salutary, was often beyond their powers.

When botany assumed a more scientific aspect, and distinction as well as description was its object, our knowledge of the materia medica was greatly assisted. The herbalists had accumulated their commendations with little discrimination; but in the materia medica of Linnæus we find more accuracy. He first published that of the vegetable kingdom, and afterwards in the Amœnitates Academicæ those of the animal and mineral. In each he followed his own system. These treatises were republished by Schreber at Vienna, in 1773, with additions from the Amœnitates and the later works of the northern naturalist. In this volume we are told whether a medicine is common, rare, or useless; and, in enumerating the qualities, which are those of the greatest importance, the author points out often, by distinguishing marks, how far the boasted powers may be depended on. Tessari, in his republications of Linnæus's system at Venice under the title of Materia Medica Contracta, has carried this plan farther; and in a MS. which was some years since intended for publication, it is still farther extended and more complete. Bergius, an author of the Linnæan school, has described plants according to his master's system, and, in the most precise and pointed language, conveys very accurate ideas of the sensible qualities of every vegetable remedy. Of the qualities he only mentions the most important; and the practical observations, almost exclusively his own, are few, though important. He apoligizes for not copying former authors by observing, "that those who have examined them will soon discover that so many fictions are interspersed with what is true, that they cannot be easily separated. Many writers on the materia medica, he adds, "have injured this science by trifling fictions and conjectures; by inventing qualities dictated by their prejudices, which they have obtruded on nature. Some have compiled from former authors, inserting their own opinions and their own observations. Many, with too much credulity, have adopted and transcribed the assertions of their predecessors, though of doubtful authority and sometimes ridiculous; so that, in more recent authors, we find the old remnants repeatedly hashed; blunders again and again copied." We add the words of Bergius partly as an apology for ourselves, since from the pages of Motherby we have been obliged to expunge qualities of medicines far more numerous than those which the experience of others, or our own, has justified us in retaining. The pharmaceutical and miscellaneous remarks of Bergius are highly valuable; and we regret that the animal and mineral kingdom had not equally shared his attention.

Haller, in his description of the plants of Switzerland, has followed, in the arrangement, his own botanical system. As usual, he has annexed to each plant its medical virtues; and this portion of the work has been republished by Vicat in two small volumes. Haller seldom indeed speaks from himself; for he was not a practical physician, and his compilation is not very discriminated. The best part of his work relates to the domestic medicine of the Swiss mountaineers. Dr. Woodville's Medical Botany is of this class; but in his three volumes he only considers the vegetables included in the lists of the London and Edinburgh colleges. In the fourth, some of the plants used in medicine, not included in these catalogues, are figured and described. The substance of this work is chiefly taken from the materia medica of Lewis and Cullen; but the plates, which are indeed elegant and accurate, are equally beautiful, and far more numerous in the large and expensive folio of Plenck. Ray, in his history of plants, adds their medical virtues; but Ray, like Haller, was no practitioner; and the greatest abilities, the soundest judgment, will not teach that nice medical discrimination, without which compilations are useless. Yet Ray's collections are so extensive, that he merits all the attention, which is not inconsiderable, that he has received. Some other authors have treated of the materia medica as general botanists. The pharmacologia of our own Dale is obsolete, yet it displays judgment and discrimination; for he has avoided the common error of his predecessors, that of collecting every idle observation from the works of his predecessors. Simon Paulli's Quadripartitum, Botanicum, connected, however, but slightly with the botanists, is deservedly neglected; and Zorn's Botanologia Medica, in the German language, scarcely merits more attention.

It is not from forgetfulness that we have omitted noticing Murray's *Apparatus Medicaminum*, in six volumes of unequal bulk. We have separated this work from the rest, because it affords the first example of arranging vegetable medicines from their natural orders. We have already spoken of his merit in this respect; and must now add, that he has collected with great care what the best practitioners who preceded him had taught, and has probably left little for his successors but the labour of discrimination. This part of the task he has greatly neglected; and his work is, on this account, by far less valuable than it might have been. His collection, however, is by no means like that of Vogel, indiscriminate. Gmelin has published the materia medica of the mineral kingdom as a Supplement to Murray's Apparatus, but with still less discrimination, and with very few marks of a correct judgment.

Many authors on this subject have followed a more arbitrary arrangement, though in part botanical. Thus, Simon Paulli has divided his plants as they flourish in either of the four seasons; Vogel, according as the leaves, bark, wood, or roots are employed, again subdivided as frequently or seldom employed, or as obsolete, arranging them afterwards alphabetically. The subject is thus broken into so many detached parts, that from the laboured order the greatest confusion arises. Vogel is also a most laborious collector, with little discrimination; and though a judicious practitioner, seems in this work to have forgotten himself, and to have become a compiler only. It is, however, a manual little inferior in extent of compilation, though of comparatively little bulk, to that of Murray. Another collector who follows, in part, a botanical arrangement, but who does not display a superior discrimination, is Dr. Alston. His chief value arises from his copious compilations from the Greek and Roman authors; but his materials are so inartificially and unpleasingly compacted, that we suspect that he has been seldom read.

Herman, in his cynosura of the materia medica, has united the botanical and chemical authors. He arranges his vegetable remedies from the parts employed, and subdivides them according to their chemical analysis. His work is little known in this country, and as a compilation from almost forgotten German authors deservedly neglected. Geoffroy, who follows a botanical arrangement, has been also peculiarly attentive to chemical analysis; and his Materia Medica is equalled by few works on the subject in extent of information or judicious discrimination. It is unfortunately little known, though meriting from the student minute attention; and there are few veterans in practice who might not consult it with advantage. The Supplement, containing the account of animals by Nobleville and his coadjutors, is of very inferior merit. Neumann, in his chemical works, gives us some very judicious and minute analysis of vegetable remedies; but the system of materia medica which rests chiefly as the foundation of its arrangement on the chemical contents of medicines, is that of Cartheuser, which, on this account, merits particular regard, and is, in some other views, a valuable and judicious work.

If these systems are arbitrary in their arrangement, and, with the exception of the apparatus medicaminum giving little assistance to the student, and scarcely illustrating the use of any medicine, by the observations that may have been offered on the preceding or following article, still less advantageous must be the alphabetical order which Lewis has followed in a most admirable work, and Dr. Rutty, in a very inferior one, on the materia medica; an arrangement, if it can be styled one, which Vogel, Geoffroy, and Herman, have in a great degree adopted. The therapeutical writers on the materia medica have followed a very different path. Considering medicines as producing certain specific changes in the body, those which produce given changes are arranged under the different and appropriate heads. We thus find not only the principles on which they act, but are able, with very little inconvenience, to compare in given circumstances the advantages and disadvantages of each, or when disappointed in the effects of one, to supply its place with another. In this way also the individuals of each class form one separate distinct subject, scarcely, if at all, broken by a consideration of the different qualities of each. In the arbitrary alphabetical arrangement, which, from the nature of this work we are compelled to adopt, we can scarcely avail ourselves of the advantages just stated. We have endeavoured, however, to combine this plan by enlarging the therapeutical articles, and interweaving, in these, the foundation of our choice of individuals, in different circumstances.

It will be obvious, that in pursuing a plan of this kind, authors must differ according to their different objects. Thus Spielman, who connects the chemical and therapeutical sects, scarcely employs indications but as the titles of his chapters; while Dr. Cullen, diffuse on the therapeia, is short and often unsatisfactory in the history of many individuals. In short, this latter work, though vast, bold and comprehensive in its design, is, however, as it has been styled by an able critic, rather the philosophy of the materia medica than a detail of the nature and properties of medicines. Crantz' work is short and unsatisfactory in a therapeutical view, though judicious and able in the remarks on different medicines; while Junker, and De Gorter, offer little but a catalogue of medicines arranged according to indications. The latter, though published as that of David, was really the work of his father, John De Gorter, one of the most judicious and intelligent commentators on the aphorisms of Hippocrates. The choice of the plans of teaching the materia medica must lie between the arrangement of medicines according to their natural orders, or according to their therapeutical qualities. The botanical affinities in the Linnæan orders are not, however, so strictly medical as to render this plan very eligible, and though the arrangement is improved by Murray, it is far from being sufficiently accurate for this purpose. The natural orders of Jussieu, as more numerous, are more natural in a botanical view, but are consequently less usefully therapeutical. The therapeutical plan is, therefore, undoubtedly preferable, and, with it, the former may be more intimately united than by Dr. Cullen, for he has not introduced all the natural orders of Linnæus, though he has grouped some vegetables, in orders strictly natural, not found in the fragments. The orders are not so numerous as to require what Linnæus calls a method, or a clavis, to connect them; yet their arrangement is by no means to be neglected, as the therapeutical observations necessary to introduce each are intimately connected. Dr. Lewis has proposed an arrangement of the materia medica into eleven natural orders, which are not formed exclusively from the properties or the effects. These are acids, absorbent earths, insoluble earths, glutens, oils, astringents, sweets, acrids, aromatics, bitters, and emetics, including cathartics. These orders certainly afford no eligible system of arrangement. Some minuter groups retained in the foreign pharmacopœia, as the *four cold seeds*, &c. we shall notice under Pharmacia.

In Dr. Cullen's system the materia medica is divided into nutrients and medicines: nutrients are food and drink, with which condiments are joined.

Medicines either act I. on the solids, or II. fluids. The first act either on the simple or the vital solid. Medicines which act on the simple solid are *astringentia*, *tonica*, *emollientia*, and *erodentia*. Those which act on the vital solid are *stimulantia*, *sedativa*, including *narcotica*, *refrigerantia*, *and antispasmodica*.

Those which act on the fluids are such as either produce a change, or occasion some evacuation. The changes respect the fluidity, comprising *attenuantia* and *inspissantia*, or the mixture: when they correct general acrimony, they are styled *demulcentia;* when particular acrimony, *antacida*, *antalkalina*, and *antiseptica*. The medicines which occasion evacuations are *errhina*, *sialagoga*, *expectorantia*, *emetica*, *cathartica*, *diuretica*, *diaphoretica*, and *menagoga*.

In this arrangement Dr. Cullen has forsaken his own system of pathology, since the fluids, in his opinion, are not affected, without previously influencing the moving powers. Some other critical remarks might be added, were this the place for such disquisitions. To connect this part of the work with what has preceded, and will follow, we shall add what appears to us a more convenient arrangement, and subjoin a list of the materia medica adapted to it, adding the pharmaceutical or Linnæan names, while the more particular references may be found under each article.

It has been usual in these circumstances, with Spielman and Cullen, to premise the nutrientia; but as this would only extend the clavis, and we have already treated of it at some length under ALIMENT, q. v. we shall now omit this class, which consists only of FOOD, DRINK, and CONDIMENTS.

MEDICAMENTA AGUNT.

I. In Solida viva.
α. 1. Motum augent.
in ventriculo.
EMETICA.
Intestinis.
CATHARTICA.
Vasis extremis.
DIAPHORETICA.
Renibus.
DIURETICA.
Bronchiorum glandulis.
EXPECTORANTIA.
Narium glandulis.
ERRHINA.
Salivæ glandulis.
SCIALAGOGA.
Uteri vasis.
EMENAGOGA.
Toto corpore.
STIMULANTIA.
Cardiaca.
Analeptica.
Attrahentia.
Discutientia.
2. Motum imminuunt.
α REFRIGERANTIA.
Resolventia.
β ANTISPASMODICA.
3. Tonum imminuunt.
SEDANTIA.
Anodyna.
Inirritantia.
4. Tonum augent.
TONICA.

II. In Fluida.
1. Crasin immutantia.
α ATTENUANTIA.
β INSPISSANTIA.
γ ALTERANTIA.
2. Acredinem corrigentia.
α DEMULCENTIA.
β ANTACIDA.
γ ANTALKALINA.
δ ANTISEPTICA.

III. In Solida simplicia.
α EMOLLIENTIA.
Relaxantia.
β ERODENTIA.
γ ASTRINGENTIA.

IV. In Corpora aliena.
1. Venena.
ALEXITERIA.
Antidota.
2. Calculum.
LITHONTRIPTICA.
3. Vermes.
ANTHELMINTICA.

The classes of the materia medica are not so numerous as to require what is usually styled a methodus; and, if any thing were sacrificed to the parade of system by this means, it would be improperly adopted. Whatever may be its merits, it has no disadvantages, for the arrangement is exactly such as if the orders were natural and independent; and the clavis limits the intention of the group with peculiar accuracy. The evacuants most nearly related follow each other; and as no evacuation can take place without the excitement of the vessels as muscular organs, so in the following class, stimulantia, where the nervous system is more generally affected, a general action of the vessels of the whole system usually accompanies. Of the synonyms of Stimulantia the two first, should such medicines exist, act more peculiarly on the nervous system: the two last are topical remedies. The distinction between general and topical medicines usually admitted is, at best, useless, if not injurious; for the most active internal medicines, are often powerful topics.

The next division is also connected with some action on the sanguiferous system, which disappears in the second class, the antispasmodics. Resolvents are truly refrigerants, for discutients occur in a subsequent part. The medicines which increase tone are included under tonica, and the astringents are referred to those medicines which act on the simple solid. Some certainly act on both, and astringents, as already explained, (see ASTRINGENTIA,) sometimes appear to be tonics. The medicines which diminish tone, diminish also sensibility and excitability; and we have added as synonyms anodyna and inirritantia; those which possess an opposite quality are commonly associated in idea with stimulants.

We have admitted, with limitation and reluctance, any action of medicines on the fluids, adopting the axiom of the nervous pathologists, that the constitution forms its own fluids. Yet some complaisance is due to many excellent physicians of the Boerhaavian school, and it is at least necessary to point out the medicines which have been employed with these views. The third of the classes of the first division, the alterantia, is vague; yet the action of remedies in scurvy, in what are styled scorbutic eruptions, in lepra, and some other cases, must be collected into one group, and it is not easy to find a more proper place. In the second division we clearly perceive the action of demulcents on the throat, the stomach and alimentary canal, the urinary organs, and perhaps the bronchial glands. The antacids and antalkalines are at least useful in the stomach, and some medicines undoubtedly act, chemically, as antiseptics.

The medicines which act on the simple solids afford few subjects of remark. If relaxants are any thing more than emollients, they bear the same reference to the sedantia that the astringents do to the tonics; at least they seem to act through the medium of the simple solid. For these and the other reasons assigned, the astringents are referred to this place. The last general division contain classes independent in their operation on each other. Lithontriptics may be only antacids,

but they are said, with confidence, to dissolve the calculus. Anthelmintics may be only drastic purgatives, but some at least kill worms. The observations on the subdivisions of the catalogue must be deferred till that is concluded.

It is a common objection to any arrangement, that some medicines possess very different powers, and that their proper places are not easily ascertained. Instances of this kind occur in mercury and steel. Repetition, however, is unavoidable; and those who seek for the medicine appropriated to any disease in such catalogues, must find them in each list. The more general author on the materia medica, will treat of them under that head where their powers are most conspicuous; and the medicine will again recur, where, from its preparation, or exhibition, peculiar properties are discovered in it. The catalogue, which we shall add, will differ from former ones by the subdivision into groups, which may be styled orders, an attempt first made by Dr. Duncan in his Therapeutics. The plan we have followed is adapted to the therapeutical ideas offered under the different articles; and we consider this mode of arrangement as peculiarly useful at least to the student, since it offers at almost one view a more distinct idea of the powers and properties of each medicine than is obtained in the best systems. The catalogue itself can possess no other very peculiar advantages; yet we cannot conclude this part of the subject without acknowledging our obligations to the very excellent syllabus of Dr. George Pearson, who lectures on the materia medica with distinguished, and if we can judge from this little work, with the most merited reputation.

In our general observations on the materia medica, we mentioned the plan of some authors, and particularly of Tessari, of distinguishing the degree of power by slight marks at the end. This idea we have occasionally pursued; and while we have followed, without any very nice discrimination, the conduct of our predecessors in the medicines inserted under each class, when their powers are considerable we have added a note of admiration (!); when dangerous two (!!); when trifling, a semicolon (;); when doubtful, a note of interrogation (?); when the medicine has been introduced by fancy, folly, superstition or prejudice, a colon (:). These marks are only added to a few, and for the Linnæan appellations and synonyms the reader is referred to the separate articles.

CATALOGUE.

I. Emetica.

α. Nauseosa.

Scillæ radix!
Antimonii præparationes, refractâ dosi.
Digitalis purpurea, folia!
Nicotiana!
Nux vomica!
Colchicum autumnale.

β. Evacuantia.

Emetica Nauseosa, auctâ dosi.
Asarum.
Raphanus rusticanus, radix.
Sinapi nigrum et album. semen.
Bryonia alba.
Gratiola officinalis.
Veratrum album.
Ipecacuanha.
——— alba;
Cathartica drastica.
Amara calida dicta.
Carduus benedictus. semen.
Chamomælum. flores.
Absynthium. folia.
Genista. summitates. semen.
Zincum vitriolatum et ustum!
Cuprum vitriolatum!
Platinæ præparationes?
Ammonia;
Aqua distillata flammulæ Jovis!
——— ranunculi!
——— linguæ!
Emetica epigastrio infricata;
Aqua calida, præsertim ope.
Salis marini, Olei communis.
Pulv. sem. sinapeos, Hepatis.
Sulphuris, vel putridorum.
Motus vertiginosus, vel inusitatus.
Associatio.

γ. Irritantia.

Erigerum succus!
Hydrargyrus vitriolatus!!
Vitrum antimonii!
Arsenicum!!

II. Cathartica.

α. Lenitiva.

Sales terrei et neutri.
Alum?
Selenita?
Aquæ minerales salinæ;
Fructus acido dulces;
Cerevisia;
Vinum;
Lac acidulatum;
Sapo.
Cassia fistularis fructus.
Manna.
Saccharum impurum;
Mel;
Fructus siccati;
Oleum olivæ.
——— ricini.
Thalictrum.
Infusum coffeæ;?
Emetica nauseosa.
——— *evacuantia.*
Balsamum copaibæ;
Gum asafœtida;
Sagapenum;
Opoponax;
Myrrha;
Galbanum;
Rosa damascena. folia;
Bilis?
Infusa aquea animalia vel vegetabilia copiose hausta.
Enemata aquosa.
Cathartica acria abdomini infricata?
Aqua frigida in femora et ventrem cum impetu adacta.

β. Purgativa.

Sena. folia.
Jalapium. radix!
Mechoacanna. radix.
Rheum. radix.
Aloes succotrini succus inspissatus.
Polypodium. radix.
Myrobolans fructus.
Pulvis antimonialis.
Calomelas!
Rhamnus catharticus. baccæ.
Senega. radix!
Nitras et phosphas argenti?
Peragua. folia.

γ. Drastica.

Gutta gamba. gum.
Scammonium gummi resinæ.
Elaterium!
Colocynthis fructus medulla.
Convolvulus brasiliensis.

Convolvulus soldanella!
——— turpethum!
Gratiola. folia.
Alnus nigra!
Linum catharticum. folia.
Helleborus niger et albus. radix.
Genista. semen!
Arthanita!
Cucumis asininus fructus!
Sambucus niger. cortex.
Sambucus ebulus cortex interior.
Iris nostras succus!
Cheledonium radix.
Agaricus muscarius.
Boletus larycinus.
Anagyris fœtida.
Croton tiglium!
Carthamus tinctorius. semen. flores
Buxus. folia.
Bryonia alba et dioica!
Euphorbiæ species omnes!
Lycopodium selago.
Mercurialis annua.

δ. Narcotica.

Nicotiana. folia!
Digitalis purpurea. folia.
Lactuca sylvestris.
Drastica odoris tetri et saporis amari?

III. Diaphoretica.

α. Diapnoica.

Argenti vivi præparationes variæ.
Guaiacum lignum.
Sarsaparilla. radix.
China. radix.
Ulmus. cortex interior.
Mezereon. radix.
Gestatio.
Navigatio.
Libratio.
Frictio.
Aer frigidior.
Potiones frigidæ.
——— acidulæ.
Applicationes frigidæ.
Lavatio frigida.

β. Relaxantia.

Antimonii præparationes variæ.
Ipecacuanha.
Scilla.
Opium.
Acetum
Calor mediocris.
Solidorum.
Balnei.
Semicupii.
Pediluvii.
Fotus.
Aeris.
Serum lactis.
Ex aceto.

γ. Stimulantia.

Calor eximius.
Contrayerva.
Serpentaria.
Infusa calida.
Menthæ.
Macis.
Melissæ.
Calendulæ.
Salviæ.
Caryophyllorum.
Scordii.
Sassafræ.
Cinnamomi.
Pimento.
Zinziberis.
Marjoranæ.
Sinapeos sem.
Thymi.
Coriandri sem.
Serpentariæ.
Carui sem.
Alcohol.
Vinum.
Cerevisia.
Ammonia.

IV. Diuretica.

α. Diluentia.

Aqua.
Diaphoretica relaxantia.
Acidulæ.
Fructus acido dulces.
Oleraceæ.

β. Stimulantia.

1. Salina.
Alkali fixum.
——— purum.
——— carbonatum.
——— supercarbonatum.
Strontiæ solutio?
Magnesia?;
Barytes?
Sales alkalini neutri
Acida vegetabilia.
Fructus acido dulces.
2. Acria.
Alliacea.
Scilla.
Herbæ siliquosæ et siliculosæ.
Juniperi baccæ.
Apium graveolens.
——— petroselinum.
Scandex chærifolium.
Daucus sylvestris. semen.
Fæniculum. semen.
Stellatæ?
Asparagus. Turiones.
Bardana?
Arum. radix?
Eryngium maritimum? radix.
Persicaria urens herba?
Seneka. radix.

γ. Narcotica.

Arnica?
Dulcamara?
Nicotiana. foliorum ustorum lixivium.
Lactuca virosa;
Digitalis!
Genista. summitates.
Alkekengi.

V. Expectorantia.

α. Demulcentia.

Saccharum.
Mel.
Extract. malvæ (pate de guimauve).
——— hordei vegetantis (malt).
Amylum.
Liquoritia.
Succi inspissati fructuum dulcium.
Caricæ.
Uvæ passæ.
Gluten farinæ (bran).
Gelatina.
Icthyocolla.
Conserva cynosbatum.
Gummi arabicum.
——— tragacanthæ.
——— cerasorum.
Lini semen.
Mucilago seminis cydonii.
Sapo.
Expectorantia demulcentia.
Oleum expressum olivæ.
——— amygdylarum.
——— semini papaveris.
——— cacao.
Tussilago.
Petasites.

β. Refrigerantia.

Succi spissati ribis nigri et rubri.
Conserva lujulæ.
Pruna gallica et sylvestria.
Fructus acido dulces.
Limonum succus.
Nitrum.
Acetum.
Vapor aceti cum aqua calida.

γ. Relaxantia.

Aquæ vapor.
Emetica nauseosa.
Ipecacuanha.
Opium.
Digitalis.
Nicotiana?
Hydrogenium. gas?
Seneka. radix.

δ. Stimulantia.

Balsama, q. v.
Benzoinum?

Gum ammoniacum !
—— myrrhæ.
—— asa fœtida.
—— resinæ fœtidæ aliæ ;
Umbellatarum semina.
Angelica. radix ;
Hedera terrestris ;
Hyssopus herba.
Marrubium album.
Agrimonia ?
Pulegium.
Iris florentina.
Enula campana.
Siliquosæ.
Alliaceæ !
Scilla !
Colchicum autumnale.
Aquæ vapor imbutus.
Herbis aromaticis.
Oleis essentialibus.
Alcohole.
Oleo vini.
Æthere.
Acido nitroso.
Aer æthere, &c. imbutus.
Ammonia.
Oxygen ?

VI. Errhina.

α. *Mitiora.*
Primula veris.
Iris. radix.
Lavendula. flores.
Beta. radix. succus.
Betonica. folia.
Marjorana.
Hippocastanum. fructus.
Rosmarinus. summitates flores.

β. *Acriora.*
Asarum.
Euphorbium.
Nicotiana.
Helleborus albus.
Ptarmica. folia. flores.
Iris nostras. radix.
Pyrethrum.
Marum syriacum.
Hydrargyrus vitriolatus.

VII. Sialagoga.

α. *Secretoria.*
Hydrargyri præparationes.
Acidum nitricum ?

β. *Excretoria.*
Nicotiana.
Pyretrum.
Piper.
Caryophyllus.
Angelica.
Imperatoria.
Stavisagria. semen.
Zinziber.
Mezereum.
Mastiche ; ?

VIII. Emmenagoga.

α. *Stimulantia.*
Oxygenii gas.
Exercitatio.
Gestatio.
Frictio.
Electricitas.
Alcohol ?
Dapes lautæ.
Calor aeris vaporis vel aquæ.
Ferrum.
Oleum animale.
Balsamum peruvianum.
Petroleum.
Emetica.
Hyssopus.
Guaiacum.
Ammonia.
Argentum vivum.
Bathonienses aquæ.
Pathemata excitantia.

β. *Irritantia.*
Cathartica purgantia.
Oblectamenta venerea.
Rubefacientia.
Cantharides.
Terebinthina.
Rubia. radix ? ;
Helleborus niger.
Electricitatis impetus per pelvim.
Cucurbitulæ non cruentæ.

γ. *Antispasmodica.*
Camphor.
Sabina.
Moschus.
Castor.
Gummi resinæ fœtidæ.
Ambragrisea ?
Æther.
Pediluvia.
Semicupium.

δ *Tonica.*
Cortex peruvianus ?
Amara calida.
Lavatio frigida.
Gestatio.
Hilaritas.
Tranquilitas.
Metalla excepto plumbo.
Aquæ ferrugineæ minerales.

IX. Stimulantia.

α. *Diffusibilia.*
Calor aeris, aquæ, vaporis & solidorum calefactorum.
Oxygenii gas respiratum.
Valens materia alimentaria ex animalibus.
Exercitatio.
Pathemata excitantia.
Acria cuti applicata.
Frictio.
Ammonia.
Hydrargyri præparationes.
Aromatica.
Caryophylli.
Cinnamomum.
Balsamita.
Ginseng.
Melissa.
Nardus celtica & indica.
Macis.
Capsicum annuum.
Myristica nux.
Canella alba.
Piper cayennensis.
Pimento.
Piper album & nigrum.
Capsicum.
Zinziber.
Cubebæ.
Cortex winteranus.
Cardamomum minus.
Cassia lignea.
Grana paradisi.
Aurantium & limon. cortices.
Aromaticorum olea essentialia.
Balsama.
Peruvianum.
Gileadense.
Copaibæ.
Canadense.
Terebinthinæ.
Gum resina styracis.
———— euphorbii.
———— benzoe ;
———— myrrhæ ;
Scordium. folia.
Radices.
Galangæ.
Zedoariæ.
Calami aromatici.
Serpentariæ.
Ari.
Sarsaparillæ.
Chinæ.
Contrayervæ.
Pulsatillæ nigricantis.
Verticillatæ. folia & flores.
Melissa.
Calamintha.
Lavendula.
Dictamnus creticus.
Origanum.
Marjorana.
Rosmarinus.
Marum syriacum.
Chamædrys.
Betonica.
Mentha sativa & piperitis.
Menthastrum.
Mentha gentilis Lin.
Nepeta.
Pulegium.

Hedera terrestris.
Hyssopus.
Thymus.
Serpillum.
Salvia.
Satureia.
Verticillatarum. olea essentialia.
Umbellatæ. semina.
Anethum.
Anisum.
Angelica.
Carui.
Coriandron.
Cuminum.
Fœniculum.
Pimpinella.
Ligusticum.
Imperatoria.
Seseli montanum.
Daucus sylvestris & creticus.
Umbellatarum gum resin fœtidæ.
Asafœtida;
Galbanum;
Opoponax;
Siliquosæ.
Sinapi semen.
Raphanus rusticanus. radix.
Cochlearia hortensis. folia.
Alliaria.
Lepidium.
Eruca. semina.
Napus dulcis. semina.
Erysimum.
Thlaspi. semen.
Nasturtium aquaticum.
Cardamine. flores.
Alliacea—Spathaceæ.
Allium.
Cepa.
Porrum.
Coniferæ. succi spissati.
Terebinthina vulgaris & veneta.
Thus.
Olibanum gum resina.
Juniperus baccæ.
Euphorbiæ.
Esula.
Lathyrus.
Cataputia.
Peplus.
Tithymalus.
Mezereum.
Flammula Jovis.
Sedum acre.
Ladanum.
Liquid ambar.
Gum elemi.

β. *Toxica.*

Natron.
Sal marinus.
Cantharides!
Pix Burgundica.
Sabina. folia.
Anacardium orientale & occidentale.
Moxæ urentis flamma.
Ranunculus folia. radix.
Daphne laureola.
Iris palustris. succus.
—— radix.
Stavisagriæ. semen.
Persicaria urens.
Urtica. folia.
Cevadilla.
Toxicodendron.
Arthanita. radicis succus.
Liliaceæ.
Siliquosæ.
Kali purum.
Ammonia pura.
Calx viva.
Acida mineralia.
Sales metallici.
Butyrum antimonii!
Ærugo Æris!
Cuprum vitriolatum!
Hydrargyrus muriatus.
Argentum nitratum!
Oxyda.
Cupri.
Hydrargyri.
Arsenici!
Verberatio.
Urticatio.

γ. *Indirecta.*

Vinum.
Cerevisia.
Alcohol!
Olea empyreumatica!
Æther!
Oleum alcohol vini.
——— dulce gas olefiantis.
Papaveris succi.
Lollium temulentum.
Cocculus indicus.
Kaad arboris arabici summitates.
Haschich. folia arboris arabici.
Hyoscyamus physalodes.
Peganum harmala.
Agaricus muscarius.
Rosmarinus sylvestris.
Achillæa millefolium.

X. Refrigerantia.

Sales neutri.
——— terrei; ?
Acida vegetabilia nativa.
—— fermentatione orta.
Fructus acido dulces.
Acetosa.
Acetosella.
Cathartica lenitiva.
Emetica nauseosa.
Frigus.
Materia alimentaria imbecilla.
Sanguinis missio.
Arteriarum sectione.
Venarum sectione.
Hirudinum vulneribus.
Cucurbitulis cruentis.
Aquæ frigidæ potus.
Plumbi præparationes.
Stimulorum abstractio & evitatio.

XI. Antispasmodica.

α. *Fœtida.*

Fossilia.
Ambragrisea.
Succinum.
Petroleum.
Bismuthum.
Vegetabilia.
Ruta.
Sabina.
Aristolochia;
Artemisia;
Atriplex olida.
Cardiaca.
Matricaria.
Gummi.
Asafœtida.
Galbanum.
Opoponax.
Tacamahac.
Camphor.
Pæonia. radix.
Valeriana. radix.
Fuligo ligni.
Animalium humores.
Castor.
Moschus.
Zibethum.

β. *Sedantia*, q. v.
γ. *Stimulantia*, q. v.
δ. *Emollientia*, q. v.
ε. *Demulcentia*, q. v.
ζ. *Tonica fossilia*, q. v.

XII. Tonica.

α. *Amara calida.*

Cincona. cortex. rubra & flava.
Angustura. cortex.
Swietenia. cortex.
Eleutheria. cortex.
Aurantium. cortex.
Canella alba.
Quassia amara.
Picrania amara. lignum. Wright.
Rhodium lignum.
Arnica.
Columba. radix.
Kursuta. radix.
Angelica. radix.
Galanga.
Zedoaria.
Iris.
Curcuma.
Serpentaria virginiana.
Calamus aromaticus.
Aristolochia tenuis.
Aureliana canadensis.
Centaurium minus.
Aloes.

β. Amara narcotica.
Faba St. Ignatii.
Amygdala amara.
Lupulus flores.
Chamomælum. flores.
Helleborus niger. radix.
Hippocastanum fructus.
Absynthium Romanum & maritimum ?
Santonicum. semen.
Abrotanum folia ?
Carduus benedictus. semen.
Genista. cacumen.
Hypericum flos.
Tanacetum flos & herba.
Trifolium paludosum.
Marubium herba.
Myrrha.

γ. Fossilia.
Alumen.
Acida mineralia.
Antacida, q. v.
Metalla.
Ferrum.
Zincum.
Stannum.
Argentum.
Arsenicum.
Cuprum.
Bismuthum.

δ. Astringentia.
Quercus. cortex.
Gallæ.
Fraxinus. cortex.
Lignum campechense.
Terra Japonica.
Gum kino.
Sanguis draconis ?
Acacia succus.
Uva ursi.
Viscus quercinus.
Myrtus.
Plantago.
Millefolium.
Balaustia.
Senticosæ.
Rosa rubra petala.
Tormentilla. radix.
Agrimonia.
Stellatæ.
Rubia. radix ?
Aparinæ ;
Galium ;
Vaginales oleraceæ.
Rhaponticum.
Bistorta.
Rhabarbarum.
Hydrolapathum & oxylapathum.
Rhabarbarum monachorum.
Cryptogamia.
Felix florida.
Trichomanes.
Equisetum.
Muscus pyxidatus.
Fructus.
Cydonia.
Pruna sylvestria.
Sorba.

XIII. Sedantia.

α. Refrigerantia, q. v.

β. Narcotica.
Solanaceæ.
Digitalis.
Belladonna.
Dulcamara.
Solanum.
Mandragora.
Hyoscyamus.
Nicotiana.
Stramonium.
Umbellatæ.
Conium.
Cicuta.
Fœniculum aquaticum.
Œnanthe crocata.
Opium.
Passiflora rubra.
Aconitum.
Flammula Jovis.
Lactuca ;
——— virosa !
Taraxacum.
Laurocerasus.
Laurus.
Colchicum ?
Nymphæa.
Rhododendron.
Liquor anodynus Hoffmani.
Æther.
Stimulantia indirecta.
Antispasmodica fœtida.
Coffeæ baccæ empyreumaticæ.
Thea.
Astringentia?

XIV. Attenuantia.

α. Diluentia.
Aqua.
Aquæ minerales.

β. Solventia.
Alkali.
Sales neutri.
Sapones.
Dulcia ?
Diæta insalubris.

XV. Inspissantia.

Acida mineralia ?
Alcohol ?
Astringentia ?
Evacuantia III IV ?
Demulcentia.
Tonica.
Siliquosæ.

XVI. Alterantia.

Diaphoretica Diapnoica.
Diæta.

XVII. Demulcentia.

α. Mucilaginosa.
Asperifoliæ.
Consolida major.
Cynoglossum.
Pulmonaria.
Semina.
Cucurbitæ.
Citrulli.
Cucumeris.
Melonis.
Papaveris.
Gummi.
Icthyocolla.
Amylum.
Emollientia.

β. Dulcia.
Mel.
Uvæ passæ.
Ficus.
Cynosbatus.
Glycirrhiza.

XVIII. Antacida.

α. Astringentia.
Creta.
Osteocolla ; ?
Cancrorum chelæ & oculi ;
Cornu cervi ustum ?
Corallium rubrum ;
Ovorum testæ.
Ostreorum testæ.
Margaritæ :
Materia alimentaria valens.

β. Laxantia.
Alkali fixum & volatile ;
Sapo.
Tonica amara calida.

δ. Demulcentia.
Icthyocolla.
Amylum.
Gummi.

XIX. Antalkalina.

Acida vegetabilia.
——— mineralia.
Acetosa.
Acetosella.
Fructus acido dulces.
Vinum.
Diæta imbecilla.
Tonica astringentia.

XX. Antiseptica.
Acida vegetabilia & mineralia.

Diæta ex vegetabilibus.
Fructus acido dulces.
Siliquosæ herbæ & radices.
Semiflosculosæ herbæ.
Umbellatæ; ?
Alliaceæ.
Legumina.
Brassica fermentatione acida.
Byne.
Vinum.
Alcohol.
Tonica amara calida & astringentia.
Opium; ?
Olea essentialia.
—— empyreumatica?

XXI. Emollientia.

α. Oleosa.

Oleum olivæ.
——— seminis papaveris.
Spermaceti (adipocere).
Cremor & butyrum lactis.
Palmæ oleosæ.
Cocos butyracea.
Butyrum.
Axungia & sevum animalium.
Sapo.
Cera.

β. Farino-mucilaginosa.

Farina lini.
——— cannabis.
——— cydoniorum.
——— fœnugræci.
——— psilli.
Amylum.
Malva.
Althæa.
Branca ursina.
Melilotus.
Saponaria.
Liliorum alborum radices.
Cepæ.
Gummi arabicum.
———- tragacanthæ, &c.

γ. Aquosa.

Aqua & vapores aquosæ.
Atriplex.
Beta.
Bonus Henricus.
Spinacea.

XXII. Erodentia.

α. Azoetica.

Sabina.
Euphorbia.
Gallæ.
Saccharum ustum.
Cevadilla.
Ranunculus. folia & radix.
Tithymelea.
Daphne laureola & mezereum.
Persicaria urens.
Flammula Jovis.
Toxicodendron.
Arum.
Arthanita.
Cantharides.

β. Solventia.

Argentum nitratum.
Antimonium muriatum.
Cuprum vitriolatum.
Hydrargyrus muriatus.
Calomelas.
Ærugo.
Arsenicum album.
Hydrargyrus nitratus ruber.
Calaminaris.
Kali purum.
———— cum calce viva.
Barytes?
Strontia?
Acida mineralia.
——— cum alkali alternata.
Unguentum hydrargyri nitrati.
———— Alynois, viz. axungia cum acido nitrico.

XXIII. Astringentia.

Tonica astringentia & fossilia.
Externa
Farina secalis avenæ & tritici.
Linamentum siccum.
Araneorum telæ.
Lycoperdon.
Agaricus chirurgorum.
Vitriolum zinci cupri & ferri.
Plumbum acetatum.
Oleum terebinthinæ?
Erodentia!
Frigus.
Alcohol.

XXIV. Alexiteria.

Emollientia.
Emetica evacuantia.
Antidota.
Arsenici.
Kali sulphuratum.
Opii.
Acetum?
Coffea;
Castoreum;
Alcohol.
Lavatio frigida.
Ammonia?
Coffea.
Acidi carbonici gazeosi.
Lavatio frigida.
Ammonia.
Aeris nitrosi.
Alkalina.
Aeris azotici.
Alcohol.
Oxygenei gas.

XXV. Lithontriptica.

Sapo.
Kali, præcipue purum.
Mel;
Calx viva.
Amara calida.
Uva ursi.

XXVI. Anthelmintica.

α. Venenata.

Dolichos pubes leguminis.
Geoffrea. cortex.
Spigelia. radix.
Sabina. folia.
Lonicera marilandica. radix.
Ruta. folia.
Santonicum. semen.
Tanacetum. folia. flores.
Mezereum. cortex.
Nicotiana. folia. semen.
Filix mas. radix.
Abrotanum herba.
Absynthium. folia.
Nux juglans putanem & extractum.
Epidendrum claviculatum.
Anthora radix.
Abrotonum fœmina.
Asclepias curassavica.
Annonæ muricatæ sp. quatior.
Jatropha gossipifolia sp. tres.
Melia azedurach.
Helleborus fœtidus!
Spigelia marilandica.
Atropa mandragora. radix.
Lobelia. flores.
Oleum.
Hydrargyrus muriatus mitis.
Hydrogenium sulphuratum (gas).
Aquæ minerales sulphuratæ.
Aqua Harrogatensis.
Aqua calcis.
Barytis?
Marina.
Nicotianæ fumus.
———— infusa pro enemate.
Stannum.
Aurum musivum.
Cum hydrargyro.
Oleum terebinthinæ.
Tonica amara calida & fossilia.
Astringentia narcotica.
Carica papaya. semen.

β. Evacuantia.

Cathartica drastica.
Aloes.
Emetica;
Vitriolum zinci.

From such an arrangement of the materia medica, and this subdivision of the classes, the young student, or the more discriminating inquirer, will, we think, find his labour greatly facilitated, as he will not be obliged to range through a muster roll of names to attain the object of his search. It remains only to explain the foundation of these subdivisions.

EMETICS, though a class far from numerous, and of simple operation, yet require some distinctions. We do not always require full vomiting, and we sometimes want this action to produce a very sudden and violent change. It may be supposed that all emetics, in a less dose, will nauseate, or in a more active one give a sudden and violent shock; but ipecacuanha seldom produces sickness without vomiting, and squills will very seldom occasion a complete action of the stomach. Ipecacuanha also acts with no more violence in a large than a small dose, and mercurius vitriolatus is severe in its operation even in a small one.

Of CATHARTICS and the foundation of the distinctions we have already spoken; and these lead us to remark another advantage of the subdivisions, a more ready reference to the proper remedies in other parts of the catalogue. Drastic purgatives would be injurious as diuretics in nephritis, and mild ones very inefficient as anthelmintics.

There is certainly a very striking, and, in a practical view, a very important, distinction between the relaxant and the stimulant DIAPHORETICS. If we have been right in our views under this article, the *diapnoica* equally merit a selection. A view of the remedies included in the list will, at least, show the propriety of the distinction. It appeared, indeed, so strong, that in the first sketch of this article, made for a very different purpose, twenty-five years since, the alterantia were included in this class.

The *stimulant*, the *diluent*, and the *narcotic* DIURETICS are equally distinguishable. Perhaps the *salina* are not properly arranged with the stimulantia; but we were determined by the fact, that nitre, and some of the other neutrals, in large doses, produce pain in making water. They are, however, distinguished; the strontia and barytes are inserted with doubt and hesitation.

The division of the extensive and doubtful class of EXPECTORANTS is made from the nature of the medicines recommended. The first, however, act chiefly on the fauces; the second and third on the fever, except where employed in the form of gas or vesicular vapour. The fourth contains only the real expectorants; and of the whole subdivision there are few strictly such. Some of these are slightly astringent, and should have been separated to have marked them as frequently injurious, or at least only useful in a relaxed state of the glands. Of these the agrimony marked with a note of interrogation is the most hurtful; but the whole of the group must be used with caution when inflammation exists.

Dr. Cullen used to distinguish the ERRHINES according to their effects as irritants and evacuants; but we found it difficult to follow the idea on an extensive scale; and the whole, at last, seemed resolvable into their less or greater acrimony. At least this distinction is abundantly sufficient to assist our practice.

The division of SIALAGOGUES is sufficiently obvious. There is but one certain internal remedy of this kind, mercury. Yet, from the late experiments with the nitric acid in syphilis, there is some reason to suspect that it may have a similar power. The experience of others, however, has scarcely supported the suspicion, and it is consequently inserted with the mark of doubt. In the other list, though almost all the stimulants might have been inserted, those usually preferred are only enumerated.

In the class of EMMENAGOGUES it was necessary to distinguish those which stimulate the system in general, from those whose irritation is confined to the uterus, or whose action is of a different kind. The two first orders contain the general and topical stimulants: the two next the antispasmodics and tonics. All the medicines included in this class are employed, and the distinction will be amply explained under the article MENSES.

The STIMULANTIA have occasioned no little difficulty in the arrangements. The diffusibilia and the topica are chiefly distinguished in the Brunonian works; but as we have rejected the principles, we cannot be expected to adopt their consequences. We could not, however, wholly avoid them. Some stimulants are very general in their action, others confined to particular parts. Yet they pass into each other by such imperceptible shades, that we found it difficult to draw the line, and have passed with sufficient accuracy from the more general to the more partial stimulants. The *topica* are those chiefly of topical application. The insertion of the order *indirecta* appears to lean to the Brunonian doctrines, and we have explained their action to be of a sedative nature, producing an unequal excitement, and, in consequence, an apparent stimulus. Yet a work of this kind must not only contain the author's own opinions, but those of others: above all, it is necessary to point out that some of these medicines are employed with success as active stimulants.

The REFRIGERANTIA are few and simple. The ANTISPASMODICA, as not connected with general effects, ought perhaps not to have been admitted as a class; but some complaisance is due to former authors, and the first subdivision cannot be referred to any general power. The subdivisions which follow sufficiently show that the power of destroying spasm very commonly depends on its cause.

TONICS are also with difficulty distinguished in their several subdivisions. The natural arrangement is into bitters joined with astringency, pure bitters, and the more pure astringents. Yet it is not easy in the practice, and we have preferred uniting the warm with the purer bitters, and distinguishing them from the narcotic bitters, for reasons which will be obvious on perusing the article AMARA. The subdivision *fossilia* requires an apology, since it does not point out their peculiar properties; but we could find no suitable appellation, as they have no sensible operation. The more pure astringents follow, which are also tonics.

The SEDANTIA are the *refrigerantia* or *narcotica*, and this division requires no remark. The ATTENUANTIA are merely diluents, or such medicines as enable the serosity to dissolve a larger proportion of the gluten. The *dulcia* are added on the authority of Dr. Stark, who confined himself to a saccharine diet, and, after some time, experienced all the symptoms of sea scurvy. Yet

these experiments must be admitted with hesitation, as his constitution, from a series of wanton trials, was previously much debilitated. Diæta insalubris, more strictly unalimentary, is founded on the instances which have occurred of the symptoms of scurvy from such diet; but it is not likely to be employed as a remedy.

The remedies included under the INSPISSANTIA show that it is highly improbable such a change could be produced by medicines. The remedies for scurvy and the tonics are the only probable means of correcting too great tenuity.

The ALTERANTIA contain, as already hinted, the *diaphoretica diaphnoica;* and the only other remedy which we were able to introduce is *diæta*.

The subdivisions of the DEMULCENTIA and ANTACIDA are sufficiently obvious, and not very important, perhaps not chemically correct; but affected minuteness, or extreme accuracy, which would multiply trifling subdivisions, is certainly no improvement. The ANTALKALINA and ANTISEPTICA admit of no subdivisions; and those of the EMOLLIENTIA are sufficiently obvious.

The ERODENTIA are naturally divided into the *azoetica*, which destroy the life of a part, and the *solventia*, which consume it. Many of the latter act as azoetics; a term borrowed from the excellent syllabus of Dr. G. Pearson: but it is necessary only to point out the medicines usually employed with either view.

The ASTRINGENTIA are chiefly external remedies; for the internal astringents are enumerated, as already explained, under tonics. The ALEXITERIA, the antidotes, are chiefly those enumerated by authors. The only novelty is the antidote of nitrous air, inserted in consequence of a case lately recorded, where death ensued from a person having copiously inhaled the fumes of nitrous acid from a bottle bursting. From the symptoms it appeared that the oxygen had been separated in the system, and the acid appeared in every excreted fluid. Alkalis, in the first instance copiously taken, would probably have succeeded; and the best form would have been that of soap. The LITHONTRIPTICS and ANTHELMINTICS are those usually enumerated. The last class is peculiarly full, as it has been supposed that we have few medicines of this kind, and of uncertain efficacy. The fact is, that diseases are often attributed to worms when none exist, or when they are not in the slightest degree injurious.

We have thus completed a catalogue of the materia medica on a new plan, more full and complete, we trust, than any yet communicated to the public in general. Its errors may be numerous; but they have not arisen from want of attention, of labour, or observation. Many large works have perhaps cost less pains than the compilation of these few pages.

Murray Apparatus Medicaminum; Gmelin's Continuation of Murray; Lewis, Cullen, Geoffroy, Linnæus, Bergius, Spielman, Vogel, and Cartheuser's Materia Medica; Duncan's New Edinburgh Dispensatory; Dr. G. Pearson's very extensive and valuable Syllabus.

MATE'RIA MERCU'RII SA'LIS. See CIRCULATUM.

MATERIATU'RA. INTEMPERATURE. Castellus.

MATHÆ'I PI'LULÆ. MATHEW'S PILL. Starkey was its author, but it was sold by Mathews for him as an universal medicine. It consisted of the soap of tartar, black hellebore, opium, &c.

MATLOCK WATERS are found at the place from whence they take their name in the county of Derby, where there are a great number of warm springs, which, according to Dr. Short, acquire their heat by passing through a bed of lime, and what he calls *croil stone*. The water of the bath, and all the other tepid springs, is exceedingly clear, has no steam except in cold weather, and does not throw up bubbles: it is about a drachm in the pint lighter than common water.

A gallon of this water contains about thirty-seven or thirty-eight grains of solid matter, twelve or thirteen grains of which are sea salt, with vitriolated magnesia, the rest calcareous earth, which after calcination, contained some particles attracted by the loadstone. This water seems, therefore, to be a light chalybeate of a tepid temperature, containing but a small portion of solid matter, and is used in the diseases for which Bristol waters have been recommended; externally for the gout, rheumatism, and other complaints, where a tepid bath has been found serviceable. It is drunk from one to four or five pints in the day.

MATRA'CIUM. See CURCURBITA.

MA'TRES. The two membranes of the brain, the PIA and DURA MATER, supposed to be the origin of all the other membranes. (See DURA MATER.) In botany, the artemisia is the *mater herbarum;* in chemistry quicksilver is the *mater metallorum*.

MATRICA'LIA, (from *matrix*). Medicines appropriated to disorders of the uterus.

MATRICA'RIA; *parthenium*, *febrifuga*, *metricaria*, from *matrix*. COMMON FEVERFEW, FEATHERFEW, or FEBRIFUGE, *matricaria parthenium* Lin. Sp. Pl. 1255.

This plant hath firm branched stalks and roughish leaves, each of which is composed of two or three pairs of indented oval segments, set on a middle rib, with an odd one at the end, cut into three lobes; the flowers stand on the tops in the form of an umbel, consisting each of a number of short white petals set round a yellow disk, followed by small striated seeds. It is perennial, grows wild in hedges, in cultivated places, and flowers in June.

The leaves and flowers have a strong, not agreeable, smell, with a bitterish taste, both which they communicate to water and spirit. On distilling a large quantity of the herb, a yellowish strong scented essential oil is found on the surface of the water: rectified spirit carries off but little of its flavour in evaporation. The spirituous extract contains a large share of the virtues of the plant, which is esteemed as a warm aperient, carminative, and bitter. It resembles, in sensible qualities and botanical affinities, the camomile, and keeps its virtues for several years. Its oil is called *ol. partheniacum*. See Raii Historia; Lewis's Materia Medica; Neumann's Chemical Works.

MATRISY'LVA. See ASPERULA and CAPRIFOLIUM.

MATRIX, (from *mater, the mother*). See UTERUS, and MEDITULLIUM.

MATURA'NTIA, (from *maturo, to ripen*). See SUPPURANTIA.

MAU. See MANGA.

MAUROMA'RSON. See MARRUBIUM.

MAXI'LLA, (from *μασσω, to chew,*) *mandibula.* The CHEEK or the JAW. See BUCCÆ.

MAXI'LLA INFERI'OR, *mela.* The LOWER JAW is situated at the lower part of the face; divided into the chin, sides, and processes. The chin is the anterior middle part; the sides are continued beyond the chin, till the bone, bending upwards, forms the processes. On the middle part of the chin externally there is a transverse ridge, on each side of which the quadrati, or depressores labii inferiores, and the elevatores labii inferiores, hollow out the bone, and are lodged in the furrow. On the internal part of the chin are three protuberances, to the uppermost of which the frænum linguæ is tied. From the middle protuberance the genioglossi arise; and from the lowest the genio hyoidei: below the last the digastric muscles are attached to two sinuosities; and at the lower and anterior external part of each side of the maxilla inferior there is a small protuberance, whence the depressor labiorum communis proceeds: and nearer the upper edge is a longitudinal ridge, where the buccinator is inserted; inwardly, towards the superior ridge of each side, is a ridge, whence the mylo hyoidei rise. The lower edge of the chin and sides are smooth, and are called the base of the lower jaw, the extremities of which are named the angles: the outer surface of these angles hath several inequalities where the masseter is inserted, and the inner surface where the pterygoideus internus is attached.

The anterior sharp process is called *coronoides apophysis maxillæ*, round which the temporal muscle is inserted; and the posterior process is called *condyloid*, which is received into the glenoid cavity of the os temporis. The upper part, where the teeth are inserted, is called the *alveolar process.*

The foramina are two on each side, one near the root of the processus internally, where a branch of the fifth pair of nerves with an artery and a vein enters; the other, external, at the edge of the chin, where the nerve and the vessels come out.

MAXI'LLA SUPE'RIOR, the UPPER JAW, is composed of thirteen bones, viz. the ossa nasi, unguis, malarum, maxillaria, palati, spongiosa inferiora, or turbinata inferiori, and the vomer.

The diseases of the maxilla are chiefly those of the sinuses, and in these worms have been sometimes found; but they are more commonly receptacles of purulent matter. They are sometimes the seat of fistulous ulcers, occasionally of a destructive fungous or cancer, and often of a caries, which happens in some instances after measles or small pox. Matter is let out by drawing the first or second molar tooth, and we recollect, among Gooch's cases, one in which it was discharged by puncturing the cheek. In the Ephemerides Naturæ Curiosorum is an instance of a total separation of the lower jaw which the man survived. See LUXATIO and FRACTURA.

MAXILLA'RES SI'NUS, (from *maxilla, the jaw*). The MAXILLARY SINUSES are lined with a glandular membrane, which secretes a mucilage very different from that of the joints.

MAXILLA'RES GLA'NDULÆ. The MAXILLARY GLANDS. Each is placed between the angle of the lower jaw and the os hyoides, and fills up the space between the belly of the digastric muscle and the pterygoideus internus at the angle of the jaw. The anterior edge lies over the muscle called *mylo hyoidæus*, from whence arises its duct, running close under the membrane of the mouth, and by the side of the sublingual. Each opens at an angle, close by the frænum of the tongue, just behind the incisores. The duct runs from its upper anterior part, on the outside of the genioglossi, and the inside of the sublingual, and opens near the frænum linguæ.

MAXILLA'RIA SUPERIO'RA O'SSA. These form the greatest part of the upper jaw. That long process, which, rising from its superior and anterior part, grows smaller as it proceeds upwards, to make the side of the nose, is called the nasal process. The alveolar process is that spongy part where the sockets for the teeth are formed. The palatine process forms a great part of the basis of the nostrils, and the roof of the mouth. The orbiter process is very irregular: from its superior and anterior part, to near the extremity of the nasal process, a ridge proceeds which forms about one third of the outward circumference of the orbit. The bodies of the superior maxillary bones are entirely hollow, and in each is a large sinus, called ANTRUM HIGHMORIANUM, q. v.

MAXILLA'RIÆ ARTE'RIÆ. The MAXILLARY ARTERIES. The external artery, also called the genial and angular artery, is a branch from the external carotid. It runs to the basis of the lower jaw, close to the attachment of the masseter, and gives a branch to the maxillary gland. Passing over the lower jaw, it goes upon the buccinator, gives a branch to the lower lip, which anastomoses with that on the other side, and is continued to the upper lip, where it also anastomoses: there they are called labial arteries. The external maxillary then gives off branches to the nose, goes to the inner canthus of the eye, is lost upon the forehead, communicating, in that part, with the temporal artery.

The internal maxillary artery is a branch from the external carotid, rising at the origin of the temporal, and distributed to both the jaws: it is very much convoluted, and gives branches to the deep seated parts; one branch runs through the lower jaw, called the inferior maxillary artery; but the main trunk runs up to the foramen, lacerum inferius, at the bottom of the orbit, winds round the antrum, and sinks into the nose behind the upper maxillary bone, and before the pterygoid process of the os sphenoides, to be lost on the inside of the nose.

MAXILLA'RIS INFE'RIOR NE'RVUS, *ramus inferior*, is the third branch of the fifth pair of nerves. It passes through the foramen ovale of the os sphenoides, where it gives off several branches to the muscles of the lower jaw, then throws a remarkable branch through the lower jaw to supply the teeth; which comes out at the anterior part of the channel, and branches upon the lip. From this a capital branch is detached to the tongue, called the lingual, which runs between the two pterygoid muscles, and passes to the top of the tongue, going with the duct of the maxillary gland. From this the chorda tympani is derived. See TRIGEMINI.

MAXILLA'RIS SUPE'RIOR NE'RVUS. The UPPER MAXILLARY NERVE is the second branch of the fifth pair. It passes through the foramen rotundum of the os sphenoides, where it throws off a branch to the palate; but the trunk passes on in the sulcus of the upper

maxillary bone, goes to the upper jaw, and to its antrum. It then comes out below the orbit, and is diffused upon the face, particularly upon the nose, the upper lip, and cheek. See TRIGEMINI.

MAYS is a kind of Indian wheat. See CEREALIA.

MEA'TUS, (from *meo, to pass,*) a DUCT, PASSAGE, or any open canal. The auditory passage is the *meatus auditorius;* the Eustachian tube *meatus à palato ad aurem;* the urethra *meatus urinarius;* the ducts which convey the bile from the gall bladder to the duodenum the *meatus cystici.*

MEA'TUS AUDITO'RIUS EXTE'RNUS is the external passage to the ear, beginning at the hollow of the outer ear, and ending at the drum. It was formerly a name for the Eustachian tube. See AURICULA.

MEA'TUS CÆ'CUS. See TUBA EUSTACHIANA.

MECAPA'TLI. The American name for one of the species of sarsaparilla.

ME'CCHA, Bals. See BALSAMUM.

MECHOACA'NA A'LBA, (from *Mechoachan*, a province in Mexico, whence it was brought). *Rhabarbarum album, convolvulus Americanus, jalapa alba, bryonia alba Peruviana, mechoacan.* It is the root of an American species of convolvulus, chiefly brought from a province in Mexico; but its flower has not been so accurately described as to enable us to ascertain strictly to what genus it belongs. In the later works of Linnæus it has been referred to the genus convolvulus, with the trivial name of *mechoacana*, but with no peculiar precision. It is cut into thin transverse slices, like jalap; but is larger, whiter, and softer. This root was first brought into Europe in 1524, as a mild cathartic, which, having but little taste or smell, was thought not to offend the stomach; but the common jalap hath superseded its use. The *phytolacca decandria* Lin. Sp. Pl. 630, furnishes the *Canadian mechoacana.* See Raii Historia; Tournefort's Materia Medica.

MECHOAC'ANA NI'GRA. A name of the jalap in common use. (See JALAPA.) The Brasilians call it *jetecucu.*

ME'CON, (from μηκος, *bulk;* from the largeness of its head). See PAPAVER.

MECO'NIS and MECO'NIUM, (from μηκων, *the poppy*). See PEPLION.

MECO'NIO, (Syr. c.) (from the same). See PAPAVER ALBUM.

MECO'NIUM, (from the same). Opium is the juice flowing from the poppy head through artificial incisions; but meconium is the juice of the whole plant, first bruised, then pressed out. The excrement also contained in the intestines of a newly born infant, which has obtained its name from its resemblance to opium. See INFANS.

MEDE'NA. A species of ulcer. Paracelsus.

MEDE'NA VE'NA; the same with *medinensis vena.* Castellus.

MEDIA'NA VE'NA, (from *medius, middle*). A remarkable vein on the inside of the flexure of the cubit, between the cephalic and basilic veins, called by the Arabians *funis brachii.* It is frequently opened in bleeding.

MEDIA'NA CEPHA'LICA, (from the same). See CEPHALICA MEDIANA.

MEDIA'NUM, (from the same). See MEDIASTINUM.

MEDIA'NUS, (from the same). See CERVICALES.

MEDIASTI'NA, (from the same). See INFLAMMATIO MEDIASTINI.

MEDIASTI'NÆ ARTE'RIÆ, (from the same). The arteries of the mediastinum arise from the subclavian, and are spread on the mediastinum.

MEDIASTI'NÆ VE'NÆ, (from the same). The right vein of the mediastinum comes out from the trunk of the superior vena cava anterior, a little above the azygos; the left from the subclavia.

MEDIASTI'NUM, (from the same,) *medianum*, is the membrane called the pleura, which, after covering the internal surface of the chest, rises from the spine, and is reflected on each side to cover the lungs. This double membrane between each lobe divides the chest into two cavities. It is commonly said, that at the sternum there is a cavity betwixt the laminæ of the mediastinum, and that any matter may be discharged, if lodged there, by a perforation through the middle of that bone. This operation, however, if really required, would be very uncertain; for the mediastinum does not commonly terminate along the middle of the inside of the sternum, but from above, all the way down, it inclines to the left side; so that, if an instrument was thrust through the middle of the sternum, it would pass near an inch on one side of the membrane.

The mediastinum contains in its duplicature the heart, the pericardium, the vena cava, and the œsophagus.

MEDICAMENTA'RIA, (from *medicamentum, medicine,*) PHARMACY, is the art of making and preparing medicines, sometimes of preparing poison. Pharmacy hath been distinguished into *chemical* and *galenical.* The first consists of those operations in which fire was the chief medium, for the purpose of separating different ingredients of a compound, or combining different substances into one form; each supposed to differ in qualities from the body which afforded them, or from the substances thus combined. The second consisted in altering the form or texture of simples, so as to render them fit to be taken, or applied, without attempting any change in their qualities; and in uniting them in compositions of various forms, where each simple was supposed to retain its original properties. But these distinctions have been long neglected.

The operations in pharmacy may be reduced to these four kinds:

1. *Commensuration*, or the adjustment of quantities, necessary for the due administration of simple and compound medicines, as well as for the formation of those very compounds.

2. *Change of form*, or *texture*, often requisite, both for the convenient administering of simples, and forming compounds. The instances in which this is practised are for the reduction of solid cohering bodies to powder, and of those that partake both of solid and fluid into pulp; for converting salts, and other soluble bodies to fluidity; and, in other cases, the restoring them when fluid to their solid state. The several particular operations by which these changes are produced have been styled trituration, calcination, solution, exsiccation, and crystallization.

3. *Extraction* or *separation*, in a general sense, not confined to the making extracts of the gums and resins

of vegetables. The different elements of many compound bodies having qualities and powers, when separate and pure, which they are incapable of exerting when their force is suppressed by the quantity or counteracted by the repugnant qualities of the other component parts, are by this means obtained, as acid spirits, testaceous earths, &c.

4. *Composition* is either simple mixture or chemical combination. In the first the different species are intended to act, each according to its own nature, without producing any mutual change of, or alteration in, each other. But this is the less important kind of composition, as single simples will often answer the end of such composition. The second produces many efficacious remedies, which have no adequate substitutes obtained by other means; as the preparations of quicksilver, antimony, saline substances, &c. in which a new compound is produced, differing in its nature and efficacy from any of its component parts.

To execute these several intentions, a variety of methods and proper instruments are employed; hence the terms calcination, crystallization, corrosion, depuration, digestion, distillation, expression, exsiccation, fermentation, fusion, incorporation, precipitation, pulverization, solution, sublimation, &c.

The means of effecting pharmaceutic operations are of two kinds, viz. chemical and mechanical. By chemical are meant the natural media by which bodies can act on, and produce a change in, each other, not explicable from the known general properties of matter, or laws of motion. By mechanical, artificial instruments. For brevity sake in speaking of these two kinds, the first is called media, the latter instruments. See PHARMACIA.

MEDICA'MENTA EXTEMPORA'NEA, (from *medico*, *to heal*). *Magistralia*, compositions prescribed by the physician, according to the circumstances of the patient, and made up for this purpose only. A variety of these are found in some Pharmacopœias, under the title of extemporaneous medicines, and all the compounds of practice chiefly consist of them. These are the resources of ignorance and idleness; with these the fashionable practitioner provides himself, and prescribes to the name of a disease, with little knowledge of its nature or that of the remedy. To discountenance such impositions on a credulous public, who contentedly employ every one who calls himself a physician, we have seldom added formulæ, and shall not insert any, unless stronger reasons than at present occur to us should be offered. See FORMULÆ.

MEDICAMENTO'SUS LA'PIS, (from *medicamentum*, *medicine*). The MEDICINAL STONE, which consists of litharge bole and alum, of each ℔ ss. colcothar of vitriol ℥ iij. vinegar ℔ ij. m. evaporated to hardness, formerly used in collyria, &c. as an astringent.

MEDICAME'NTUM, (from *medeor*, *to heal*). A MEDICINE has been styled any substance capable of changing the state of the solids and fluids of the human body, so as to prevent the increase of disease, or restore health. This definition is, however, both erroneous and imperfect. Terror will prevent a fit of epilepsy, or the attack of an intermittent. Sailing will produce a salutary discharge from the stomach, while neither changes the state of the solids or fluids. It is, indeed, by no means clear that any medicine, except those employed in the cure of chronic diseases, produces any considerable change in either; and we have found, when we spoke of the arrangement of the articles of the materia medica, that medicines chiefly altered the functions of the body, or the balance of the circulation. The definition seems to have been chiefly intended to distinguish medicines from aliment on the one side, and from poisons on the other. The former was supposed to add to the bulk, or to repair the unavoidable losses; the latter to destroy life. Aliment, however, properly regulated, often removes diseases and the most virulent poisons in smaller doses are very useful remedies; so true is the canon of Linnæus, that "medicines differ from poisons, not in their nature, but their doses."

Though we have treated of the different methods of investigating the power of medicines, it must still be acknowledged that we owe our knowledge of the most powerful remedies to chance, or to the pursuit of objects very different from the results which have been experienced. Chemistry, it is said, has elaborated many remedies, but discovered none. Yet in the pursuit of the imaginary elixir, to prolong life to an indefinite term, some medicines have been discovered, though among these we can neither reckon mercury nor antimony, whose powers were elicited by chance. A happy boldness, or a random experiment, has often added essentially to our stock; but inductive reasoning has only contributed to correct the hasty views of the indiscreet, or to regulate the eagerness of the too sanguine experimentalist.

Modern practice employs few remedies. Yet, as we have more than once shown, simplicity of prescription is the delusive meteor that has sometimes led us astray. (See COMBINATION OF MEDICINES.) In general, however, we agree with an author, whose name has escaped us, that long formulæ are proofs of either ignorance or deceit.

It has been doubted whether there are any specific medicines. As usual, the question requires only to be explained to approach at least to a decision. If it be meant whether a specific stimulus exists, the position must be granted. If, then, there be such, the medicine which possesses this stimulus is, to a certain degree, a specific; but if it be meant whether any medicine can cure a disease by such peculiar inherent powers as are neither warranted by its general properties, or our knowledge of the nature of the complaint, we must hesitate in our answer. The number of supposed specifics, by a more careful investigation, have not been found peculiarly powerful in the disease to which they were supposed to be exclusively adapted; and we have only left on the list the Peruvian bark and mercury in intermittents and the lues venerea. The former, however, has now lost this proportion of its credit, since other tonics, particularly the arsenic, is found of equal or superior efficacy. The pretensions of mercury to the character of a specific we have lately investigated (see LUES); and when we consider the history of the numerous individuals supposed to belong to this class, we are disposed to conclude, that, as usual, ignorance is the parent of our admiration. Had we any medicine of efficacy to compare with mercury we should discover its relations, and, of course, the cause of its general utility. We have made some steps in this inquiry in the article just quoted.

Universal medicines are now only seen in the columns of a newspaper, or a quack bill. The numberless inconsistent qualities attributed to a patent medicine would almost fix it in this rank; but its real utility is soon seen, if we trace the leading diseases for which it is recommended; and we then find it a common medicine decorated with a pompous title, if it be not an inefficient compound, whose sole merit lies in its name, in its extravagant recommendations, and the credulity and folly of those whose abilities, if exerted, would soon point out the fallacy. See QUACKS and QUACK MEDICINES.

The various distinctions of medicines into general and topical, curative, palliative, or preservative, are sufficiently obvious, though little attended to at present, as the same medicine is now often used with each view. The bark, for instance, is a palliative in restraining the colliquative sweats in hectics, a preservative during the progress of a highly putrid epidemic, and a curative in intermittents.

MEDICI'NA, (from *medeor, to heal*). MEDICINE. The history of the science which is the chief object of our work, must necessarily detain us for some time; yet, to avoid an article of an extremely disproportioned length, we have broken it in a manner already explained, and shall, in the references at the end, collect the scattered limbs, so as to form one whole. At present, we must examine the history and the progress of medicine; and if, for ages, we find reason to lament its slow advance towards improvement, if we sometimes find it stationary, and occasionally even retrograde, the causes will furnish abundant proof of the imbecility of our boasted reason, of the vast extent of science, of the limited powers of human intellect.

It would be idle to trace at length the probable origin of medicine, or determine whether it be the result of random experiment, of imitation from observing the instinct of brutes, or of divine inspiration. Disease is the lot of humanity; and remedies, or at least attempts to relieve, must be coeval with disordered functions. The obvious means of procuring relief was to expose the patient in the streets, and to obtain, if possible, the advantage of greater sagacity, or more extensive experience; and when either a natural sagacity and opportunities of observation were combined with a ready recollection, they constituted the physician of rude ages, as they often constitute one at the present moment. Priests, as possessing greater leisure and more frequent opportunities of observation, were probably the first medical practitioners, and the most successful physicians were soon deified. Superstition gradually mixed in the scene, and dreams in the temples of the gods, or incantations and amulets, soon corrupted the few lights which experience had suggested. Yet however superstition or design may have corrupted the fountains, the stream was preserved with tolerable purity by the means of the temples; for these were the receptacles of the earliest records, the histories of cases recorded by the patients, and from the temples of Æsculapius Hippocrates is supposed to have drawn his best observations. We owe only to a sarcasm of a later era one of the remedies of the sacred fane, viz. the fat of pork in consumptive cases; and, of all animal foods, this is perhaps the least injurious in such cases.

To the Egyptians medicine, with every other science, is said to be chiefly indebted; and we are told, with a triumphant confidence, of their *Thoth*, who was probably only an allegorical personage, and of *Isis*, perhaps only a regal title. *Horus* the son of Isis, the Apollo of the Greeks, was seemingly a real person; but of his acquisitions in medicine we know nothing except from the claims of his adopting parents; who have mixed them too copiously with fable to enable us to discriminate their true value. The real knowledge of the Egyptians in medicine it is not easy to appreciate; for, as we have remarked, (see CHIRURGIA,) Prosper Alpinus wrote in a period when the later improvements had been carried to Egypt. Blumenbach has, however, shown, that the process of embalming was hastily and rudely conducted; and we cannot attribute any scientific knowledge of medicine to those who confined the management of each disorder to a single family, a single disease to one practitioner, and limited, by law, the use of medicine to a definite period of the complaint. It is said we are indebted to them for the use of clysters; but it is more certain that they excelled in prognostics, which must be the result of careful observation. This talent Galen, while he highly commends, attributes to astrology. Their remedies were chiefly diætetic, if we except, perhaps, the nepenthe. The medical knowledge of the Chinese, the Israelites, and the Brachmans, need not detain us. Among each it was inconsiderable; and the chief merits of the first seem to have consisted in punctures with needles; of the second in distinctions between clean and unclean beasts; and of the third in botanical knowledge.

The early Grecian medicine was chiefly chirurgical; and though we hear of internal remedies, yet we have no clue to guide us respecting their nature, as the assertions of some authors nearer the period of their introduction are contradicted by others. Amidst the darkness of the fabulous ages we must acknowledge that the baths of *Hecate*, *Circe*, and *Medea*, seem to show some knowledge of the powers of vegetables externally employed; and the tale of the poisened shirt of Deianiria equally implies the knowledge of deleterious plants, even if some of the circumstances in Medea's story should be wholly fabulous.

The events of the Trojan war, which called for the interposition of art, were chiefly, if not exclusively, external injuries; and there is a very slight foundation for supposing, from the language of Homer, that internal medicines were at any time exhibited. Nepenthe was almost the only instance, for the moly was an amulet. If the temples of *Philostratus* were at a subsequent period crowded with votaries, who sought his aid in consumptions, dropsies, intermittents, and diseases of the eyes, we must rather attribute the removal of the complaints to the arts of the priests or the credulity of the votaries, than to the interference of the deceased hero, who is not represented as having possessed any medicinal powers. *Æsculapius*, who accompanied the Argonauts, is not mentioned in the Iliad, so that he probably died in the interval; but his fame was preserved in his temples, where the artifices of the priests in choosing a healthy spot shaded with trees, and combining various species of amusement, contributed perhaps more to the patient's recovery than their medicines.

The *Asclepiadæ* seem never, before the time of

Hippocrates, to have practised beyond the confines of their temples; but they had various schools, of which the Coan and the Gnidian were the chief. Their anatomical knowledge, of which they boasted, was rude and incorrect; their practice we can scarcely judge of from the different application of their terms. We should suppose them to have employed drastic purgatives, since they used the elaterium and the grana Gnidia. Yet we learn from Dioscorides how much the ancient elaterium differed from ours, and the κοκκοι, *or grana Gnidia* may, as the word implies, have been only pills. The *Coan and Gnidian schools* were, however, the chief rivals, and the Gnidian sentences, the compilation of Euryphon, of an age somewhat anterior to that of Hippocrates, is severely criticised by the latter. He complains of the little attention which the Gnidian school paid to the observation of diseases; of the severity of their remedies; their unreasonably increasing the number of diseases, and the little attention they inculcated respecting diet. The only distinguished author of this school known to us is Ctesias, and, from his works, some fragments are preserved.

Of the *Rhodian and Italian schools*, established by the descendants or priests of Æsculapius, we have few remains: of the existence of the latter we find only some imperfect hints in Galen. The former was more distinguished, but its remaining vestiges are few. The medals bear a branch of Balaustines; but this mark is rather referable to the arts than to medicine, as the plant was then almost exclusively used in dying.

The fame of these schools and of the philosophers, for medicine seems hitherto to have been cultivated only as a branch of philosophy, was soon eclipsed by *Hippocrates*, who seems to have been the first to whom the appellation of physician, in its modern acceptation, is due. He first separated it from philosophy, gave it the form of a distinct science, and personally observed the progress of diseases, as well as the effects of remedies; on this account he is styled the inventor of the medicina clinica. Yet perhaps the philosophers who preceded him must not be wholly omitted. We are reminded of *Pythagorus* by the Climacterics, by the Critical days, and his recommendation of the vinegar of squills, in deafness; of his scholar *Alcmæon*, who first described the eye; of Empedocles, who, before any other anatomist, dissected with accuracy the ear; and of Timæus Locrus, who taught that the nervous system was the basis of the whole body, on which the nutritious substance was gradually extended. *Democritus* was rather a philosopher and a chemist than a physician, and might have ranked with credit in each class were the various hints of his labours collected.

Of Hippocrates it is difficult to speak with impartiality in a manner that will satisfy his warm admirers, or those who reject every thing which is not of a modern æra. If we look at him as a physician, when medicine had scarcely escaped from the trammels of superstition, the refinements of philosophy, or the dictates of antiquated tradition, our admiration will rise almost to enthusiasm; for we shall perceive sound judgment, accuracy of reasoning, and acuteness of observation, superior to his æra, or the state of science at that period. But to study and admire Hippocrates at this time is very different. Science has opened newer and more extensive views; diseases are distinguished with greater accuracy; and the remedies, as they are more numerous, may be more appropriately adapted to the circumstances. If we find a striking description in Hippocrates, we admire it as a mark of superior genius, and wonder how the same event could have happened both in Greece and England. Yet strip the fact of the disguise of system, and it will be found that patient observation would alone have taught it. He fills, however, so vast a space in the medical scene, that some further notice of him and his doctrines will be necessary.

Hippocrates was born in the first year of the 80th Olympiad, 460 years before the birth of Christ, and was descended from a line of physicians, inheriting the instructions of his father and grandfather, themselves descendants from the Asclepiadæ, while his mother traced her origin from the Heraclidæ. He died at Larissa, it is said, at the age of ninety. He first practised physic at Thasus, afterwards at Abdera, and at last in Thessaly; but his chief residence was at Cos, whence the Coan school became for a long time the successful rival of the Gnidian. All that has been added to these few events is doubtful. That his instructors were Herodicus (or Prodicus) and Democritus, rests only on the attention which he has paid to the gymnastic art, as well as to anatomy; and the philosophy of Hippocrates is more nearly allied to the tenets of Heraclitus than of the Abderite. As Hippocrates was a great traveller, he might have attended the lessons of Prodicus in Athens, where he chiefly taught, and might there have been acquainted with his brother Gorgias, whom he afterwards attended in his medical capacity in Thessaly, when worn down with old age; but we have no records of his having ever practised at Athens.

The other tales either to his honour or discredit are too idle to detain us. Had he violated or burnt a temple, Greece could have afforded him no asylum. Had he been greatly instrumental in relieving those affected with the plague at Athens, Thucydides could not have stated that medicine was of no advantage in that epidemic. The oration of Thessalus the son of Hippocrates on the subject of the honours decreed to him, must be spurious; for at that time the sage was but thirty-one years old. The request of Artaxerxes, which he is said to have refused, is also wholly inconsistent with the crime supposed to have driven him from Cos. The tale of his being sent to Democritus by the inhabitants of Abdera seems only one of the many sneers the stupidity of the Abderites scattered in ancient history; and Reland has shown, that the imputed letter was written by Epictetus. The time of his death is equally uncertain.

Under the name of Hippocrates we have received works of very different value. Those of his predecessors and successors are confounded with his, partly from his having appropriated some of their remarks, in part from the high character he had acquired; and from several of his descendants having retained his name. The chief cause, however, of the many spurious works attributed to him, is the avarice of the collectors of Ptolemy, who, when he founded the library of Alexandria, endeavoured to obtain, at the most extravagant rates, the works of every author of reputation. Every thing under the name of Hippocrates was eagerly received, and it was thought of little importance whether they proceeded from the first, second, or third

of that name: the reports were not sifted with minute discrimination. To distinguish the real works of Hippocrates has been consequently a problem of no little difficulty. At the expiration of 500 years, this task was attempted by Galen, who, to an intimate knowledge of what the successors of Hippocrates had written, possessed a discriminating genius, and a critical discernment of the style and manner of the Coan sage, which peculiarly fitted him for the task. Mercurialis, a man of the most extensive erudition, Haller, a physician of vast information, capable of the most incredible labour, and Gruner, possessed of all the indefatigable diligence of his nation, have laboured in the same field. They have assumed, as a principle, that Hippocrates was a man of singular abilities, extensive information, consummate candour, and modesty. By these tests they have tried every imputed work. Though perhaps the principles might not be readily conceded, yet, as they will certainly point out to our attention the most valuable works, we shall give the result of their labours.

The undisputed works of Hippocrates are said to be the first and third book of the Epidemics; two books of the Prænotiones (a different work from the Prænotiones Coacæ, published by Elzevir in 1660, by Duretus at Paris, and with commentaries by Hollerius at Leyden, which is very certainly spurious), containing the Prognostics, and the second book of the Prorrhetica; *De Diæta* in *Acutis*, in opposition to the Gnidian sentences; the *Aphorismi; De Aere, Aquis et Locis; De Natura Hominis; De Humoribus Purgandis; De Alimento; De Articulis; De Fracturis; De Capitis Vulneribus; De Officina Medici; De Locis in Homine.* This is nearly the enumeration of Haller; but Galen and Haller seem to have admitted tracts among the Hippocratic works, with too great facility. Gruner, who like Haller considered brevity, gravity, and the absence of theoretical reasonings to be the true test of the genuine writings of Hippocrates, differs in the application. He admits the *oath*, but rejects the treatise, *De Natura Hominis*, *De Locis in Homine*, *De Humoribus*, *De Alimento*, *et De Articulis*. Whether the *oath* be admitted or rejected, is of little importance; since it must be considered rather as an object of curiosity than of utility. The first of these rejected works was admitted, with hesitation, by Galen and Mercurialis, as containing many passages very distant from the manner and doctrines of Hippocrates; but it was retained, as containing some facts of importance. The second, though admitted by Galen and Cælius, and though it agrees, in general, with the practice of Hippocrates, has been suspected on account of some passages of a very different description. Haller only asserts that it *may* be his work; and Mercurialis, who ascribes it to Hippocrates, thinks that he did not live to complete it.

Gruner and Mercurialis reject the tract *He Humoribus*, but add, that it merits attention. It has been indeed commended in every age, and illustrated with commentaries by Galen, Duretus, and Gunzius. The tract on Aliment, on the contrary, imitates only the terseness of Hippocrates, but betrays the author to be of a later æra, by the doctrines respecting the arteries and veins. The book on the Joints is evidently the work of Hippocrates, or, at least, of the author of the tract De Fractures, and universally admitted. It contains also an account of the luxation of the thigh, which the history of medicine uniformly attributes to Hippocrates, by recording a controversy between him and Ctesias on this subject.

Yet even the undisputed works of Hippocrates must be received with some hesitation. The criteria by which they are decided are, we have said, not infallible; for they assume a degree of uniform excellence, which perhaps few have possessed. The tract De Aere, Aquis et Locis, shows the author to have been an European; and various passages even in the most genuine works, may be adduced to prove that interpolations have crept in. Where then can we draw the line? or need the line be drawn?

We have enlarged on this part of the subject to add the only conclusion which can be admitted, that the undisputed works of Hippocrates show rather the state of medicine in the earliest eras than form what may be styled the system of an individual. They are therefore objects of curiosity, rather than use; for the most important facts are scattered in a variety of modern works, and within the reach of the greater number of readers. Yet the writings of Hippocrates merit attention. Where the title of doctor is assumed merely as a claim to receive the fee of a physician, it is of little importance whether the practitioner can read: the world is contented to take his talents on trust; but the man who claims the rank of a regular, well instructed, physician, should not be ignorant of the language of Hippocrates, or of the state of physic at the earliest period of recorded observations. He will derive no little satisfaction from the polished terseness of the Hippocratic language, from the candid relation of facts, whether favourable or otherwise, from the firm undeviating integrity, which seems to have regulated the conduct of this father of medicine.

We have been led also to this inquiry from other views. Various are the authors who have treated of Hippocrates and his system, without knowing that, in the same volume, works most unworthy of any author of credit were confounded under his name. Each has been quoted with the same indiscriminate complacency, and it may be easily conceived what a motley mixture must be the result. Having thus pointed out where his real sentiments may be found, we shall very shortly point out what they apparently were.

The tenet of Hippocrates, that a knowledge of nature is the first principle in medicine, has been quoted with great zeal, to prove that he who saw this position in so strong a light must have been acquainted with the structure and the functions of the body. Yet even this axiom seems not to have been suggested by Hippocrates, as it occurs in one of his doubtful works. That nature preserves health and cures diseases is a tenet more obvious, and must have often occurred in a practice so inert as that of the Coan sage. His anatomical knowledge was inconsiderable. In his work on the bones, one of doubtful authority, he describes the spine as consisting of twenty vertebræ only. The error is indeed corrected towards the end, but apparently by another hand. The vesiculæ seminales are expressly described as a series of vesicles on each side of the bladder. This fact has been quoted to show that he dissected human bodies; but the tract, in which the observation occurs, is pronounced to be spurious, even by Galen. That Hippocrates was acquainted with the circulation of the

blood, as some authors have contended, no longer requires a single remark.

Though his genuine account of the structure of the genital organs is confessedly incorrect, yet his ideas that the male and female semen are mixed in conception, that the sex is determined by the most powerful, and that, if the semen escapes from the female, impregnation is prevented, are principles still supported by many physiologists, and are, on the whole, highly probable. The reciprocal action of the warm and cold spirit, in promoting the growth of the fœtus, is wholly imaginary. The soul, he supposes, is drawn in with the air; not with air as such, but as a vehicle of water and fire, and communicated through the vessels of the placenta to the fœtus. His theory of the cause of labour pains, from the exertions of the fœtus, in consequence of the want of nourishment, though long supposed to be true, will scarcely bear the test of rigorous examination; and indeed every supposed cause of labour supervening at the end of the ninth month appears to be equivocal. The reason which he assigns for the life of a fœtus of seven months, while one of eight is generally dead, appears to be too refined, and in part imaginary. It has been said, that a woman, accused of adultery, because her child was like neither supposed parent, was acquitted on Hippocrates suggesting, that a picture, which resembled it, might have been in her bed chamber, which, on examination was found to be true. The story is told, however, by an obscure writer, Hieronymus; and Galen, who relates it as the tale of a former age, does not attribute the decision to Hippocrates.

To engage, however, in any extensive enquiry respecting the physiological doctrines of the Coan sage would be idle, since much was fancy and more probably conjecture; but above all, on account of the latitude of expression which he employs. Thus νευρον signifies not only nerve, but ligament and tendon; φλεψ not only a vein, but an artery, or an excretory duct; and αιμα means not only blood, but any watery fluid; and the nervous fluid the air inspired, which mixes ultimately with all the fluids of the body.

It is more clear, that he supposed the existence of four fluids in the body, blood, phlegm, yellow and black bile. Their common source he supposed to be the stomach, but each had also its peculiar origin, viz. blood from the heart, phlegm from the head, yellow bile from the gall duct, and black bile from the spleen. The last organ, in his opinion, attracts not only the black bile, but water also, which it conveys to the urinary organs or to the belly. This doctrine of the four humours has been the foundation of the system of Galen, and still infects the theory of medicine. See Temperamenta.

The Hippocratic pathology might be offered in a neat compacted system, were the book De Flatibus certainly written by the father of medicine. It is, however, generally and deservedly removed to a later æra; yet Galen employs the flatus when mixed with the bile, as the cause of fever. The cause of epilepsy, as assigned by Hippocrates, is so recondite, and so totally at variance with what anatomy teaches, that it would be useless labour to enlarge on it. Yet this, and some other of this author's disquisitions, show with what eagerness he endeavoured to transfer his observations on the appearances found in the dissection of brutes to the human system. We may here remark what an examination of the works of Hippocrates for this purpose has suggested, that the boasted το θειον is introduced hastily and abruptly, greatly resembling an interpolation. In other parts of our work we have followed the herd of authors, and attributed it to a fixed systematic opinion.

As Hipprocates speaks of the rising and setting of the dog star, of the pleiades, &c. it has been supposed that he attributes diseases to their influence. If, however, his works be examined, it will appear that, in such places, he only endeavours to fix the seasons with greater accuracy. It is evident, indeed, that he examines the influence of different seasons, the prevailing winds, the situation of marshes and mountains, with great precision, and pays peculiar attention to the age, mode of life, constitution, and diet of his patient. The histories or daily progress of diseases he has described with great accuracy and perspicuity; nor are his remarks, though not strictly applicable in our climate, and in constitutions so totally differing by a very opposite mode of life, wholly useless at present. Observation seems to have suggested what have been styled critical days; nor, though he hints at a supposed harmony of numbers, is there any real evidence that the doctrine was suggested by it. His observations on the pulse are few and indistinct; on the urine, numerous and minute; on the excretions either from the lungs, from the stomach, or bowels, peculiarly distinct and pointed; on the appearance of the features and the state of the body, full and discriminated. Yet, with all these aids, he stills considers the prognosis in acute diseases as uncertain.

The practice of Hippocrates must be divided into his diætetic, his surgical, and his medical system. The chief diætetic work under his name is attributed by the critics to Polybius, his son in law; but there is much reason to think, that the rules are derived from the sage himself. In general, in this work, as in other parts of his writings, he commends moderation, and a quantity of aliment in proportion to the exercise used. In some of the tracts attributed to him he speaks of the comparative utility and effects of horses, asses, foxes, and hedge hogs flesh. Where excess has been indulged, he mentions the advantages of vomits, purgatives, clysters, frictions, baths, &c. When persons were seized with acute diseases, he employed low diet, and forbad exercise: we find it injurious at this moment.

His practical rules are sound and judicious; yet, perverted by fashionable systems, they have been found most fatal. Acute diseases are, he thinks, cured by nature, and the physician must look on and attend: those which have a fair proper crisis we must not disturb. What ought to be discharged must be discharged at the most convenient outlets, and at those where the tendency to evacuation is perceived; but *concocted* fluids only must be attacked by medicines, not *crude* ones, unless they are turgid. It is impossible to convey more sound and judicious practice in fewer words, yet it has been mistaken so much, that evacuations have been forbid in the beginning of diseases, and volumes have been written to explain the meaning of *turgid matter*, or rather to conceal it. The real meaning of the rules, examined in their literal sense, or in comparison with the other passages of his undisputed works, is this: What must be discharged will be properly

evacuated by the most convenient outlets. We are not, for instance, to urge purgatives when there is a tendency to perspiration, or sudorifics when expectoration is necessary. *Concocted* fluids are only to be evacuated, not *crude* ones, unless they are turgid. This is the fatal sentence; for the term concocted has been applied to the state of the fluids only after a long continuance of fever, and it has been supposed that fever must continue before evacuations are attempted. Whatever be the meaning, however, the interpretation must be limited by the term turgid, which in fact means only full. Thus a fullness of the epigastrum, of the abdomen in general, bilious vomitings and diarrhœas, redness of the eyes, and a heaviness of the head, are distinctly noted as marks of turgescence. These are the cases in which modern practice employs evacuations, and these are the symptoms which, even with Hippocratic rigour, would be truly found to indicate them. Yet to wait for concoction has been the fatal rule, which has kept febrile patients in bed with closed windows and curtains, with fire in the dog days, the addition of blankets, and the most heating medicines for many weeks. At the moment of our commencing practice his plan was not wholly exploded.

A rule, less liable to be mistaken, was, that diseases from repletion must be cured by evacuation; and the contrary. Rest is equally the remedy for labour, and labour for indolence; and, in general, medicine consists in adding or taking away, according to the nature of the cause. Every attempt, however, to change a continued habit must be gradual, for every excess is dangerous.

If evacuations cannot safely take place from the most convenient parts, a revulsion must, according to Hippocrates, be attempted, and the nearest emunctories should be preferred; for the discharge, he adds, is not salutary from its quantity, but from its freedom and the ease with which it is borne. When, however, it is the object to weaken, the discharge must be excessive. If the practitioner should not at once succeed, he should not hastily change his plans, but consider whether any thing has been omitted, or, for a time, rest to see what nature will point out. When the patient appears to yield to the disease, he forbids further attempts; but those, he remarks, with an oracular uncertainty, who are not relieved by medicine are relieved by iron; those who yield not to iron are cured by fire; and those on whom fire makes nō impression are incurable.

The milder laxatives of the "divine old man" were the juice of the herb mercurialis, cabbage, the leaves of elder, or a decoction of beet root with salt and honey; various kinds of milk, either boiled or in the form of whey. These in larger quantities were sometimes employed to produce vomiting. As assistants to these, he employed clysters and suppositories; and, when more active drastics were necessary, the hellebore, not, however, without the precaution of premising the most cooling diet. He was anxious also that whatever might prevent hiccup and convulsions should be ready, and assisted their quick operation by clysters.

To the white hellebore he usually joined the sesamoid; to the black, the peplium, supposed to be a species of esula, or the portulaca, though by some authors thought to be the papaver spumeum of Dioscorides. We might fill pages with conjectures respecting the present names of these plants, but must leave the question at last in uncertainty. Hippocrates certainly considers what he styles the white poppy to be a purgative, and Pliny refers a kind of poppy to the genus tithymalus. The peplium seems, from other parts of Hippocrates's works, to be a carminative, and the cummin or the anise seeds appear to be occasionally substituted for it. Other purgatives, recommended by the Coan sage, are the grana Gnidia, the colocynth, the thapsia, the cyclamen, with the flowers and scales of copper, though the last are chiefly employed externally. Scammony and elaterium he commends for pessaries; but the latter was also given internally, as he advises the milk of a woman or a she goat which have taken elaterium, as a purgative for children. It has been suspected that, in this passage, elaterium is inserted instead of veratrum, which goats greedily devour, and which acts on them as a cathartic. It is singular, however, that the particular purgatives, especially the drastics, are mentioned only in the tract De Morbis Mulierum, which is supposed to be from the school of Gnidus, and older than Hippocrates, since no mention is made of aloes, which was brought from India through Egypt in his time.

The head, according to Hippocrates, was particularly evacuated by the grana Gnidia, hippophae, a thorny shrub which discharged a bitter milky juice; the stone magnesia, which is undoubtedly the load stone; and the tetragonum, supposed by Galen to be antimony, but by modern botanists to be the juice of one of the fir tribe, several of which are purgative. In general, Hippocrates used purgatives in chronic diseases; but he certainly employed them in acute ones more freely than the greater number of the more modern practitioners.

The diuretics prescribed by Hippocrates were the leek, onion, mercurialis, wild parsley, &c. with wine and honey largely diluted, sometimes the warm bath. Cantharides, however, he orders in dropsies; and five, with the head, feet, and wings taken off, to expel the secundines and bring on the catamenia. It is not certain, however, that so many were always swallowed: in dropsies he gave three only.

To purge the lungs a singular method was employed. If there was reason to suppose that an abscess had formed, after a peripneumony, a decoction of different acrimonious plants, with honey, &c. was directed to be poured into the trachea, the passage to which was opened by drawing out the tongue. Galen, however, has long since informed us, that the whole process was taken from the Gnidian school.

The uterus was stimulated by the most active pessaries, clysters, and injections, or by partial vapour baths (incessus) composed of the same ingredients. He attributed much to perspiration; but produced it chiefly by warm diluting liquors, by bathing, and covering the patient with warm cloaks. His ptisans, decoctions of barley of different richness, are often mentioned.

He drew blood by venesection, and by scarifications more or less deep, chiefly near the head; yet he did not repeat the evacuations frequently, lest, by intercepting the current of blood to the head, apoplexy, convulsions, or inflammations might be induced. When the voice was affected, he divided the vein of the right arm; in pleurisy and peripneumony, the internal vein of the side affected: some directions are subjoined, respecting a division of the veins under the tongue, or in the hands.

In inflammations of the chest, he sometimes bled till the patient fainted. He bled topically with cupping glasses, and sometimes directs the necessary size. The lancet, he observes, should not be too pointed, that a free passage may be afforded to the more viscid fluids.

When he wished to alter the crasis of the more fluid, or of the more solid parts, he chiefly employed diet; and he is consequently copious in describing the powers of particular diets as cooling or heating, diluting or drying, as laxative or constipative. A large share of the tract De Victu Acutorum is employed on this subject, where the ptisans again frequently occur.

To check excess of motion, he seems to have very rarely used opium. In what he styles strangulations of the uterus, he advises το υπνωτικον μηκωνιον, the soporific meconium: the οπος μηκωνος seems to be the papaver spumeum, the peplium, perhaps the wild purslain. He recommends the mandragora in a dose below that, which produces delirium, and thinks it useful in the violent paroxysms to which those affected with melancholia are sometimes subject. The juice of the mandragora, and the wild cucurbit diluted with milk, is to be injected into the anus to relieve prolapsus, or bleeding piles, and into the vagina to evacuate the vessels of the uterus. But to cure quartans he mixed the mandragora with hyoscyamus, silphium (probably asafœtida,) and trefoil, giving them together in wine.

To correct rigidity he employed baths, fumigations, and gargles. Oils, impregnated with different flowers, sometimes with aromatics, were also freely ordered; cataplasms and ointments, sometimes stiffened with wax, but scarcely in any instance consolidated into what may be now called a plaster, were frequently employed. The oils were generally rubbed in after exercise, and thence called *acopa*, relievers of fatigue. It was an idle fancy of the alchemists that Hippocrates was an experienced chemist.

The surgery of Hippocrates is scattered through a great number of tracts, but this part of the subject has been anticipated in the history of surgery. (See CHIRURGIA.) Yet, on recurring to that article with a more circumspect eye, we perceive omissions which we shall now endeavour to supply.

A minute attention, which seems to have prevailed in the Gnidian school, to the form of bandages, he rejects as rather curious than useful. The patient, he remarks, requires assistance, not ornament; and whatever does not contribute to his ease or his relief, he thinks undeserving of attention. He penetrated bones with an instrument not unlike the modern trephine, and even the ribs, to evacuate water collected in the chest. The management of fractures, though the instruments were somewhat rude, seems, on the whole, judicious: no plasters were applied till after the æra of Paulus Ægineta. The eye, in inflammations, was scarified by the friction of the rough Milesian wool.

We have enlarged on this subject because we have not found the Coan system fully and impartially stated; and because the practice of Hippocrates, like an overruling genius, has continued to lead us, by imperceptible threads, even to the present æra. Subsequent to his time his descendants and disciples continued in the same line, and for many ages little improvement was made in practice, and but few innovations occurred in physiology. For the latter we are indebted to *Plato*, whose fancies on this subject are amusing, and, but that we have little room for amusement only, might for some time detain us. The names of Hippocrates' successors, and we could add scarcely any thing to the catalogue, would not be interesting; but we were somewhat surprised among them to find the elder and younger Dionysius. We could easily conceive that the elder, as was reported, delighted in witnessing the most painful surgical operations; but the idle dissipated character of the younger forbad us to expect from him any mental exertion. It is suggested, however, that the barbers and perfumers shops, for he was as condescending and familiar as our fifth Henry when prince of Wales, were called ιατρεια, and that it might therefore be truly said that his time was employed εν ιατρειοις, but not in medical disquisitions.

From the time of Hippocrates to that of Ptolemy Philadelphus few were the medical practitioners, and these rather distinguished for fancy and refinement than any improvement in the art. *Diocles*, already noticed in the history of surgery, rescues this period from total insignificance. Yet, even at this time, when authors contended that no blood naturally entered the arteries, and the arterial vibrations were attributed to a *pulsific conatus*, the pulse was attended to and employed among other prognostics. The fame, however, of the medical practitioners was eclipsed by that of *Aristotle*, who flourished at this time; a man to whom every branch of natural science was highly indebted, who alone united the most comprehensive views, the acutest genius, and the most unremitting diligence, and who has only been disregarded by those who have not talents to appreciate his labours. His two books on medicine are unfortunately lost; his anatomy, in the works which remain, is not on the whole correct, and his physiology somewhat fanciful. These were, however, the faults of his æra, not his own. Whatever were the errors of his physiology, and philosophy, both were adopted in general by Galen, and more exclusively by the Arabians; so that their effects were most extensive. The vast knowledge which Aristotle possessed in the three kingdoms of nature is sufficiently understood; to his instructions we are indebted for what Theophrastus has collected, and perhaps for the fatal knowledge which Thrasyas is said to have possessed of the deleterious qualities of vegetables. The other physicians of this æra do not merit the slightest notice.

The prominent objects which next offer themselves to our attention are *Herophilus* and *Erasistratus*, the great founders of the Alexandrian school, at least the powerful supporters of its credit. Erasistratus we have styled the elder, but the chronology of this very early period is uncertain. *Erasistratus* was a physician of some eminence, but he applied to anatomy at a very late period of his life, and with great candour recanted, in consequence of his discoveries, some of his early opinions. He certainly approached very near the secret of the circulation, but could not understand the use of a double heart. He supposed digestion to be performed by attrition, and violently opposed the humoral pathology of his predecessors. His own system rested on the idea of the arteries containing only a spirit, and that diseases, particularly fevers and inflammations, arose from their admitting blood. He was apprehensive of bleeding, lest the blood should find a way from the

veins to the arteries; of purging, because Pythagoras had forbidden it. He reduced his patients by abstinence, or by violent exercise: venesection he supplied by ligatures; purgatives by slight emetics, or by clysters. He recommended simple medicines, and violently reprobated the complicated formulæ of that æra.

The school of Smyrna, in which Erasistratus taught, was undoubtedly famous; but there is reason to doubt whether the medals which remain, supposed by Mead to have been struck in honour or commemoration of this seminary, had really such an object. The figure of Æsculapius, which they bear, is so common on medals where there is not the slightest suspicion of their being intended to commemorate physicians, that the image carries no conviction. The names added seem to be those of magistrates or priests; indeed these offices were sometimes united, and should the name of a physician occur, it rather belonged to him in his official than his medical capacity.

Herophilus, though chiefly distinguished as an anatomist, was, however, according to Galen, acquainted with the whole science of medicine. He, as well as Erasistratus, was accused of dissecting criminals alive; nor can we at this time deny what Celsus has expressly asserted, and Tertullian confirmed, notwithstanding the silence or the evasions of Pliny. He certainly first saw the lacteals in goats, and gave his name to many parts of the human body, which he first described. We are informed by Plutarch that he considered the function of respiration to be performed by two systoles and two diastoles, but his account is far from being intelligible. Every complaint, he thought, was owing to humidity. In pleurisy, one portion of the lungs was only, in his opinion, affected; in peripneumony the whole viscus. He was peculiarly minute in his prognostics from the pulse, and appears to have illustrated it by a geometrical construction; but Pliny, to whom we are indebted for the account, seems to think that the full explanation had not reached even his era. He chiefly depended on vegetable medicines and used hellebore freely. When the whole system was in confusion, he thought the disease would escape. He was also fond of gymnastic exercises, and is quoted by Eustathius in his notes on Homer, unless with some able critics we read Herodicus, the first patron of gymnastic exercises, for Herophilus. The followers of Herophilus were numerous, and their names are preserved; but they are spoken of with little respect by Galen, as arrogant and loquacious; and it is singular that not a single one has been celebrated for his anatomical acquisitions.

The indifference to anatomy seemingly arose from the gradually increasing influence of a new sect, whose origin has been traced to *Acron* of Agrigentum, the rival of Empedocles, and the cotemporary (probably) of Hippocrates, I mean the Empirical. Its real author, however, according to Galen, was *Philinus of Cos*, the pupil of Herophilus; though *Serapion*, on the authority of Celsus, has been considered as the first and chief of this sect. Herophilus himself may have dictated this schism, by lessening the authority of Hippocrates, whose anatomical descriptions were found by Herophilus to be seldom consonant with the human structure. It appears, however, more probable that the new sect arose from the superstitious dread of the Grecians, who thought themselves polluted by the touch of a dead body, for Herophilus dissected in Egypt; and this I conjecture to have been the case, since the first mark of disaffection expressed by Philinus was the aversion to anatomical dissections; nor can I find, after a very minute enquiry, that he proceeded farther in his heresy. He wrote also some tracts on plants, and commentaries on Hippocrates; but very little is known of him.

Serapion of Alexandria, first openly contended that all dogmata in medicine were useless or injurious. The result of casual information, when pursued in practice, they called imitation; frequent imitation an experimental habit; and they formed rules, more or less general, according to each. When they transferred what they had observed respecting one disease to another, they called it epilogismus; and the result of their own observation, autopsia; that of others, history: the two last with analogy (epilogismus) they styled the tripod of medicine. This is the equivocal triplex sermo which Galen accuses Serapion of preferring to the ancient dogmata.

Of the empirical practice Cœlius Aurelianus has given some specimens: castor, cicuta or opium, and henbane, were the chief remedies. In the account of epilepsy the reader will find almost the whole of the materia medica of the empirics; but they usually premised bleeding, vomiting with veratrum album, and purging with black hellebore and scammony.

The followers of Serapion have not been distinguished in the annals of medicine; and one of the last, whose name merits our regard, *Heraclides of Tarentum*, deviated, we suspect, from his predecessors, since he commented on all the works of Hippocrates, and is praised by Galen. His tracts on internal affections and on diet were also commended; but, in general, the empirics were attentive to diætetics and to surgery. Celsus praises their ordering moderate and frequent potions in fevers, though he disapproves of their management of quartans. Galen describes an antidote of Heraclides, which consisted of the juices of cicuta and henbane, of each four drachms; of castor, white pepper, costus, myrrh, and opium, of each a drachm. These were mixed in two glasses of wine, and evaporated in the sun till the whole was of the consistence of an electuary, and the quantity of a horse bean given with two glasses of wine in all cases of bites from poisonous animals, in pains, and in strangulated uterus.

We have arrived far beyond the period when Celsus tells us that medicine was divided into three branches, diætetics, pharmaceutics, and surgery, yet we have seen the same authors treating of each; and though the proportion of their attention has been varied according to their fancies and opinions, yet the same author has seldom wholly neglected either. The language of Celsus seems therefore to have been mistaken, and in Tres partes deducta seems to mean the particular attention paid to each branch; for surgical knowledge often exerted in the moment of necessity, and diætetics, which require domestic attention, could form no part of the systems of the priests. Some, however, were particularly famous for branches of the science, which they had particularly cultivated, and we know that lithotomy, for instance, was practised by exclusive operators. The empirics, we have indeed remarked, were peculiarly attentive to diet; but there is no evidence of any real separation, except in the case of the operation for the stone. On attentively examining this subject, we

find traces of compounders of medicines (pharmacopolæ) distinct from the practitioners. Theophrastus, for instance, distinguished the Pharmacopola Thrasyas from his pupil Alexias, who was acquainted with the whole art of medicine. The same author asserts that Eudemus of Chio was accustomed to prepare twenty doses of hellebore in one morning; and it appears, from the subsequent sentence, that the pharmacopolæ kept open stalls, not unlike, probably, the stages of modern mountebanks. The herbalists were a still inferior class, subservient to the pharmacopolæ. The successors of Heraclides are not of sufficient importance to detain us, for much remains to fill up the picture.

Greece was now become subservient to the superior genius of Rome, and we must there look for the progressive steps of medical improvement. Rome, formed by the rude tribes of ferocious banditti, wanted for many ages little more than those chirurgical aids which their mode of life rendered indispensable. Epidemic fevers, however, were at times violent and fatal, from the Pontine marshes, which were at no great distance from this capital of the world. Yet, for nearly 600 years, they were said to be without medical aid, and their only resources to have apparently been blind empiricism, superstitious charms, or religious ceremonies. Temples seem to have been erected to Febris, and their most destructive enemy, thus raised to the rank of a goddess, was worshipped. In various parts of the city subordinate deities of the same kind were introduced; and no less than three goddesses, Intercidona, Pilumna, and Deverra, were propitiated by offerings to confine Sylvanus, who was supposed to be inimical to women in child bed. In the year 321 ab urbe conditâ, a temple was erected to Apollo for the health and safety of the Roman people; and in 470 Æsculapius, or rather his emblem, a snake, was brought to Rome by a solemn embassy, sent for the purpose to Epidaurus. The snake took refuge in an island in the Tiber, and there the temple of the god was erected. This fact is of considerable importance in the history of medicine, since it proves that the worship of Æsculapius was continued in Greece in that era, and consequently that traces of the records from which, as a sacred fountain, Hippocrates drew a great part of his observations, were still preserved. Some of the votive tablets hung up in this new temple are preserved by Gruter, and of a date so late as the age of the Antonines; but these are in Greek, and seem to have owed their origin to the gratitude or superstition of some Greeks who at that time resided in the city.

It indeed appears singular, that, while Rome was so little distant from Naples, a Greek city, who traced their original to the Rhodians, among whom Æsculapius was worshipped, they should have had no traces of medicine; especially as the Pythagorean philosophy was brought from thence, or from the farther provinces, styled Magna Græcia, to the Roman kings. The testimony of Pliny, however, is positive; nor is it repelled by Dionysius of Halicarnassus, who remarks, in two distinct epidemics, viz. of the years of 282 and 401 ab urbe conditâ, that the disease was so violent, as to baffle the skill of the physicians; for such would be the language, whatever the medical aid might have been. The stern patriotism of *Marcus Cato* seems to have prevented the increasing influence of the Grecian physic; and, from authority, or complaisance, Pliny fixed the period of 600 (strictly 535) years, during which no physicians were to be found in Rome. It must be obvious, as we have already insinuated, that this could not be strictly true; for some resources, either ridiculous or superstitious, must have been sought for when disease occurred. The diætetic system, the virtues of cabbage, adopted from the school of Pythagoras, and the superstitious attachment to the Asclepiadæ, could not have sufficed; but we find little to substitute in their place. The Roman records fail us, and the authority of Cato is supreme. We mean not, in this account, to allude to a law said to be introduced by Cato, prohibiting the Grecian practice; for at the time of the arrival of Archagathus from Greece, he was but fifteen years old; but, as we have remarked, to his influence in preventing the increase of the prevailing fashion. The fame of Archagathus quickly faded; for, though at first styled *Vulnerarius*, he was soon stigmatized by the appellation *Carnifex*. Of the practice of Cato, who wished to supersede the Grecian system, we have hints from Pliny, Plutarch, and his own remaining works. He did not enjoin abstinence, but allowed his patients to eat vegetables (Pliny says cabbage, exclusively), ducks, pigeons, or hares. In fractures and dislocations, his remedy was a charm, consisting of hard words, without a meaning. The English reader may find some amusement on this subject in the memoirs of Martinus Scriblerus.

The bad success of the severer practice of Archagathus soon rendered his successors more gentle in their operations; but that some remains of the active Greek surgery continued to prevail we learn from Plutarch, who informs us, that, when C. Marius suffered the extirpation of the varices of one leg without a groan, he declined the attempt on the other, saying, that the advantages did not compensate for the sufferings.

Numerous works have been written to prove, that physicians at Rome were slaves, liberti, or foreigners. The opponents of this opinion have been equally voluminous. We must, as usual, give the result of our inquiry without engaging in the controversy. It seems clear that the greater number of practitioners were of the description mentioned, but it is equally certain that many were of a superior character. Archagathus himself was received at first with great ardour, and a house purchased for him; nor, on the decline of his credit, was he apparently deprived of it. He was also raised to the rank of a Roman citizen; and the Aquilian law declares, that, if any physician neglects a slave after any operation, he shall be pronounced guilty of a crime. By the same law, an action will lie against a physician, who, by the unskilful use of the knife or of medicine, shall kill a slave; and Ulpian decides, that a midwife, in the same circumstances, shall be pronounced equally guilty. These regulations must relate to free men, and the Aquilian law is confessedly anterior to the age of the Cæsars, for all physicians were by Julius Cæsar raised to the rank of Roman citizens. Varro is also explicit on this subject, when he discusses the question for what farms it is preferable to have artificers, among which he reckons medical assistants, occasionally hired, and to what kinds it is better to have slaves attached. In the time of Cato, also, the Phœnicians had been driven from Sicily by the Romans, and the Macedonians from Greece. The Grecians had therefore recovered a great

share of their former liberty. As their language was fashionable, their manners pleasing, their demeanour obliging, perhaps approaching to servility (Juvenal), it is not surprising that they should flock to Rome, nor that they should be favourably received.

Medicine obtained no inconsiderable advantages from the legacy of *Attalus Philometor*, the last king of Pergamus, who left the Romans his heir. We are told by Galen that the Pergameni were the rivals of the Egyptians in collecting books; and Philometor was peculiarly attached to gardening, and the examination of the powers of poisonous plants. It has been said that this study was rendered subservient to the most cruel purposes, but of Philometor's cruelty we have no evidence. We know that he wrote some tracts on agriculture, which Pliny and Varro have praised; that he engaged in metallurgic experiments, and in modelling with wax: Galen describes also, with commendation, some medicines invented by him. To the patronage and to the assistance, probably, of Philometor, we are indebted for the works of *Nicander*, particularly the Theriaca and Alexipharmica. His collection of remedies, the prognostics translated from Hippocrates, and a work in verse, De Re Rustica, highly commended by Cicero, are lost. A long fragment of the last is preserved by Athenæus, which shows that it contained many observations relative to medicine. The poems which remain were highly valued by ancient authors, as we find from the numerous commentaries on them; and whatever may be said of Attalus' more philosophical or patriotic pursuits, it is still probable that experiments on *condemned* criminals furnished Nicander with many facts. The history of medicine describes Thrasyas as attentive to poisonous plants, and perhaps their antidotes, fable speaks of Deianira, Hecate, Circe, and Medea, but animal poisons were first considered scientifically by Nicander. The king of Pontus, about the same period, engaged in a similar investigation; and to his experiments in pursuit of antidotes we owe the famous medicine, which bears his name, Mithridate. The receipt, with many others, was taken from the cabinet of Mithridates, by Pompey, who directed his freed man Lenæus to translate them. The original formula however of this famous alexipharmic consisted only of two dried nuts, as many figs, twenty leaves of rue, and a grain of salt. To this remedy we shall, however, return.

The pursuit of this subject has drawn us from our chronological clue; for, previous to the conquest of Pontus, *Asclepiades* flourished. He was not a Roman, but born in Prusia, a city of Bithynia. He was by profession a rhetorician, an Epicurean, and the friend of Cicero. If we may trust the report of Pliny, Asclepiades came to Rome without any knowledge of medicine; and, failing in his attempts as a rhetorician, he with little preparation professed himself a physician. He was the first of this profession who gained general esteem in the capital of the world, and whose name has reached posterity. Pliny gives a long account of the artifices by which he attained his reputation, but they are such only as every fashionable physician employs, viz. pleasing the patient, and avoiding every thing that can give uneasiness, till nature cures, or yields to the disease. He curtailed the rigorous abstinence of the Greek physicians, gave wine occasionally, recommended friction, gestation, baths, &c. vide Balneum, professing to cure with speed, with safety, and without inconvenience. He declared that he deserved no credit, if he was himself unwell; and, fortunately for the credit of his system, he died in extreme old age, in consequence of a fall over the stairs.

Asclepiades was the founder of a new sect styled the Methodic; for his philosophy was that of Democritus as reformed by Epicurus, and his physiology rested on corpuscles, flowing through invisible pores. The doctrine of Hippocrates, respecting the intelligence of nature, and her influence in curing diseases, he rejected with contempt. He denied even the power of attraction in the magnet. The soul he considered only as the united action of all the senses; and the intellect, or the power by which we understand what is secret or concealed, consisted, according to Asclepiades, in a resolution of the ideas, attained by the sensible images formerly collected. Every thing happened, in his opinion, from necessity, and nothing without a cause; nor was nature any thing but the body, or its motions, and, instead of assisting, usually injurious. Thus the Epicurean system of Asclepiades verged towards Stoicism. His anatomical knowledge was very imperfect, or he would not have thought that the urine passed from the intestines into the bladder through pores. Digestion was, in his opinion, unnecessary; and he supposed that the food was carried into the blood, and there attenuated till it was adapted to the pores of the vessels which conveyed it as nourishment. Hunger was induced by the relaxation of the larger, and thirst by that of the smaller pores. The fæces were not, he thought, excrementitious, as some insects fed on them.

His pathology was of a similar complexion. Inflammation was owing to obstruction either from the magnitude, the figure, the multitude, or the rapid motion of the atoms; pain to obstruction from particles of a large size, and the absence of the smaller ones. Faintings, dropsies, and hectics, arose from the too great size of the pores; and dropsies, in particular, he thought might be owing to the transudation of the flesh, which then became water. Quotidians were owing, in his opinion, to the obstruction of the larger particles, tertians of the less, and quartans of the least. He denied the existence of critical days.

This system he adorned with all the art of his former profession, and his practice was no less captivating. He rejected vomits and purgatives; admitted of bleeding, but with numerous limitations; and substituted, for purgatives, the most acrid clysters. Obstructions were, he thought, best removed by wine, by friction, gestation, and bathing. He plumed himself on having first directed frictions, and is minute in his directions for their management; yet, so far as we can collect from his disciples, he added little to what Hippocrates had, in a few words, directed. He sometimes, however, ordered medicines, though chiefly external applications, and occasionally scarifications.

Thus was this famous revolution in medicine effected, not from superior judgment, more extensive observation, or experience, but from ignorance of what former practitioners had taught, and indolence, which rendered him unwilling to learn. It was easier to construct a fanciful romance than to study by the midnight lamp, and some late systematics have thought the same. The whole was rendered fashionable by his eloquence,

and the comparative pleasantness of his medical directions.

We must not, however, suppose, as has been too common with medical historians, that Asclepiades had no prototype or rival. Celsus expressly remarks, that he borrowed from *Cleophantus*, a physician of a former era; and Pliny observes that the use of wine, as directed by Asclepiades, was borrowed from the same author, whose period is uncertain, though we approach it by finding that his scholar Mnemon flourished in the time of Ptolemy Euergetes. One sarcasm of his rivals has been mentioned, where he is referred to the butchers and cooks, as able to give him correcter physiological views than he possessed. Cicero also, the friend of Asclepiades, highly praises *Crateras*, and bitterly laments the death of *Alexion*. We may likewise mention, though it might more properly occur in another place, that *Crateras* the herbalist, highly commended by Pliny and Dioscorides was probably the first who drew figures of plants. He lived, however, in the time of Mithridates, and must be distinguished from a physician of the same name, the cotemporary of Hippocrates; nor is it too late to add, that many Asclepiades flourished in subsequent eras, whose works and opinions, without great care, may be confounded with those of the Bithynian.

The sect of Asclepiades seems not to have been at once established. *Alexander Philalethes*, his scholar, taught in Asia; and *Artorius*, the physician of Augustus, who perished at sea, Ab. U. C. 722, was also a follower of this celebrated innovator. Artorius has been confounded with Antonius Musa; but he had been dead ten years, when the latter succeeded in the cure of the emperor, after his former physician had failed. Who that physician was is not certainly known. If we trust the emendation of P. Harduin, he was called *Camellius;* and this name occurs not only on inscriptions preserved by Gruter, but on medals. What the disease of Augustus was we are not informed; probably a debilitated system, which A. Musa cured by cold bathing, cold drinks, and lettuces, which Camelius' scruples had forbidden. The gratitude of Augustus was unbounded. His pecuniary rewards were immense: he was allowed to wear the ring; and immunities were not only granted to him, but to all who exercised the same art. Suetonius adds, that his statue, made of brass, was placed next that of Æsculapius. We have no reason to suppose that Musa was a follower of Asclepiades; for he is spoken of by Galen as intimately acquainted with the whole science of medicine.

Whether it arose from the slow progress of the plans of Asclepiades, or from the alterations and improvements of *Themison*, that the latter has been considered as the founder of the methodic sect, is uncertain. Such, however, is the general language of medical history, and we must follow her steps. Themison has been highly commended by his cotemporaries and successors, and his name was long synonymous with that of an able physician. Yet we cannot but recollect the line of Juvenal:

Quot Themison ægros autumno occiderat uno.

Asclepiades chiefly considered the causes of diseases: Themison thought it only necessary to connect them by some common symptom, and divided diseases into the stricta, laxa, and mixta. By these terms we must not understand, with the generality of authors, constricted and relaxed fibres, or a mixture of both, but diseases attended with impeded or increased secretions, or too great discharges from one part, and too little from another. These principles afforded a *path* for physicians, and hence the sect (from μεθοδος, via) was styled the methodic. In the first case he directs evacuants, in the second restringents, and in the third to oppose, by either class of remedies, the most dangerous disease. Such was the system he taught in advanced age; but the methodic doctrine had not yet been polished with care, so that we shall speak of Themison as an individual only in this place.

Themison neglected the precepts of Asclepiades in many respects, particularly in giving aloes and scammony, in allowing cold water after bleeding, and in not observing the due periods for giving nourishment, exciting evacuations, or bleeding. It is remarkable that in the writings of the methodic sect we find the first traces of bleeding with leeches; and Cœlius Aurelianus relates a singular fact of Themison, that, having been bit by a mad animal, or possibly remaining too long with a friend labouring under an hydrophobia, he contracted the same disease. He cured himself; but, when he attempted to explain the method, he relapsed. This must have been a high degree of hypochondriasis. He was the author of many works, from which Cœlius Aurelianus has preserved short extracts; but we can select nothing very important, except his praises of plantago, a plant supposed to be discovered by himself.

The system of Themison seems to have had no very violent opponent, or defendant: so far as we can collect, the opinions of physicians vibrated between the pores of Asclepiades, and the stricture or laxity of Themison, and practitioners seem to have reasoned with some freedom, though with no striking marks of genius or ability. A work intitled Problemata Medica, ascribed to *Cassius*, who seems to have lived about the end of the reign of Augustus, and the beginning of that of Tiberius, displays some marks of judgment and discrimination; but in his reasoning he seems to lean rather to the opinions of Asclepiades than Themison. We must not, however, conceal that the problems have been attributed to a later author, who is by no means a servile follower of the Rhetorician's doctrines. His practice, as we learn from Celsus, was far from irrational, and he freely gave cold water in fevers. Galen and Scribonius Largus mention a remedy of Cassius, called *colice*, as useful in colic pains. It consisted of carminatives, spices, opium, and saffron. This receipt Cassius left, apparently, to his servant Atimetus, whom he bequeathed to Tiberius, and from him Scribonius received it.

Celsus was another distinguished practitioner of the methodic sect, who brought, or greatly contributed to bring, physicians back to the patient study and observation recommended by Hippocrates. He seems to have been a cotemporary of Cassius; and his language alone would place him in the Augustan age. Some late critics have reduced him to that of Trajan. Pliny, however, who dedicates his work to Vespasian Titus, in his sixth consulship, A. U. 830, quotes passages of Celsus, which we still find in his writings; but Trajan only began to reign twenty years afterwards. Pliny also observes, that Julius Græcinus, respecting vineyards, transcribed the directions of Celsus; but J. Græcinus was murdered by Caligula, according to Tacitus,

and Caligula was himself killed in A. U. 783. Celsus tells us that Themison, in advanced life, had deviated from the precepts of Asclepiades, and Pliny, that Themison was the pupil of Asclepiades, who lived in the time of Pompey. Celsus, indeed, speaks of Themison as still alive, and consequently he must have himself flourished in the latter years of Augustus. Celsus is said to have been a Roman, or perhaps a Veronese; but though he speaks occasionally of his own observations, he was not a regular medical practitioner. Pliny never mentions him in this light; and, when he enumerates the physicians of Rome, the name of Celsus is not included.

Celsus in his medical works has chiefly followed Hippocrates, particularly in his Histories of Diseases and Prognostics, except in relation to critical days; but he is not, as has been supposed, the servile commentator of the Coan sage; for he quotes numerous authors of a later era, and seems to have given a brief abstract of the best systems, in a connected view, though evidently of the methodic sect, and the echo of Themison in what relates to the cure of fevers. He is, indeed, rather an epitome of his predecessor's maxims, than himself an object of historical research; and we shall leave him with remarking, that those who wish to study the opinions and practice of the ancient physicians will find both elegantly, as well as correctly, detailed in Celsus.

We should scarcely have mentioned *Æmilius Macer*, a physician of this era, who is said to have written on plants, on breeding birds, and on theriaca, but to remark that his works are lost, and that the poem on the Virtues of Plants, ascribed to him, is the production of an obscure monk of the middle ages, or, as has been said, of the physician Odo. Of *Servilius Democrates* we should also have scarcely spoken, since his era is uncertain, and the subject is too uninteresting to induce us to engage in the disquisition, but that the more laboured composition of the Mithridate and Theriaca is professedly taken from his works by Galen. They were detailed in Greek iambics. Of an uncertain age also is *Philo*, whose name is preserved in the Philonium, a preparation described, according to Galen, in elegiac verses. In this prescription the corrector of opium is the euphorbium, as in the theriaca it is the squill. He seems to speak of himself as of the family of Asclepiades; but his age, we have said, is doubtful.

Scribonius Largus, of whom we have incidentally spoken, was of an era posterior to that of Celsus, though not so late as has been suspected from his style; a peculiarity satisfactorily explained, by supposing that he wrote in Greek, and that his work was translated by an inferior author. His tract on the composition of medicines contains many choice receipts, collected from different sources, chiefly private collections, and empirical traditions, which are not found to countenance the encomia with which they are introduced. Scribonius highly commends his preceptor, *Apuleius Celsus*, whose antidote against the hydrophobia he has preserved. Another pharmaceutist of that era was *Philenides* or *Philonides*, who wrote, according to Dioscorides, on white hellebore; but the chief author in this department of medicine was *Andromachus*, perhaps the first who was dignified with the title of archiater, though the honour of priority has been contested in favour of Democrates. The title has been equally the subject of controversy, and it has been disputed whether it meant the principal, or the emperor's physician. Galen, indeed, expressly observes, that such were his talents, not only in the medical but in the literary departments, that he was appointed ἀρχειν τῶν ἰατρῶν. He was the author of the theriaca, still known by his name, whose utility consisted not only in resisting the power of all poisons, but in giving calmness and hilarity, as well as removing the effects of fatigue. In this preparation the troches of vipers were designed to be the alexipharmic, and the opium the cordial, ingredient. This remedy, for more than one thousand five hundred years, enjoyed the highest reputation, and was prepared by kings and noblemen with the most accurate attention. The receipt in Greek verse is preserved by Galen. Andromachus has left no other memorial; but the works of his son are often quoted by Galen, though neglected by later authors, as he is not explicit respecting the preparation of his compositions, or the times of most successfully employing them.

Numerous are the collectors of formulæ in this period. Among these are the *younger Asclepiades*, called, probably for the sake of distinction, φαρμακιων; *Charicles*, highly commended by Tacitus, and *Menecrates*, perhaps of an earlier era, who first endeavoured to abolish the medical characters of weights and measures, as liable to be mistaken by transcribers, and to substitute words. The improvement, however desirable, was soon overlooked, and Galen complains that the characters were again employed.

There is much reason to suppose, that, from the time of Celsus, physicians again returned to the more certain road of observation and sound reason; but either the rage of innovation, or the desire of distinction, excited another sectarist, who, like Asclepiades in a former, and Paracelsus in a later, era, attempted to overturn all that his predecessors had collected. This man was *Thessalus Trallianus*, who boastingly styled himself, on his tomb, latronice. His father was of the lowest rank, and Thessalus himself without the advantages of education. This is the account, indeed, of Galen, who, on every occasion, eagerly censures him; but we have the evidence of Pliny to convict him of the most disgusting arrogance, and the most consummate ignorance. He gained access to his superiors by flattery, and a subserviency to their pleasures; nor did he profess himself a physician till he had disgraced himself by every species of infamy in their service. His system differed, however, very little from that of Asclepiades and Themison. If, in their opinion, health consisted in the pores being adapted to the fluid, and disease in their being unsuitable, Thessalus thought the same. But in the mode of relief he aimed at changing the state of the solids rather than the fluids. He also was the first who in fever ordered three days abstinence and rest, from which physicians were afterwards called *diatritarii*. His peculiar pathological opinions introduced a singular language, which has not been properly explained, viz. metasyncrysis and metasyncritical remedies. In the language of the methodic sect, συγκρίνεσθαι is opposed to διακρίνεσθαι, the former meaning to mix and unite, the latter to separate. Μεταυνκρινεσθαι, therefore, means the separation of bodies previously united. Cœlius Aurelianus uses the words recorporate and recorporatio. The chief works of

Thessalus, quoted by Cœlius Aurelianus, relate to diet; but Galen mentions his name on a subject of surgery, which leads us to suppose that he wrote some chirurgical tracts.

Among those who recommended themselves by the novelty of their fancies rather than their improvements, we may mention *Crinas*, of Marseilles, who only allowed food when the horoscope of the patient permitted; a system sarcastically hinted at by Juvenal; and *Charmis*, from the same city, who, with less discrimination and more eagerness than A. Musa, allowed only of cold baths and cold drinks. Authors of a superior character, in this era, were *Rufus Ephesius*, who was perhaps the first medical lexicographer, and who wrote De Nominibus Partium, and *Erotian*, whose Lexicon Hippocraticum is still a work of great value. Rufus, who is placed by some historians in the time of Trajan, wrote many other works, particularly one on the affections of the bladder. His poem, in hexameter verse, on plants, is wholly lost, unless, as has been suspected, the lines on the plants consecrated to the gods, added by Aldus to his edition of Dioscorides, and preserved in the Greek bibliotheca, be a part of it, as Fabricius suspects.

In this era also, from the age of Nero to that of Trajan, *Dioscorides* and *Pliny* lived. The vast work of the latter has furnished many parts of this history, and the materia medica is indebted to each author for the most important aid. We have mentioned them more particularly in another place. From the Preface to *Arius* it is probable that he was himself a practitioner of medicine, though to no great extent; and, from the predilection he seems to feel for the sect of Asclepiades, if we may guess from his almost exclusively quoting his followers, he was probably a Methodic.

It will be obvious, from this history, that the doctrine of the Methodics had, at no period, a very general currency, and about this time the Asclepiades were divided into many subordinate sects. One of these, the Episynthetics, endeavoured to reconcile the various discordant opinions of different authors; and another, the Eclectics, to select from each system what was most probable. The chief of the first was *Leonides of Alexandria*, whose works are lost, and from the quotations which remain in other authors, it is not easy to ascertain his peculiar opinions. The chief of the eclectics was *Archigenes of Apamea*, a most excellent author, highly commended by Haller in all the different departments of medicine. He was a scholar of *Agathinus*, one of the chiefs of the Episynthetics.

Another sect into which the Methodics divided, and which was at last absorbed in, or absorbed, them, the Pneumatic, merits more particular notice. The chief of this sect was *Athenæus of Attalia*, a man whose system, according to Galen, was polished with greater skill than that of any of his cotemporaries. The philosophy of the Pneumatics was derived from the Porch, since they allowed Chrysippus to be their great prototype. Athenæus supposed that fire, air, water, and earth were not really elements, but that their qualities, heat, cold, dry, and moist, merited this title. Following the Stoics, he introduces a fifth principle, viz. a spirit governing and directing every thing, and occasionally, when offended, inducing diseases. From this new principle they were styled Pneumatics. Agathinus, already mentioned among the Episynthetics, was in a subsequent period a Pneumatic, in consequence of his attending Athenæus. He explained, it appears, at some length, the principles of his sect, in a tract on Discoveries since the time of Themison. He wrote also on the pulse. *Herodotus*, *Archigenes*, and other physicians of character, were followers and pupils of Athenæus; but the fame of each was eclipsed by that of Aretæus. It is singular that he never mentions Galen, nor is mentioned by him; and, at the same time, the quotations of Ætius from Archigenes bear a considerable resemblance to the observations of Aretæus on the same subjects. Was the Attic dialect of Archigenes more agreeable to the Roman ear than the Ionic of Aretæus? or were they one and the same, differing only by a change of dialect? We must, for want of further information, leave this subject in its former obscurity.

The language of Aretæus is distinguished by a luminous terseness, which impresses the idea with considerable force. He can scarcely be styled a Methodic, and indeed bears few marks of that sect, and particularly differed from them in investigating the causes of diseases by anatomical dissections. The nerves, he supposed, did not run from their origin to their termination in straight lines, but crossed each other in the form of an X, passing in this way to different sides; and he thus explains the disease felt on the side opposite to that where the head was injured. His practice was that of the most judicious of the ancient physicians, and he was particularly fond of exciting vomiting by white hellebore. This operation, he remarked, relieves the breathing, changes what was of a bad colour to a good one, and restores plumpness to those who were emaciated. He used the most active purgatives, bled frequently and freely from different parts, though he argues very forcibly against the refinement of some practitioners, who prefer small veins, which are the branches only of those from which blood is usually taken. He employed arteriotomy, cupping glasses, and leeches; but preferred curing acute diseases by diet. He gave wine more freely than former physicians allowed, and employed opiates with little reserve. He was peculiarly partial to castor, as a nervous and antispasmodic medicine, thinking it also an assistant of digestion. He recommended asses', mares', sheeps', and women's milk, used frictions and the actual cautery, and advised the operation of lithotomy. In short, practitioners of any age will derive from Aretæus the most sagacious and useful medical observations. His practice is active, enlightened, and discriminated. Aretæus is, by some authors, referred to the age of Nero. His era is, indeed, uncertain; but the Ionic dialect was not wholly disused even in the time of Hadrian.

An author of this era, and of the Methodic sect, whose works are lost, was *Soranus* of Ephesus; and we have reason to regret it, because Galen, who loses no opportunity of criticizing the Methodics, speaks respectfully of Soranus. They were translated in a barbarous style by Cœlius Aurelianus, an African; but even in this dress they have reached us in an imperfect state. Yet from Cœlius we have the only systematic and connected view of the Methodic doctrine; for by Soranus only it was brought to a perfect state. As the cycles of the Methodics are often mentioned in medical works, we shall add a short description of the meaning.

The cycles were periods supposed to consist of three days each, or combinations of three, and during these the same plans were continued; but at the end of each cycle the exertions were increased, so as at last to rise to the most active measures. The resumptive cycle consisted of common foods: the metasyncritic of a more acrid and stimulating diet, with frictions, baths, rubefacients, sternutatories, &c. The cyclus vomitorius was distinguished into two, as the vomits accompanied the sparer diet of the first, or the more stimulating diet of the second. Each cycle consisted of four diatriti, though sometimes prolonged to sixteen days; the additional diatrition containing four days.

We have already observed, that in all the wanderings of the fancy, the natural good sense of physicians occasionally brought them back to the safer road of patient thinking, and accurate observation, which so much distinguished the Hippocratic school, the real μεθοδος of the healing art: but we have now to notice the revolution which for ages gave a stability to the science of medicine, and fixed an oracle, who for more than one thousand five hundred years dictated to the world, and whose decisions were listened to with the most implicit deference. We allude to Claudius Galenus, of Pergamus. Galen lived in the second century of the Christian era, and was born during the reign of Severus. He studied at Alexandria, but chiefly practised at Rome, and was the physician of the amiable and benevolent Marcus Aurelius, one of the few emperors who added lustre to the purple. Galen was distinguished in his earliest years, for a lively fancy and uncommon ingenuity. He attained all the learning of that era, and was soon disgusted with the prevailing systems of medicine. He professed, indeed, to select from each what was most valuable; but has almost exclusively confined himself to commenting on and illustrating the works of Hippocrates, which he thinks succeeding physicians had either misunderstood or misrepresented. Yet he seems to have taken the qualities of the four elements from Athenæus; and though Hippocrates mentions, somewhat equivocally, the Spirit, he apparently borrows the vital, animal, and natural spirit from the Pneumatics. Galen wrote very diffusely on every part of medicine; but he added only dress and ornament to the system of Hippocrates. In fact, minute distinctions, refined speculations, and abstract reasoning are the whole for which the medical world is indebted to him. They did not lead Galen himself from the path of truth; but they had the most fatal influence on his successors, who speculated when they should have observed, and reasoned when they should have acted. The doctrine of concoction, the most fatal idea which ever occurred, was completely established in the school of Galen.

The splendour of Galen's fame dazzled his cotemporaries and successors, so that we find few who afterwards dared to think beyond his circle. *Quintus Serenus Samonicus* wrote, in Latin verse, on medicine in the following century; but whether that was the work of the father or the son is still doubtful; nor does its real merit call on us to enlarge on it. *Alexander Aphrodiæus*, who wrote a treatise on fevers, and a work intitled Interdicta Medica, and Problematica Physica, scarcely deserves more attention. *Oribasius* has been styled the ape of Galen. The twenty-fourth and twenty-fifth books contain, indeed, an abridgment of Galen's anatomy; but we find a description of the salivary glands, which, if known to the Pergamenian, has never reached us in any of his works. Oribasius, who lived till near the latter end of the fourth century, was the physician of Julian, and his collections were completed about the year 360. It is not, however, true that he collected from Galen only; for even in his first fifteen books, the only ones we possess, except the anatomical ones, other authors are mentioned, and we find numerous quotations from preceding physicians. Oribasius was not only a physician, but high in the confidence of the emperor Julian, who appointed him the Quæstor of Constantinople; and though in the succeeding reign he was for a time disgraced, and even banished, his real merits were too considerable to admit of the continuance of his exile.

His anatomy, we have observed, was copied from Galen; but the remaining books of his medical collections, amounting, it is said, in the whole to seventy-two, besides his quotations from authors now lost, contain some practical remarks of importance. His recommendation of scarifications, instead of cupping, is not, we think, one of these; for ligatures, bathing the legs, and the application of stimulants previous to the use of the lancet or needle, answered the same purpose as the rarefaction or exhaustion of the air.

Oribasius first described the singular madness styled Λυκανθρωπια, in which the patients avoid the society of mankind, haunting the most desolate places, and wounding themselves with stones, &c. Some critical disquisitions have been employed to determine whether they "*open*" the tombs, or only "*dwell*" among them. The question is of little importance, though, as it is confessedly the disease mentioned in the New Testament, if we recollect rightly, the possessed are there said to "*come out* of the tombs exceeding fierce;" and the tombs of the pagans were generally open to receive the oblations to the manes of the deceased. As we have pronounced the question to be a trifling one, we shall not enlarge on it. Oribasius wrote four books also on diseases, and several others, which were chiefly abridgments of Galen. Some receipts, quoted by Ætius, seem to be his own; but the commentaries on the aphorisms of Hippocrates, attributed to him, are of a much later era. Excepting the collections, the nine books of his synopsis, addressed to the younger Eustathius, and four, De Euporistis, to Eunapius, are the only works which remain of this author, who certainly merits more attention than he has received.

About the same era *Nemesius*, bishop of Emesa, abridged the physiology of Galen, intitled Natura Hominis. *Vindicianus*, the archiater of Valentinian, addressed to that emperor his Carmen Epistolare; and *Theodore Priscian*, the disciple of Vindicianus, and archiater to the second Valentinian, wrote his four books De Curatione Morborum. The last work has been attributed to *Q. Octavius Horatianus*, the disciple of Priscian, and under his name the treatise is annexed to the Strasburg edition of Albucasis' Surgery. Several authors of this century, whose works are still extant, merit little more than the mention of their names. The chief is *Marcellus Empiricus*, who wrote De Medicamentis Empiricis; *Plinius Valerianus*, whose work De Re Medica is referred by Gunzius to *Siberius; Vegelius Renatus*, a different person from the Tactitian;

and *Cælius Aurelianus*, already noticed, the last medical author who wrote in Latin.

After the lapse of nearly one hundred years, in which scarcely the name of a physician is recorded, we meet with *Ætius of Amida*, of whose sixteen books (iv tetrabiblia) but eight have yet been published in Greek, though we possess the Latin version of the whole. He is chiefly distinguished as an original writer, by his chirurgical operations, and in this line his practice seems to have been extensive. In medicine he recommends punctures in dropsies; but the observations on these subjects are taken from Archigenes and Leonides. His remarks on cauteries, both actual and potential, are more peculiarly his own. He advises them freely in many complaints, and directs numerous drains to be made. To keep these open by tents seems to have been the improvement of a subsequent era; for in many places where caustics are recommended by Ætius, tents could not be used. Setons are only mentioned 800 years afterwards. From Leonides he also describes the dracunculi, by modern authors called the *venæ medinenses*, an appellation given by the Arabians. Ætius, who had studied at Alexandria, introduced much of the Egyptian pharmacy, and was particularly fond of external applications. He introduced also charms and amulets, so common in the same country; and, though a Christian, and an officer of the emperor's household, seems not to have been exempt from credulity. Many boasted and high priced remedies he has taught us to prepare; but adds no opinion of their utility, though of other medicines, and indeed generally of those truly valuable, his encomia are usually warm.

Palladius of Alexandria was but a few years later than Ætius, and his Synopsis of Fevers, as well as his Commentaries on different parts of Hippocrates, are still extant. He differs, however, little from the system of Galen, and merits no particular notice.

Alexander Trallian, so called from his native place, Tralles, a city in Lydia, was nearly of the same era, and a writer more original than any that have occurred to us since the days of Galen. He limits his observations to the signs of diseases and their remedies; and though he shows too great confidence in the efficacy of some apparently trifling medicines, and is particularly fond of amulets; yet, in many parts of his work, he displays great judgment, and extensive experience. His observations on bleeding in syncope are valuable, and those on the use of emetics, particularly of purgatives in fevers, highly useful. He is apparently the first author who mentions rhubarb; but he certainly means the Rhapontic, as he speaks of it only as an astringent. The white hellebore had at this period been neglected, and even Alexander speaks slightingly of it: nor was it again recommended till *Asclepiades*, more than fifty years afterwards, employed it with success. Alexander was by no means a servile follower of Galen. On the contrary, he frequently differs from him, and in some instances, particularly the treatment of hectics, boldly pronounces him wrong.

Though Christianity was now established, and the physicians lately mentioned were Christians, yet the next author was the first monk who wrote on, and probably practised, medicine. We shall call him *Theophilus*, though, from his sanctity or his talents, he was also called *Philotheus* and *Philaretus*. There is, however, a singular confusion arising from the name of Theophilus, which was given to a cotemporary of Alexander, called by him *Jacobus Psychrestus*, or *Psychochrestus*. The latter was by birth an Alexandrian, archiater to Leo the Thracian, and a count of the empire. If they were, therefore, the same, he must have become a monk in his latter years, a circumstance by no means uncommon. Jacobus Psychrestus left apparently behind him no medical work, though Theophilus, who by some historians is placed in the beginning of the seventh century, and certainly a different person, is the author of five books De Fabrica, in the collection of Celsus Crassus, and a tract De Urinis, the first work professedly on the subject, in Henry Stephens' Principes. His scholar, *Stephen of Athens*, was the author of a Commentary on some part of Galen's works.

Paulus of Ægina is the last author that claims our particular attention. He flourished near the end of the seventh century, and was the first physician who, by his particular notice of female diseases, appears to have paid very particular attention to them: indeed he seems to have practised midwifery. In medicine he does not merit any great regard; but his surgical observations are valuable, and often new. What relates to lithotomy and herniæ are the most important parts; but the observations on aneurisms are sometimes new, and generally valuable.

Some Byzantine physicians, dimly seen through the obscurity of the darker ages, we may shortly mention. *Nonus*, who lived near the end of the tenth century, by the command of Constantine Porphyrogenetus, wrote an Epitome of Medicine, chiefly taken from Ætius, Alexander, and Paulus; and near a hundred and fifty years afterwards, *Symeon Lethius*, who held some office in the palace of Antiochus, wrote a Syntigma de Cibariorum Facultate, in which he copied chiefly the work of *Psellus*, who was his cotemporary. Both treatises still remain, but are of little value. Demetrius Pepagomenus, near the end of the thirteenth century, was a distinguished author on hawking; but he was the physician of Michælis Palæologus, and left also a Treatise on Gout. Somewhat later lived *Myrepsus*, the author of the *Antidotarium;* and the scene closes with John, the son of Zachariah, honoured with the title of *Actuarius*, nearly answering to what we mean by physician in ordinary, in the court of Andronicus Palæologus. His six books on the Methodos Medendi, and his Treatise De Urinis, have been commended by some practical authors; and the latter was thought, by H. Stephens, worthy of a place, in his valuable work, among the Principes Artis Medicæ. All his works are in a great measure compilations from his predecessors, but there are some original observations respecting the palpitation of the heart, in which Actuarius seems first to have recommended bleeding and purging. He is also the only Greek physician who speaks of the milder purgatives, as senna, manna, cassia, and myrobolans. The pods of the senna were then only employed, and it was brought from Syria under the name of a fruit. These medicines were professedly borrowed from the Arabians, whom he calls barbarians. He mentions sugar, also, and what seems to have been distilled water of roses, derived from the same source. Indeed

distillation appears to have been known prior to the era of Actuarius, which was probably about the end of the eleventh century.

We have greatly regretted, in this long career of the Grecian medicine, that no author has connected the revolutions of this science with those of the Grecian philosophy. We perceive, in every step, how greatly they would illustrate each other; and, but for the extent to which our article would be thus drawn, we should have enlarged a little on the connection. We have, in this part of our history, traced, with anxious care, the succession of the different sects, the influence of prevailing opinions, their alternate fashion or decline, and while these, with some neglected portions of the history, have detained us, we have certainly omitted, not without design, what may be found in every common author. We ought not to conceal that the history of medicine has not hitherto been that of a science. We have seen the scattered limbs: we wished to see them connected, so as to form an entire body; and of this connection we have endeavoured to give the outline.

While we have less anxiously detailed the medical opinions of philosophers, we must not omit some observations of Dr. Friend, whose history is chiefly filled with discussions on different portions of ancient medicine. He remarks, that the historian Procopius was probably a physician, from his minute and scientific description of wounds, and of the plague. He adds, too, that the professional character of St. Luke is obvious, not only from his more polished language, but from his expressions relating to diseases. The curiosity of the subject has led us to pursue it, and we certainly find, in the relations of the cures effected by the miraculous power of our Saviour, the elegant terseness of Aretæus.

When science declined in the west it again rose in the east. In pursuance of the plan just mentioned, we have not omitted to notice the gradual steps by which medical knowledge gradually approached its former cradle, seeking, in its decline, the protection it had received in its commencement. In the later ages of Grecian medicine we perceive a strong predilection for an education at Alexandria, and we have already traced its progress in Asia, as we catch transitory glances of its occasional appearance. Alexandria, once the receptacle of the famous library, burnt by accident during Cæsar's attack, received, in return, by the bounty of Anthony, the famous collection of Mithridates, already mentioned as a legacy to the Roman people; and even at the commencement of the ninth century its professors were highly celebrated. Other circumstances favoured the progress of medicine in the east. When Valerian was conquered by Sapor, the king of the Persians, and carried captive to his new city, Grandisapora, he was followed by many Greek physicians. So early as the sixth century a medical school was founded in that city, and an hospital established in it. Hospitals were, indeed, not unknown in the latter ages of the Roman empire, and seem to have been first established before the reign of Justinian Its school was highly celebrated, and much frequented by the Arabian physicians, even at the time of Mahomet; but Persia was conquered by the Saracens in the year 460, and medicine was scattered by their means through the wide extent of their tributary regions, even to the confines of Spain. Previous, however, to the conquest of Valens, Sapor had married the daughter of the emperor Aurelian, and probably the medical knowledge of Greece had already attracted the attention of the Persians. They left, indeed, no traces of their acquisitions; for the earliest eastern medical authors were Syrians. *Aaron*, the presbyter first collected what he called the Pandects of Medicine, from the Greek, about the time of Mahomet, A. C. 622, which were only translated into Arabic by Masergawaihus, in 683. Near a century afterwards we find Alexander, the second caliph of the house of Abbas, requiring the assistance of *Bactishua*, who resided at Grandisapora; so that this city still retained its character for the acquisition of medical science, and the family of Bactishua continued famous for many succeeding generations. To them the eastern nations were indebted for many translations of the Grecian authors into Syriac and Arabic.

All these translations, and even *Honain's*, were very imperfectly executed, though the latter, disgusted by the treatment of Mesue, had retired two years to the Grecian islands, where he had cultivated his knowledge of their language. Indeed, on all occasions the Arabians take the liberty of altering the arrangement, and often the sense, of the Greek authors, so that they can scarcely be recognised in their new forms. The names of plants are also so much changed, that many are, at present, unknown.

Mesue was the first author, after Aaron, who wrote on medicine. He also is styled a Syrian, as he probably wrote in the Syriac language, and was apparently educated under one of the descendants of Bactishua. Yet, when we compare his works which now remain with the criticisms of Haly Abbas, we are obliged to remove him to a later date, or admit, with the best historians, that there were two or more of that name, of very different periods.

Serapion seems to have been next in succession to Mesue, and was probably the first medical author who wrote in Arabic. Historians have differed also about his era, and the knot, as usual, has been cut, by supposing that there were other authors of this name; for Serapion is only a Patronymic; but Haly Abbas, who wrote near his time, quotes his works as they have been handed down, and places him between Mesue and Rhazes. In other respects he merits little attention.

Rhazes, the great luminary of the Arabians, flourished about the middle of the tenth century. To him it is supposed that we are indebted for the first description of the small pox; and, in fact, he is the first author on this subject which has reached us, though we are informed that it was publicly described by a preceding physician, *Amrou*. The two great works of Rhazes are the *Continent*, and the ten books styled *Almanzor*, addressed to Mansor, king of the Corassini. The first appears rather a common place book, in which facts and observations are obscurely noticed for his own recollection. The second is a full and complete view of medical science, taken almost exclusively from the Greek physicians. Rhazes, however, was the first author who spoke professedly of the diseases of children, and he first described the spina ventosa. The Arabians are said to have been the earliest physicians who applied chemistry to medicine, and chemical remedies have been attributed to Avicenna. We were therefore anxious to

point out the early traces of this connection in the Greek authors; and Rhazes certainly, in many instances, spoke of chemical preparations.

Haly Abbas, or Haly, the son of Abbas, we have already mentioned. His only work is styled Almaleki, or the Whole Book of Medicine. One half of this work is theoretical, and the other practical. Haly, however, is chiefly valuable for his remarks and criticisms on Mesue, Serapion, and Rhazes. Liberal in his censures on others, he has added nothing from himself to the stock.

Avicenna is the most celebrated author of the Arabians. He flourished early in the eleventh century, and was born at Bockara, in Chorasan. He was the last of the Arabian authors of medicine; for his successors were born in Spain, where the Saracens were then triumphant, and little communication seems to have been held between the eastern and western empire. Avicenna has, however, little of his own: he was merely a compiler, though his chief wark, his Canon, was for centuries commented on, and the syllabus or foundation of the lectures in every university. Of *Albucasis*, undoubtedly the same author who is sometimes styled *Alzaharavi*, we have already spoken in the history of surgery. It is, therefore, only necessary to mention him, as it preserves the connection with the Arabian authors, and to add, that he flourished near the end of the eleventh century.

Avenzoar, or the son of Zohr, was an Arabian of the western empire, born at Sevil, in Spain, apparently about the beginning of the twelfth century. He lived to the very advanced age of a hundred and thirty-five, and continued his practice to the last, from which he has been called *Experimentator*. The term probably implies the *experienced;* for he deserves not the title of *empiric*, which, in the opinion of some authors, this term implies. He treats of medicine in a rational, often in a dogmatic, manner, and seems first to have described the inflammation of the mediastinum, and of the pericardium, as well as the dropsy and empyema of the pericardium. It is a singular remark, that he cannot follow Galen's advice in giving asses' milk in consumptive cases, as it is unlawful for the Saracens to drink the milk or eat the flesh of this animal, and that he, therefore, substituted goat's milk. It is only, however, to the stricter sects of Mahometans that the ass is an abomination; but this circumstance may account for the use of goat's milk. He first recommended the bezoar, and seems to have been particularly expert as a surgeon. From some parts of his works we should even suspect that he had dissected dead bodies. In his time, surgery, pharmacy, and medicine, seem to have been practised by different persons, and neither Avenzoar nor Averhoes quotes the Arabian physicians of the east. The little connection between the Arabians of the east and west seems to have been owing to a political, or rather a religious, dissention respecting the true caliph.

Averhoes was also a Spaniard, who flourished early in the thirteenth certury; but rather distinguished for his Commentary on Aristotle than for his medical writings. His Compendium Medicinæ, however, in seven books, has been highly commended by some authors.

Mose Ben Maimon, a scholar and a cotemporary of Averhoes, was born at Corduba; and, though a Jew, was archiater of Saladin, the sultan of Egypt. He was the author of a Treatise on Regimen, addressed to the sultan of Babylon, and of Aphorisms, according to the Doctrines of Hippocrates and Galen.

The works of some other Arabian authors are extant, particularly of *Abenguefit*, *Bulcasen*, *Jesu Haly*, *Camanusali*, &c.; but we cannot find that they contain any thing peculiarly interesting to the progress of the science. Indeed, during its cultivation in the east, we find little added to the stock. The Arabians certainly introduced many new medicines, made some additional progress in medical chemistry, and mitigated the severity of the Grecian practice. The new diseases, which they described, are few. The small pox was a native of the east, and the others were in no respect highly important. They seem, therefore, to have cherished, and but slightly to have animated, the spark. The Arabian writers refine, indeed, with great fancy, and distinguish with the most minute precision; but their metaphorical and ornamented language they have wisely left to their poets. Perhaps, from the example of their Grecian masters, they are often concise, and generally reason with correctness and precision.

Thus while medicine was declining in Greece it was kept alive in Arabia; but it seems scarcely to have survived the thirteenth century in either. This was the period of its downfal. Europe and Asia were obscured by the cloud of ignorance, and the arts of war or poetry were alone cultivated. European genius began first to penetrate the obscurity; but in this cloud of barbarity we for a long time catch but a few imperfect rays. As we found medical science stealing by almost imperceptible steps from Greece to Asia, so we shall here perceive, that, from the western extremity of the extensive empire of the Saracens, it gradually expanded to different parts of Europe. It is too much the fashion to refer the spread of knowledge to the Crusades. The human mind wants not such a powerful momentum: the gradual expansion of its own powers will solve the problem. The short distance from Spain to Italy, and the constant intercourse, even at this time, gradually introduced the medical knowledge of the Arabians to the latter country. It has been supposed that Latin, Hebrew, and Arabic professors of medicine were settled at Salernum in the seventh century. This opinion has, however, no well founded support; but it must have attained some credit, as a school, before 802, when Charlemagne founded a college there. It will be obvious, however, that, at this period, medicine could have gained little from the Arabian authors, since they were then imperfectly known even in the east; so that if, in reality, Salernum was so early a school of medicine, it must have gleaned the little knowledge it possessed from the later Grecians and the Byzantine authors. We are consequently ready to deny this early antiquity of Salernum as a seminary of medicine, and the more willingly, as its first author, *Constantine the Carthaginian*, flourished only at the end of the eleventh century. He did not collect all the accumulating science of this establishment of Charles the Great, but is expressly said to have resided, for a long period of his life, in Babylon and Bagdat. He was appointed secretary to Robert Guiscard, duke of Apulia, about the middle of the eleventh century; and there is much reason to believe that Salernum was established as a medical school about that time. Its appellation, Civitas

Hippocratica, shows that it was considered to be a scion of the Grecian stock; and, however barbarous the Latin style of the African may appear, it is said that he was intimately acquainted with Greek. He was afterwards a monk of Mount Cassino, thence called Cassinus, and dedicated his work, *Breviarium dictum Viaticum*, to its abbot, Desiderius, raised afterwards to the purple by the name of Victor the Third. Several other works, particularly the Antidotarium, and the Loci Communes, were written by him; but the substance is copied from the Greek and Arabian authors: the latter is apparently a servile translation of the work of Haly Abbas, though professedly an original, and, as he remarked, greatly wanted. The *Schola Salertina*, a Treatise on Diet and Medicine, in leonine verses, was probably composed very early in the twelfth century, and was for a long period highly celebrated. It is said to have been written by John of Milan, and was dedicated to the duke of Normandy, son of the conqueror.

Salernum perhaps justly boasts of its priority as a medical seminary, and the school of Montpelier is the next, the foundation of which Astruc, in his memoirs on this subject, refers to 1150. That of Paris was founded, according to Naudæus, by papal authority, in 1220, and the school of Bologna in the following century. To this chronological series there is but one objection, that *Ægidius*, whose Latin hexameters on *the Virtues of Medicines, the Urine, and Pulse*, written towards the close of the twelfth century, is somewhat severe in his reflections on those who were educated at Montpelier; a circumstance which must have arisen, if the dates are admitted, from personal opposition, as the character of the school could not have been, at so early a period, ascertained.

Few, however, were the physicians of character educated in these seminaries. One road to fame and fortune was obstructed; for the chief physicians of kings and princes were Jews; nor was the intolerance of the Spaniards so rigid as to reject this nation when their own lives and healths were in danger. The emperor Frederick II. attempted to restore the study of anatomy. In his Treatise on Hawking he introduced several valuable remarks on comparative anatomy, and instituted public dissections and demonstrations. Fifty years after this attempt, his laudable career was checked, in 1300, by a bull of pope Boniface, who forbade the dissection and preparation of the human body. To this edict Mundinus alludes, when he declines a demonstration of the internal parts of the ear; because it is necessary to separate the bones by boiling, which "*propter peccatum dimittere consuevi.*" Mundinus was an anatomist and a physician of considerable celebrity: indeed, so great was his credit, that any observations on the structure of the body, which did not coincide with his, were supposed to relate to lusus naturæ.

Arnold of Villanova and *Peter Julian* the *Spaniard* (afterwards pope John XXI.) were both celebrated for their knowledge of medicine, about the end of the thirteenth century. The former has been chiefly commended for his chemical knowledge; but, though none of his works remain, it is certain that he was not less famous as a practical physician. The latter was the author of several works, both physiological and practical; but all are copied from the Arabian or the Greek authors.

Gordonus, a Scotchman, was professor at Montpelier early in the fourteenth century, and his system of the practice of medicine, entitled *Lilium Medicum*, contains some remedies not yet wholly forgotten. These are the troches, which still bear his name, and the pulvis ad guttetam. *Petrus de Apono*, an author of the same era, was one of the first professors in the university of Padua, then recently established. His chief credit was derived from his chemical remedies, of which very few were invented by himself. He practised at Bologna, and attained a high degree of reputation, with a handsome fortune. Apono commenced a supplement to Mesue, which *Francis of Piedmont*, in the service of Robert, king of Naples, continued.

Another physician in the service of Robert was *Joannes Sylvaticus*, styled Pandectarius, from his Pandects, or Medical Vocabulary. He was a Mantuan by birth, and educated in the school of Salernum; but his Pandects are written in so singular a style that they contribute little to their professed object, the explanation of the Greek and Arabian authors, and actually require a dictionary to explain them.

Nichol. Nicolus de Falconius, a Florentine, was nearly a century later, and must be distinguished from Nicholaus, a Florentine also, but of a later date, a celebrated patron of science. He appears to have been a physician of no common genius and learning; but his most distinguished work is his *Sermones Medicinales*, published at Venice, in four volumes, folio. The last author we shall mention is *Valescus de Tarenta*, who has given a compendious view of the doctrines of the Arabians, and of the physicians of the middle ages. He lived in the fifteenth century, and is one of the few authors who give opinions of their own. He appears to have been an able and experienced physician.

During this obscurity, Greece still retained her former treasures, and could boast of a few physicians to whom they were not unknown, and by whom they were not neglected. A warlike race, whose martial spirit was aided by enthusiasm, burst at once from its fastnesses, and soon overwhelmed the Roman empire in the east. The Turkish emperor, Amurath, in the year 1430, took by storm Thessalonica, from whence *Theodore Gaza*, a man of considerable learning, escaped, with some of his literary treasures to Italy. When Constantinople was taken, a few years afterwards, and the Byzantine kingdom wholly overturned, many others followed his example. All were warmly received by Lorenzo de Medicis, and the manuscripts, thus rescued from oblivion, soon disseminated the stores of Grecian poetry, history, philosophy, and medicine. The human mind was roused from its lethargy by many other events in this century. The invention of printing facilitated the communication of knowledge. Colon and De Gama discovered, or facilitated, the access to either India, from whence the materia medica gained new acquisitions. The Scurvy, first observed in Germany, in 1482; the Sudor Anglicanus, first noticed about the same time, followed by the Lues Venerea, and the Morbus Petechialis in Italy, equally animated the spirit of enquiry to prevent or relieve the effects of such afflicting scourges. During this era *Fracastorius* and *Massa* were the chief luminaries of the Italian schools; *Sylvius* and *Fernelius* of the Paris; Lommius, the excellent author of the *Observationes Medicinales*, was a disciple of Fernelius, and practised at Brussels. All these authors were warm

admirers of the Hippocratic medicine, and with equal zeal and perseverance endeavoured to revive it. *Botallus*, a Piedmontese of this era, a disciple of Fernelius, archiater to Charles IX. and Henry II. of France, chiefly distinguished himself by his recommendation of profuse bleeding. In this practice he might have found examples both in the medical authors of Greece and Arabia; but evacuations, so indiscriminate and profuse, must be often injurious. The fatal effects of his plans are even yet felt; for, in France, venesection, almost forgotten in England, is still freely and copiously practised. *Duretus*, *N. Piso*, and *Hollerius*, were also French physicians, but with more correct views, under the guidance of Hippocrates, whom they admired and illustrated. De Gorris (*Gorræus*) and *Fœsius* of Dijon were equally able illustrators of the ancients in the *Definitiones Medicæ et Oeconomia Hippocratis;* but the most striking features in the history of this era are the attention paid to prognostics, and the publication of select observations and consultations. For the latter we are indebted to Forestus and C. Piso.

As we approach nearer our own times, we shall pass more hastily on; and, as we have explained in distinct articles the prevailing systems of medicine, we shall connect only the historical links, except where we find any important fact omitted or misrepresented. The extravagant and erring spirit which we have in this history so often found expatiating beyond the sphere of sober investigation and patient observation, seems again to wander in the 17th century. In its commencement, indeed, *Bellonius* and *Riverius* still pursued the system of Hippocrates; and though *Sennertus* endeavoured to unite the doctrines of the Coan school with the more judicious parts of the chemical system which then began to prevail, it was reserved for *Van Helmont* to inundate the whole science with the mysticism of the alchemical doctrines and language. *Paracelsus*, who first introduced chemistry into medicine, was an ignorant boaster, the Jatronice of modern eras, professing to cure all diseases by chemical remedies. He burnt, in solemn state, the works of the ancients, as no longer necessary; and, in possession of the universal medicine to secure immortality, died himself in an hospital at the age of forty-seven. He lived near the middle of the 16th century, but then appeared like a single transitory meteor, so that we reserved any notice of his extravagancies till we could combine the whole of the chemical sect. Van Helmont, the next in succession, was a man of superior talents, distinguished by sagacity and judgment, which might have been more advantageously directed, but which still render his works, collected by his son, not unworthy the attention of the modern physician. He is considered as the first discoverer of factitious air, to which he gave the name of gas; but Rey had published, somewhat earlier, essays on the cause of the increase of weight in lead when calcined. His son was more mystical than the father, but acute and ingenious, and the friend of Leibnitz. He was succeeded as a chemical pathologist by *Sylvius de la Boe*, whose doctrines of alkalis, acids, and effervescence, even to our own time, disgraced the science. The prevalence of the chemical system, in the school of Leyden, probably led Boerhaave to select some portion of Sylvius' doctrine to fill up his eclectic system; and Hoffman, amidst more judicious and scientific views, returns often with a partial fondness to acids, alkalis, and acrimony. In our own times the chemical doctrines infected Willis and the whole tribe of Boerhaavians; nor are we, at this moment, exempted from the mania, under the more fashionable names of oxygenation and deoxygenation.

This century was, however, distinguished by exertions more honourable for science. It was the era of the discovery of the circulation of the blood, a subject already noticed, and of the dissections of animals, to ascertain many important points of physiology. In both Harvey was a distinguished and active philosopher; and, while the circulation was decried or opposed by ignorance or prejudice, his other labours were warmly received. *Spigelius*, *Sanctorius*, *Asellius*, *Pecquet*, the two *Bartholines*, and *Rolfincius*, equally promoted physiology, or disseminated the discoveries of others, obtained by their dissections, assisted by the newly discovered art of injections, and the use of lenses; for microscopes, in the complex sense now affixed to the term, were the invention of the following century.

Another distinguishing and honourable feature of this century was the institution of medical and philosophical societies. Our own Royal Society was the first of these, and it was followed by the Academy of Sciences at Paris in 1667, established by the judicious and penetrating Colbert. The Academia Naturæ Curiosorum was at first a private society, and *its* origin is traced from 1652; but it was established, some years afterwards, by the authority of the emperor Leopold, and then styled Academia Cæsareo-Leopoldina. Its publications were continued, under various titles, till within these few years. It will fill but a small space to pursue this subject. The Royal Society at Berlin was founded in 1700 by the advice of Leibnitz, and first published its transactions (Miscellanea Berolinensia) in 1710; the Petersburgh Academy in 1724, which first published its "Commentarii" in 1726; the Bologna Society, founded by Marsigli, first published *its* "Commentaries" in 1731. The Breslaw collection, afterwards called Commercium Noricum, was published from 1717 to 1731, under the former title; and from that time to 1745, under the direction of Dr. Trew, distinguished by the latter. The Royal Society of Norway began to publish their transactions in 1771; of Denmark, in 1745; and the Royal Academy of Sweden in 1739: the Royal Society at Upsal in 1720; of Bazil in 1751; of Gottingen in 1752; and of Montpelier in 1766. Within the years 1771 and 1792 we have seen philosophical societies established in Hesse, Philadelphia, Brussels, Boston, Ireland, Padua, Edinburgh, Calcutta, and New York. These have admitted into their plan medicine as a branch of natural philosophy, and several medical improvements of importance have been published in their successive volumes. Establishments more closely connected with medicine are also numerous. The first work of this kind was Thomas Bartholine's Cista Medica Hafniensis, in 1662; and a similar one appeared in 1679, at Paris, entitled New Discoveries in every part of Medicine by Nicholas de Blegny. The Zodiacus Medico Gallicus, in Latin, by Bonnet, succeeded in the following year at Geneva; and in the same year, the lexicographer Blanchard published, in Holland, Collectanea Physico-Medico. The Recueil Periodique d'Observations de Medicine appeared at Paris in 1754, and was continued

under the title of Journal de Medecine; but this collection was preceded by the Medical Essays of Edinburgh, which were begun in 1733, and continued to 1742. These were succeeded by three volumes on a more extensive plan, entitled Essays and Observations Physical and Literary, and by the Medical Commentaries of Dr. Duncan. Two volumes of a collection entitled Acta Medicorum Suecicorum have appeared, which are not, however, exclusively medical, and two volumes of collections of a medical society at Copenhagen. The Royal Medical Society at Paris published their first volume at Paris in 1779, and continued their volumes, at irregular intervals, till the year 1788. Four societies have collected medical observations in London; the college who published their first volume in 1768, and their third in 1785; a society who published "Medical Observations and Enquiries" in six volumes, from 1757 to 1784; another society, to whom we are indebted for "Medical Communications," of which two volumes have appeared, commencing in 1784, and concluded in 1790; the Medical Society, whose memoirs are still continued, and have extended to six volumes; and another society, whose collected labours are entitled Transactions for the Improvement of Medical and Chirurgical Knowledge, in two volumes, appeared in 1793 and 1800. A collection also, entitled Medical Facts, has been continued in numerous volumes; and medical journals in a profusion which baffles our enumeration.

The conclusion of the 17th century was distinguished by some of the brightest luminaries which have illustrated this science; *Sydenham*, *Morton*, *Baglivi*, and *Boerhaave*, though the fame of the latter was chiefly conspicuous in the next century. Of Sydenham and Morton we need not speak, for their merits are sufficiently known; and the Boerhaavian system we have explained in a separate article. In treating, however, of this venerable and highly respected eclectic, we have mentioned a philosophical sect, whose tenets we have not explained. In fact, the sect fell so nearly within each century, that it was not easy to fix accurately its precise era. The application of mathematics to astronomy by Kepler, and to the laws of motion, as well as to the system of the world, by Newton, led to the opinion that its powers were irresistible, that it might unfold every secret of nature. *Borelli*, at the end of the 17th century, applied this science where it properly admitted of application to the motions of animals, and showed the advantages and disadvantages derived in these motions from the origin and insertion of the muscles. His scholar, *Bellini*, in the beginning of the following century, went farther, and, from mathematical data, endeavoured to explain many functions of the human body. *Keil*, a philosopher and a mathematician, rather than a physiologist, calculated from imaginary data the power of each organ, and gave the stomach, for instance, a force of compression which must so overcome the resistance as to destroy its organization; and *Pitcairn*, with his followers, calculated the ratio of medicines in proportion to that of the consitution. In the principles of medicine of this last author, and in some of the early volumes of the Edinburgh Medical Essays, this phrensy is carried to a most ridiculous height, indeed so far as to undermine its own best security; for, if such were truths, mathematics had no certain foundation. From the chemists and the mathematicians, as we have seen, Boerhaave drew his theory; but his practice was founded on the sound observations of the Coan sage, and his most respected followers. The fatal doctrine of concoction held its ground, and was supported in all its rigour. Thus fever was not to be checked, but encouraged: most destructive delusion! millions have been the victims to this fancy.

While Boerhaave held the reins of empire, and ruled with a sway almost as absolute as that of Galen, two rivals arose who overturned his apparently well established dominion. Hoffman and Stahl were rival professors at Halle, yet without acrimony, and without, at least, open opposition. Hoffman was a voluminous writer, but not the founder of a sect; for he does not always reason with consistency, nor are his arguments directed to any definite system. He wanders from the mechanical to the chemical doctrines; but, in the midst of these, directs the reader's attention to the exertions of the vital powers, in changing the direction and the balance of the circulation. Stahl, with scarcely less industry, but with acuteness and talents eminently superior, aimed at changing the whole of the science. He acknowledged, with Van Helmont, a ruling power, guarding the constitution against disease, and repairing every defect which might occur; but, with this superintendance, he considered the human system as a living and an irritable machine, susceptible of various and irregular motions, and consequently of topical congestions. This is the meaning of "spasm," of "tonic motion," and similar expressions; nor can we avoid the suspicion, that, when Hoffman speaks of spasm, he means what Stahl styles his tonic motion, for each is attended with topical congestions. Whatever becomes of this idea, it is evident that the germ of this new doctrine gradually expanded. Even Boerhaave, in his later years, did not reject the consideration of a nervous fluid, though consistently with his humoral pathology he considered it as "inactive;" and Gaubius his successor treats at some length of the diseases of the vital solid. Indeed the heresy began in his own family; for his nephew, Kauw Boerhaave, who practised with credit at Petersburgh, considered the influence of the nervous system in his work entitled Impetum faciens Hippocrati dictum. Haller, though chiefly of the mechanical sect, and who is entitled to our gratitude for his industry, rather than his genius, assisted this new revolution by his experiments on irritability; and Dr Cullen at last constructed, on this ground, a system highly ingenious, though, like many first efforts, sometimes too refined, perhaps occasionally incorrect. See Boerhaavian and Cullenian Systems. On the same foundation Dr. Brown has still farther refined; but, while the Boerhaavians made the human body wholly material, he considers it as wholly spiritual, created only by heat, motion, and other stimuli. See Brunonian System.

Of living physicians, as of surgeons, it is not "our hint to speak;" nor, indeed, in the present era, have we any revolution to describe, or any marked improvement to praise. When, in the history of surgery (see Chirurgia), we pointed out the objects of the surgeon, we discriminated those of the physician. We there engaged also in a slight disquisition on the talents and acquisitions necessary to the surgeon. This calls on us for a similar explanation; yet, as coming "nearer to our own business and bosoms," it is a task we would

wish to decline. Necessity, however, imperiously demands it; and the consciousness of holding the mirror up to what appears to us the character of an accomplished physician, will be our best shield against the censure we must consequently encounter.

It would appear superfluous to say, that a physician should be at least acquainted with the ancient languages, did we not daily see pretenders to that character without even a knowledge of their own. The observations of Hippocrates and his followers should be read in their own language; and we would engage to promise a classical scholar the highest literary entertainment from the simple elegance of the Coan sage, the polished eloquence of Galen, and the expressive terseness of Aretæus. Among the Latins his prospects are less alluring; and the Augustan elegance of Celsus must atone for the barbarisms of Cœlius. Yet in more modern times Lommius, Read, Friend, Heberden, and Baker, will compensate for Stahl and Brown; and the sterling sense of Haller, Gaubius, and Burserius, will instruct, if their language should for a moment disgust. The modern languages are equally necessary, at least the French and the German. It is indeed to be regretted, that vernacular tongues are so much employed; for no position is more truly unfounded than that what deserves to be translated has already appeared in an English dress. The Italian is perhaps less necessary; yet Sarcone, we believe, still retains his original garb, and different modern writers of that country seem to merit more attention than they appear to have received.

If, as has been supposed, the practice of medicine requires the active exertion of the intellectual powers with their full energy, it will at once be obvious, that every method by which the physician's views are early contracted must be injurious. For this reason, to spend the first period of his life in an apothecary's shop has appeared a plan of the worst tendency, for this is the time in which he must endeavour to attain an intimate acquaintance with the classics, a competent knowledge of mathematics and of natural philosophy. Man, the most glorious work of the Creator within our limited observation, is not indeed regulated by the laws of matter and motion; but each must be often taken into our views, in reflecting on the deviations from health and the means of restoring it; and, so intimately is every part of nature's works connected, that we cannot draw the line where the vital powers begin, and those of matter and motion end. Mathematics are highly necessary to enable the student to follow the mechanical philosopher, and to understand the mechanical physician; for it is highly disgraceful in the modern physician not to be acquainted with the principles of every sect, or unable to comprehend their mode of reasoning. Without mathematics, Haller, Hamberger, Bellini, Van Swieten, and Sauvages, will be often unintelligible. The utility of mathematics is not confined, however, to their aids in pursuing other objects. They accustom the mind to close, abstract investigations; give a habit of connected and accurate reasoning, of connecting consequences with premises by their strict relations, rather than by loose analogy. In these views we have often reason to regret the neglect into which the mathematics have lately fallen.

Natural philosophy is highly necessary, independent of its connection with matter and motion. We are advancing rapidly into those branches, where, as in the human body, we see effects without being able to comprehend causes; we mean in the sciences of electricity and galvanism, and have reason to suppose that the discoveries in these will, at no great distance, materially illustrate the functions of the human system. It is disgraceful not to be intimately acquainted with each, and in the acquisition of either mathematics are useful, if not necessary. The great supports of this position are the papers of Columb and Van Swinden. Another assistant in acquiring this habit of close reasoning is logic, a science essentially useful, though, in consequence of its abuse, too much neglected. When properly regulated, it gives the distinctions so necessary to the clear enunciation of a proposition, and the conduct of the reasoning either in support or in opposition; and it leads the mind, by easy steps, to detect the fallacy of a too unlimited statement, of an unsuspected subterfuge, or of inconsequential reasoning. Were logic more generally studied, many bulky volumes would neither have tired our patience, nor disgusted our judgment. Fatal as its neglect has been in every science, it has not been more severely felt than in medicine.

Of chemistry we need not now speak: it is acknowledged to be an essential part of the physician's education; nor should any science which is supposed ornamental in a gentleman be omitted. Geography, for instance, may appear far from a necessary branch of medical knowledge; but it would be disgraceful to speak of the ipecacuanha as a production of Russia, or the cortex peruvianus of the arctic circle. A knowledge of botany is highly necessary, especially an intimate acquaintance with the natural families, as it will often enable a physician to apply his indigenous species of plants to useful purposes where the exotic is wanting.

All these are, or should be, preparatory sciences, for medicine itself is a study which will fill all the time usually allowed for its attainment. Where then can this varied knowledge be acquired? not behind the counter; not in dispensing the prescriptions of others; not in staring at diseases, without information, or without principles. In this way, the student either attains no knowledge or crude imperfect ideas, which he can scarcely ever correct; or, if correction is in his power, it will require more trouble than the acquisition of juster notions. This kind of education also narrows the mind in another view. We look with some partiality to our earliest instructor; our first ideas stick to us with peculiar force, so that it is of consequence where they are acquired. Those who are accustomed only to a narrow circle cannot easily expand their ideas beyond it, as the native of Switzerland thinks his valley scarcely less than the whole world. We do not indeed contend, that able and enlightened physicians have not, at times, escaped from the shop; or, on the other hand, that the deepest and most profound philosophers have been the best practitioners. Exceptions *prove* a general rule; but some distinctions are requisite in the full discussion of this question, which we shall soon consider.

We have, in different parts of this work, hinted that a physician should be, from his earliest years, educated with the view to his future profession. If the best parts of his life have been directed to other pursuits, he will seldom acquire that extent of information, and readiness of application, which the practice of his profession

requires. In the most advanced period of his life, what he may have seen at his first entrance into the study may happen to be applicable, though, through the whole interval, it has been never necessary. It must not be supposed, that the most splendid abilities or the deepest knowledge are *always* requisite. Many diseases are obvious in their causes, appearances, and treatment; but, on the other side, many serious complaints assume, at first, a common form, and it requires no little sagacity to trace them in their bud; no little knowledge to obviate the fatal consequences. Were it always possible to say whether a disease was common, great abilities or extensive knowledge might not be necessary; and we thus find physicians, with little real skill, but with policy and address, pass through life with credit, sometimes with the highest applause. It is not, however, enough to possess knowledge, but the mind should be ready and active in its application. It is often necessary to adopt at once a plan, and to pursue it with active decision: it is necessary to weigh contending difficulties, and at once to seize the path where the fewest or the least important appear, or where the inconveniences are counterbalanced by the advantages. This rapidity of decision, the result of great and extensive knowledge, as well as readiness of resource, is often equally the offspring of ignorance. No difficulty can be experienced by those who are unable to anticipate danger; and doubt, the consequence of different plans contending for superior eligibility, can scarcely be felt by those who have none. Physicians are called on, in general, to act with this prompt decision; and to hesitate is usually accounted a mark of ignorance. A man must have merited the confidence of the world before he can require time for consideration, and his reputation be firmly established before he can own himself at a loss.

Readiness of resource is partly owing to habit and long experience; but it may be easily acquired by a ready arrangement of ideas, and clear distinct views. The able and experienced physician, who can at once comprehend the object to be attained, will, at the same moment, perceive the various methods by which it may be effected, and he has only to choose the most convenient and the best adapted to the habit or idiosyncracy of his patient. In his progress new views will generally open, and the soundest judgment is shown in steering between the opposite extremes of varying the plan according to the variety of symptoms, or obstinately persisting in it, notwithstanding every change of appearance. The first is pleasing to common observers, as it shows diligent attention; but it is a proof of weakness and indecision. The last, perhaps the most venial error, is the effect of too great confidence; and, unless accompanied with extensive knowledge which dictated the first opinion, and an acute sagacity in discerning the effects of the medicines, is scarcely less injurious.

It has been supposed, that extensive reading rather impedes by overloading the mind, than assists by giving information. Reading, however, with judgment and discrimination will produce no such effect. The mind should be so regulated that each new fact may be combined with the former stock, or, if, in opposition, reserved for subsequent mature reflection. It will then come in aid, to limit, to confirm, or to invalidate preconceived opinions. If reading and practice proceed, *pari passu*, the advantages will be still more considerable. Each new observation may be soon brought to its proper test, and its value consequently justly appreciated. Facts in medicine have lately accumulated so rapidly, that we are oppressed by the load rather than informed by the substance. To discriminate between the true and the false, the important and the trifling ones, is no easy task. To say that any author states as a fact what he does not know to be true must appear harsh, perhaps unjustifiable; but the internal evidence often shows, that the case cannot have existed as the *writer* (we should have said the *author*) describes. When we find the symptoms loosely detailed, the necessary connections omitted, the effects of medicines imperfectly or inconsistently described, we may rest assured that it is the manufacture of the closet. When we find violent complaints cured by the most inert remedies, we may be equally certain that the violence of the symptoms are magnified, or the real effects of the medicines disguised; and, as has been often hinted, when an inventor describes his plan as infallible, suspicion should open all her eyes to detect the fallacy; yet many such deceptions occur with no culpable intention. A young sanguine practitioner seems to think every case the same, and always finds wonderful benefit from his plans. When he reviews them with a calmer, more experienced eye, he doubts whether they have been so successful as he supposed, or indeed whether they have succeeded at all. This is not indeed a singular case: it is the unavoidable progress of the mind from youth to age, from confidence to doubt, from hesitation to scepticism.

The mind of the physician should, in the most arduous and difficult circumstances, be unruffled. Doubt and hesitation should never be seen in his countenance, or in unsteady, vacillating councils. In the midst of uncertainty he should be calm. In the most adverse events, while he may express his surprise, he should never appear without his resources, nor until the case be wholly desperate should he suffer those around him to despair. For doubt and apprehension of the event there may be a more early foundation, and suspicions may be cautiously suggested that, should any given remedy fail, the danger would be increased.

In emergencies, friendly and affectionate anxiety may suggest additional advice, or a remedy of a doubtful quality and uncertain effects, the boasted panacea of some fashionable quack, recommended by an archbishop, a judge, or any other old woman; for, in such circumstances, each appellation is synonymous. No physician, whatever may be his character, is justified in refusing professional assistance, when required; nor, to his coadjutor, in this respect, ought he to withhold whatever his former experience with the patient has taught him. If he gains from his assistant, the patient has the advantage; it is his fault if the patient suffers. In every consultation it should be known whether the first or the second has the implicit confidence of the patient and his friends; and the conduct should be suitable.

In the administration of a quack remedy more caution is necessary. It should be known whether it is a mere name without effect, or whether it has any decided positive power. If the former, it may be indulged; nor is it a great sacrifice, in case of a fortunate event, that the medicine has the credit, if, in contrary circum-

stances, the friends of the patient feel satisfied that every thing which art could devise has been attempted. This doctrine we know will not be popular among physicians; but they ought to recollect, that to cure their patient is their first object; to gain fame, a secondary one. If indulged with their favourite remedy, they will agree to combine other means; confidence will be supported, hopes raised, the spirits cheered; and, in case of a sinister event, the candour and liberality of the practitioner will secure general esteem. Yet he would merit the severest censure, if, indulging such fancies and prejudices, he omitted, for a moment, the efforts which he yet retained. The conduct we recommend is only justifiable where the case is desperate, or the boasted panacea inert.

In some circumstances, however, the remedy is active, and the ingredients well known. The physician must then decide whether it is adapted to the complaint, or whether its effects may not be too powerful. When he has stated, fully and impartially, his opinion, the friends or the patient must determine. We think, that he is not justified in leaving, as has happened, the patient to his fate. It is rather his duty to look on, to watch, to regulate, or correct any errors. He may yet save the devoted victim from destruction, from falling a sacrifice to prejudices either his own or his mistaken friends.

There is yet another situation in which an active quack medicine may be allowed. In continued chronic complaints the patient is often weary of his physician, and willing to try the recommendation of some interested adviser. He has, for instance, been using a mercurial alterative, and wishes to try Spilsbury's drops. They are no other. Why then may he not be indulged? Low indeed must be the credit of his physician, if he should suffer by adding one to the many boasted cures performed by this medicine, which is only the hydrargyrus muriatus in small doses, a preparation of mercury generally employed. Yet we must repeat, that, in every such instance, the physician is inexcusable if he do not guard the patient against any probable inconvenience that may result from the supposed qualities of the secret remedy, and suggest the best methods of preventing them. These few remarks we have suggested as a kind of supplement to the very liberal and judicious observations of Dr. Gregory in his most valuable lectures on the "Duties and Qualifications of a Physician," and to this work we would refer the young practitioner for his more general conduct.

Had we room, we might enlarge a little on the *policy of medicine*. Hoffman has left us a dissertation entitled Medicus Politicus, though its object is different; but the art in this age is greatly improved, and an amusing treatise, *copied from life*, might be easily written. Our object is however to make the practice of medicine respectable, not contemptible.

It was a question suggested respecting surgery, whether it had been improved in later periods. The same question has been agitated respecting medicine, and perhaps it may, in this part of our article, merit a short notice. The argument, that medicine has not improved, has been supported by the most inconclusive reasoning; viz. that we still resort to the older authors, and that diseases are still mortal as before. To engage in an extensive discussion is inadmissible, but, as in the article referred to, we may adduce a few instances.

In the conduct of fevers, is it no improvement that the rigorous abstinence of the early days, enjoined by the ancient physicians, is, at least, abridged or softened? that the great heat, the close rooms, the warm stimulating medicines, and the sudorific regimen of the modern Galenists, are wholly abolished? It may be asked, whether either plan is justly or advantageously superseded; and we hazard little in replying, that the recoveries under the later mode of treatment exceed those under the former three times told. Death, from a fever, is now comparatively rare: formerly, recovery was equally so; and many, whom we remember among the recoveries, lingered out the remaining period of life without the slightest enjoyment of an hour's perfect health.

In internal inflammations the constitution is equally preserved by the rejection of the indiscriminate bleedings so often and so copiously employed; nor is the excitability exhausted by the numerous blisters applied, under the mistaken idea of derivation. In childbed how is the strength preserved, and inconveniences avoided, by the cool regimen, by the discharges from the bowels, and the early application of the child to the breast? How is the strength and health of the child augmented by copious and frequent ablutions? In dysenteries, what pains are saved by the free use of cooling laxatives; in scirrhous livers, how long is the life comfortably preserved by the free use of mercury? The paper would fail before we could enumerate the advantages of modern improvements in the practice of medicine. Let us take up the subject more generally. Abstruse disquisitions respecting the causes of disease, and the operation of remedies, are now seldom indulged. Our indications are more clearly pointed, and the means usually better chosen and more direct; less depending on pathological enquiries, and more closely connected with the changes to be produced. Dr. Friend was supposed to be master of all the medical science of every æra; and yet, if any modern physician, who had for some years escaped from his early studies, were to read his Reflections on the Practice of the Ancients, they would suppose themselves engaging in a new and most intricate science; so disguised and involved are the most common observations and directions. This was, in fact, our own case.

We had intended to have closed this article with a sketch of a medical library, but we feared to terrify the indolent practitioner, or to repress the timid. Yet perhaps we may find an occasion to resume this subject under a later article, Studium Medicinæ. At the conclusion however of so long a work reasons of necessity must at last decide.

Le Clerc Histoire de la Medecine; Friend's History of Physic; Blumenbach's Historia Medicinæ Literaria; Schultze Historia Medicinæ; Conringii Introductio; Halleri Bibliotheca Medicina Practica.

See Chirurgia; Botany; Materia medica; Obstetricatio; Medicina forensis et politica.

Medicina forensis et politica. Medicine has for ages been the guide of the police and of justice, without ostensibly mingling in their contests. When Acron of Agrigentum is said to have kindled fires to

promote the circulation of air in order to check the plague of Athens, or Numa constructed sewers to keep the imperial city from the noisome stench of impurities, they acted as able politicians and judicious philosophers; and an early work of Hippocrates on a kindred subject should have particularly fixed the attention of physicians. Many similar regulations are indeed the result of good sense, reduced to practice by an active mind and well directed views; but many years elapsed before regulations of this kind were digested by a regular scientific publication, professedly on the subject. The Criminal Constitution of Carolina was the earliest work in which the rudiments of forensic medicine were developed, and the first edition of this work appeared in the beginning of the 16th century. The origin of political medicine in modern times may be dated about forty years later, and its first publication by Joach. Struppe, at Frankfort, appeared in 1573. His work in quarto contains the necessary precepts for preventing the air from contamination by filth, by injurious occupations, and by sepulture in the midst of cities. He adds regulations respecting the occupations of millers, bakers, butchers, &c., on the proper instructions necessary for midwives, on the establishment of infirmaries, on the propriety of visiting the shops of apothecaries, and of guarding against the arts of quacks. In the same year, he published his Anchor of the Hunger, Thirst, and the Health of Mankind; in which he particularly treats of the substances which may occasionally supply bread, and the means of preserving meat from putrefaction. At the end of the same century, Fortunatus Fidelis of Sicily published his work on the department of forensic medicine, De Relationibus Medicorum; and, under the name of Reinesius, his Schola Ictorum Medica. The subject was still further pursued by Paul Zacchias, principal physician to the pope, who published his Quæstones Medico-Legales in 1621, &c. in nine volumes, quarto, at Rome. About the end of the same century Paul Amman, a native of Breslaw, and a professor at Leipsic, published the Medicina Critica seu Decisora, as well as the Irenicum Numæ Pompilii cum Hippocrate; and, in the same century, G. Welsch of Leipsic published his Rationale Vulnerum Lethalium Judicum. We may just add, as objects of curiosity, that this author first described the purple miliary fever of childbed women, as a new disease, in 1655; and, about the same time, a German clergyman first described the method of recovering persons apparently drowned.

To pursue the history through the 18th century would be useless, and almost impracticable. We engaged in it chiefly from curiosity, and need only add, that the minor works on this subject are collected by J. C. Traugott Schlegel, published in six small volumes at Longosalissa; but we must remark, that of this city and some others we have found it impossible to discover the vernacular name. The obscure towns in Germany have not found a place in any Latin or geographical dictionary to which we have access.

To account for the numerous German and French publications on this subject, we must observe that the laws of these countries are much more minute in their distinctions respecting crimes than the criminal code of this kingdom. This may be one reason why the subject has been so much neglected, that it has not formed any portion of a course of lectures; and very lately only has a professor of forensic medicine been established in a British university. To treat of this branch of medicine, therefore, with all the subtility of a German lawyer, will be unnecessary, and we must confine ourselves to the outline of those topics, which must be the subject of inquiry in an English court of justice.

We must first consider forensic medicine as it is a branch of medical investigation, and next as it is connected with the conduct of the surgeon.

Mania is one of the most frequent subjects of forensic inquiry, in which the physician is called on to decide; and, to the disgrace of science, we find the most opposite opinions adduced by practitioners of eminence. Much depends on the period during which the physician sees the supposed lunatic, and more on a few necessary distinctions, which we fear are sometimes designedly neglected. It is possible for an interested relation to fix on a day when the patient is calm and rational, an hour when he is usually collected, to introduce the physician who pronounces him sane. Another, in different circumstances, might pronounce him mad. It is necessary, therefore, to guard against such deceptions, to visit him frequently at different times, and at the most unsuspected hours. If this is refused, a collusion will be evident. We remember seeing a man, who was confined for a crime and defended on the plea of idiotic insanity. We visited him frequently, while unsuspecting any such examination, and found the plea strictly true. Yet, when called into court for the purpose of acquittal, when cleaned and dressed, roused also perhaps by the novel appearance of the scene, his look assumed a meaning, and he was almost rational.

In the general relations of life, a man may be thoughtless, ridiculous, and extravagant, yet these errors will not be sufficient to fix the charge of insanity, which consists either in false perceptions or erroneous reasoning, on objects distinguished in their true colours. Many individuals of this kind require guardians for their property as much as persons really insane; but the law entrusts no practitioner with such discretionary power. The difficulty arises when this wild absurd conduct is attended with no such inconsistencies as lead to the suspicion, that the perceptions or the reason are affected. This situation is a question of prudence, rather than of jurisprudence, or medicine. The reflecting physician will not fix, unnecessarily, the stigma of insanity on a whole race; nor will he expose a family to ruin by a too great delicacy. In this difficulty, he will rather take the opportunity of a calmer moment to induce the patient to adopt such plans as may prevent the ruin of the family, and may properly make use of the alternative as an argument, in case of refusal. But this, as we have said, is not a medical question.

There is another doubtful state, in which the physician is often called on to decide, viz. when from disease, from general weakness, or any constitutional cause, the mind is so much enfeebled as to render it uncertain whether the patient can judge of the proper disposition of his affairs. This too is a question of discretion, for the afflicted person may be taught to answer common questions readily, or may be awed by some interested attendant. In this case, if the physician,

when alone with his patient, talks to him of his affairs, suggests, for the sake of a reply only, some objections to his arrangements, he will soon find whether the testator has judged properly, or only repeats a lesson. The circumstances themselves often suggest doubts; and when an infirm old man disinherits obedient or near relations, for the sake of those connected with him only by accident, the presumption is, that his mind is not sound.

We have said, in the article MANIA, that by a fiction of the law every mania, we have been informed, is supposed to be relieved by occasional lucid intervals, and that if the act of a madman is reasonable and proper, it is a proof that the interval was a lucid one. Thus in the case, which has just been considered, whatever be the apparent state of the patient's mind, if his will be judicious and proper, there is no reason why the physician should not pronounce him in a sound state. Yet, in criminal cases, the law is not equally indulgent, nor has it always, perhaps, been equally humane. Lucid intervals, in cases of murder, are not allowed, and the man who has been proved to be mad on the Monday and Wednesday is not allowed to be sane on the intervening day; yet decisions have occurred of a different kind; and an art in planning, a coolness in executing, a deliberation in the conduct, have been supposed to constitute soundness of mind. On these grounds lord Ferrers and Mr. Oliver were executed. Yet, if the *motive* is at any time connected with the hallucination, the subsequent action should certainly be considered as a part. In later trials the opinions have leant more on the side of humanity.

The question of confirmed insanity must be decided by a comparison of the patient's state with the pathognomonic symptoms. Yet there are many sources of doubt, and often room for hesitation. In many instances the mind wanders, at first, on one subject only; and, when the madman has any point to gain, he will, with great success, counterfeit a calm reasonable state. Each point must be carefully guarded; yet the experienced physician will not be easily baffled. A wildness of the eye, a tension of the skin of the temples, a dry furred tongue, often a hurried pulse, will explain the real state. The madman is also a coward, and we have drawn from this a good pathognomonic symptom. If threatened with some vehemence with any punishment, however wild and impracticable, he will shrink and tremble, forgetting all his art, or returning to his original deviation of mind.

Returning sanity is another point of doubtful distinction; nor do we see that it is possible to lay down any rules, except the absence of the pathognomonics of the disease. Yet we have often witnessed the return of persons from the appropriate receptacles, with a wildness of the eyes, a quickness of utterance, rapid unsteady motions, which showed corporeal disease, though the mind was calm. Such persons should not be pronounced secure; and, though confinement may not be necessary, the most pointed caution should be continued.

Dissembled insanity might more properly belong to another head, morbi simulati; but we may more easily speak of it in this place. An experienced practitioner will soon detect the absurdities which assume the form of insanity; for, though incoherencies, wildness, and obscenity, may be imitated, the hurried look, the rapid pulse, the dry tongue, and the sleepless nights, cannot be assumed. Above all, the cowardice, the apprehension of punishment, the influence of threats, are seldom to be discovered. A French author details the symptoms of madness, for the purpose of this distinction, so elegantly as to induce us to copy the picture.

"Thus to neglect what most deserves attention, and to value what is least deserving of it; to rejoice or weep without an adequate reason; to despise what is terrible, and to fear what is ridiculous; to admire trifles, and to reject what is excellent; to love the objects of hate, and to hate those of love; to hope without an object, and to despair while in security; to be pleased with things which excite no agreeable sensations in others, and to fly from what every one would anxiously seek; to be timid with those who demand no deference, and bold to those whom they ought to respect; such are the infallible marks of a wandering mind."

In either of these cases, an excellent criterion may be found by inducing the supposed lunatic or the pretended convalescent to write. If engaged in a correspondence particularly respecting his own affairs, he will soon betray insanity, should it remain. In the servile war, the slaves who opposed the spears of their former masters yielded, when they saw them armed with whips; so the most furious maniac will often submit on presenting him a pair of hand cuffs, which will only irritate the counterfeit.

MORBI SIMULATI. Dissembled diseases sometimes claim attention in a court of justice, but perhaps more frequently in an infirmary. The latter is, as usual, the school. Insanity, of which we have already treated, is the most frequent, and, next to it, are the different nervous and spasmodic complaints. We must not, however, always accuse the patient. The timid girl will have the catchings and the gesticulations of chorea more frequent on the access of a stranger; and the disease, to the attendants apparently cured, will appear to return. On the contrary, these and some other diseases will occasionally seem to lessen on the approach of the physician. The wanderings of delirium will cease, and the wildness of the eye be converted to an expression of meaning. These are circumstances which must be kept in view, as tending to explain the opposite course. The diseases counterfeited are catalepsy (commonly styled ecstacy) and convulsions. Some patients possess even a command of the features, and others, it is said, of the pulse; but, in general, an unchanged expression of countenance and an unaltered pulse will explain the deceit. Boerhaave is reported to have cured real fits by threatening, eâ quâ pollebat gravitate, to burn the next patient seized, with a hot iron. To heat a poker with the same gravity has cured pretended ones, especially if they felt the heat approaching. Plunging the suspected patient in cold water is still more effectual, and it will not injure if the disease be real. Dashing cold water in the face, unsuspectedly, will succeed; but, as the bathing requires preparation, it will not be necessary, in case of deception, to proceed to extremities.

Pains in the limbs, which sometimes happen without fever, is a fertile source of deception, and blisters will often have little effect in detecting the fallacy. We have not, however, found patients of sufficient constancy to endure a few smart electrical shocks; and the

galvanic, if the skin is punctured, will be probably still more effectual. In cases where fever must necessarily attend, the detection is easy. No one can counterfeit the febrile symptoms enumerated under FEBRIS; though by topical stimulants inflammation and fever may be brought on.

In the time of Galen, tumours were produced in the knee by the semen thapsi; and Zacchæus, in his numerous quartos, has copied many tales of this kind. We have seen abcesses produced by inserting splinters under the skin, continued ulcers by stimulating dressings, and even hæmoptoe occasionally returning by artificially exciting cough. Yet while we awaken suspicion, we would not silence the feelings of humanity. We have seen cases where no deception could exist, where no motive could be found for fallacy, that appeared at the first sight fictitious. We have known the urine retained six weeks without any remarkable vicarious discharge: we have known a nail of no inconsiderable size, such an one as fastens the hoops of small barrels, retained in the throat till it formed an abscess: yet in each case no deception *could* exist.

The mendicant with his ulcers counterfeits both deafness and dumbness; but these deceptions are best detected by the beadle, or by a little address. "How long have you been dumb, my good friend?" says a passenger, with the most insidious humanity.—"Three weeks, sir," replied the incautious deceiver.

IMPOTENTIA. This disease rarely requires the interposition of a physician in a court of justice. The complainants, who are commonly females, can relate their grievances in terms sufficiently guarded and clear. The causes and cure we have already considered, and we see but one circumstance in which it requires our attention in this place. The extirpation of the testicles is an operation obviously designed to prevent generation. But in the human species, as we have seen, they are originally seated in the abdomen, and fall through the rings of the muscles into the scrotum. If they do not appear in the scrotum it is no evidence of their absence, and it has been said that their influence on the genital powers are more conspicuous while they remain in their original seat. It is at least certain that this influence is not less, so fallacious is the logical maxim, when applied to medicine, De non apparentibus et non existentibus eadem est ratio. If they did not exist, or were not evolved, the beard, the graver tone of voice, and every mark of virility would be absent. If they had been extirpated, the cicatrix would remain. It has been said that one, three, and even four, testes have been discovered. One has certainly been lost by accident, has decayed, or been extirpated, without injuring the generative power: sometimes the other has enlarged, but more often continued of the same size, with little apparent diminution of the powers. The stories of three and four testes we cannot disprove; but there is much reason to suppose that many of these have arisen from an enlargement of one or each epidydimis. They at least furnish no grounds for a legal process.

From what has been said under the article IMPOTENTIA, q. v., the physician will be sufficiently directed in his judgment; nor need we enlarge with the disgusting indecency with which the old authors expatiate on this subject, nor on the public display of the active powers in the venereal act, which some of the canons enjoined. The original authors seem plainly to hint that this indecency was only the prelude, like the modern actions for crim. con. to a divorce, and designed as a justification of the most licentious conduct; for divorces, they add, were less frequent since such exhibitions were abolished. This practice began, it is said, early in the thirteenth century, and ended about a hundred and fifty years afterwards.

POISONS. This frequent cause of violent and premature death is often the subject of inquiry in courts of judicature, and the physician is usually called on for his opinion. Science has been often disgraced by the crude, the injudicious, and often the opposite, opinions offered on these occasions; nor has humanity had less cause to regret the sacrifice of lives on the most vague and inconclusive evidence. Poisons may be accidental or designed. We shall begin with the latter.

The marks that poison has been administered are the sudden appearance of extraordinary and unsuspected symptoms, as uneasiness, nausea, an acute pain in the stomach, palpitations, faintings, disagreeable and fetid eructations, vomiting of blood, and bile, hiccough, sudden debility, smallness and inequality of the pulse, cold and clammy sweats, coldness of the extremities, paleness, livid nails, general œdematous swellings, windy distention of the abdomen, sudden relief with an equally rapid return of pains, blackness and swelling of the lips, burning thirst, loss of voice, a livid countenance, vertigo, convulsions, rolling and starting eyes, loss of sight, with a dilated pupil, lethargy, suppression of urine, a fetid smell of the whole body, purple eruptions, livid gangrenous spots, and an alienation of mind. All these symptoms are undoubtedly equivocal, and occasionally attend other diseases. They are marks of poison only when they come on suddenly, without any known cause; when the food, if unsuspected as the vehicle, sudden cold, violent affections of mind, or deleterious vapours, cannot be accused; for these will induce many of the symptoms, though seldom in so considerable a degree as arises from poison.

If the patient be not a suicide, and still retains his senses, he can explain the taste of the food, or medicine, which has induced these symptoms, so as to direct the future inquiries. When no satisfactory explanation can be obtained we must depend on the evidence collected on dissection. Poisons, so far as they are the object of our present inquiry, are violent, inflammatory, stimulants, or sedatives. The pungent stimulants betray themselves by the taste, the pain in swallowing, and the inflammation of the fauces; and they must be treated under the head of accidental poison, as they cannot be given without suspicion. The chief substance to be considered here is arsenic, which is nearly tasteless, and violent in its action, even in trifling doses. Its power is shown by violent inflammation and gangrene in the stomach; and it is discovered by calcining the contents of the stomach with the black flux, when the smell of garlic will betray even such an impregnation as will not often be fatal. Some of the saline mercurials show no very decided action on the tongue or fauces, and will produce similar effects. These may be discovered by adding ammonia, and heating the whole in a close vessel, when the mercury will be so far revived as to whiten copper on rubbing. In this way mercury can be often discovered in those quack medicines where its

existence is utterly denied; for the ammonia contributes to precipitate the mercury, reduced in part to its metallic state, and enables it to appear on the copper. The suspected substance, if arsenical, heated between plates of copper, will give a whitish tinge to the part of the plates in contact with it. Independent of these trials, when the stimulant poisons have been the cause of death, the abdomen is greatly inflated, becomes rapidly putrid, dark spots appear on the body, erosion, inflammation, and gangrene, are found in the fauces and stomach, the blood is black and collected in the veins; above all, the villous coat of the stomach is destroyed. One other discriminating appearance, on dissection, is mentioned by a respectable author on jurisprudence. If, after a body has been long buried, should gangrened spots be found in the stomach, surrounded by a reddish circle, these were effects of changes during life. Should the colour of the whole be uniform, the putrefaction took place after death.

There are other poisons which kill by a partial stimulus. The chief of these is cantharides; but their peculiar action on the bladder will point out the cause. The violent inflammation, the rapidity with which it hastens to gangrene, will at once betray the crime, and, at the same time, point out the culprit. No such can escape.

The colocynth, the elaterium, and the tithymali, betray themselves by their taste, as well as by their local action, and can neither escape the detection of the person himself who is the subject of the crime, nor the attendant physician.

The narcotic poisons like the others, produce vomiting; but the faintness which is the effect of the vomiting in the former cases is the apparent cause of it in the present. The rapidly sinking strength, the dilated pupil, convulsions, stupor, sleep, vertigo, swelling veins, and cold extremities, point out the cause. Fortunately there are few such substances that do not betray themselves by their taste; but there *are* such, though we shall not point them out; nor shall we mention any poison that *can* be secretly administered. It is incumbent, however, on the practitioner to be cautious in these instances respecting his decisions; for no chemical analysis will assist him, and his only guide will be the discharge of substances which the powers of the stomach cannot change. He must compare with anxious attention the appearance of the symptoms after the supposed cause; trace with diligent circumspection every *other* circumstance that might have produced the effect; examine with care the patient's usual habits, his predispositions, his complaints, and at last remember that every medical conclusion is doubtful. Should he then be positive when the life of a human creature is at stake? One trial has been falsely considered to be decisive, viz. the effects of what might remain of the supposed fatal beverage on animals. This will hold true of the stimulant poisons; but by no means of the narcotic. The most innocent substances of this kind are occasionally fatal to animals; the narcotics, most injurious to man, are to many animals innocuous; and the human fluids changed by putrefaction are themselves poisonous.

Accidental poisons are received in the food, or are hastily swallowed by mistake instead of a medicine, before the taste betrays their nature. The former are chiefly copper, arsenic, and lead; the latter, nitre, camphor, ammonia, or the mineral acids.

Copper is greatly dreaded, and has frequently been accused with little reason. Copper culinary vessels, bell metal mortars, and all the various means by which this metal can be introduced to the system, have received an indiscriminate sentence of banishment. Injuries have undoubtedly arisen from them, and we would earnestly join in deprecating their use. When, however, we have said this in the way of caution, we may be allowed to add, that the dangers have been greatly magnified. The taste of copper is so peculiar that it can scarcely be disguised, and it will not generally fail to give the alarm in doses far distant from dangerous ones. Hunger, or eagerness to taste a luxurious dish, may however, hastily impel us, and such vessels should be avoided. The effects are chiefly on the stomach, and the quantity taken must be considerable to endanger life.

Arsenic has been swallowed accidentally when joined with any sweet substance to poison flies, or with other substances to destroy rats. The effects are so marked and discriminating as not for a moment to mislead, and they have been sufficiently detailed. It has been supposed that this metal may be accidentally introduced into the system when employed in fining wine; but for this purpose it is now wholly disused in this kingdom.

Lead has been accused of producing the Poitou colic when united with cyder, either as this metal is presented to it in the instruments employed in pressing the apples, or as added to correct the acidity of either wine or cyder. We cannot deny that in each instance it has produced the effect, since it is the peculiar consequence of swallowing any saturnine preparation. But these are by no means the constant, or indeed the most frequent causes of the disease. Another source is said to be the glazing of the common earthen vessels, since lead is used in the process, and in such vessels pickles are usually kept. Lead is not, however, always the substance employed, or it is not dissolved by the acetous acid. We have kept vinegar in such vessels for many days in a warm place, without its discovering the presence of lead on the addition of the most delicate tests. The alarm, therefore, we think unfounded. In these circumstances caution is almost as necessary as in the former, where the life of an individual is at stake. The credit of a house, the character of a professional man, are involved; and the feelings of those whose want of caution may have occasioned the mistake may be so excessive as to endanger their lives. Though their negligence may merit punishment, yet that punishment may be too severe.

Ignorant druggists have sold camphor and nitre instead of neutral salts; and by mistaking the vials, the aqua ammoniæ, some mineral acid, or other stimulating substance, has been swallowed. The eagerness to escape from the taste of a disagreeable medicine hastens the act of deglutition, and the error is sometimes not discovered till the whole has been swallowed. The medical treatment is not our object in this place. The only connection this subject has with medical jurisprudence, is to ascertain the cause of death when such substances prove fatal. If taken as a medicine, the effects of the poison must be compared with the symptoms of the disease; and should the latter be highly dangerous, the feelings of the mistaken attendant may perhaps be

relieved by the humanity of the physician's declaration, in which, if he offers truth in her fairest and most favourable hue, he will do no injury to any individual.

The symptoms which distinguish camphor swallowed in large doses are, giddiness, vertigo, delirium, and convulsions. Nitre produces, with the common symptoms of narcotic poisons, bloody discharges from the bowels and the urinary organs. The mineral acids and ammonia do not greatly differ in their effects, which are those of violent stimuli, rapidly exhausting irritability. Inflammation in the mouth, or fauces, with a burning heat at the scrobiculus cordis, are followed by vomiting, by the sense of a heavy load in the stomach, and a consequent diminution of all its powers. From these symptoms, the remains of the medicine, and the report of the patient's feelings when it was swallowed, if he is able to report them, the nature of the deleterious draught may be ascertained.

The case of the SUICIDE is deplorable; yet he often repents before the termination of the scene, and can lead us to form a judgment of the treatment necessary. The physician's testimony may be called for, and no rule of morality can, we think, be violated by softening the most offensive circumstances. The feelings of the relatives may be essentially hurt by marks of disgrace to the body, which we believe never once deterred a determined suicide.

APPARENT DEATH has been the subject of much discussion, and premature interment the object of universal apprehension. Numerous are the tales told on this subject, many of which are exaggerated, and the greater number probably false. It is, indeed, possible that a person not yet dead may be interred; but it is highly improbable that any one should, in such a situation, recover their senses and recollection; for before these returned they must be suffocated by the want of air. The complaints, in which such apparent dissolution is most common, are the spasmi and comata of Dr. Cullen, drunkenness, excessive evacuations, narcotic poisons, strangulation, drowning, breathing deleterious gases, excessive cold, sudden and violent terror, and violent passions.

The want of motion, or feeling, of respiration and pulsation in the arteries, are neither singly nor in conjunction signs of death. The motion of the carotids, in the greater number of instances, continues longest, and their state should be most carefully examined. The experiment proposed by M. Bruhier is, to draw down the lower jaw, and if it approaches spontaneously the upper jaw, he thinks it a conclusive sign of some life remaining; but this may happen from the elasticity of the ligaments and other causes. It is certainly an equivocal proof. The eyes furnish the most certain signs, independent of putrefaction. If their transparency is lost, the eyeball sunk and wrinkled, and the pupil dilated so as not to contract by the strongest light, resuscitation is no longer in our power. The sunk features, in the eyes of experience, are a proof almost equally satisfactory; but putrefaction furnishes the only unequivocal symptom. Yet this we cannot always wait for. If any legal question depends on the state of the internal parts, dissection must be attempted at an earlier stage, since putrefaction changes every appearance by which we are enabled to decide. In cases of the slightest doubt, it is recommended to commence the dissection in the parts less essential to life, that if the stimulus of the wound excite the action of the remaining powers no considerable injury may ensue.

VIOLENT DEATH is apparently ascertained without difficulty; and when the cause proceeds so far as to destroy the organization of a part essential to life, little hesitation can be felt. Hæmorrhages, and the appearance of contusions, are often fallacious. The former certainly take place from a variety of causes independent of violence, and the latter may arise from petechiæ, or similar causes. We can scarcely, however, conceive a question to come before a court of judicature, where the difficulty would arise whether death was occasioned by a putrid fever or by blows; and we think the decision of the father of forensic medicine, Zacchias, decisive in this respect. In case of violence, he observes, there is an extravasation under the skin: the lividness from other causes only discolours the surface by a change in the skin itself. We know that Stoll in two cases discovered a considerable extravasation under petechiæ; but these instances are rare, and the danger of mistake very trifling. On the other hand, considerable extravasations may take place internally, without the surface being affected, as where the bruise consisted of a large heavy weight, which gave a considerable shock without making an impression on any particular part. This cause of death may, however, be discovered by dissection; though, undoubtedly, bruises after death may, before the blood has coagulated, occasion similar appearances. This source of error must be carefully investigated in the particular cases.

One very important subject of inquiry arises, however, out of these discussions. If a man, in an accidental or premeditated struggle with another, by any extraordinary exertion, break a blood vessel and die, though the struggle occasioned the death, yet it is deemed accidental. If this struggle be a pugilistic contest, where personal animosity is unsuspected, and the person thrown dies on the spot, a doubt will arise how far his antagonist was the cause of his death. Again, if, in the violence and heat of a quarrel, a person strike another with an inconsiderable weapon, and death follows as much from the passion as the blow, the doubt will be increased. In each instance, the physician and surgeon are called on to decide; and we know no cases in which such contradictory evidence has been given. The principles on which the decision should rest appear to be these. When, from prior complaints, any weakness or predisposition to disease, hereditary or otherwise, can be discovered; when the violence is such that, in a sound healthy body, it would not probably produce any dangerous effect, the blow or the fall should not be accused. If a man, subject to a spitting of blood, in a struggle should break a blood vessel; if a person with a full florid complexion, and a short neck, whose parent had died of apoplexy, and perhaps about the same age, should fall down dead in a trifling contest, where the exertion was inconsiderable, we should certainly not convict his antagonist of any thing but imprudence and misfortune.

When any contest has taken place, independent of personal animosity, and some slight injury has been seemingly received, the subsequent conduct of the patient should have great influence on the judgment of the practitioner. If he has received injury in his side or head, and, instead of a cautious mode of diet, should

indulge in every irregularity, the pleurisy or phrenitis that might ensue should not, in justice, be attributed to the antagonist; nor, when the proper distinction is made, will the law, we believe, condemn him. This is not, however, the place to discuss a legal question, but to point out the foundation for the physician's opinion. The case is somewhat different when an abscess has followed external injury, independent of any irregularity of the patient's conduct. The physician must then decidedly attribute death to the *consequences* at least of the accident; and the legal distinctions will regulate the degree of criminality, and, of course, the punishment.

We have for some time been trenching on the province of the surgeon; but to introduce those parts of our subject which are more peculiarly his object, we must offer some remarks on the DISSECTION OF BODIES, with a view to discover the disease which has proved fatal, or the nature of the wound, in complicated cases, which has been destructive.

Dissections are opposed on many grounds. We shall notice only the objections which urge that by this means we discover effects rather than causes, and that complaints may have occured either in the minuter parts, which cannot be detected, or in the nervous system, which are not cognizable by our senses. Undoubtedly we more often observe effects rather than causes; but the objection will only apply when the anatomist, from ignorance, cannot detect the difference; or, from haste, will not wait to examine. The source of great error has been the partial examination of the part apparently most affected. We remember the dissection of a person supposed to be starved. The stomach was empty and full of wind, but not contracted. Some doubt remained; for the mesentery had not been examined, in which the conglobate glands were afterwards discovered in an enlarged and scirrhous state. Many similar instances might be adduced; and we may here add, that, in general, every cavity of the body should be examined with care, particularly the head. Complaints also may undoubtedly occur in parts of the body which even an exact anatomist may not think of examining; but these, we believe, will seldom prove fatal: nor, except from deleterious gases, is there any probability that the nervous system will be so much affected as to produce death, without leaving evident corporeal traces.

In medical jurisprudence, however, dissection is absolutely necessary, as the law requires the best evidence that can be procured, and various cases may be stated in which it is essential. A man, for instance, is found dead in a close apartment, in which charcoal has been burning, or which is in part consumed. The cause will appear evident: but dissection may discover traces of poison or of blows; and the fire may have been lighted to prevent suspicion.

When the dissection is determined on for the discovery of the cause of death, it should be attempted early, before putrefaction can have changed the appearance of the parts, and with as little motion as possible, that the relative situation of the viscera be not disturbed. The whole body, particularly the head, sternum, and abdomen, should be cautiously examined by gentle pressure. All the natural openings should be carefully sounded, and each part opened in succession, beginning with that which is most probably injured. The order of the examination is of more consequence than has been supposed. If, for instance, in the dissection of the body of a new born infant, to ascertain the cause of its death, the heart and lungs be first opened, the copious discharge of blood will drain the large vessels, which will be found empty, and a strong suspicion will consequently arise that the child died of an hæmorrhage, by neglecting the ligature on the funis. So, in examining a wound and its direction, every thing must be avoided which can disturb the relative situation of the parts; for to establish the cause of death it is necessary that the direction of the instrument should be accurately ascertained. In ruptures of internal vessels this caution is of less importance; yet, when there is any suspicion of the cause, it should be traced with as little disturbance of the relative situation of the parts as circumstances will permit.

The mode of examination is known to every surgeon; but it is highly necessary that he should be acquainted with the natural bulk and colour of the parts, and with the changes which fermentation, inflammation, and putrefaction will successively, at different periods, produce. The swelled abdomen and livid spots on the side may give suspicion of poison; but they are the effect of a separation of air, and the necessary changes in consequence of a warm season. If an inconsiderable wound, from its place or its direction, proves fatal only after some time, the previous inflammation will close it so that it shall appear too inconsiderable to be the cause of death.

RAPE. The ancient authors on forensic medicine are full on this subject, and unnecessarily minute and indecent. The examination and marks of violence will alone determine the judgment of the practitioner; and for this purpose the English law has wisely determined that the complaint should be immediately made, since the injury can then only be best ascertained. The existence of the membrane closing the entrance of the vagina, deified under the name of Hymen by the ancients, has occasioned some controversy. The moderns have wisely cut the knot, and admitted, that though it is a sign of virginity, yet its absence is no proof of violation, since it may be destroyed in a variety of ways without suspicion of impropriety. An observation of Buffon, which we believe to be correct, will explain some of the apparent contradictions on this subject. He observes that this membrane is seldom found in young children, or in girls long previous to puberty. It is at that early period folded in wrinkles, and expands, as the custos horti, only near the age of womanhood. It is certain that its existence has been denied by anatomists of eminence, who, in order to "make assurance double sure," in such a doubtful point, have sought it in girls from four to ten years of age. The marks of violence, and the evidence of the young woman, according to our laws, alone decide, and these require no further medical discrimination than we have stated. The swelling of the neck, which the "hesternum monile" can no longer surround, the blackness under the eye, the sullied whiteness of the cornea, must be referred to the list of old women's stories, which sounder science spurns at.

SUSPECTED PREGNANCY. On this subject a surgeon is often consulted, and we have already stated in different articles the foundation of the distinction. (See

Conceptio, Generatio, and Ascites.) We shall here, however, give a general connected view of the subject.

If a woman, who has been previously regular and in good health, at once complains of obstruction, without any well founded cause, as cold, fright, &c. suspicion must be kept alive, and active medicines avoided. The complaints which arise from pregnancy, though of a similar nature from those owing to suppression, yet greatly differ. In the first weeks the pregnant woman feels no inconvenience, and then only from sickness, and chiefly in the morning. In the intervals of sickness the spirits are free, and in the evening the appetite is also good; while, from obstruction, vomiting is an uncommon symptom, the languor comes on more slowly, and the symptoms are by no means worse in the morning. In the former case the complexion is clear, in the latter pale and dark: in the former the eyes often lively, in the latter uniformly dull. Not many weeks elapse before the breasts swell, and a pink or brown areola appears round the nipple. The former state of the breasts may not be known, and the areola in many women is naturally dark. Yet in a thin woman it will be at once seen, if the breasts are disproportionally full; and even in a more lusty one their firmness will betray an increased bulk, while in suppressed menses the breasts are much extenuated. The areola in a pregnant woman is also unusually extensive. After the fourth month the swelling arises above the pelvis in the form of a round, circumscribed ball, and the sickness usually goes off, while the spirits become peculiarly free and cheerful. At this period the state of the os tincæ may be discovered by the finger, and will at once preclude all hesitation. See Præsentatio.

We have not mentioned the sensation of motion in the uterus, because we proceed on the supposition of concealment. The same cause may prevent our knowing the state of the menstrual discharge: but the vomiting, the tumour of the breasts, the darker areola, cannot be concealed, and the tumour of the abdomen at the subsequent period will be decisive. At this time, also, and often more early, a slight pressure will produce a flow of serum or milk from the nipple. Hebenstreit indeed observes, that many women, not pregnant, can bring on a discharge of milk at will; but we have no reason to think that moderate pressure, independent of long continued irritation, or suction, can produce it in this climate.

Medical authors, kind to the fair sex, have been anxious to point out the fallacy of all these proofs; and we shall so far join with them in urging the practitioner not to hasten the decison. Certainty is at no great distance, and it is prudent not to endanger driving the woman to despair. This may occasion the worst of crimes; and, if though guilty, she escape, she may live to repent, and repair to society the injury which her former errors have occasioned.

It sometimes happens that women pretend to be with child, either to impose a fictitious offspring on a credulous companion, or to avoid punishment. The determination is in this case more easy; but should it be prudent to delay the decision, a most unremitted vigilance is necessary.

Suspected delivery very often claims the attention of the surgeon. The signs, however, though singly equivocal, are, together, certain. The very considerable relaxation of the vagina, the laxity of the teguments of the abdomen, the want of the fourchette, the thin membrane which unites the labia below, the peculiar swelling of the breasts, the extended areola, milk peculiarly thin and serous, with the unequivocal smell of the lochia just going off, will decide. Exceptions may be made to all these as well as to the signs of pregnancy; but the experienced eye cannot be deceived.

Retarded or premature delivery. Nothing can be conceived more ridiculous than the discussions of medical jurisconsults on this subject. The ancients contended that every animal had a fixed period of gestation except the human female; but this is by no means true: and the moderns have tortured their invention to explain why delivery should be retarded. We need not enlarge on the subject; for our laws speak plainly that if a woman lies in within eleven months after the death or the possibility of the access of the husband, the child shall still be his; and the axiom *pater est quem nuptiæ demonstrant*, be uncontroverted. It is not our business to oppose the law, but to explain it, though we may still remark that it is peculiarly complaisant or indulgent. On the other hand, the law, we believe, recognizes only a living child of seven months to be legitimate, if former access can be denied: a circumstance which can seldom happen.

Abortion. This is a subject which, by our laws, can scarcely be considered as an object of medical jurisprudence; for no statute is in force to punish the means of procuring it. The civil law made many unscientific, and even ridiculous distinctions on this point, resting on the period when it was supposed the fœtus began to live. We have now reason to think that life commences from the moment of impregnation. There is, however, a nice distinction in the English laws, which can never be applied without the most rash, unwarrantable decision of the physician or surgeon. If, says Dr. Burn, whom we quote, by a medicine given the child is killed in the womb, "it is great misprision, but no murder;" "but if the child be born alive and dieth of the potion, *or other cause*, this is murder." The opinion, we say, is inapplicable: for where is the physician who will decide that a weakly child might not have been so without the potion? and the vague clause distinguished by italics must make the whole "words of sound signifying nothing." There is, however, another view which we must take of the subject. An author of the purest morality, the most extensive benevolence, and the soundest religion, Dr. Percival, has dropped a hint, that it may not be unlawful to procure abortion where the size of the pelvis is not adapted for the birth of a living child. This is a latitude which we cannot sanction. A more recent (we *believe* a more recent) proposal of a celebrated accoucheur, who suggests in such circumstances, the propriety and advantage of bringing on labour at the end of the seventh month, is greatly preferable. In this case, though the attempt is peculiarly difficult, and can only succeed in the most experienced hands, the health of the mother is less endangered, and the child may be preserved; nor, on the whole, does humanity so strongly revolt at the attempt. Yet, as we have said, the whole should only be under the conduct of a man who unites resolution with discretion, and judgment with humanity.

Infanticide. We know not when we have found greater difficulty in speaking on any subject than on the present. The weight of arguments seem often to bear hard on those who are the objects of the greatest compassion; on unhappy women, deluded to their ruin, struggling with remorse, with the apprehension of disgrace, acting from a momentary phrenzy in self defence, often inconsistently and improperly subjected to suspicion from circumstances wholly beyond their power, and to conviction from the fortuitious occurrence of events not within their calculation. On this subject particularly, and indeed in every branch of medical jurisprudence, we strongly advise the practitioner to be cautious. He may reason as a physiologist, but he should act as a man of feeling and reflection, who knows that no medical conclusion is certain, and that the life of a perhaps innocent individual may be sacrificed to his hasty oracular decision, perhaps to his inadvertency. The punishment of a crime, says Beccaria, cannot be strictly called just or necessary, while the law has not employed the best possible means of preventing it. The law is indeed silent; but modern refinement, the precision of outrageous virtue, which admits not of the penitence of a sinner, urges the unhappy culprit to the worst of crimes.

In such circumstances the woman, from the causes already stated, is alone, her mind agitated, her resolution weak, herself spiritless and indecisive. The labour is perhaps rapid, the child born during fainting or convulsions, and lost from want of that attention which no law enforces, and which the apprehension of disgrace prevents her calling for. A state of this kind may be ascertained by subsequent faintings, peculiar debility, a low fluttering pulse, paleness, and subsequent œdema. Should these symptoms not occur, let us not yet decide without hesitation; for other circumstances should be also considered.

The first question must be, was the life of the child so perfectly established as to be probably continued after its birth? This is answered by its appearance, and the perfect, the complete development of its organs. It may be again asked, was it not dead before delivery? According to Alberti, if dead previous to delivery, the limbs are flexible, the skin wrinkled or soft, the colour yellow or livid, the abdomen sunk, with marks of commencing putrefaction, particularly about the navel, and the umbilical cord empty, yellow, livid, and apparently dissolved. The appearance of the cord is, however, equivocal; for the access of the air will, in a short time, produce the same changes. Indeed, all these appearances are the result of putrefaction, and the child may have died only a very short time previous to its birth; nor are authorities wanting to show that, while the access of the external air is prevented, putrefaction does not soon take place. (Heister, Alberti, and Hebenstreit.) The marks of apparent violence on the body are by no means decisive; but we have already, when speaking of contusions, laid down the best diagnostics on this point.

If an infant has breathed, it is supposed to have lived; but how many weakly infants are born alive, without breathing for many minutes; and how often, on the other hand, after a hard labour, does the child breathe once or twice, and then die? That the child may breathe before the delivery is complete, and die before it is fully born, is a fancy within the verge of possibility only, but too improbable to induce us to enlarge on it. A child, indeed, wholly perfect, may be strangled in its birth by the twisting of the umbilical cord round its neck; and it has been doubted whether, in this case, it is suffocated or dies apoplectic. It is probable that death is rather the consequence of the stoppage of the circulation through the cord itself; but this is of little moment as the mark remains. May not this mark, however, be the effect of violence? It certainly may be so; and the famous experiment of the lungs sinking in water is adduced to determine the doubt.

In a child that has not breathed, the lungs occupy the upper part of the chest, so as to leave the heart and pericardium exposed to view. But when the lungs are distended by respiration they fill the chest, and become specifically lighter than water. The English courts do not admit this experiment as evidence, and we are unwilling to disturb their decisions. We shall, therefore, add a few words on it as philosophers rather than as forensic physicians.

Heister observes, that the experiment is indecisive, because scirrhi in the lungs will make them specifically heavier than water; but who would be so weak as not to examine whether the experiment was tried on a morbid or a sound part; for the morbid lungs even of an adult will sink in water? He adds, that he has seen a child who had breathed twenty hours, whose lungs sunk in water; but he here speaks of the whole viscus, not of any particular portion, on which the experiment ought to be made. Again, it is contended that when putrefaction has taken place, the lungs of a child who has never breathed will swim. This fact is positively denied by at least equal authority; and, in reality, the lungs are scarcely susceptible of putrefaction, even when it has taken place in a considerable degree in the other parts of the body. If there were, however, any ambiguity, it may be at once removed by a slight attention. The air, separated by putrefaction, may be observed in the water passing along the divisions of the lobules, while air within them is invisible.

It is certainly possible that the mother, in attempting to revive a still born child, may endeavour to inflate the lungs by her own breath. Anatomists of eminence have differed on the possibility of success; and we own that it appears to us impracticable, since the force of the expiration must be sufficiently great to expand the thorax, and the nostrils must be at the same time closed. Humanity will, however, take this source of expanded lungs into consideration when the life of an individual is at stake.

The colour of the lungs, which is of a bright red previous to inspiration, their situation in the thorax, and the situation of the liver and stomach, as well as the shape of the diaphragm, will afford more decisive proofs (Sabatier Memoirs de l'Academie Royale des Sciences); but we will not accumulate what may be adduced to criminate.

Suppose it, however, ascertained that an infant is born alive, does it follow that the mother has been its murderer? The English law allows the concealment of pregnancy, and the want of provision for the infant, to be presumptive proofs of her guilt; though this has been most wisely and humanely put out of view by constituting it a distinct crime, with its appropriate punishment. But if children die soon after birth, when

the most anxious attention is exerted to preserve them, is it not probable that, in circumstances like those we speak of, the fatal event will be more common? Is it not rather surprising that any should live? The dangers that attend this first state of existence are numerous, and the neglects which may prove fatal are equally so. It is not our present business to point out these; and, indeed, we have through the whole discussion purposely avoided giving information that may be abused. The foreign authors on forensic medicine seem to aim at assisting criminal intentions, by industriously pointing out the means of their execution.

Wounds. The surgeon is often called to decide on the degree of injury sustained by these, and on the cause of death which follows them. When not mortal, and mutilation only is the consequence, the recompense which the law awards is proportioned to the injury sustained. The English law, however, makes the lying in wait, to *maim*, a capital offence, and with great propriety, as the lurking assassin is far more dangerous than an open enemy; and when it was alleged in a criminal's defence that the design was to kill, not to maim, the objection was overruled, on the principle that *omnē majus continet in se minus*. It is not easy to kill without maiming.

Wounds are fatal either in consequence of the effusion of blood, or the destruction of the organization of some part essential to life. It is not here our business to enter into the legal distinctions in this very complicated subject; but to point out to the surgeon, for his observation, the various circumstances on which these distinctions are founded. The divisions of the civilians, and of the older forensic physicians, into wounds mortal or indifferent, necessarily or absolutely mortal, &c. we shall not enlarge on, as they are not applicable to the system of English jurisprudence. Wounds may, however, be fatal by accident, as a bone at some part of the skull may be penetrated, if peculiarly thin, by a slight blow; a part essential to life may be in a preternatural situation, as a blow on the groin, which would do no injury, may bring on a fatal inflammation in case of a previous hernia; or a fever, which a slight blow has occasioned, may excite an indolent vomica to suppuration. In all these instances, the English law inquires *quo animo* the injury was inflicted. Again, a trifling wound may become fatal during the prevalence of a malignant epidemic, in a constitution deeply tainted with scurvy, syphilis, &c. or in one of great nervous irritability, by inducing tetanus, or its lesser degree, a locked jaw. A state of pregnancy, infancy, or old age, will also render trifling injuries dangerous or fatal.

The event is equally influenced by obstinacy or cowardice, which prevents the treatment necessary to preserve life; by intemperance, violent passions, or despair; by neglecting the proper precautions enjoined; the want of necessary assistance, its delay in inclement seasons, or the unskilfulness of the practitioner. It was a truly judicious remark of a judge in a late cause, that he could not try the skill of a surgeon; and we would here add, that in every case where the opinion of a professional man is called on the conduct of another, he should reflect that his judgment is enlightened by the subsequent circumstances. In the situation in which the first practitioner was at the early era of the accident or complaint, the question must be, could he with propriety have acted differently? If that question is answered in the affirmative, another will arise; and should a man, himself liable to error, be forward in criminating a brother?

Wounds of the brain are seldom mortal, except the base, the cerebellum, or the spinal marrow at its commencement are injured. A large portion of either hemisphere has been evacuated without injury, and even without the slightest (apparent) diminution of the faculties. Depressions of the skull are much more dangerous; and compression, from a fractured skull or extravasated fluids, as well as that torpid inflammation which concussion, after some time, brings on (vide Concussio and Cerebri compressio), are almost equally fatal. It is not the present object to point out the symptoms of each; but we must add the strongest injunctions in case of apparent compression, to examine with the strictest anxiety, the part affected, in order to the application of the trepan. This is often very difficult to ascertain.

Wounds of the nerves are not always dangerous; but if a nerve is partly wounded it may bring on a fatal tetanus, when, from its situation, the nerve cannot be divided. Bohnius remarks, that wounds of a nervous plexus are usually mortal, and bruises on a nervous part, particularly where its nerves are connected with the vital organs, are generally dangerous. Michaelis mentions bruises on the pit of the stomach, in the English pugilistic combats, as frequent causes of death; and indeed, all wounds of the stomach and intestines are highly dangerous, though many miraculous stories are related in which the patients were cured. Wounds of the liver, spleen, kidneys, bladder, and uterus, are also usually fatal, from the access of the air or the internal hæmorrhages. In experiments made on animals each is carefully avoided; but, with every precaution, the Cæsarian section is usually mortal.

Injuries in the vital organs, and indeed all wounds of the larger vessels, must necessarily be fatal. The stoppage of respiration, from any cause, must also soon terminate in death. A question sometimes occurs, whether the person may not have been suspended or drowned after life had been extinguished? This question can only be answered satisfactorily by dissection. Indeed, when life is destroyed by suffocation, the mark of the injury is conspicuous in a much greater degree than by common suspension; and, in cases of drowning, the pale livid colour of the face, with froth round the mouth, may determine the question; but each sign is equivocal. In either case, however, the venous system, particularly of the vena cava, and of the head, is greatly distended; and in strangulation the pulmonary artery is unusually full. Whether death has proceeded from deleterious vapours, in which the body has been confined, to avoid the suspicion of former violence, is not so easily discovered. The application of galvanism would, however, show the extraordinary diminution of irritability, which is usually the effect of such vapours; and, in each case, other marks of violence, and the injury of organs essential to life, will give strong suspicions, which dissection will confirm.

To pursue, with forensic physicians, the wounds of every different part, would extend this article beyond its proper limits; nor indeed could we add any thing which a knowledge of anatomy and physiology will

not supply. We must not suppose our readers ignorant of either.

Shocks and bruises. In the article respecting concussion we have shown how shocks impair the irritability of the vessels, and produce chronic inflammation in the brain or liver, which after some time is often the cause of death. Each cause here mentioned will also produce internal effusions, generally from a rupture of arteries, which may be fatal. A late instance has occurred, in which the radial artery was broken through its whole substance, by the shock only of a fall from a horse; and Pilatre de Rozier, the victim of æronautic folly, fell on his feet, and died immediately from the shock, which was found to produce internal effusions. Blows with a stick, without inflicting any wound, will occasion, internal, and sometimes neighbouring accumulations; and military punishments, when not fatal from gangrene, are sometimes so from abscesses forming *below* the bruised part. (Hamilton's Regimental Surgeon.) It is necessary, therefore, in forensic medicine, to look beyond the immediate injury, and examine the effects of what may arise from the shock or its consequences. In three instances we have heard from practitioners of credit decided testimonies that the blows were not the causes of death, because no mortal appearance attended the wounds. It was unlucky for the cause of justice that they were so ignorant; but humanity might smile through her tears, and charitably hope that the escape would prove a warning.

Hanging and drowning. We can scarcely separate the forensic from the more strictly medicinal consideration of these subjects, and must therefore refer to Strangulatio and Suspensio.

Medicina politica. Medical interposition, according to our laws, is seldom necessary in questions of police. Yet there are many cases where an intelligent physician might afford satisfactory information. Perhaps the neglect has arisen from that dogmatism which is the effect of ignorance, or of imperfect science, as in the instance mentioned by Dr. Percival, where two physicians contradicted each other respecting the dangers from a copper work. One swore positively it was dangerous; because copper ores usually contained arsenic; the other had ascertained, by experiment, that the ore in question contained none.

In the article Aer we showed that weather, and a state of atmosphere apparently the most insalubrious, were sometimes found healthy; and that neither reasoning *a priori*, nor experiment with the eudiometer, would always point out situations where the health can be preserved. The vicinity of marshes certainly renders situations unwholesome; but this is liable to exceptions. If the prevailing winds blow from a marsh to a town, at the season when the marsh is covered with water, little danger arises from it; but if the wind passes over it when in a moist state, diseases often follow. Dilution of the miasma, we have said, is the best security, and, therefore, at a certain distance its power is lessened or destroyed; but unfortunately this distance is not ascertained, nor is it certain that every marsh produces deleterious vapours. Those covered with salt water at each returning tide, or even at each spring, are not always dangerous. We cannot ascertain the innocence of any other kind, except of those very generally covered with water or herbage. Stagnant water has indeed been accused; but we suspect without reason: it certainly is not eminently injurious, and, from the "green mantling," known to exhale oxygenous gas, it may probably be salutary.

Towns, it may be said, cannot be removed; but if unhealthy they will be gradually forsaken. A house may be removed to a healthier spot; but the more temporary situation of a camp or a barrack which may be chosen should be fixed with peculiar care. The reports of army surgeons frequently point out the fatal effects of inattention to this important circumstance; and it has been said that barracks have been heedlessly erected in spots peculiarly unhealthy; nor should we be surprised to find the same carelessness respecting health that we have found of expenditure. A medical topography should be published of every district, comprehending the particulars of its situation, its prevailing winds, usual temperature, and reigning diseases. This plan, which has been adopted in France, would truly merit the attention of the legislature; and it might easily have been appended to the agricultural surveys, were we as attentive to the lives and health of mankind as of the shape or breed of cattle.

Nuisances often claim the attention of courts of justice, and physicians are sometimes called on to decide. Their object is, however, to determine only what manufactures are injurious to health. A brick-kiln, a lime-kiln, a pottery, and an iron-foundry, are unpleasant neighbours; but can we say either is unwholesome? Smelting-houses for lead, and, in general, for copper; dye-houses and tan-yards, erected so near the water as to corrupt the stream, are certainly injurious. The manufacture of the mineral acids, the oxygenation of the muriatic acid for bleaching, the singeing of velvets, currying of leather, are processes always offensive, and generally injurious; for the workmen are usually pale and weak, subject to nervous diseases, and seldom long-lived. Yet it is said, that the improved methods of burning the smoke prevent much of the inconvenience. The process of making candles is offensive, but apparently not unwholesome. It has been admitted into towns, but with reluctance; and the manufacture is discouraged in populous cities when complained of. The business of the dyer or the butcher is certainly not injurious to the health of those who practise or who live near either, nor can we recollect, in a large populous and trading town, any peculiar complaint that could be traced to their quarters. The breath and the dung of the cows have been thought salutary; but should they be so, the vicinity of pigs is certainly otherwise, and these should not be fed in populous cities.

Were the police to interfere in buildings, one circumstance should be indispensable, viz. that every house should have a free ventilation from the front to the back part: the smallest court behind would be sufficient, if not shut up by houses rising gradually higher on a hill. We have found no circumstance so injurious to the general health of a family as a situation where free ventilation is impeded.

The foreign authors on the medicina politica are full of numerous disquisitions, in which the law of this country speaks positively, and requires no medical aid. One of these points is the age proper for marriage; others are cohabitation, the Cæsarian operation, punishments

during pregnancy, &c. One of these subjects calls, we think, for medical interposition, viz. the danger of propagating the most dreadful diseases, as mania, scrofula, phthisis, &c. Yet we see not how physicians can interfere; for the child sometimes partakes of that parent's constitution, which is perfectly sound. Must that child, or such children, then, be deprived of existence because the life of others may be short or suffering? Humanity, reason, and religion, will at once forbid. A stronger case is, where a woman, from deformity, cannot have a living child. Must her marriage be prevented? Neither law nor religion will decide in the affirmative, though the child and the mother may be sacrificed; and such is the circumstance lately mentioned, where the civilians have thought the procuring abortion justifiable. This, for numerous reasons, we must oppose, though we think bringing on labour at the seventh month a humane and judicious expedient: the impossibility of the woman's bearing a living child should, however, be first ascertained without any doubt.

When the testimony of a physician is called for in a court of justice, his evidence should be clear, divested of technical language, and in modest, decent terms. He is sworn to tell the truth, the whole truth, and nothing but the truth; yet we have spoken of giving truth in her fairest garb, of softening what is harsh, and leaning to the side of humanity. We must explain. It is not our design to recommend prevarication, much less concealment; yet in the most decided cases there must be doubts, there must be views, which will carry with them alleviations. It is neither prevarication nor concealment to give each their full force; to point out how far they may bear on circumstances the most apparently positive. It has been said that it is better ten criminals should escape than one innocent person suffer by insufficient evidence. Yet criminals are confessedly punished for the sake of example; and the frequency of escapes, we fear, encourages new attempts. The maxim, therefore, though humane and benevolent, has been carried to an extreme; yet, as involving some intricate disquisitions, not applicable to medical evidence, we can only add, that as the extreme of justice is the extreme of injury, so excess of humanity may be the excess of cruelty.

We have now finished a subject, new in our language, and in which, though we have anxiously avoided error, we may have often committed it. The extent of our article is comparatively short, for we have endeavoured to compress volumes into pages; and as English forensic disquisitions on medical subjects must relate to English laws, many bulky inquiries were foreign to our purpose. Yet, in our references at the end, we have pointed out the sources of a more general and a more extensive inquiry. If these appear numerous, the reader will feel more sensibly the obligation we have endeavoured to confer, viz. contracting our article by the omission of numerous references in our progress. To the candor of the more enlightened and experienced readers we now trust it, with a consciousness of having meant well; of having

Nothing extenuated,
Nor set down aught in malice.

See Paullus Zacchias Quæstiones Medico legales, 3 vols. fol. Norinberg; Michaelis Valentini Pandectæ Medico legales, 4to. Frankfort; Zittman Medicina Forensis, 4to. Frankfort; Alberti Systema Jurisprudentiæ Medico legalis, 6 vols. 4to.; Richter Decisiones Medico Forenses; Teichmeyer Institutiones Medicinæ legalis (Fazellii edit.), Jenæ, 4to.; Hebenstreit Anthropologia Forensis, 8vo.; Ludwig Institutiones Medicinæ Forensis; Fazellii Elementa Medicinæ Forensis; Collect Opusculorum ad Medicinam Forensem Spectantium, a Schlegel, 6 vols. 12mo. Lipsiæ; Medecine Legale et Police Medicale de Mahon, Paris, 3 vols. 8vo.; Percival's Medical Jurisprudence; Medical Jurisprudence on Madness by J. Johnstone, M. D.

MEDICINA STATICA. During the prevalence of the mechanical systems, when *pondere mensura et numero Deus omnia fecit* was the conduct held out to our imitation, the body was constantly weighed, and the salubrity of food was estimated by its perspirability. This plan, pursued at some length by Sanctorius, was soon found to give unsatisfactory results; for the valetudinarian, in his statical chair, though the balance was carefully preserved, lost his strength and spirits; and he saw, with surprise, that he was "truly found wanting." Many circumstances were not taken into the account, which would greatly alter the result; but these we need not stay to enumerate, as the folly has had its day, and is now forgotten.

Sanctorii Medicina Statica, and Keil's Aphorisms.

MEDICI'NA TRISTI'TIÆ. See CROCUS.

MEDICINA'LES DIES, are those days in fevers which are neither critical nor indicatory, and on which it is supposed proper to administer powerful remedies.

MEDINE'NSIS VE'NA, (from *Medina*, where it was frequent). *Medena vena.* A WORM; called *vena*, before it was known to be an animal. See DRACUNCULUS.

MEDITU'LLIUM, (from *medium, the middle*). See DIPLOE. When it signifies the pith of vegetables it is called also *cardia, cor, encardium, medulla, matrix.*

ME'DIUM, (from *Media*, its native soil). See CERVICARIA.

ME'DIUM TE'STÆ. See BREGMA.

ME'DIUS DI'GITUS. See DIGITUS.

MEDU'LLA, *quia in medio ossis.* MARROW; *axungia de mumia.* In anatomy it hath various significations. The white substance of the brain is called *medulla*, or the medullary part, to distinguish it from the brown or cortical. The continuation of the brain in the spine is distinguished by the epithet *spinalis;* but medulla strictly means marrow in the bones.

If the marrow be viewed through a microscope, it seems a mass of small globules united like those in the roe of a herring. The distinction between medulla and succus medullaris is useless, for the marrow in the living body is always fluid. The membrana medullæ not only lines the internal surface of the bones, but divides the vesicles, or membranous bags, containing the marrow; these very fine minute vessels from which the marrow is secreted are dispersed on these membranes, and are branches from the artery, which enters the bone by its appropriate aperture. The use of the marrow is said to be rendering the bones flexible, for it was with little reason supposed they would soon otherwise become brittle, as happens in syphilitic and scorbutic habits, where it is apparently separated in too small a quantity, too quickly absorbed, or diseased. The membrana

medullæ is furnished with a nerve which enters with the artery, and with an accompanying vein. The small vessels which secrete the marrow are more than usually diminished by advancing age; and we thus find the marrow bloody in the earlier periods, oily in the middle stages of life, and watery in old age.

The marrow is never sensible but in a diseased state, and is usually absorbed with the rest of the fat in dropsies. In the fœtus the bones contain albumen chiefly; and in birds the proportion of marrow is inconsiderable, for the cavities chiefly contain air. Marrow of animals is prescribed in some compositions, but it has no superior efficacy to other fats.

MEDU'LLA C'ASSIÆ. The pulp of the cassia fistularis. See also MEDITULLIUM.

MEDU'LLA OBLONGA'TA is a continuation of the medullary substance of the cerebrum and cerabellum, passing downwards, and a little backwards to the foramen magnum occipitale, where it assumes the name of *medulla spinalis*. It is rather of a depressed pyriform figure though called oblong; rising by two crura from the cerebrum, and two peduncles from the cerebellum: the enlargement formed from the union of these is called *pons varolii*, or *tuberculum annulare*, behind which is a stricture upon the medulla oblongata, followed by an enlargement, on each side, styled *corpora pyramidalia*. From the medulla oblongata arises the medulla spinalis, and all the nerves which pass from the head, except the first and second pairs. (See NERVI.) Death is the immediate consequence of an injury on the medullary part. See CEREBRUM.

MEDU'LLA SPINA'LIS; *cerebrum elongatum; Æon;* is the continuation of the medulla oblongata, from the foramen magnum occipitale, through the vertebræ of the neck, back, and loins. It is of different sizes; in the neck flat and broad; in the back, small; in the loins, large; and at last it becomes a bundle of nerves, which have the name of *cauda equina*, because when taken out, and extended in water, they resemble a horse's tail, and as the medulla passes out of the foramen magnum, its external membrane the dura mater is united to the ligamentous lining of the bony cavity, but this connection does not extend beyond the first vertebra. The cineritious matter in the medulla spinalis is within the medullary.

A singular circumstance, of importance in explaining the phenomena of many diseases is, that the spinal marrow, though apparently one cord, is divided into two, easily separated, but united by a *cineritious substance:* it is therefore, double, but, from the mode of union, single only; and we thus see how, in the more important organs, an injury in one part of the marrow is attended with a diminution of the power only in the organ, and can explain the reason of the irreparable consequences of a distortion, or exostosis of the bony canal. The fasciculi of nervous fibrils are sent off from each portion of this double cord, anteriorly and posteriorly, passing through separate foramina of the sheath. The posterior nerves form a ganglion, and then unite with the anterior. Each fasciculus is attended by the external lamina of the dura mater, the internal is gradually lost, and the angle left by each in its first divarication is filled by a fine ligament, which appears to support the nerves on the front, and behind, in their passage. This denticulated ligament seems through the whole cord to distinguish the anterior and posterior bundles, and, near the cauda equina, has been considered as itself nervous, since it there loses its denser structure as having less to support. The tunica arachnoides is more distinct from the pia mater in the spinal marrow than in the brain, though it adheres more closely to this membrane at the bottom than above. It is apparently suspended by the denticulated ligament, and passes with the dura mater, along the nervous fibrils sent off.

The *spinal arteries* arise from the vertebral within the foramen magnum, which again passing through the occipital hole divide into two other branches, which run to the posterior portion of the medulla. Each runs through the respective grooves formed by the division of the cord. They divide, and again unite and anastomose occasionally, with the vertebral, the intercostal, the lumbar, and sacral arteries. We thus see that the effects of a slight change in the capacity of the bony canal, by interrupting the course of the blood, and, in part the nervous influence, may be gradually obviated by the efforts of nature alone. The medullary veins terminate in the vertebral, and in different sinuses, which have a free communication, apparently serving, as in the head, to keep the arteries full, and to prevent the fatal effects of temporary pressure. See CEREBRUM.

MEGALOSPLA'NCHNOS, (from μεγας, *great*, and σπλαγχνον, *a bowel*). A person affected with an enlargement of any viscus.

ME'GRIM. See CEPHALALGIA.

MEIBO'MII GLA'NDULÆ. See CILIARES GLANDULÆ.

MEL, MELI, (from μελι, *honey*). HONEY; *aeromili, acoitus.* Aristæus, a pupil of Chiron, is said to have first gathered this sweet vegetable juice, collected by the bee from the flowers of various plants, and deposited in the cells of its comb. The little animal which furnishes this rich juice is the apis mellifica, Lin., and the honey which separates without expression contains a less proportion of wax, and is of a thick consistence, a whitish colour inclined to yellow, a granulated appearance, an agreeable smell, and pleasant taste; both the colour and flavour differ in some degree, according to the plants which the bees prefer; but that wrought by young bees, and permitted to run from the comb without heat or pressure, is called virgin honey. The honey of old bees, pressed from the wax, is yellow. Honey produced where the air is clear and hot is better than that where the air is variable and cold. Where the bee hives are fixed, aromatic plants, particularly thyme, lavender, violets, primroses, baum, sage, and borage, should abound. Honey seems to be merely collected from the flowers, and not elaborated by the internal economy of the insect, for it derives, apparently from its source, many qualities not peculiarly its own. New honey to many proves disagreeably and powerfully laxative; and it sometimes, particularly in America, proves poisonous. Boston (American) Transactions. Each inconvenience is often removed by age, but more certainly by boiling. The animal which collects it is an exclusive inhabitant of the old continent, imported by America, where the natives call it the white mens' fly.

Honey contains a large portion of a purely saccharine matter, mixed with an acid partly uncombined, though concealed by the sugar. With this,

however, there is certainly a proportion of mucilage, since oxalic acid is the result of its treatment with the nitric.

If M. Seguin's late experiments are correct, honey must also contain albumen, since substances which are susceptible of fermentation without yeast, seem, in his opinion, to owe it to their albumen. When deprived of it they lose this property; and when it is again added in the form of the white of an egg, they regain it. Yeast certainly contains albumen, but M. Seguin has lately shown so much fancy in his experiments on gelatine, with which intermittents he thinks may be cured, because the bark appeared to contain this substance, that we distrust his present conclusions.

Honey is highly nutritious, though when long continued as a diet, is said to occasion a dissolution of the blood. As a medicine it is supposed to be aperient, antiseptic, and expectorant: but it is perhaps only slightly laxative, and a pleasing demulcent. It seems to possess some stimulus, since it is forbidden where heat and inflammation are considerable. If given in a large quantity it has been said to relieve asthma, and dissolve a calculus in the bladder (see CALCULUS); but there is much reason to doubt its efficacy in these complaints. It is only a sugar with a larger proportion of mucilage, for its acid is inconsiderable in quantity, and highly volatile.

MEL AE'RIUM. See MANNA.

MEL DESPUMA'TUM. CLARIFIED HONEY.

Liquefy the honey in a water bath, separating the scum as it arises. On continuing the heat, a considerable quantity of an aqueous fluid, impregnated with the finest smell of the honey arises: the inspissated residuum dissolves in water and in spirit. If treated with moist clay, as practised by sugar bakers for purifying sugar from its treacle, the unctuous parts of the honey may be separated, and its saccharine matter obtained in the form of a solid, saline, white concrete.

OXYMEL SIMPLEX. Simple *Oxymel*. Take of clarified honey, two pounds; of distilled vinegar, a pint. Boil them in a glass vessel, with a gentle fire, to the consistence of a syrup. Pharm. Lond. 1788.

CERA'TUM ME'LLIS, (from *cera*, *wax*, and *mel*, *honey*). CERATE OF HONEY. ℞. Olei olivæ; mellis despumati āā ℔ss. Ceræ flavæ. Emplastri lithargyri āā ℥ iv. m. Melt the oil, wax, and plaster together, and afterward add the honey. This cerate is said to be well calculated for scrofulous ulcers, as it is slightly stimulant.

MEL BORA'CIS. HONEY OF BORAX, consisting of an ounce of honey to a drachm of borax, is applied to the mouth in cases of aphthæ.

In every instance where honey is thus employed, it should not be new, and it should be ascertained previous to its use whether honey commonly disagrees with the bowels.

Of many compositions honey forms the basis, as the *mel scillæ*, *oxymel scillæ*. See SCILLA. *Mel Rosæ*. See ROSA. *Oxymel Colchici*. See COLCHICUM. *Mel hydrargyri*, and *Mel Ægyptiacum*. See ÆGYPTIACUM UNGUENTUM.

MELÆ'NA, MELAI'NA, (from μελας, *black*). A disease in which the discharges are black, attributed to black bile. See MORBUS.

MELÆ'NA NO'SOS. See MORBUS NIGER.

MELAMPO'DIUM. See HELLEBORUS NIGER.

MELAMPY'RUM, (from μελας, *black*, and πυρος, *wheat*, because it resembles wheat,) *triticum vaccinum*, *cratægonum*, PURPLE COW WHEAT, *melampyrum arvense* Lin. Sp. Pl. 842, because it is very grateful to black cattle. Its effects resemble those of darnel, and are narcotic, until custom has rendered it habitual. It is found among corn in many countries, particularly Friesland and Flanders. A wild species is called satureia lutea sylvestris. *Melampyrum sylvaticum* Lin. Sp. Pl. 843. See Raii Historia.

MELANAGO'GA, (from μελας, *black*, and αγω, *to expel*). Medicines which purge off black matter supposed formerly to be bile.

MELANCHO'LIA, (from μελαινα, *black*, and χολη, *bile*). MELANCHOLY; *delirium melancholicum*, *erotomania*, *panophobia*, *athymia*. Dr. Cullen places it as a genus in the class *neuroses*, order *vesaniæ*, and defines it, a partial insanity, without dyspepsia. (Vide MANIA.) Melancholy and hypochondriasis are so nearly allied, that the distinction is difficult. Dyspepsy is, however, a commonly attendant symptom of the latter; but absent in the former.

Of this Dr. Cullen distinguishes eight varieties, arising from the objects of false conceptions. 1st, from being fearful of the dangerous state of the constitution; or, 2dly, from a false conception of their more prosperous situation; 3dly, from violent love, without the irritation of lust; 4thly, a superstitious fear of a future state; 5thly, a dislike of motion, and all the offices of life; 6thly, with inquietude and restlessness; 7thly, with a weariness of life; 8thly, from a man's false conception of the nature of his own species, fancying himself a dog, a horse, or some other animal.

Melancholy, however, is in general the beginning or a less degree of madness, and the highest degree of hypochondriasis. Each passes gradually into the other; and they all often, at last, terminate in alienation of mind. See MANIA.

MELANOPI'PER, (from μελαινα, *black*, and *piper*, *pepper*). See PIPER NIGRUM.

MELA'NTHIUM, and MELASPE'RMIUM, (from μελας, and σπερμα, *semen*, *seed*). See NIGELLA ROMANA.

MELANTO'RIA, (from μελας, *black*). See ATRAMENTUM SUTORUM.

ME'LAS, BLACK. An epithet applied to the colour of the skin, and to some particular medicines, as *calomelas*. A species of leprosy of a dark black colour has the same appellation. See ALPHUS.

MELA'SMA, (from μελας, *black*). See SUGILLATIO.

MELA'ZZO. See SACCHARUM.

ME'LCA, (from αμελγω, *to milk*). "Milk well seasoned with boiling hot vinegar, to separate by rest the curd from the whey." Constantine de Agricultura, lib. xviii.

MELEGE'TA. See PARADISI GRANA.

MELEI'OS. See ALUMEN.

ME'LICA. See MILIUM INDICUM.

MELICERI'OLA. A small meliceris.

MELICE'RIS, (from μελι, *honey*, and κηρος, *wax*); *Mellifavium*, is an encysted tumour, whose contents resemble honey and wax. It differs from the atheroma by its evident fluctuation, and from the steatoma by

its firmness. It may be extirpated, or opened and dissolved, by exciting suppuration. See Nævus.

MELICRA'TON, (from μελι, *honey*, and κερανυμι, *to mix*). See Hydromeli.

MELIGEI'ON, (from μελι, *honey*,) a fœtid oily humour of the consistence of honey, discharged from ulcers when complicated with a caries of the subjacent bone. Blanchard.

MELILO'TUS, (from μελι, *honey*, and λωτος, the *lotus*,) *lotus sylvestris*, *sertula campana*, *trifolium caballinum*, *corona regia*, common melilot, *trifolium melilotus officinalis* Lin. Sp. Pl. 1078, is a plant with smooth, oval, striated leaves, standing three together on slender pedicles, and round, striated, branched stalks, terminated by long spikes of papilionaceous flowers dropping downward, followed by short, thick, wrinkled pods, containing each one or two roundish seeds. It is annual, or biennial, and flowers in hedges and cornfields the greatest part of the summer.

Melilot is emollient, and supposed to be anodyne, participating of the virtue of camomile. Its taste is unpleasant, somewhat acrid and salt, but not bitter; when fresh it hath little smell, but in drying acquires a strong aromatic though disagreeable odour. The distilled water of melilot, though of little smell, remarkably heightens that of other substances. It formerly gave name to a plaster, to which its juice imparted a green colour; but it is now seldom used.

Melilo'tus major. See Lotus urbana.

MELIPHY'LLON, (from μελι, *honey*, and φυλλον, *a leaf*,) baum or balm. See Melissa.

MELI'SSA, (from μελισσα, because bees are fond of it,) *apiastrum*, *erotion*, *mellifolium*; *citrago*, *citraria*, and *cedronella*, from its colour; *melissa officinalis* Lin. Sp. Pl. 827, is a well known plant in our gardens: the stalks are square; the leaves are oblong, pointed, dark green, somewhat hairy, and set in pairs, in the bosoms of which arise pale, reddish, labiated flowers, standing several together, on one pedicle, with the upper lip roundish, erect, and cloven, and the lower divided into three segments. It is perennial, a native of mountainous places in the northern parts of Europe, and flowers in our gardens in June.

Baum is one of the mildest cordials and corroborants: with a pleasant smell, resembling that of the lemon, and a weak aromatic taste, which it loses in a great degree by drying; a slight roughness discoverable in the fresh herb, becomes more sensible when dry; the young shoots are stronger than the full grown stems. Infusions of the leaves, in water, smell agreeably of the herb, but have not much taste, though, when inspissated, that of the extract is bitterish and austere. Infusions of baum do not, like other aromatics, offend the head. Cold infusions in water, or spirit are far better than the cohobated distilled water, and are the best preparations. It used to be considered as an efficacious nervous medicine in hypochondriasis and melancholia, as well as an emmenagogue. At present it is only given in infusion as a grateful diluent in fevers, sometimes acidulated with lemon juice.

On distilling the fresh herb with water, it strongly impregnates the first running with its grateful flavour. When large quantities are subjected to the operation, a small portion of essential oil, called *ol. Syriæ*, or *ol. Germanis*, swims on the surface. It is of a yellowish colour, and a fragrant smell. See Molucca.

Meli'ssa ne'petha. See Calamintha.

Meli'ssa calami'ntha. See Montana.

Meli'ssa tu'rcica, *camphorosma*, turkey, or Canary baum, commonly called *balm of Gilead*, *dracocephalum Canariense* Lin. Sp. Pl. 829. This species is a native of the Canary isles, and scarcely bears the cold of our climate without shelter. It is commended as a warm tonic if frequently drank in infusion.

MELISSOPHY'LLON. See Melissa, and Ballote.

MELITI'SMOS, (from μελι, *honey*). A linctus prepared with honey.

MELLA'GO, (from *mel*, *honey*). Any medicine of the consistence and sweetness of honey.

MELLEGUE'TTA. See Paradisi grana.

MELLIFA'VIUM, (from *mel*, and *favus*, *honeycomb*). See Meliceris.

MELLITUS, (from *mel*, *honey*,) sweet, partaking of the nature of honey. This is the trivial name of a species of *diabetes*, q. v. a disease which, since the publication of the second part, has attracted the attention of MM. Dupuytren and Threnard. (See Manna.) They discovered that the residue of diabetic urine, after evaporation, was not peculiarly sweet to the taste, though it had all the properties of real sugar; while manna, a substance peculiarly sweet, contained sugar only in a very small proportion. They found an animal diet successful, and on examining the urine during the cure, perceived the first salutary change in the urine to be an evolution of albumen, and soon afterwards the urea and uric acid appeared. In the true diabetic urine no animal matter can be discovered.

MELIFO'LIUM, (from *mel*, and *folium*, *a leaf*). (See Melissa.) Melissophyllum, *melitis melissophyllum* Lin. Sp. Pl. 832, has been used in calculous complaints, and as an emmenagogue, but is now neglected.

ME'LO, (from its resemblance to μηλον, *an apple*). The melon, *cucumus melo* Lin. Sp. Pl. 1436. This fruit is cooling and watery, and should be taken with caution by those who have weak digestive powers, and are best eaten with sugar and some aromatics, as ginger, or pepper. They are diuretic, and have been said to produce bloody urine, which may have happened, but it seems a solitary instance.

Me'lo I'ndicus. See Jace Brasiliensibus.

MELO'E VESICATO'RIUS. See Cantharides.

ME'LON, (from μηλον, *an apple*). An apple; the cheek, (see Mala and Buccæ,) or a disorder of the eye, when it protuberates from the socket. See Exophthalmia and Malum.

MELO'NGENA, *mala insana*, *solanum pomiferum*. Mad apple. It is not injurious, as has been supposed. The Spaniards and Italians eat them both in sauce and in sweetmeats: their taste resembles that of a citron.

MELO'PEPON, (from μηλον, *an apple*, and πεπων, *a pompion*). The squash resembles both the melon and the pompion, except that its fruit is roundish, striated, angular, cut into five parts, and full of flat seeds, fixed to a spongy placenta. See Pepo.

MELO'SIS, (from μηλη, *a probe*). The searching of any part with a *probe*. See APYROMELE.

MELOSTI'CA PENDULA, Lin. Sp. Pl. 49, is not remarkable for any medical virtues, but its fruit is pickled and eaten as a condiment.

MELO'THRUM. See BRYONIA ALBA.

MELO'TRIS, (a diminutive of μηλη, *a probe*). See APYROMELE.

MEMBRA'NA, (from *membrana*, *parchment*, which it resembles). A MEMBRANE; *chiton*. Winslow describes it to be a pliable texture of fibres, disposed or interwoven together in the same plane. Membranes differ in thickness, according to the smallness of their fibres, and the number of their planes, called *laminæ*. For a description of the *cellular membrane*, see CELLULOSA MEMBRANA, and FIBRA.

The mucous membrane is that covering of the surface of any part, generally within the body, which is exposed to injury from extraneous matter, as the internal membrane of the mouth, nose, lungs, œsophagus, stomach, intestines, and urinary passages, from which they are defended by the mucus, which it secretes.

The common membranes, called the common teguments, are the scarf skin, the true skin, and the cellular membrane; but from this rank the first and last must be excluded, for the scarf skin is an apparently inorganic exudation, inspissated, or a scaly covering, and the *tela cellulosa* not very different. The membranes which cover particular parts are, the *dura* and *pia mater*, *pleura*, *peritonæum*, *pericardium*, *periosteum*, *membrana propria musculorum*, a vascular membrane which covers all the vessels of the body, and those which form the tubes, as the stomach, intestines, arteries, veins, gall bladder, or urinary bladder. Membranes, we have said, (see FIBRA, FŒTUS, and GENERATIO,) are apparently primordial and nervous, and afford a striking instance where nerves, by a closer and more compact texture lose their sensibility; for membranes, like tendons, are insensible in a sound state. They show, however, their peculiar nature by the extreme pain and irritation felt when stretched or inflamed.

MEMBRANA HYALOIDEA, the membrane which encloses the vitreous humour of the eye.

MEMBRANA PUPILLARIS, the membrane which covers the pupil of a fœtus before the sixth month.

MEMBRANA RUYSCHIANA the internal lamina of the choroid.

MEMBRANA TYMPANI. The membrane separating the tympanum of the ear from the meatus externus. (See AURIS.) It is said to consist of six laminæ, 1st, a production of the epidermis; 2d, of the skin lining the auditory passage; 3d, a cellular membrane supporting reticulated vessels; 4th, a production of the periosteum of the meatus; 5th, like the 3d; 6th, a production of the periosteum of the internal cavity. Muscular fibres have also been discovered in it.

MEMBRANA'CEI, (from *membrana*). Inflammation of membranous parts.

MEMBRANA'CEUS, (from *membrana*,) belonging to the MEMBRANES. In botany it means those leaves which have no parenchyma between the surfaces.

MEMBRANA'CEUS PI'NGUIS. See CÆLIFLOS.

MEMBRA'NÆ. See INVOLUCRA.

MEMBRANOLO'GIA, (from *membrana*, and λογος, *discourse*). MEMBRANOLOGY. It treats of the common integuments, and of particular membranes.

MEMBRANO'SUS MU'SCULUS; from its large membranous expansion. See APONEUROSIS.

MENDO'SA SUTU'RA, (from *mendax*, *counterfeit*). The squamous suture in the skull; differing from other sutures, as it resembles a scale instead of being indented into the adjoining bone.

MENDO'SÆ COSTÆ, (from the same). See COSTÆ.

MENI'NGES, (from μενω, *to remain*). See DURA MATER.

MENINGÆ'Æ ARTE'RIÆ, (from μενιγξ, *a membrane*). See DURÆ MATRIS ARTERIÆ.

MENINGOPHYLAX, (from μενιγξ, *a membrane*, and φυλασσω, *to guard*). An instrument described by Celsus, lib. viii. cap. 3, contrived for guarding the membranes of the brain, whilst the bone is rasped, or cut, after the operation of the trepan.

MENI'NX, (from μενω, *to remain*). See DURA MATER.

MENORRHA'GIA, (from μηνια, *the menses*, and ῥηγνυμι, *to break out*). EXCESSIVE OR EXTRAORDINARY DISCHARGE of the MENSES, *metrorrhaghia*, *hæmorrhagia uterina*. Dr. Cullen places this disease in the class *pyrexiæ*, and order *hæmorrhagiæ*, which he defines pains of the back, loins, and belly, similar to those of labour, attended with a flow of the menses, or of blood from the vagina, more copious than natural. The species are:

1. MENORRHA'GIA RUBRA. See MENSES.
2. MENORRHA'GIA ABORTUS; *menorrhagia gravidarum*. See Floodings under ABORTUS.
3. MENORRHA'GIA LOCHIALIS. See LOCHIA.
4. MENORRHA'GIA VITIORUM; when the appearances of the menses are from ulcer or other local defect.
5. MENORRHA'GIA ALBA. See FLUOR ALBUS.
6. MENORRHA'GIA NABOTHI; the serous discharge from the vagina during pregnancy.

MENORRHA'GIA DIFFI'CILIS. Difficult or painful menstruation. See MENSES DEFICIENTES.

ME'NSA. The second lobe of the liver in ancient authors. See AURIGA.

ME'NSA JO'VIS. See VERBENA.

ME'NSES, (from *mensis*, *a month*,) *catamenia*, *menstrua*, *emmenia*, *gynæcia*, periodical discharges of blood from the uterus, vagina, or both, from about the age of fourteen to about fifty. In warm climates they appear at about eight or nine years of age; in temperate ones at thirteen to fourteen, and in the arctic regions not till nineteen or twenty. The quantity discharged is from four to ten ounces; but in this there is much variety, and the discharge continues from two to eight or ten days. In some relaxed constitutions there is occasionally not more than a week's interval, and in general the more lax the constitution, the larger is the discharge, and the longer its continuance. The indolent, the sanguine, and the luxurious, have generally a large periodical evacuation. Usually, the earlier the period when they first appear, the sooner they disappear. In this country they disappear about the forty-fifth year, though, from accidental circumstances, the cessation may happen in the thirty-sixth or be protracted to the

fiftieth year. We have known instances of their continuing to the fifty-second, when they have *not* appeared at a late period. The tales so frequently detailed of their returning at the ages of sixty, and even of eighty, do not merit any particular attention, though often well founded: for in these cases, the discharge is truly hæmorrhagic, generally temporary, and often critical.

The menses flow chiefly from the uterus, and occasionally from the vagina alone, as happens sometimes during pregnancy. When the natural discharge is stopped, a vicarious bleeding takes place from the nose, the lungs, the nipple, the hæmorrhoidal veins, the stomach, the bowels, and even the gums, without any particular inconvenience.

Before that peculiar state of irritability which disposes to an irregular balance of the circulation, and consequently to topical congestion, had its full weight in our physiological and pathological inquiries, a discharge of blood implied, in the opinion of pathologists, plethora. That a general fulness was the cause of the menstrual discharge was scarcely doubted by the soundest physiologists, for the fancies of the lunar influence and of fermentation were soon rejected. This opinion had undoubtedly many observations to support it. The access of the catamenia was marked by general load and oppression; the breasts swelled; the stomach was often disordered; and their suppression was followed by other sanguine discharges. Yet the acuteness of modern philosophers soon discovered that these views would not explain all the various phenomena. They saw that the catamenia continued to recur notwithstanding the system was exhausted, that the fullest habits had not, invariably, the most copious or frequent discharges; for, on the contrary, these were usually observed in the weak and irritable. They perceived also, that a copious general bleeding would not stop their appearance, and the most copious discharge would not always relieve any internal inflammation. If also this view was correct, why did not the catamenia occur at other ages, when the vessels were distended? why not in the intermediate periods, if the arterial system was unusually full? The partial congestions, suggested by the writers of the Stahlian school, came therefore to their aid. The topical load, in a system so irritable, and so generally sympathizing, as that of the uterus, would produce equal uneasiness; from the peculiar sympathy between the uterus and the breasts, the mammæ would swell; and, when any the most purely topical discharge was suppressed, other irregular determinations were known in other instances to come on. Nothing appeared, therefore, to be inconsistent with topical plethora; and this satisfactorily explained all the difficulties of the former system. The idea had loosely floated in the minds of many physiologists before the time of Dr. Cullen; but to him we are indebted for its expansion into a system at once elegant and correct.

In different parts of this work, and particularly in the article of Hæmorrhoids, q. v. we have explained the gradual development of the different parts of the body from the distention of the arterial system, ultimately depending on the progressive changes of the relative degree of resistance in the coats of the arteries and veins. The genital systems of either sex experience this change about the same time, and as the vessels of the uterus easily admit of considerable dilatation, congestion is the consequence, which is relieved by the exhaling arteries yielding to the impulse. No rupture of the veins or arteries takes place, for the discharge is steady, regular, and seldom considerable in a given time. After it has continued for even a short period, every inconvenience is removed, the previous load is no longer felt, and the fulness of the mammæ subsides. The continuance of the discharge is different in different constitutions, but it usually continues from three to five days, when it ceases, sometimes leaving a serous discharge for a day or two, sometimes a mucous one, which, if it continues, constitutes the disease called *leucorrhœa*, or *fluor albus*.

The *recurrence* of the catamenia is with more difficulty explained. Women, from the sedentary life which they lead, and from a looser contexture of vessels, are more subject to plethoric congestions than men, and the uterus is, from its structure, more likely to receive these accumulated fluids. By degrees, these topical congestions become habitual, and recur independently of any real general plethora. This explanation appears to be supported by the irregular returns of the catamenia in the earlier periods, and the irregular continuance of the discharge before the habit is established. Why the accumulation should require a lunar month before it is equal to produce the effect, it is impossible to ascertain, as why the period of fourteen days should be most commonly required to produce the crisis of fever, or why the seventh and the fourteenth year should be marked by striking changes in the constitution. Such is the determination of Him "in whom we live, and move, and have our being."

This view of the subject will explain equally the pathology and practice in all their varieties. When the changes, which successively take place in the determinations to the different parts, commence, a great degree of irritability occurs, and sometimes considerable debility. This is particularly the case with the changes in organs so peculiarly irritable as those connected with generation. At this period, in young women, we find a pallid languor, want of appetite, terrors, tremors, and even convulsions. Where the constitution is more robust and plethoric, violent pains, flushings in the face, and even feverish attacks. In the first instance, the determination is unequal to the task, in the second, some obstruction occurs in the exhalents; and, like every other impediment to the free circulation, excites a vis a tergo to overcome it. Similar symptoms follow obstruction, joined with the inconveniences which arise from the stoppage of an habitual discharge, added to those which result from the altered determination, which is the consequence.

Menses deficientes, the amenorrhœa of Dr. Cullen, including also, with less accuracy, the dysmenorrhœa, difficilis menstruatio of authors, constitute a disease divided into the *amansio* and *suppressio mensium*. The difficult menstruation may be a variety of the latter, as the discharge is temporarily suppressed.

The *emansio mensium* consists of a retention of the discharge at the period when it should take place, independent of pregnancy. To constitute a disease it must be attended with pain, uneasiness, or a disturbance of the functions, for, whatever time may

be fixed as the usual one, this period is protracted in some constitutions, without inconvenience. Much depends on the climate, the mode of life, the structure of the body, and the peculiarities of the constitution. Thus in a warm climate the period may be accelerated to the age of ten or eleven, and, in a cold one, retarded to eighteen: a girl, indulged in all the luxuries of modern fashionable life, and the sedentary seamstress, or the laborious peasant, experience equal prematurity, or retarded expansion: a full bosomed plethoric girl and a thin attenuated one, with small delicate limbs and a torpid circulation, are respectively in the same circumstances. Somewhat depends also upon structure. In the case recorded in the Edinburgh Journal, where the menses never appeared, the ovaria were wanting. In similar circumstances, the form, the manners, and general appearance, resemble that of a man; so that, when we see the masculine manner and growth, it is highly probable that the menses, if they appear at all, will be scanty, and impregnation improbable, as the female structure is in some important respect defective.

When the discharge does not take place, the whole system becomes languid, the complexion pale, the mucous secretions are defective: and, in consequence, the fœculent discharges are impeded, and the nose is dry. The appetite is bad, or fanciful, often requiring substances not alimentary, though not, as has been said, always antacid, nor in such circumstances does acid abound in the stomach. The mind is whimsical and variable, the voluntary muscles convulsed; the sleep disturbed, the urine pale. In fact, the animal functions are almost wholly suspended, and the vital ones feebly carried on, for the pulse is low and quick, the breathing laborious, consumption, or palsy, seems to impend, and the patient appears to sink rapidly to the grave. In the worst stages of these complaints, a little mucous or serous discharge, perhaps somewhat coloured, changes the scene, and gives some appearance of returning health: it recurs at distant and irregular intervals, attended, each time, with some amendment of all the symptoms, till at last, colour, appetite, spirits, &c. return; and the palid, chlorotic girl becomes a blooming, healthy young woman.

While we are ignorant of the first principles by which nature acts, we know not the impediments to her action. We recognize, in the case before us, either a want of energy, or some resistance in the exhalent arteries; each attended by an apparent sinking of the more active powers. If we observe the progress, the change at last appears to take place from the vessels yielding, in consequence of debility, rather than from increased impetus, for the first appearances, the serous or mucous discharges are complaints, which, at future periods, arise from debility only. The change, though imperfectly taking place, is attended with beneficial consequences; and the powers of nature, thus reanimated, gain additional force, to complete the more perfect state. The regular return, however, is not yet observed, for this is the consequence of habit.

In this weak state young women often continue for many years; but we know not that the complaint has ever been fatal, for, if the discharge does *not* take place, they recover some share of strength and activity. The complaint is often taken for consumption, and many remedies of a secret kind have acquired credit from the efforts of nature alone. Many old women's remedies have, on the same ground, been highly praised; and the numerous female pills, so often advertised, have appeared to succeed, when nature has done the work. We mean not to deny that this often happens in regular practice, but the foundation of the plans in this disease, we shall proceed to explain.

The most obvious idea in these circumstances is to give strength and activity to the circulating system; another, though a subordinate one, is to relax either a supposed constriction, or to stimulate, topically, the neighbouring vessels.

To give strength and activity to the circulation is attempted generally by tonics and stimulants. Such, however, of the former as combine astringency are supposed to be injurious. The simple bitters are, therefore, often employed, particularly the camomile flowers, and the columbo root. The myrrh is a medicine of a more doubtful nature; and, as a narcotic bitter, may appear to combine a sedative power. It seems, very certainly, to lessen hectic exacerbations. Whether it has a peculiar power in promoting the menstrual discharge we dare not say. We never have observed such power, but have suspected, in hectics, where there is a tendency to hæmorrhage from the lungs, that it has contributed to promote hæmoptysis: it may, therefore, have a similar effect. Astringents have been accused of checking the discharge, and we believe with reason. They have been certainly injurious when employed too freely in critical menstruations, and in puerperal profluvia.

The tonics most generally beneficial are the metallic. Of these the most useful, or rather the most used, are the iron and mercury. We have said, that perhaps, with the exception of lead, all the metallic bodies were tonics, but that the two, just mentioned, seemed to give a more decided activity to the circulation, and that the former even occasioned inflammatory action. Iron, or rather, as it is styled inaccurately, steel, is the foundation of the more common boasted panaceas for this complaint, and is often highly useful. Every form has been in turn extolled, and each has perhaps succeeded. We know not that art has contrived a better preparation than the scales found around the anvil, in a blacksmith's shop, or the green vitriol; and whatever iron can effect will be found to result from these remedies. The chalybeate mineral waters are also frequently used with success. Zinc has been occasionally employed, but we believe no other metal in the later periods, since the cordial and diaphoretic powers of gold and silver have been distrusted. Perhaps arsenic might succeed; but the long time required for the continuance of remedies for this complaint will suggest the most suspicious caution respecting this metal. Cold bathing has been sometimes employed for this purpose, but not so frequently as it might, and probably would have been, were not cold considered among the causes which retard menstruation. We have, however, often found it an useful remedy.

The chalybeate mineral waters have been, as usual, rendered more effectual by exercise, change of scene, cheerful society, and pleasing objects; for all assist greatly in producing the change in the constitution

which facilitates the discharge. Indeed, every thing which establishes the general health, and gives vigour to the constitution, contributes to the same salutary object.

The stimulants employed to give energy and activity to the circulation must be those which act steadily and with moderation, so as not to exhaust the excitability they are designed to support. The chief of these is warmth, rather of climate than the artificial warmth of fires, though these are sometimes of use when combined with exercise; and the patients in an hospital, who soonest receive relief, are those employed in the kitchen. In other forms, heat has been employed as in warm bathing, particularly in the waters at Bath; and more partially in the semicupium and pediluvium; but this remedy is, in general, better adapted to cases of suppression. The exciting passions, as joy, particularly from an object attained, exercise of every kind, warm generous food, with the moderate use of wine, frequent friction, particularly of the lower extremities, electricity generally employed by sitting on the stool, and perhaps Galvanic shocks, may be useful. Breathing oxygen air seems not to have been employed; yet, as increasing the activity of the circulation, and giving the blood a more florid colour, it promises success.

The internal stimulating remedies are various. Of these the most useful are emetics, on the principles already explained in that article. The ammonia; the animal oil of Dippel; the petroleum; the balsam of Peru; guaiacum, and the more irritating cathartics, are employed.

The cathartics, however, most advantageous, are those which act on the rectum, and *topically stimulate* the organs adjoining the uterus. The chief of these is the aloes; and, as costiveness is among the symptoms, so it is best relieved by this medicine: in fact, aloes has a great share in all the secret remedies. Cantharides, as stimulating the bladder of urine; turpentine, as affecting, in the same way, the kidnies, and perhaps the urinary organs through their whole track; and black hellebore, which strongly irritates the whole of the intestinal canal, are useful remedies of the same kind. Shocks of electricity, passed through the pelvis, are said to have succeeded; and cupping glasses have been applied to the sides and the thighs, to invite a larger proportion of the circulating fluids to these parts. The effects of the rubia tinctorum we do not know: it is enough to mention, in any part of this article, that it has been recommended.

We mentioned, among the exciting passions, the attainment of any object; and if this be the object of love, the effects are stronger; and matrimony is generally supposed to be an effectual cure. Yet this disease checks every warmer passion; and, except in peculiar circumstances, the chlorotic girl scarcely looks forward to the wedded state as an object of desire.

In our description of the symptoms, we remarked, that the uterine vessels yielded apparently from debility; and there are many circumstances which concur in proving that some degree of spasm in the weak chlorotic state prevents the discharge. The subject of spasm, as connected with debility, has been sufficiently considered under the articles Convulsiones and Febris, q. v.; and, though the connection be admitted, yet the one is by no means a necessary consequence of the other. There are, however, several medicines recommended in the *emansio mensium*, which must chiefly act in this way; among the rest, sitting over the steams of warm water is considered as highly useful. We shall find this remedy particularly so in suppressions, where spasm is more decidedly obvious. The fetid gums are of this kind; and other fetids, as rue, savine, castor, musk, and ambergris, have been recommended. Camphor, which is highly useful, where spasm is certainly the cause, has been recommended in the chlorotic state, and perhaps the myrrh, with some other narcotic bitters, will be chiefly useful as antispasmodics.

Though these are the usual symptoms of that variety of deficient menses, attended with debility, and usually styled the chlorotic state, yet, in some instances, there are considerable fulness and pain, returning at irregular intervals, with vicarious discharges of blood from other organs. As such cases are, however, more common from suppression, or difficult menstruation, we shall speak of the proper remedies under these heads.

Suppressio mensium. When the habit is established, and the discharge continued monthly from this cause, it cannot be broken with impunity. The most frequent causes of suppression are exposure to cold, frights, falls, sometimes fever, anxiety of mind, or confinement. Suppression from falls is a peculiarly obstinate disorder, and the discharge is seldom restored; for, as in other shocks, the irritability of the vessels is apparently injured. The attack of fever is often attended with the appearance of the catamenia, and this, if at or near the regular period, is a favourable symptom. If at the intermediate part of the interval it is less favourable, though it affords no dangerous or fatal prognostic, as some practitioners have alleged: suppression in consequence of long fevers is from weakness only, but the return is often protracted. We have thought, that, when the menses appear, on the attack of fever, out of their usual period of recurrence, the following suppression has been more obstinate. In general, the return of the discharge, after any violent degree of either cause, must not be soon expected. Suppression in weak, delicate habits differs little, either in symptoms or remedies, from the species of emansio first described. In plethoric habits the symptoms are very different. If the cause occurs during the discharge, a feverish attack often supervenes, the face is flushed, the eyes red; pains in the head and back come on, with sometimes a bleeding from the nose. If a similar cause, occurring in the intervals, is continued in its effects to the usual period of its appearance, symptoms of the same kind are observable; and they recur at each expected return, gradually, however, declining, till the chlorotic state comes on. In general, the sudden causes bring on the inflammatory, those more slow in their action the chlorotic, suppression.

It has been usual, in cases of inflammatory suppression, to bleed copiously, and this is sometimes necessary, to prevent a vicarious hæmorrhage either in the brain or lungs; but, if it can be avoided, we shall also avoid the danger of establishing a new and dangerous habit. We gain much, in such complaints, by determining the

fluids to the skin, by the relaxing diaphoretics; and the sedative, or antispasmodic power of camphor renders it a valuable medicine in this complaint. With either the antimonials, or with camphor, opium is also highly useful; nor should the practitioner neglect to invite the circulating fluids to the hypogastric region, by interposing active purgatives. About the period of the expected return, a smart emetic will prevent the recurrence of the spasm, especially if followed by the camphor, with opium; and the discharge will appear with its former regularity. It sometimes happens, that at the usual period of the return a fever comes on, which, as none of the causes of suppression had preceded, or at least been observed, is usually considered as a common fever. If, however, it is at the period of menstruation, a circumstance which every prudent physician will keep in view, and the fever is of the inflammatory kind, it is highly probable that it proceeds from some spasmodic obstruction in the uterine vessels, and must be treated according to the directions already detailed.

The DYSMENORRHŒA, or MENSTRUATIO DIFFICILIS, is a similar disorder, and a very important one, as it prevents the completion of the anxious wishes of those "who love their lords." The pain, on the occurrence of the discharge, is peculiarly violent; accompanied often with an obstinate constipation, or a suppression of urine. In fact, until the spasm of the uterine vessels is relieved neither the kidneys nor the bowels yield, however powerful the medicine; and the violence with which each returning discharge is attended, loosens the hold of any embryo, which, in the interval, may have been attached. No disease is more distressing in its symptoms or its consequences; and the regularly returning confinement is disguised by a variety of ingenious inventions, while the consequences in advanced life are all the diseases of celibacy. The remedies are those of suppression, attended with violent pains, but the dysmenorrhœa does not require bleeding. An active laxative at the expected period of the return, followed by a full dose of camphor and opium, will often succeed; and, if repeated at the next period, seldom fails to induce the discharge without the preceding pains. When these have been once and again conquered they seldom recur. In the inflammatory suppression and dysmenorrhœa, pediluvia, and sitting over the steams of warm water, are highly useful. The warm bath, raised to the heat of 94° or 96°, and continued so long as to produce slight faintness, will be often successful; but the laxatives, joined with the relaxants, are not only conducted with more ease, but more certainly effectual.

In the whole of this consideration it will be obvious, that the great object is to correct the deviations from health. When the healthy state is restored, the discharge will return. Medicines therefore should not be too frequently nor too constantly employed; and, on the other hand, too much should not be trusted to nature. It requires a minute discrimination to determine when art should interfere, and how long artificial means should be continued. If our exertions are too violent, the constitution will sink under the double powers of the disease and the medicine: if we are too remiss, the obstruction gains force, and years are required to restore the tone and the general health.

There is, however, a period when the discharge will naturally cease. It is not that the constitution does not supply the fluids as before, but that the diminished irritability of the vessels, or the diminished resistance of the veins, no longer permits the hæmorrhagic effort. This critical period of the female life, MENSES CESSANTES, must be attended to with care. The future health depends in a great degree on our conduct at this time; and we are required to be peculiarly attentive, as female prejudices lead them to attribute every future complaint to some error at this time. The disappearance of the catamenia is preceded by a temporary suppression, continuing perhaps for two or three months, followed by an increased, and unusually continued, discharge. The discharge will sometimes recur at very short intervals, and in profuse quantities, leaving, when absent, a considerable degree of leucorrhœa. The increased evacuation is not always attended with proportional debility, nor the temporary suppression with the symptoms already described. The blood, in these instances, is apparently poured from ruptured veins, without any hæmorrhagic effort. In this way the change is effected, often without disease, and almost unobserved; but the suppression is sometimes attended with general load, with headach and wandering pains; and the excessive discharge with considerable debility. Generally speaking, however, art should seldom interpose. The whole is the work of nature, which, as we cannot imitate, we cannot always assist. Experience, however, in the former variety, goes hand in hand with popular prejudice, and the general fulness is successfully relieved by laxatives. The domestic remedies are not, however, usually well chosen. Women, attached to their early experience, prefer the aloes, in their warmest preparations, but the object is to lessen the proportion of fluids in the abdominal vessels, and whatever effects this purpose with the least irritation succeeds best. The salts alone are in general too cold, but they may be warmed with the tinctures of the more active purgatives, as of senna, rhubarb, or jalap. These, with the relaxant diaphoretics at night, particularly camphor and opium, will restore the circulation to its proper balance without inconvenience.

The task is more difficult when the discharge is immoderate; for female prejudice demands our active interference to check it, but this is always injurious. Young practitioners are commonly alert to show their skill; but it is wiser to rest, and to observe with care. In general, we have seldom known a more healthy old age than in those where the menses have disappeared with these profuse evacuations. If the woman has confidence in her medical attendant, she will remain at rest, in free air, lightly clothed, without exciting the circulation by aliment too rich, or drinks too stimulating; keeping, with anxious care, the bowels free by the most cooling laxatives. This conduct should, we think, be pursued, even when the debility is considerable; nor should even opiates be interposed, except the pain is violent. In such cases, powerful astringents are highly injurious, and we have more than once seen apoplectic attacks from their imprudent use. In a few instances we have found it necessary to *regulate* the discharge, but seldom with advantage, and have had reason to suspect scirrhosities of the uterus, ulcers

and cancers from the imprudent use of styptics. If called on, it is necessary to attempt relief in some way; and we have generally found, that, though no hæmorrhagic effort is perceivable, we have done more service by cooling and sedative medicines than by bitters and astringents. Bitters may indeed be frequently allowed, and they will please, because an astringency is supposed to accompany every medicine of this kind.

The MÆNORRHAGIA, MENSES IMMODICÆ; or an excessive menstrual discharge, independent of the pregnant or puerperal state, is truly an hæmorrhage, and may be either active or passive. The active hæmorrhagia arises from cold, from blows or shocks, and almost exclusively occurs in strong robust habits. The passive mænorrhagia arises from debility of the vessels, too fluid blood, from frequent miscarriages or labours, which occasion local debility. There is, however, an intermediate kind, viz. the excessive discharges, which occur in the indolent and luxurious females of polished life. In these the vessels yield to excessive fulness, in part from debility, but generally with the assistance of some hæmorrhagic effort. In the first variety bleeding is sometimes necessary, though, as usual, a suspicious and uncertain remedy. It must, however, be often used, to prevent immediate bad consequences; but, in general, rest, in a cool free air, with nitre and camphor, very generally with opium, often in large and repeated doses, interposing cooling saline purgatives, will relieve the complaint. The treatment of the second variety differs in no respect from that of other passive hæmorrhages; but the third often baffles our best endeavours. It is difficult to induce the patient to avoid the principal causes, indolence and luxury; and to constringe distended vessels is the surest means of increasing their debility. If, however, she be obedient, lessening considerably the quantity and quality of her aliment, using, at the same time, free exercise in the open air, she will soon find a degree of languor and debility superior to what she before experienced; and it will be difficult to persuade her to continue a disagreeable plan, when her feelings tell her that increased weakness is the consequence. The fact is, that the diminution of the fluids lessens the tension of the vessels; and, as in the parocentesis, and numerous other cases, the diminution of tension produces faintness, and sometimes even convulsions. It will require, then, no little confidence in the physician, and no common resolution to persevere; yet, with perseverance, relief is certain. To steer between opposing prejudices and the best means of relief is difficult; nor do we know what rules to offer. The disposition of the patient must be consulted, and every address employed to lessen the powers of the aliment; to increase the discharge of the bowels by cooling laxatives; to lessen the activity of the circulation by opiates and refrigerants, while by every artifice bodily exercise is promoted. In the summer, sea bathing, and in the proper season, Cheltenham, and other saline chalybeate waters, may be advised, as change of scene will lead to more frequent exercise in the open air. The fashionable physician, who is contented with receiving his daily fee, while he humours the fancies of his patient by some useless placebo, has the best chance of gaining credit in these cases; as usual, not by assisting, but by pleasing.

Yet some political advice will not be without its advantage. Women look to the period of the access and departure of the catamenia, as well as the monthly recurrence, as times of peculiar delicacy. They are unwilling to take any medicine unless it be consistent with their present circumstances, and are apt to attribute any disappointment to the medicine that they may have been prevailed on to employ. The discharge is, however, an occurrence which we cannot always produce, and which we can seldom prevent, or supply by any vicarious evacuation. In general it requires no peculiar care; but, while popular prejudices exist against the use of any medicine at this time, a prudent physician will forbear to press it, unless absolutely necessary. If it be so, the inconvenience, whatever it may be, must be met, and every bad effect may be obviated by caution. Even a copious bleeding will often not stop the discharge; purgatives will assist it; and opium, though it may occasionally retard, will be ultimately injurious. When, however, the discharge is fully established, and has continued twenty-four or forty-eight hours, the danger of checking it, even in female apprehension, is inconsiderable.

See Medical Observations and Inquiries, vol. v. p. 160; Hoffman's Medicinæ Rationalis Systema; Haller's Physiology; Cullen's First Lines, vol. iii. p. 9. 32; Hamilton's Midwifery, edit. 4th, p. 134; Edinburgh Medical Commentaries, vol. v. p. 119; London Medical Journal, vol. v. p. 183. The works professedly on this subject are, however, unsatisfactory and erroneous. The various authors on midwifery, particularly Dr. Hamilton, in his Elements, afford the best assistance.

ME'NSIS PHILOSO'PHICUS. A PHILOSOPHICAL or CHEMICAL MONTH is sometimes confined to three days and nights, at others to ten, thirty, and even forty days.

ME'NSTRUA, (from μην, or the Hebrew term *meni*, *a month*). The menses in women, and the bleeding piles in men. The plural also of MENSTRUUM, q. v.

ME'NSTRUUM, (from the same). A fluid body capable of reducing a given solid to the same state, and thus diffusing the latter through every part of the former; called a *menstruum*, because the chemists first assisted its action by a moderate fire for a philosophical month; synonymous with *solvent*. See SOLUTIO.

MENSURA. The variety of measures employed by different nations renders medical directions often obscure, and occasionally fallacious. The word *mensura* is sometimes employed absolutely to denote a given bulk, and the measure occasionally contains one, sometimes two, quarts, and the quadrans mensuræ is either six or twelve ounces. The great diversity in this respect has induced the London college to order every thing by weight; for a pint of the purest alcohol is very different from even a pint of water, and much more so from a pint of the vitriolic acid. In general, the pint is supposed to be equivalent to a pound; but, in medicinal directions, it is estimated at twelve ounces: the French pint is double, and the Scotch pint equal to two quarts. The cantharus of the Swedes equals five pints.

In smaller quantities, the tea spoonful is estimated as equal to a drachm, but few tea spoons hold more than forty drops. A dessert spoon holds somewhat more than than two drachms, called, in prescriptions, *cochleare medium*, and the table spoon about half an ounce.

The modern French weights and measures are greatly

changed, and have produced no little confusion in medicine, chemistry, and even in common life. We shall detail the principles of their new system under the article PONDERA, on which that of their measures depends; so that we shall in this place only explain the terms. The fundamental measure, the LITRE, filled with distilled water, is equivalent to the Paris pint, somewhat more than two English pints, and, in weight, is nearly equal to the kilogram, two pounds. The SEMILITRUM (demilitre) is equal to somewhat more than a pint; the DECILITRUM to about three ounces, and a drachm, equal in weight to the hectogram: the double and the half of the decilitrum are easily estimated. The litre contains fifty cubic inches, and consequently the centilitrum half a cubic inch; and the double centilitrum one cubic inch, or nearly five drachms, about a large table spoonful.

MENTA'GRA, (from *mentum, the chin*, and *αγρα, a disease*,) IMPETIGO. An obstinate tetter, which appeared in Italy during the reign of Claudius Cæsar, beginning upon the chin, extending itself over the face, and descending to the neck, breast, and hands. A cautery was applied to some convenient part, so deep as to penetrate to the bone.

We sometimes find a disease of less virulence which seems to merit this appellation. It affects the bulbs of the hair on the chin, resembling, in its nature and treatment, the tinea capitis.

MENTA'LES, (from *mens, the mind*). Alienation of the judgment, in which the functions of the mind are disturbed.

Nosologists have formed a class of diseases under this title, and in an arrangement from symptoms it may probably be admitted. It is, however, necessary to remark, that, though the mind be affected, a læsion of any function, which alone constitutes disease, can only be recognized by the practical physician; and we have found changes, in appearance most purely mental, arise from a material cause. Our idea of the duration of time, for instance, is, as we shall see, produced by opium; a fit of apparent insanity will be relieved by discharging a very moderate quantity of bile. See MANIA.

ME'NTHA, MINT; *hedyosmos*, from its sweet smell; is a perennial herb with square stalks, serrated leaves set in pairs, and spikes of monopetalous flowers, each cut into four sections, and followed by four seeds inclosed in the cup. The species are numerous, but not hitherto described with sufficient accuracy. See Linnæan Transactions, vol. v. for an account of the British species by Dr. Smith.

ME'NTHA AQUA'TICA, Lin. Sp. Pl. 805, *sisymbrium sylvestre, mentha rotundifolia palustris*. RED WATER MINT. Its leaves are somewhat oily, and set on pedicles; the stamina long, standing out from the flowers.

ME'NTHA CATA'RIA; *nepeta cattaria, mentha felina, herba felis, calamintha palustris, nepetella, nepeta cataria* Lin. Sp. Pl. 796, for cats are so delighted with the smell that they roll on it, and destroy the plant unless defended till it has acquired some strength. It is an hoary plant with square stalks; the leaves heart shaped, acuminated, serrated, and set in pairs on oblong pedicles; the flowers whitish, labiated, standing on spikes at the top of the branches. The upper lip is divided into two, and the lower into three, sections. It grows wild in hedges and on dry banks, and flowers in June; is moderately aromatic, of a strong smell, resembling a mixture of mint and pennyroyal, and participates of their virtues. Water dissolves their active matter; but rectified spirit extracts it more completely. Distilled with water, they yield a yellow essential oil, not quite so agreeable as the herb, though resembling it in smell: the remaining decoction is bitter and subastringent. See Raii Historia Plantarum; Cullen, Lewis, and Tournefort's Materia Medica.

ME'NTHA CORYMBI'FERA MI'NOR. See AGERATUM.

ME'NTHA CRISPA, Lin. Sp. Pl. 805, agrees in its general virtues with the MENTHA SPICATA, q. v.

ME'NTHA HIRSUTA, *var.* δ. Smith, in the Linnæan Transactions, v. 196; probably a variety of the mentha sativa. See FLORA BRITANNICA.

ME'NTHA PALU'STRIS FO'LIO OBLO'NGO, *mentastrum hirsutum, auricularia;* HAIRY WATER MINT, or EARWORT, has long hairy leaves, without pedicles, and broad spikes of flowers. All the water mints grow in marshes and on the banks of rivers, and flower towards the end of summer; their smell is less agreeable than that of spear mint, their taste more bitter and pungent: the second sort resembles the pennyroyal. They yield much less essential oil than the spear mint, and their virtues, though similar, are greatly inferior.

The hairy water mint is supposed to be *auricularia, planta Zeylanica*, or earwort, celebrated by Marloe for the cure of deafness.

ME'NTHA PIPERI'TIS. PEPPER MINT. *Mentha piperita* Lin. Sp. Pl. 805; hath acuminated leaves on very short pedicles, and the flowers set in short thick spikes or heads: it is a native of this kingdom, and its natural soil is a watery one; but in any other it does not degenerate.

Pepper mint hath a more penetrating smell, with a stronger and warmer taste than the other mints. In the mouth it feels at first hot, afterwards cold, and somewhat nitrous. From its stomachic, antispasmodic, and carminative qualities, it is of great use in flatulent complaints, hysteric depressions, nausea, and other dyspeptic symptoms; often producing immediate relief by diffusing a glowing warmth through the whole system. Its qualities are with great probability ascribed to the camphor, which the experiments of Gaubius have proved to be largely contained in it, and it is seldom injurious from its stimulus.

It readily and strongly impregnates either water or spirit by infusion: in distillation with water it gives over a large quantity of essential oil, of a pale greenish yellow colour, growing darker coloured by age, and possessing a great degree of the smell and pungency of the herb. As much of this oil as can be suspended in rectified spirit of wine is sold under the name of the essence of pepper mint. The decoction which remains after distillation, like that of the other mints, is bitterish and subastringent. For the water, spirit, and oil, see MENTHA SPICATA.

ME'NTHA PULE'GIUM. See PULEGIUM.

ME'NTHA SPICA'TA; *mentha sativa* Lin. Sp. Pl. 805, *mentha vulgaris*, HART MINT, and COMMON SPEAR MINT, hath oblong, narrow pointed leaves, joined close to the stalk, and small purplish flowers,

standing on long spikes on the top. Though a native of warmer climes, it is common in our gardens, and flowers in June and July.

The smell of mint is agreeably aromatic, and the taste bitterish and moderately warm; it is carminative and stomachic, particularly useful in relieving vomitings and weakness of the stomach. An infusion of mint in water is said to prevent the coagulation of milk in stomachs where acidity prevails; and in general this herb nearly resembles the pepper mint, though perhaps less efficacious as an antispasmodic, and more injurious as a stimulant. In vomitings from inflammation in the stomach it is injurious.

The juice expressed from the leaves retains the bitterness and astringency, but not the aroma of the mint, which, however, is not lost by keeping, drying, or a moderate degree of heat. In five or six hours cold water extracts the more agreeable and active parts of the mint; a longer maceration extracts the grosser and less agreeable portions. Hot water more quickly extracts its virtues, but boiling dissipates the aroma. Infusions and tinctures contain the whole virtue of the mint; the oil and the distilled water only the aroma.

Mint water should be distilled from the fresh herb, and it is improved by adding some dried mint. In distillation with water an essential oil rises, which is of a pale yellowish colour, changing by age to a reddish hue: about an ounce is procured from ten pounds of mint, which for this purpose should be gathered when the flower is expanding. The oil is not, however, an agreeable preparation.

Dry mint yields to spirit of wine, either with or without heat, all its virtue, without its disagreeable parts. Spirit takes up very little in distillation. An extract made with spirit possesses the concentrated virtues of a large portion of dried leaves. Fifteen grains of the resinous extract obtained from either the common mint or pepper mint, by means of spirit of wine, is said to be equivalent to six drachms of the dried herb. The spirituous tincture mixes with watery liquors without precipitation; but spirituous liquors impregnated with its pure volatile parts by distillation turn milky on the admixture of water. A conserve made in the usual way is an excellent vehicle for other medicines, in diseases of the stomach.

Tincture of mint is made by adding to a pint of mint water half an ounce of the dried leaves of mint: after standing four hours in a warm place, it must be strained. The distilled water contains as much of the volatile part of the herb as it can retain; but by infusion it takes up as much of the extractive matter as pure water. Thus any of the simple distilled waters may be much improved, and, when required, the waters distilled from one vegetable may be the menstruum for a different one.

The college of physicians order from the mentha sativa, and mentha piperitis, a water and a spirit, which are directed to be made as follows. Take of spear mint or pepper mint dried, one pound and a half, water sufficient to prevent an empyreuma; and to the same quantity of the herb they order one gallon of spirit, with water sufficient to prevent an empyreuma. In each process they draw off a gallon. The essential oils of each are obtained by distillation. See Oleum.

MENTHA'STRUM. See Mentha aquatica.

ME'NTULA, (from the Hebrew term *matah*, *a staff*). See Penis.

Me'ntula ala'ta. See Penna.

MENTULA'GRA, (from *mentula*, and *αγρα*). A disorder of the penis, induced by a contraction of the erectores musculi.

ME'NTUM, (*ab eminendo*, from its sticking out). The chin is the anterior protuberance which terminates the lower part of the face; the under part of the chin is termed its basis, distinguished from the throat by a transverse fold, extending from ear to ear; in the middle of the chin a dimple is usually found.

MENYA'NTHES TRIFOLIA'TA, et PALU'STRIS. See Trifolium paludosum.

MEPHI'TIS, (from the Syriac term *mephhuhith*, *a blast*). A poisonous exhalation, or what the miners call a damp. It was formerly applied to any air, not respirable, especially if attended with an offensive smell. Modern chemistry is more accurate; and what was with little discrimination called mephitic is now hydrogen, nitrogen, or carbonic acid gas.

MERCURIA'LIS, (from *mercurius*, *quicksilver*). Mercurial, or a preparation of mercury. But in obsolete authors, the *atra bilis* is also called the mercurial humour; and the diseases from this source have the same appellation. In botany it is the name for *lapathum unctuosum folio triangulo*, *blithum*, *chenopodium*, *bonus Henricus* Lin. Sp. Pl. 318, all good, English mercury, a plant with triangular leaves, covered underneath with a whitish unctuous meal: its stalks are striated hollow, partly erect and partly procumbent, bearing on the tops spikes of small imperfect flowers, each of which is followed by a small black seed, inclosed in the cup; perennial, grows in waste grounds, and flowers in August. The leaves are mucilaginous, a little subsaline, and used as emollients in clysters and fomentations. The young shoots are eaten in spring as a gentle laxative and diuretic. See Raii Historia.

Mercuria'lis a'qua. See Beya.

Mercuria'lis fru'cticosa inca'na testicula'ta; *marisicum*, *thelygonon*, *mercurialis tomentosa* Lin. Sp. Pl. 1465. Children's mercury, is a garden plant, and used in Barbary against some female diseases.

Mercuria'lis mas, *mercurialis testiculata*, *spicata*, and *fœmina*. French mercury. It is the *mercurialis annua* Lin. Sp. Pl. 1465, var. *α*. and *β*, hath smooth glossy leaves, and branched stalks. Each variety is annual, and grows wild in shady uncultivated grounds. The leaves have no remarkable smell, and very little taste; they are slightly mucilaginous, but seldom used.

Mercuria'lis mucila'go. See Argentum vivum.

Mercuria'lis; *cynocrambe*, *canina brassica*, *persicaria siliquosa*, *mercurialis montana*, wild mercury, dog's mercury, *mercurialis perennis* Lin. Sp. Pl. 1465, is one of the poisonous plants found in Great Britain. The root is creeping, light coloured, and fibrous; the stalk erect, green, juicy, and unbranched. The leaves are oval, serrated, pointed at the extremity, placed in pairs opposite each other. The flowers grow at the tops of the stalks in thin slender spikes from the alæ of the leaves, of a light green colour, and are male and female. The furrows of the germen receive a barren

filament, terminated with a gland, marked with two dark coloured spots. It flowers early in the spring; is found in woods, shady places, and the banks of ditches; distinguished from the French mercury by being perennial, larger, with rough leaves, and the stalks not branched.

In early spring it may be eaten with safety, dressed like spinach; but its acrimony is soon evolved, and it produces nausea, vomiting, and afterwards comatose symptoms. These ill effects are removed like those of poisonous mushrooms. See AMANITA and VENENUM.

Wilmer's Observations on Poisonous Vegetables.

MERCU'RIUS. QUICK or LIVING SILVER; from its great fluidity. See ARGENTUM VIVUM.

MERCU'RIUS ALCALISA'TUS. ALCALISATED MERCURY; *hydrargyrus cum creta;* QUICKSILVER with CHALK; *Æthiops albus.* R. Hydrargyri puri ℥ iij. cretæ pp. ℥ v., rub them together until the globules disappear. Ph. Lond. 1788.

MERCU'RIUS CALCINA'TUS; *mercurius præcipitatus per se.* CALCINED QUICKSILVER, *hydrargyrus calcinatus.* This preparation is directed to be prepared by exposing a pound of quicksilver in a flat bottomed glass cucurbit to a heat of about 600 degrees, in a sand bath, till it becomes a red powder. By agitation, or by triture, similar effects are produced on the mercury, and in much less time. This has lately been a fashionable preparation, but is scarcely, if at all, superior to calomel, though the prejudices of the moment have occasionally given it the preference with ourselves and others.

MERCU'RIUS CINNABARI'NUS. See CINNABAR FACTITIA.

MERCU'RIUS CORROSIVUS SUBLIMATUS. See MERCURIUS CORROSIVUS ALBUS.

MERCU'RIUS CORALLI'NUS, *arcanum corallinum.* This was designed to render the mercurius nitratus ruber a more mild internal medicine; but as no considerable advantage was obtained by the process, it has been rejected.

MERCU'RIUS CORROSI'VUS A'LBUS. The WHITE CORROSIVE MERCURY; *mercurius corrosivus sublimatus, gas siccum sublimatum, albi, aquila alba, sublimatum, hydrargyrus muriatus,* MURIATED QUICKSILVER. The modes of preparing this medicine are various; but the college of London direct quicksilver and vitriolic acid two pounds of each, dried sea salt three pounds and a half: the quicksilver is to be mixed with the acid in a glass vessel, and boiled in a sand heat till the matter is dried; which is added, when cold, to the sea salt, in a glass vessel. The whole is sublimed in a glass cucurbit, with a heat gradually raised, and the sublimed matter separated from the scoriæ. Pharm. Lond. 1788.

The greatest part of this preparation used in England is brought from Holland and Venice; and, as has been suspected, adulterated with arsenic. Dr. Lewis gives the following method of detecting the fraud: "Take any quantity of the suspected white corrosive mercury, powder it in a glass mortar, and mix it well with twice its weight of black flux (see CALCINATIO,) and a little filings of iron; put the mixture into a crucible capable of holding four or five times as much; give a gradual fire until the ebullition ceases, then hastily increase it to a white heat: if no fumes of a garlic smell be perceived during the process, and if the particles of iron retain their form, without any of them being melted, we may be sure that the mixture contains no arsenic." Neumann denies the possibility of this preparation being adulterated with arsenic, and observes, that, instead of their subliming together, the arsenic will attract the marine acid to itself, and the mercury will be revived, instead of sublimed in the form of this preparation.

Sublimated mercury is peculiarly adapted to those cases in which the slow continued action of the metal is required, particularly in eruptions, in glandular indurations, and some similar complaints. In lues it often fails, after having first appeared to succeed. It was given by Van Swieten in lues, dissolved in corn spirit; and in this form it sits most easily on the stomach; but the watery solution is not inconvenient in this respect. A small proportion of crude sal ammoniac in the solution prevents the precipitation. It may be given also in pills mixed with the crumb of bread, and the dose, at first, should not exceed one fourth of a grain. See ARGENTUM VIVUM.

MERCU'RIUS DU'LCIS SUBLIMA'TUS; DULCIFIED MERCURY SUBLIMATE, *calomelas;* and when the sublimation hath been ten or twelve times repeated, *panacea mercurii.*

It is the *mercurius corrosivus albus,* dulcified by the addition of crude mercury. The London college directs the proportion of nine ounces of purified quicksilver to twelve ounces of the muriated quicksilver: rub them, it is added, together till the globules disappear, and sublime; in the same manner repeat the sublimation four times; afterwards rub the matter into the finest powder, and wash it by pouring on boiling distilled water. Ph. London. 1788. In the Augustan Dispensatory one sublimation only is required. See ARGENTUM VIVUM.

The marks of sufficient dulcification are, its being perfectly insipid to the taste, and indissoluble by long boiling in water. If the water hath taken up any part of the mercury, it may be discovered by dropping into the liquor an alkaline solution, which will precipitate the mercury it may contain. If the dulcified mercury turns black on being mixed with lime water, or volatile alkali, it is duly prepared.

We have already mentioned Mr. Scheele's preparation of calomel in the humid way, and explained its principles. We shall now add the process at length, translated from the Stockholm Transactions.

"Half a pound of quicksilver and the same quantity of nitrous acid are to be put into a small vessel with a long neck, the mouth of which is to be covered with paper. The vessel is then to be placed in a warm sand bath; and after a few hours, when the acid affords no signs of its acting any longer on the quicksilver, the fire is to be increased to such a degree that the solution may nearly boil. This heat is to be continued for three or four hours, taking care to move the vessel from time to time, and at last the solution is to be suffered to boil gently for about a quarter of an hour. In the mean while we are to dissolve four ounces and a half of fine common salt in six or eight pints of water. This solution is to be poured boiling into a glass vessel, in which the above mentioned solution of quicksilver is to be mixed with it, gradually,

and in a boiling state also, taking care to keep the mixture in constant motion. When the precipitate is settled, the clear liquor is to be drained from it, after which it is to be repeatedly washed with hot water till it ceases to impart any taste to the water. The precipitate obtained by this method is to be filtered, and afterwards dried by a gentle heat. This is the hydrargyrus muriatus mitis of the London Pharmacopœia, only that they order four ounces of sea salt, instead of four ounces and a half.

"It might be supposed, that when the nitrous acid ceases to effervesce with the mercury, it is saturated with it; but this is far from being the case: the acid, when the heat is increased, being still able to dissolve a quantity of it; with this difference, however, that the quicksilver at the beginning of the process is calcined by the acid, but afterwards is dissolved by it in a metallic form. In proof of this we may observe, that not only more elastic vapour arises, but also, that by adding either fixed or volatile caustic alkali we obtain a black precipitate; whereas, when the solution contains only calcined quicksilver, the precipitate becomes yellow by such an addition. If this black precipitate is gently distilled, it rises in the form of quicksilver, leaving a yellow powder, which is in fact that part of the mercury which, in the beginning of the operation, was calcined by the nitrous acid.

"The boiling of the solution for about a quarter of an hour is necessary, in order to keep the hydrargyrus nitratus in a dissolved state, it being much disposed to crystallize. In general, some of the mercury remains undissolved; but it is always better to take too much than too little of it, because the more metallic substance the solution contains, the more hydrargyrus muriatus mitis will be obtained.

"It is necessary to pour the mercurial solution into the solution of salt by little at a time, and cautiously, so that no part of the undissolved quicksilver may pass along with it. Two ounces of common salt are sufficient to precipitate all the mercury; but then it may easily happen that some superfluous mercurius corrosivus attaches itself to this precipitate, which the water alone is incapable of separating completely. This is undoubtedly the reason why mercurius precipitatus albus is always corrosive. I have found that common salt possesses the same quantity as sal ammoniac, viz. that of dissolving a greater quantity of mercurius corrosivus. I therefore employ four ounces and a half of common salt, in order to get the mercurius corrosivus entirely separated."

Of all the preparations of mercury, calomel is the most frequently used; and all the virtues attributed to mercury this preparation apparently possesses. The dose is from gr. i. to ℈i. according to the intention; but five or eight grains are rarely exceeded.

We have said, that probably calomel might supply every other preparation; but that accident, or the routine of practice, easily becoming a habit, sometimes fixed a preference for other forms, without their possessing any real superiority. In glandular complaints calomel seems to be preferred; but small doses of the muriated mercury are often equally efficacious. In cutaneous complaints, it is often used in combination with the antimony, though from the preparation employed, the sulphur auratum, its virtues, as a mercurial, are greatly diminished. In the early preparation of Dr. James's powder (see JAMES), calomel formed a portion; and it has been lately fashionable to add it to the antimonial, in the early periods of fevers, to secure a discharge from the bowels as soon as possible. The exhibition of calomel with camphor and opium, in the early stages of pleurisy, as recommended by Dr. Lysons, we think a more doubtful practice; and on this account we are unable to speak of its effects from experience. If, however, it is found to supersede the necessity of frequent bleeding, as has been asserted, it will undoubtedly be useful; but we do not find that the plan has been sufficiently followed to enable us to decide on its efficacy or eligibility. In the confluent small pox calomel has been given to assist or bring on the salutary salivation; but in this disease it has been dangerous from its inflammatory stimulus, nor is there sufficient time to produce the necessary evacuation. Rubbed upon the inside of the lips, it has produced similar effects to those which are occasioned by taking it internally, particularly in the lues venerea: in cases of chancres also, used by itself, or in the following form, it is highly advantageous.

R. Cerati lapid. calamin. ℥ss. calomelanos pp. ℥i. m.

MERCU'RIUS DUPLICA'TUS PHILOSO'PHICUS. See REBIS.

MERCU'RIUS EME'TICUS FLA'VUS. *Hydrargyrus vitriolatus, turpethum minerale;* VITRIOLATED MERCURY, and TURBETH MINERAL.

Take of purified quicksilver, vitriolic acid, of each a pound; mix in a glass vessel, and heat them by degrees, until they unite into a white mass, which is to be perfectly dried with a strong fire. This matter, on the affusion of a large quantity of hot distilled water, immediately becomes a yellow powder. Rub the powder carefully with this water in a glass mortar; after it has subsided, pour off the water; and, adding more distilled water several times, wash the matter till it becomes insipid. Pharm. Lond. 1788.

To edulcorate it more quickly and effectually, the water intended to be used in its ablution is impregnated with a determined proportion of fixed alkaline salt; and by this means the quantity of the preparation will be increased, and its strength more equal.

The yellow emetic mercury is a powerful vomit; and, like other mercurials, will excite salivation: in robust habits it hath been used in cutaneous disorders and glandular obstructions. As an emetic, it hath been given to eight or ten grains; but in this dose it operates violently, and is only employed when the shock of vomiting is required to be considerable. It is thus sometimes useful in palsies, and more certainly in amaurosis. Half a grain or a grain, given every night, is said to have produced the best effects in the most inveterate cases of the venereal disease, in obstinate rheumatisms, and ulcers that were difficult of cure. It is a powerful medicine, but yet does not appear to excel the other less violent mercurials, except in particular instances, where considerable and rapid effects are necessary, and where the constitution is robust. It is a favourable medicine with some active practitioners, particularly Dr. Maryatt, in dropsies. See Maryatt's Art of Healing.

MERCU'RIUS PRÆCIPITA'TUS RUBER. *Hydrargyrus nitratus ruber.* Pharm. Lond. 1788. RED PRECIPITATE. The London college directs us to take of

purified quicksilver and nitrous acid each a pound; muriatic acid, one drachm by weight; to mix in a glass vessel, and dissolve the quicksilver in a sand bath; then to raise the fire till the matter is formed into red crystals. Pharm. Lond. 1788. As soon as it hath acquired the sparkling red colour it should be immediately removed from the fire, or it will soon lose it again.

This preparation is sometimes mixed with minium and vermilion, but then the peculiar brilliancy is destroyed. If only minium is added, it may be detected by giving a sweetish taste to vinegar. If laid also on a very hot iron, the mercury will evaporate, leaving the lead behind.

The red nitrated quicksilver is only used externally as an escharotic; and if finely powdered and mixed with the unguentum resinæ flavæ, in the proportion of one or two scruples to an ounce, it is an excellent digestive for foul ill conditioned ulcers, bringing on a proper purulent discharge, instead of a thin sanies.

UNGUENTUM HYDRARGYRI NITRATI. See TRACHOMA.

CERA'TUM HYDRA'RGYRI NITRA'TI. CERATE OF NITRATED QUICKSILVER. R. Unguenti hydrarg. nitrati; cerati spermatis ceti āā ℥ij. m. It is sometimes applied to scrofulous and phagedenic ulcers.

MERCU'RIUS PRÆCIPITATUS A'LBUS. *Calx hydrargyri alba.* WHITE CALX OF QUICKSILVER. The London college directs the following process: take of muriated quicksilver, sal ammoniac, water of kali, each half a pound; dissolve first the sal ammoniac, afterwards the muriated quicksilver in distilled water, and add the water of kali; wash the precipitated powder until it becomes insipid. Ph. Lond. 1788.

Great care is required lest more of the fixed alkali be added than is necessary, for the precipitate will then be yellow. This preparation is almost constantly confined to external uses. Half a drachm or two scruples of it, added to an ounce of pomatum, is used as an elegant cure for the itch; the same quantity may be dissolved in two ounces of a thick decoction of lintseed, as a liniment for curing chancres when situated on the glans penis, or on the inside of the prepuce; a rag being dipped in it is applied to the glans, and the prepuce may be drawn over it.

This precipitate is adulterated with starch, and with white lead. The first is discovered by its becoming glutinous on being dissolved in a small quantity of water; the second by adding one third of its weight of alkaline salt; heating the mixture in a crucible till no fumes arise. If the residuum does not melt in water, it is adulterated.

MERCU'RIUS PRÆCIPITA'TUS DU'LCIS. Ph. Lond. 1721. See HYDRARGYRUS MURIATUS MITIS.

MERCU'RIUS PRÆCIPITA'TUS PER SE. MERCU'RIUS CALCINATUS.

MERCU'RIUS SACCHARA'TUS. SUGARED MERCURY. A preparation designed to give the mercury in a liquid form. Equal quantities of brown sugar candy and mercury are triturated till the globules disappear, adding a few drops of the oil of juniper.

MERCU'RIUS VI'TÆ, *angelicus, Algarothi pulvis.* THE MERCURY OF LIFE; the precipitate formed by diluting butter of antimony with water.

This powder when edulcorated is a calx of antimony, always nearly of the same strength, and therefore sometimes preferred to the glass in preparing tartarised antimony.

ME'RGEN, (from the Arabic term *morgan*). See CORALLIUM.

MERLU'CIUS, (quasi *maris lucius*, the sea pike). See ASELLUS MARINUS.

MERYOPHY'LLON. See MILLEFOLIUM.

MEROCE'LE, (from μηρος, *the thigh*, and κηλη, *a rupture*). See HERNIA FEMORALIS.

ME'ROS, (from μειρω, *to divide*). See FEMUR.

ME'SANG DE VA'CCA. See BEZOAR BOVINUS.

MESARÆ'ON, μεσαραιον, (from μεσος, *medius*, and αρσια, *belly*). MESENTERIUM, q. v.

MESARAI'CA, vel MESARAI'CA MA'JOR VE'NA, (from μεσαραιον, *the mesentery*). The MESARAIC or MESENTERIC VEIN, is the continuation of the vena portæ ventralis. (See PORTÆ VENA.) It bends towards the superior mesenteric artery, and accompanies it in those portions of the mesentery and mesocolon which belong to the small intestines, the cæcum and right portion of the colon; as it runs down it forms an arch obliquely, like that of the artery, which is also ramified on the convex and concave sides. It very closely accompanies the mesenteric artery, and is branched out in nearly the same manner.

MESARAI'CA MI'NOR VE'NA. See HÆMORRHOIDALIS INTERNA VENA.

MESENTE'RICÆ ARTE'RIÆ, (from *mesenterium, the mesentery*). The upper mesenteric artery, called *colica*, seu *mesenterica superior*, rises somewhat below the cœliac. The aorta a little above its division gives off the inferior, viz. the colica sinistra seu mesenterica inferior, to the left side upon the mesocolon, the lowest branch of which goes to the extremity of the anus, and forms the hæmorrhoidal artery. The upper branches anastomose with the superior mesenteric, and are azygous. The upper mesenteric branch forms a large arch in its course from the right side to the left of the mesentery; and from its convex side many branches pass to the intestines, where they communicate by reciprocal arches. A few branches go from the concave sides, spreading themselves in the mesocolon, colon, &c.

MESENTE'RICÆ GLA'NDULÆ. The MESENTERIC GLANDS. The lymphatic glands in the mesentery are larger in young than in old subjects; and, if not the proper seat of scrofula, they are always affected in that disease.

MESENTE'RIUM, (from μεσος, *the middle*, and εντερον, *intestine,*) *epichordis; mesàræon;* the MESENTERY, thus named from its being in the middle of the intestines, is a duplicature of the peritonæum, nearly of a circular figure fixed in the middle of the abdomen, connected by a cellular membrane, expanding and receiving the intestines. It begins loosely upon the loins, extending to all the intestines, except the duodenum; but that part of it which belongs to the large intestines is called *mesocolon*, and is a production of the true mesentery. The diameter of this circular membrane is somewhat more than four inches, and the circumference when its plaits are unfolded are about three ells in length: the intestines plaited on this circumference are nearly three times that length. The inner membrane is most strictly its own; and in it the vessels and the glands are found. The two exterior

ones are from the peritonæum, and between these the arteries and veins lie, whose branches are dispersed on the intestines. It confines the intestines, and sustains the arteries, veins, lymphæducts, and nerves, in their passage to and from them.

Many disorders are described by different authors as arising from the mesentery; but Dr. Hunter thinks it is rarely the seat of disease; and that even its glands, sometimes disordered in children, are not affected so frequently as is suspected. Riverius, in the chapter on obstructions in the mesenteric glands, observes that the causes and cure are the same as in similar disorders of the liver. See Praxis Medica, lib. xiii.

MESENTERI'TIS, (from *mesenterium*). Dr. Cullen considers it as a species of PERITONITIS, q. v. calling it *peritonitis mesenterica*. See INFLAMMATIO MESENTERII.

MESI'RE. A disorder of the liver, mentioned by Avicenna, accompanied with a sense of heaviness, tumour, inflammation, pungent pain, and blackness of the tongue.

MESOCO'LON, (from μεσος, *the middle*, and κωλον, *the colon*). When the mesentery has reached the extremity of the ilium, it contracts and becomes the mesocolon. One lamina, turned to the right side, is called the right ligament of the colon. The mesocolon then rising to the right kidney, seems to be lost by the adhesion of the colon to the kidney and the first curvature of the duodenum; a circumstance which explains the utility of purgatives in nephritic cases. When it again appears, its breadth increases, and it passes under the stomach, liver, and spleen, downwards to the left kidney. The circumference, at this part, is very little plaited, and the colon is affixed to it, so as to hide the ligamentary band at its smaller curvature. By its smaller circumference it incloses the duodenum in the triangular sheath, already described, and, by its larger, the colon, forming in its passage a slight adhesion to the greater curvature of the stomach.

It contracts below the left kidney, forming the ligamentum coli sinistrum, and then expands again, fixed to the convolutions of the colon as in the superior portions. See MESENTERIUM.

MESOGA'STRION, (from μεσος, and γαστηρ, *the stomach*,) the connecting membrane, or the concave part of the stomach, which attaches it to the adjacent parts. See OMENTUM.

MESOGLO'SSI, (from μεσος, and γλωσσα, *the tongue*). See GENIOGLOSSI.

MESOME'RIA, from μεσος, and μηρος, *the thigh*,) that part of the body which lies betwixt the thighs. Rufus Ephesius.

MESOMPA'LION, (from μεσος, and ομφαγος, *navel*). The middle of the navel.

MESOPHY'RON, (from μεσος, and οφρυα, *the eye*,) that part of the face which lies betwixt the eyebrows. Rufus Ephesius.

MESOPLEU'RIOI, (from μεσος, and πλευρoι, *the ribs*). See INTERCOSTALES.

MESO-RE'CTUM, (from μεσος, and *rectum*, *the straight gut*). It is a production of the peritonæum, which invests the intestinum rectum. About the middle of the fore side of this intestine it forms a semicircular fold, which appears when the intestine is empty, but is lost when full.

MESO'THE'NAR, (from μεσος, and θεναρ, *the palm of the hand*,) is a flat and nearly a triangular muscle, lying between the first phalanx of the thumb and the bottom of the palm of the hand, inserted into the ligament which connects the os magnum of the carpus to that which supports the thumb, as well as into that bone of the metacarpus which supports the middle finger, and to that which answers to the index: from thence, the fibres contracting to an angle form a tendon, which is inserted into the head of the first phalanx of the thumb. Winslow.

ME'SPILUS, (from ὁτι εν τω μεσω πιλος; because it has a cap or crown in the middle). The MEDLAR. *Mespilus germanica* Lin. Sp. Pl. 684. The common medlar is about the size of an apple tree; leaves strong and sharp pointed; flowers in May, and the fruit ripens in September. In Germany these trees are wild; with us cultivated. The fruit hath an austere astringent taste, which is lost when kept so long as to appear rotten; and it is then cooling and slightly astringent.

ME'SPILUS A'pii fólio. See SPINA ALBA.

METACA'RPIUS, (from *metacarpus*). A small fleshy muscle, situated obliquely between the large internal angular or transverse ligament of the carpus and the whole inside of the fourth metacarpal bone; fixed by a tendon to the os orbiculare, and to the neighbouring part of the large ligament of the carpus: at its other end to the outer edge of the fourth metacarpal bone.

METACA'RPION, METACA'RPUS, (from μετα, *after*, and καρπος, *the wrist*,) that part of the hand situated between the wrist and the fingers. The ancients called the carpus *brachiale*, and the metacarpus *post brachiale*. It forms on the inside the palm, and on its outside the back of the hand, but the first phalanx of the thumb is not a part of the metacarpus. The metacarpal bones support the fingers. Each bone of the metacarpus is long and flatted at the ends. The anterior surface of each body is concave, with a sharp ridge in the middle to separate the interosseous muscles. The ends next the arm have a hollow, for the articulations of the carpus; and those next the fingers are distinguished by protuberances for fixing the ligaments that unite these bones. A rough ring is observable round their heads, where the capsular ligaments that unite them to the fingers are fixed. These bones are united to the carpus and to each other by surfaces almost plain, as little motion is required; and, in those of the fœtus, each end is usually cartilaginous. The hollow of the hand is formed by the concavity of the fore part of these bones, and, from the minute motion of which they are susceptible, they form a secure basis for the action of the fingers.

METACINE'MA, (from μετα, and κινεω, *to remove*). A removal of the pupil of the eye from its proper situation.

METACO'NDYLI, (from μετα, and κονδυλος, *a knuckle*). The last joints of the fingers next the nails.

META'LLA, (from the Hebrew term *metil*, *a hard substance*). METALS, or METALLIC SUBSTANCES, are distinguished by their splendour, their opacity, their fusibility, specific gravity, conducting power, hardness, elasticity, malleability, ductility, tenacity, and combustibility. From their hardness and elasticity, they are

adapted for the construction of different instruments employed by surgeons; and these properties fit them for discovering solid bodies by the vibrations they convey to the hand, as a stone in the bladder, or a bullet under the muscles. Their splendour is connected with their opacity, for all metals are impervious to light; and the green rays, which seem to pass through the thinnest gold leaf, are seemingly owing to light transmitted through an accidental fracture.

All metals are fusible; and mercury even retains its fluidity in our greatest colds. The specific gravity of the lightest metal, arsenic, is more than five times greater than water, and much more considerable than the densest stone, which is not suspected to be metallic. The metals are the best conductors of electricity, and it has been supposed that the electrical fluid is conveyed through our system more readily by the small proportion of iron which the blood contains. This is, however, improbable, as the electrical shock follows more closely the course of the nerves than of the arteries.

Metallic substances are also called perfect or imperfect. The first are not permanently altered by the greatest heat of our furnaces; while the second, when exposed to a strong heat, with the access of free air, are changed by a process similar to burning, and in some instances with an actual flame, into an earthy substance called *calx*, which is heavier than the metal from which it was produced, though its specific gravity is less. This arises from the union of vital air, which converts some metals into acids. If the calx of a metal be exposed to a strong heat in a closed vessel, with some inflammable matter, styled a flux, it recovers its metallic state. This is called reduction, or reviving of the metal.

All metals are imperfect, except gold, silver, and platina. The imperfect metals are, mercury, lead, copper, iron, tin; and the semimetals, bismuth, nickel, arsenic, cobalt, zinc, antimony, manganese, molybdæna, tellurium, titanium, chronium, columbium, osmium, iridium, and uranite, with some others whose nature is not yet accurately ascertained. As the appellations arsenic, antimony, manganese, wolfram, and molybdæna, are given to the ores, the term of regulus is often employed to distinguish the metal, though modern chemists often use the terms indiscriminately.

The heaviest metal is gold, then follow platina, mercury, lead, silver, copper, iron, and tin. The most malleable also is gold, followed by silver, copper, tin, iron, lead, platina, zinc, bismuth, antimony. The force of cohesion is greatest in gold, next in iron, silver, brass, and copper, successively: tin is far below copper, and lead still less cohesive. The order of fusibility is the following, tin, bismuth, lead, zinc, antimony, silver, copper, cobalt, nickel, gold, iron, manganese, and platina. Different proportions of tin and lead are still more fusible; and, if bismuth be added, this property is increased. Five parts of tin, three of bismuth, and two of lead, become soft in boiling water. This last property renders such metallic mixtures highly useful as injections for anatomical preparations.

All the metals dissolve in acids. See Affinity; and in these solutions the metal is in a state of calx. —Neumann, Chaptal, Fourcroy, and Thompson's Chemistry.

METALLU'RGIA, (from *μεταλλον*, *a metal*, and *εργον*, *work*). Metallurgy; the chemical doctrines of metals, particularly respecting their separation, depuration, and preparation.

METAPE'DIUM, (from *μετα*, and *πους*, *the foot*). See Metatarsus.

METAPHRE'NON, (from *μετα*, and *φρενες*, *the diaphragm*). See Dorsum.

META'STASIS, (from *μετατιθημι*, *to transfer*,) *diadexis*, *diadoche*, a translation of a disease from one part to another. The term is limited to a change of determination, for when matter or water passes through the cellular membrane, it is not called a metastasis.

METASY'NCRISIS, (from *μετα*, and *συγκρινω*, *to mix together*). The word generally implies a change in any given part. Asclepiades. See Medicina (*History*).

METATA'RSIUS, (from *μετα*, and *ταρσος*, *the tarsus of the foot*). A fleshy mass lying under the sole of the foot, fixed by one end to the fore part of the great tuberosity of the os calcis, and terminating in a short tendon, inserted in the tuberosity and posterior part of the lower side of the fifth bone of the metatarsus. It moves the last bone of the metatarsus, and draws the fourth bone along with it, contracting the sole of the foot.

METATA'RSUS, (from *μετα*, and *ταρσος*, *the tarsus*,) *planta*, *planum*, *vestigium*, *metapedium*, is composed of five bones, similar to those of the metacarpus, but, in general, thicker and stronger; their round ends not so broad, and less in proportion to their bases. Their bodies are also sharper above, and flatter on the sides, with the inferior ridge inclined more to the outside, and larger tubercles at the lower part of the round head.

ME'TELLA NUX. See Nux vomica.

METEORI'SMUS, (from *μετεωρος*, *a vapour*). See Tympanites.

METEO'ROS, (from *μετα*, and *αειρω*, *to elevate*). Elevated, suspended, erect, sublime, tumid; pains affecting the peritonæum, or the superficial parts of the body, opposed to more deep seated ones. Galen.

METHEMERI'NOS, (from *μετα*, and *ημερα*, *a day*). See Quotidiana febris.

METO'PIUM, an oil, or an ointment described by Dioscorides, named from the plant which produces galbanum: sometimes it means the oil of bitter almonds. See Amygdalæ.

METO'PON or METO'PUM, (from *μετα*, and *ωψ*, *oculus*). See Frontis os.

METO'SIS. An amaurosis, from an excess of short-sightedness.

ME'TRA, (from *μητηρ*, *a mother*). See Uterus.

METRE'NCHYTA, (from *μητρα*, *the uterus*, and *εγχυω*, *to pour into*). Injections for the uterus.

METRE'NCHYTES, (from the same). A womb syringe.

METRI'TIS, (from *μηρα*, *the womb*). Inflammatio uteri, q. v.

METROCE'LIDES, (from *μητηρ*, *a mother*, and *χηλις*, *a mole*). See Nævus.

METROPROPTO'SIS, (from *μητρα*, *the womb*, and *προπιπτω*, *to fall down*). See Procidentia uteri.

METRORRHA'GIA, (from *μηρα*, *the womb*, and *ρηγνυμι*, *to break out*). See Menorrhagia.

ME'U, ME'UM, (from *μειον*, *less*,) on account of its diminutive size. Spignel, baud, or vauld

MONEY. *Athamanta meum* Lin. Sp. Pl. 353. *Fæniculum Alpinum*, is a perennial plant, whose leaves are much smaller, and seeds broader, than those of fennel. The root resembles that of fennel, but is of a more agreeable though fetid smell, and a more pungent taste.

ME'UM ALPHI'NUM GERMA'NICUM. GERMAN or MOUNTAIN SPIGNEL, *mutellina*, *phellandrium mutellina* Lin. Sp. Pl. 366. It possesses only the virtues of the common sort.

ME'UM LATIFO'LIUM ADULTERI'NUM, *seseli perenne folio glauco breviori*, *fæniculum sylvestre*, *ferula folio breviori*, *saxifraga montana minor*, BASTARD SPIGNEL, *seseli montanum* Lin. Sp. Pl. 372, grows on dry hills, and flowers in June. The root is drying and pungent.

MEXICA'NUM BALS'AMUM, (from *Mexico*, of which it is a production). See PERUVIANUM BALSAMUM.

MEXICANA'VA. See BOTRYS MEXICANA.

MEZE'REUM, an indigenous appellation. See LAUREOLA FŒMINA.

MIA'SMA, (from μιαίνω, *to pollute*). MIASMATA have lately claimed the attention of pathologists, as they are the causes of some of the most fatal fevers to which mankind are subject. In the more strict pathological investigations of modern authors they are distinguished from contagion, which is confined to the effluvia from the human body, when subject to disease; yet this contagion, when it does not proceed immediately from the body, but has been for some time confined in clothes, is sometimes styled *miasma*. Another kind of miasma as already noticed, (see CONTAGION,) is putrid vegetable matter, and indeed every thing of this kind which appears in the form of air. Miasma, then, strictly speaking, is an aërial fluid, combined with atmospheric air, and not dangerous except the air be loaded with it; for diffusion, as we have seen, renders it harmless. It is not always discoverable by the smell, and scarcely ever by the nicest eudiometrical tests: it is not therefore hydrogen or azote, though there is great reason to suppose that it is a modification of these; for, from marshes hydrogen generally arises, and, from the human body, the chief injurious exhalation is azote. Hydrogen and azote also destroy irritability, or induce sudden debility, effects generally found from the miasmata which produce fever. As we know not the nature of miasmata, therefore, we cannot discover their corrector. Diffusion, however, renders them harmless, and it is sufficient for us that free air will prevent their deleterious effects.

What the variety of miasmata may be we cannot say. Each infectious disease has its own, diffused round the person which it has attacked, and liable to convey the disease at different distances, according to the nature of the complaint, or to the predisposition of the object exposed to it. This part of the inquiry rather belongs to contagion, and to the particular disease. A patient in the small pox seems to diffuse an infectious atmosphere to the distance of from ten to fourteen feet: measles and scarlatina are less active in this respect, and even the plague seems not to be infectious, except from fomites, but from actual contact.

The miasmata of marshes, those only whose effects we can more distinctly perceive, produce intermittents, and remittents of the worst kind. They produce also dysentery and the epidemic catarrh, of which the infection is usually conveyed by the air. The bilious fever of America we have supposed to be the natural autumnal remittent, and therefore may be referrible to the same source; nor can we avoid concluding that every endemic disease must have its origin in the peculiar exhalations of the country.

The putrid vegetable matter which has been accused as the cause of many fevers may be truly such, for we know that many parts of vegetables produce azote. Yet their effects in this respect have not been traced with accuracy. Continued fevers are chiefly referrible to contagion: but the causes of intermittents in some constitutions seem to produce fevers of the more continued form; and the miasmata of marshes, when they have excited their peculiar fever, may certainly, through the medium of the human body, produce continued fevers. Human effluvia confined, independent of a morbid state, become undoubtedly the cause of fevers the most continued in their form, and are then truly miasmata.

MI'CA, (from μικρος, *small*). A morsel, a crumb, a grain; also a foliated semi-transparent stone, formerly, and at present in the Russian navy, used as glass. It is of the magnesian genus, but not used in medicine. See Haüy, iii. 208. Thompson's Chemistry, iii. 462.

MI'CA THU'RIS. See OLIBANUM.

MI'CA PA'NIS, the soft part of bread; employed in preparing mild cataplasms, by soaking slices of new bread in water until they become perfectly soft, and then pressing out the superfluous water, beating the bread up with a spoon, and stirring into it a small quantity of lintseed meal. It is used also in its dry state, as a convenient mass for pills.

MI'CRO-LEU'CO-NYMPHÆ'A, (from μικρος, *small*, λευκος, *white*, and νυμφαια, *the water lily*,) *nymphæa*, *morsus ranæ*, FROG BIT, *hydrocharis morsus ranæ* Lin. Sp. Pl. 1466, grows in muddy waters, and flowers in July. It is said to resemble in virtues the leuco-nymphæa.

MI'CRO-NYMPHÆ'A, (μικρος, and νυμφαια). A variety β of, and in every respect resembling, the above. It is less than the nymphæa; grows in ditches, and is said to possess the same virtues.

MI'CROS. See DIGITUS.

MID'WIFERY. See OBSTETRICATIO.

MIGRA'NA. A corruption of HEMICRANIA. See CEPHALALGIA.

MILIA'RES GLA'NDULÆ, (from their resemblance to millet seeds). See SEBACEÆ GLANDULÆ.

MILIA'RIA, MILIA'RIS FE'BRIS, (from the pustules resembling millet seed). The MILIARY FEVER, by the Germans *Friesel*, placed by Dr. Cullen in the class *Pyrexiæ*, and order *Exanthemata;* defined "a synochus attended with restlessness, frequent sighing, a fetid sweat, and prickling of the skin; red, small, distinct spots, on an uncertain day of the disease, break out copiously over the whole skin, except the face, whose tops discover, after a day or two, very small white pustules, continuing but a short time." This fever is now generally supposed to be symptomatic only, because it never appears contagious or epidemic. It sometimes attends febrile affections, as well those of an inflammatory as of a putrid nature, but it seldom occurs in any, unless a hot regimen and sweat precede.

The French and German authors, however, still consider it as an idiopathic disease, and we have twice seen it when the regimen could not be accused as the cause, though it must be allowed to have been often the creature of art, since, after the disuse of the hot regimen, its appearance has been rare. When the pustules are white it is called *purpura alba*, when red, *purpura rubra*. It is almost exclusively confined to child-bed women, though it sometimes appears during the sweating regimen in rheumatism.

This disorder is denominated simple when none but *miliary* pustules accompany the red ones, which, when appearing alone, are called a *rash*. If we speak of it as an idiopathic disease, we must employ the language of those who have described it as such. They say that it is peculiar to some constitutions, who experience the disease repeatedly in their lives, and peculiarly affects the tender, the weak, and the irritable; preceded by sighing, great lowness, oppression on the præcordia, and ushered in by shivering, followed by heat and a pricking sensation of the skin; nor does the anxiety and lowness cease till the eruption is completed. Unlike other exanthemata, the eruption does not conclude the disease, for successive crops often appear, preceded and attended with the same symptoms. According to circumstances, the fever sometimes rises to phrenitis, and sometimes sinks into a typhus. The pustules, first apparently filled with serum, afterwards with a whitish fluid, at last dry, and scale off in branny crusts.

It is not, we have observed, contagious or epidemic; the eruptions have no regular periods of appearance or duration; and though the origin and source of the disease are said to be at no distant period and country, yet traces of it are discoverable even in Hippocrates. All these circumstances strongly militate against its being an idiopathic disease, and the only connection which has been discovered, if it be really a discovery, between the different states of constitution subject to miliary fever is, that it more often attends those subject to considerable hæmorrhages. Such discharges certainly occasion great irritability; and the disease is not connected with mere debility, since it is not peculiarly attendant on typhus. On the other hand, the appearance of the urine is peculiarly pale, and the smell of the perspiration is acid; but the former is an almost constant attendant on fevers in their commencement, and the latter is peculiar to the perspiration of child-bed women.

The accidental symptoms of miliaria are remission and exacerbation of the fever, but at no regular periods. The sleep is disturbed, often interrupted; tremor, subsultus, and even convulsions, come on. Occasionally, the pulse sinks, the eruptions assume a purple hue, clammy sweats and death follow. The directions for the cure of this fever have been strangely and without reason embarrassed. If it is symptomatic of a too hot regimen, we shall find little other regulation than with caution to lessen it. If idiopathic, similar plans should be followed, and according to the principles laid down in the articles Diaphoretica and Morbi Cutanei, we should conduct the perspiration steadily and slowly. Cool instead of cold drinks should be employed, the cooling neutrals freely given, and the bowels kept free by the mildest laxatives. The nervous symptoms are best relieved by camphor, which the stomach usually bears with ease, and should the strength sink, a little wine may be cautiously allowed, or ether added to the camphorated draughts. In general, however, cool free air is the greatest cordial. Even Fischer, after the experience of sixty years, advises us not to be too anxious to force on the discharge from the skin; and we have seen that cool air is the most effectual diapnoic. See Diaphoretica.

When the pustules assume a purple hue, which in this country is an occurrence peculiarly rare, the bark and port wine, in quantities proportioned to the violence of the symptoms, are necessary, and when the debility is considerable, bark, independent of putrescency, has been given. This may be requisite, but we have never found it so, and there is always danger that bark may occasion a stricture on the skin and check the salutary diapnoe. When inflammatory, phrenitic, or pneumonic symptoms come on, they must be treated according to the rules laid down under the proper heads, urging, however, the general evacuations with caution, and trusting rather to the topical ones. Blisters are never useful, except in such cases of topical congestions.

See Hoffman and Sir David Hamilton's Treatise on the *Miliary* Fever. Sydenham Miliaris nova Febris, Schedula Monitoria; Fischer et Febre Miliari; Allioni de Miliaria. De Haen Ratio Medendi; Colin de Miliaria. Cullen's First Lines, edit. 4. vol. ii.

Milia'ris Nau'tica, and Purpura'ta, species of Typhus: the former is called by Huxham *febris nautica pestilentiâlis*.

MILIA'RIUM, (μιλιάριον). See Alembicus.

MILIO'LUM. A small tumour in the eye lids, of the size of a millet seed.

MILITA'RIS AIZOI'DES. See Aloides.

MILITA'RIS HE'RBA, (from *miles, a soldier,*) from its efficacy in curing fresh wounds. See Millefolium.

MI'LIUM, (from *mille, a thousand*, because of its numerous seeds). Millet, *cenchros*, *panicum Italicum* and *miliaceum*, Lin. Sp. Pl. 83 and 86, hath large, broad, grass like, somewhat hairy leaves, encompassing the stalk of three or four feet in height, bearing on the top a large pendent panicle, composed of many slender stalks, with many small glumes, including small, white, hard, shining grains. It grows plentifully in Poland; is sown in April, reaped in August or September, and is used as food. See Aliment.

Mi'lium I'ndicum, *sorgo*, *sorghum*, *melica*, *Holcus*, *Holcus sorghum* Lin. Sp. Pl. 1484. Indian millet is sown in Spain, Italy, and other warm countries. In Turkey they feed their hogs and poultry with it; but in the human body it induces constipation.

Mi'lium arundina'ceum, *Coix lachryma Jobi*, Lin. Sp. Pl. 1378; the *lithospermum*.

MILLEFO'LIUM, (from *mille, a thousand*, and *folium, a leaf*). *Lentibularia; supercilium* and *lumbus Veneris*, *myriophyllon*, *chiliophyllon*, common yarrow; mill foil, *Achillea millefolium* Lin. Sp. Pl. 1267, is a plant with rough stiff leaves, divided into small segments, set in pairs, along a middle rib, like feathers; the little flowers stand thick together in the form of an umbel on the top of the stiff stalk, and consist each of several whitish or purpleish petala, set round a loose disk of the same colour, followed by small crooked seeds.

It is perennial, grows plentifully on sandy commons, and flowers almost all the summer.

The leaves and flowers are considered to be mild corroborants, and antispasmodics; their sensible qualities promise some activity, for they have a weak but agreeable aromatic smell, a slightly bitter, rough, and pungent taste: the leaves are most bitter, the flowers have most smell, and the young roots a glowing warm taste like that of contrayerva, but the smell is greatly diminished by drying. By the Greek physicians this plant was esteemed a vulnerary and styptic, generally employed internally as an astringent in all hæmorrhages. Stahl and Hoffman used it in bleeding from the lungs and nose, too copious flow of the menses, and bleeding piles. Stahl considered it not only as an astringent, but a powerful tonic, antispasmodic, and sedative; it is now neglected, and the leaves and flowers only are appropriated to medical purposes, if it should be employed.

Both water and spirit extract the virtue of the leaves and flowers; but water the astringency, and spirit the aroma, in the greatest degree. If the flowers are distilled with water they yield an essential oil; and if the plant is gathered from a rich soil, the oil will appear of a blue colour; if otherwise it will be green. A strong decoction of the root and leaves is said to have cured a dysentery. See Raii Historia; Lewis's Materia Medica.

MILLEFO'LIUM AQUA'TICUM. See MYRIOPHYLLON.

MILLEGRA'NA MAJOR, (from *mille* and *granum*, *grain*). See HERNIARIA.

MILLEMO'RBIA, (from *mille*, and *morbus*, *a disease*). See SCROPHULARIA MAJOR.

MILLE'PEDES, (from *mille*, and *pedes*, *feet*). See ASELLI.

MILPHO'SIS, (μιλφωσις). A Greek primitive. A BALDNESS of the EYE BROWS: sometimes an increase of the flesh in the corner of the eyes.

MILZADE'LLA, (from *milza*, Span. *the spleen*, from its virtues in diseases of the spleen). See LAMIUM MACULATUM.

MIMO'SA NILO'TICA, seu ÆGYPTIACA. See ACACIA.

MIMO'SA JAPO'NICA CA'TECHU. See TERRA JAPONICA.

MINÆ'A. See ANIME.

MINERA'LIA, (from *mina*, *a mine of metals*). MINERALS. The mineral kingdom furnishes numerous and very valuable remedies, first introduced by the chemical physicians, and, for a long time disregarded by the Boerhaavian school. They were supposed by the latter to be unalterable in the stomach by the digestive powers, and consequently incapable of producing any change in the circulating fluids, the source, in their opinion, of all diseases. Dr. Cullen first clearly pointed out, that many medicines, particularly opium and arsenic, produced considerable changes, though thrown up with an apparently undiminished bulk, and that therefore they acted on the stomach as a nervous organ, sympathetically connected with the rest of the system. Since that time, the opinions of the chemical sect have been revived with more distinct and more rational views, and copper, arsenic, barytes, with some other medicines of considerable power, introduced into the materia medica. In the views of the natural historian the study of mineralogy has been attended with greater difficulty. In the system of Linnæus, who was very imperfectly acquainted with minerals, the form alone was considered as the basis of the classification; and forms, at that time little known, or described with no very discriminated minuteness, led rather to confusion, than distinction. Cronstedt first conducted his arrangement with scientific accuracy, but his system was chemical, and the general rules, as well as the conduct of the historians of the other kingdoms of nature, rested their discriminations on external forms. Daubenton, the friend and coadjutor of Buffon, suggested an union of these two plans, but the revolution was completed by Werner and Haüy within a very few years.

It is unnecessary to mention a great variety of systematic arrangements. That of Cronstedt was comprised in four great divisions; earths, salts, inflammables, and metals, to which he has added, in an appendix, compound and conglomerated stones, petrifactions, and volcanic productions. He has been followed, with no change in the great outlines, by Mr. Kirwan. While the chemical mineralogists were thus meliorating their system at their furnaces or their lamps, a considerable revolution was preparing in Germany and France. In the school of Freyberg, where the subject, from the neighbouring mines, forced itself on the attention of naturalists, Werner laboured at rendering the descriptive language more copious, more expressive, and more accurate. To every appearance of shade, colour, hardness, taste, smell, &c. he gave appropriate appellations, often with a disgusting harshness which obscured what he attempted to explain, but with the most minute and accurate discrimination. Haüy, in France, was at the same time observing with minuteness the form of the crystals, and investigating by the most patient research, aided by the most accurate geometrical constructions, the original molecule, on which the future more compound crystal is moulded. In this enquiry he had an assistant in Romé de l'Isle, but his last most valuable work is wholly his own. That of Romé de l'Isle was published near twenty years since. Haüy, however, though he rests greatly on the form of the crystals, neither neglects the chemical analysis, nor the strict language of Werner; and the general merit of his work has lead us to prefer it as the most convenient book of reference, to ascertain the species intended, especially as his copious list of synonyms lead us equally to the best authors of the chemical and the Wernerian schools.

Haüy's first class contains the COMPOUNDED ACIDS, viz. those substances in which the acid is united to an earth, an alkali, and occasionally to both. The second comprises the PURE EARTHS, except where they may be united with an alkali. The third contains the COMBUSTIBLES, and the fourth the METALS. The appendix is filled with those bodies whose nature is unknown, compound, and volcanic substances.

Werner, though he has so carefully improved the language of mineralogy, yet rests on chemical analysis as his chief support. The principal divisions of former authors it is impossible to overlook or neglect, for they are strongly pointed out by nature; and EARTHS, SALTS, COMBUSTIBLES, and METALS, are also his classes. He has added the classification of rocks, which he divides into primitive, transitive, alluvial, and volcanic. His object in this arrangement will be sufficiently obvious

from the titles. Of Werner's system we have no very satisfactory account in our own language. His work on the "External Character of Fossils" has been translated, but the language is disgusting and rugged. M. Brochant's two volumes of mineralogy, in French, give a much more favourable view of his doctrines; and this work is more valuable, as it goes hand in hand with that of Haüy, a circumstance which enhances the value of each. Mr. Jamieson's description of the minerals of Scotland, and a few others from the school of Freyberg, are calculated rather to disgust than allure the student.

Werner has improved the science in one respect, viz. in preserving the natural families, which, like the natural orders in botany, connect kindred substances. Haüy has been equally successful in connecting these kindred tribes from the form of their crystals; and so just is his method, that the arrangement which these first suggested afterwards received their best support from chemical analysis. Another improvement of Werner is the arrangement of subjects, not from the predominance of their component parts, but from the character. Many reputed argillaceous earths have often the largest proportion of silex, but they are arranged with propriety as clays. This, though sometimes attended to, was not before the æra of the Freyberg professor strictly kept in view, and it has greatly improved his system as a natural one; the first and great object in every department of natural history.

The chief difficulty in mineralogy is the means of ascertaining species; and, when we proceed to other subjects which have been supposed less susceptible of the advantages of arrangement, we shall find the difficulty less considerable. Every author depends on the chemical nature of the object for the establishment of species; and Werner expressly observes, that bodies, which differ essentially in their chemical nature, differ also as species. The error lies in not affixing an accurate idea to the word "*essentially*," for Werner often depends on differences purely accidental; and the establishment of sub species in almost every modern system shows the uncertainty of the foundation of specific differences. Haüy has formed his species on the chemical nature of substances, but he has added essential external characters, very striking and discriminated. Brochant has done the same, but not always with equal success.

It is a singular remark of prince Gallitzin in his "Alphabetical Collection of Mineralogical Names," that the possible combinations of the nine principal earths, excluding the saline and metallic *mixtures*, exceed forty thousand, of which we have yet discovered scarcely more than fifty. How inexhaustible are Nature's stores, and what resources may not medicine and the arts have still in reserve? The siliceous earths form nearly one half of the known combinations, the calcareous only furnish five, and the aluminous seven.

We have perhaps been led too far from our medical department; but this subject has not sufficiently shared the attention of the English naturalists or physicians. We shall now return to our proper path, and endeavour to point out the comparative advantages of each class, in a medical view.

Earths. The first of these in the modern systems is the *barytes*, and we employ only the muriated salt, though a solution of the pure or aerated barytes has been recommended vaguely, as an anthelmintic, and, externally, as a destroyer of the life of a part. The purer or carbonated *lime stones* are absorbents, and, by this quality, they appear to act as astringents. From a loose analogy, they have been supposed useful in other excessive evacuations, where their power will not extend. The more incapable they are of absorbing acid, the less effectual they appear, unless when joined with some acids, they act according to common opinion as astringents in the intestinal canal. Their lithontriptic power has been sufficiently explained.

Magnesia is highly useful as an absorbent, and, when joined with acids, as a laxative: the *clays* we have found demulcent, and, from this effect, apparently astringent. The *flints* including the gems, though formerly celebrated, are now deservedly forgotten; nor, excepting the portion suspected by Dr. Gibbes in the Bath waters, is there any known form in which siliceous earth is swallowed, or in which it can be useful.

The strontia has been recommended as a diuretic, and an astringent, but we cannot ascertain the authority. It is probably an absorbent.

The salts are more frequently advantageous, and, in their different forms, are useful laxatives, refrigerants, absorbents, and tonics. The two former objects are obtained by the neutrals; the two latter by the alkalis and acids. The volatile alkali is conspicuous as a stimulant, the vegetable acid as a refrigerant. Alum seems the chief objection to the general remark, though it appears to act occasionally as a laxative.

The inflammables offer very few medicines, and with the exception of sulphur, and perhaps the petroleum, none of importance. The ambergris, and the asphaltum, are now deservedly neglected. The succinum used only for its salt and oil.

The metals furnish the most numerous and the most valuable medicines, which we need not enumerate, as, with the exception of lead only, they are chiefly tonics; and, when we particularly examine its properties, we shall find them in some views according with those of the other metallic bodies. The metallic salts are often externally corrosive.

If then we find, in the inexhaustible variety of possible combinations, that we have yet discovered few, so in those which we *have* discovered, a very small proportion are useful as medicines; and when, from the whole of the mineral kingdom, with all the various preparations, we have selected twenty important ones, we need scarcely regret the loss of the rest. It must be recollected that the fifty known combinations from the forty thousand, are combinations of earths only; and that the combinations of the metals only with the acids would furnish as many more, of which a very small proportion has been actually discovered.

Kirwan's Mineralogy; Haüy Traité de Mineralogie; Mineralogie de Brochant; Wallerii Systema Mineralogicum.

MI'NIUM, (from *samminia*, a Chaldee word). See Plumbum.

Mi'nium Græco'rum and Pu'rum. See Cinnabaris.

MINU'TA, (from *minuo*, *to diminish*). An epithet for a violent fever, with such great debility as to be fatal in four days.

MIRA'BILIS, (from *miror*, *to wonder*,) a term

applied to various compositions, expressive of their admirable virtues.

MIRA'BILIS A'QUA. See PIPER JAMAICENSE.

MIRA'BILIS PERUVIA'NA. See JALAPA.

MI'RI. See CEBIPIRA BRASILIENSIBUS.

MISERE'RE ME'I, a name applied to the iliac passion, from the severity of the pain. See ILIACA PASSIO.

MISTU'RA, (from *misceo, to mix*). A MIXTURE, in the strictness of pharmaceutical language, differs from juleps in not being transparent, in consequence of some powder or extract dissolved or mixed with it. See JULAPIUM.

MI'SY. We should not have retained this obsolete word, had we not seen it styled a sulphat of *iron*. It is synonymous with the calcantha or calcanthum of the ancients, q. v. and in reality a sulphat of *copper*. Haüy, iii. 586.

MITE'LLA, (quasi *mitrula*, dim. of *mitra, a band*). A scarf for suspending the arm. In BOTANY it is the name of some plants from America and the north of Asia, comprehended by Linnæus under the genera *mitella* and *tiarella*.

MITHRIDA'TUM, (from *Mithridates*). See CONFECTIO DAMOCRATIS, and MEDICINA (*history*).

MITRA'LIS VA'LVULA, (from *mitra, a mitre*, from their resemblance). See COR.

MI'VA CYDONI'ORUM, (from the Hebrew term *migma*). MARMELADE of QUINCES. See CYDONIA.

MI'XTIO, (from *misceo, to mix*). MIXTION. Stahl used this expression to signify the union of the first principles in the most simple compounds. Those principles of bodies are now emphatically called *a mixt*, which are so intimately united to each other as to be scarcely discovered, though without changing the nature of either, and without any union by chemical affinity. A mixt is thus distinguished from aggregates, where the texture is loose, and the parts more easily separated. In chemical mixtures the nature of the ingredients is altered, and a new body formed.

MO'CHLIA, (from μοχλος, *a lever*). A reduction of the bones from an unnatural to a natural situation.

MO'CHLICA, (from μοχλευω, *to move*). Violent purges.

MODE'RNI, (quasi *hodierni, of to-day*). The æra of modern learning, according to the best chronologists, is that of the capture of Constantinople by the Turks, when the Greeks fled to Italy, carrying with them their literary treasures. This was on the 27th of May 1453. This æra will not, however, be accurate in the history of medicine, for in tracing the progress of our science we have seen it gradually progressive from east to west, and sometimes even in a contrary direction; and were we to fix the limits with respect to medicine, we should place them at the decline of the Grecian physic, in the court of Byzantium, and the last of the ancients would be Actuarius. The comparative knowledge and skill of the ancients and moderns have occasioned great controversy. It is pleasantly, though not with great impartiality, treated by Swift in his Battle of the Books. Dutens' work "On the Discourses of the Ancients attributed to the Moderns," contains many curious and important facts on this subject; but this author, like some others, catches too anxiously at casual hints, and expressions, seeming to mistake a lucky but a loose conjecture for a discovery. Pancirollus, in his work De Rebus Perditis et Inventis, and Bæckmann, in his History of Inventions, offer many curious facts respecting the science of the ancients, and often respecting medical opinions and the use of remedies. Two volumes have been added by the latter author to those already translated, which would be a valuable acquisition to the English reader.

MODI'OLUS, (from *modus, a measure,*) since it is contrived to enter only to a certain depth. The crown or saw of the trepan; or a circular trepan resembling in shape the nave of a wheel, which is its true signification. See TREPHINE.

MODIO'LUS, (femin. of *modus,*) the axis of the cochlea of the ear.

MODI'RA. See COLUBRINUM.

MOFFA'T WATERS. A mineral spring near Moffat in Scotland, resembling the Harrowgate waters; equally sulphureous and saline, but not equally bitter. They have been chiefly used in scrofulous and cutaneous disorders, and more lately applied to irritable ill conditioned ulcers. Their contents are chiefly sea salt and hepatic air; but the former is in so small a dose as scarcely to act as a laxative. In indigestion from weakness, in calculous cases, and in biliary obstructions, they have been employed, but are not sufficiently powerful in their action on the bowels for the latter complaint. They chiefly act as diuretics.

MOGILA'LIA, (from μογις, *difficulty*, and λαλεω, *to speak*). A difficulty of speech; *psellismus acheilos* of Dr. Cullen. See ANCYLOGLOSSUM.

MO'KEL. See BDELLIUM.

MO'LA, (a Hebrew term). A name for the *patella*, KNEE PAN, for the *molares dentes*, or grinders; for the *maxillæ;* and a FALSE CONCEPTION, or a shapeless mass in the uterus, without a placenta, called *epicyema*, *myle*, and by Avicenna, *naducem*. Should part of the placenta remain in the uterus after the birth of the child, this may resemble a mole; and it is then called *pseudo-mola*, a FALSE MOLE. If the symptoms of a miscarriage happen in the first, or beginning of the second month, the fœtus being then very tender, and lying in the os internum two or three days, will dissolve, it is said, into a kind of jelly, which, coming away, is called a *false conception;* and if, during the time of child-bearing, a flooding occurs, a large coagulum of blood, with a fibrous appearance, is discharged some time after its cessation: this also is called a *mole*. It differs from the placenta in being only fibrous on the outside.

We cannot indeed deny, that the tender fœtus may melt into a jelly, or that coagula may become fibrous, but the appearances of molæ seem to be owing to a more recondite origin. It is ridiculous to talk at this time of a plastic power, or a tendency to organization; yet either imperfect rudiments of a fœtus pre-exist in ovaria, or by some unknown process there is an approach to organization. We have numerous records of the remains of hair and teeth in ovaria of women of character, and in circumstances where there can be no deception. We have similar appearances in the brute creation. We find, too, that, when married women have been in a bad state of health, which has prevented conception, an organized mass is often discharged on their recovery before a living fœtus is produced. We have much reason to suspect, then, that in every instance

moles are imperfectly organized productions, and that they may be both formed and discharged in some instances without any blemish on the female character, whatever theory may be adopted respecting their origin. In many instances what is styled a *mole* is merely a coagulum of blood.

The signs of a mole are, in general, the same as pregnancy. It is said, indeed, that in the former case the belly increases more rapidly than in pregnancy, and after the third month it generally produces floodings. Women of experience, however, always feel some variety in their symptoms and sensations, and generally suppose they are not with child.

A mole is also distinguished from pregnancy by its exciting no motions in the womb like those of a living child, and by changing its situation in the belly according to the posture of the mother. The general health is commonly worse, after the fourth month while in pregnancy it improves.

Should the existence of a mole be ascertained, assistance is necessary, the finger may be gradually introduced into the uterus, and its action excited by a slight irritation. As there is no placenta, so, if after the discharge of the mole the flooding ceases, the whole is at an end, except another may remain, a circumstance peculiarly rare, which however will soon follow. See La Motte, Smellie, and Hamilton.

MOLA'GO CO'DI. See PIPER NIGRUM.

MOLA'RES DE'NTES, (from *mola*, *a mill*, and *dens*, *a tooth*). GRINDERS, *genuini; gomphioi; molæ; momisci;* the large broad teeth beyond the canini.

The two first are smaller than the rest, terminating in two points, and therefore styled by J. Hunter *bicuspides*. They have short fangs, which are double at their extremities. The other three on each side have four points at the basis of their bodies, two anteriorly, and two posteriorly; these have generally two fangs in the lower jaw, and three in the upper. Mr. John Hunter observes, that the first and second of the grinders are nearly alike: they stand next behind the canini or eye teeth; and the first is frequently the smallest, with rather the longest fang, sometimes with its point bent. In the upper jaw, the bicuspides are rather thicker than in the lower; and both, especially the second in both jaws, are oftener wanting than any others, except the dentes sapientiæ. The bicuspides and the molares alter very little in shape on their grinding surfaces, by use; their points only wear and become obtuse. The two first grinders differ from the bicuspides in being much longer, and in having more points and more fangs. The body forms almost a square, with rounded angles. The grinding surface has commonly five protuberances, two of which are on the inner, and three on the outer edge or part of the tooth, with generally some smaller points at the roots of these longer protuberances. The body towards its neck divides into two flat fangs, one forward, the other backward, which are often bifurcated. The first grinder is somewhat larger and stronger than the second; and both have shorter fangs than the bicuspides. In the upper jaw they have three fangs; and the first and second in the upper jaw are placed directly under the maxillary sinus. The third grinder is the *dens sapientiæ*. See DENS. J. Hunter's Natural History of the Human Teeth.

MOLA'RES GLA'NDULÆ, are two glands, nearly of the same kind with the sublingual glands, each of them situated between the masseter and buccinator muscle, resembling, in some subjects, two small lumps of fat. They send out small ducts, which perforating the buccinator, open into the cavity of the mouth, almost opposite to the last dentes molares; from which circumstance, Heister gave them their name.

MOLDA'VICA MELISSA. TURKEY BAUM. See MELISSA TURCICA.

MOLE. See TALPA.

MOLL. See LENTISCUS.

MOLLI'TIES O'SSIUM (from *mollis*, *soft*). A SOFTNESS of the BONES, *malacosteon*. The principal cause is a defect of boney matter, and often occasioned by a general weakness, scorbutic, venereal, or other taint in the blood. Cleanliness, a change of air, frictions, a good diet, cold bathing, exercise, and chalybeate medicines, are the proper remedies, though when the cause is known, it should be previously corrected. See MORBI SOLIDI SIMPLICIS. DISTORTIO SPINÆ. GUMMA.

MOLLIFICA'TIO, (from *mollis*, *soft*, and *fio*, *to make*). A barbarous term for a partial palsy of the muscles.

MOLLU'GO, (from its softness). See RUBIA SYLVATICA LÆVIS, and ALYSSUM.

MOLU'CCA MELI'SSA. MOLUCCA BAUM. Its qualities agree with those of melissa.

MOLUS'CUM, the appellation given by Dr. Willan to a cutaneous disease, consisting in small soft wens, which may be extirpated, but not easily resolved.

MOLLU'SCA, (from *mollis*, *soft*). Natural history has, within these few years, greatly extended its boundaries by new discoveries. Philosophers wanted new worlds as a supply for their ambition, new territories for their conquest, and they have discovered them by improving their instruments, by their more extensive and more acute observation. New planets, new metals, and new animals are daily attracting our attention, and, in the present department of science, they have neglected the gaudy shell, the former object of inquiry, and the subject of classification, to ascertain the nature of the animal which inhabits it. This part of the inquiry has been chiefly cultivated by the French naturalists, and the reader will obtain the most satisfactory information from these and the Linnæan Transactions. We must add, however, with regret, that the volumes, which relate to the mollusca by the successor of Denys Montfort, are inferior to many of the others, and the plan of that naturalist is not completed. In this place we can only skim over the surface, in order to apply it to medicine. We have already noticed the great outline drawn by La Marck and Cuvier, who divide animals into those which have articulated vertebræ, and those which want them. We say *articulated* vertebræ, because some of the animals before us have a bony support, particularly the cuttle fish. When vertebræ are no longer found, the blood is no longer red. All these animals were divided into insects and worms, or, as they are now called, molluscæ; but later authors have added and detracted a little from the classes of their predecessors. Bruguiere added the echinodermes, viz. the star fish and the urchins. La Marck reduced the six classes of Bruguiere to four, molluscæ, worms, radiarii (echinodermes) and the polypi, including the infusory animals. Denys Montfort,

whose work, as the chief systematic one, we must follow, divides the molluscæ into ten classes, the M. *coriaceæ* (cuttle fish); *tentaculatæ* (snails); *ejaculatores* (many of the bivalves); *annulatæ* (worms); *gelatinosæ* (medusas or blubbers); *loricatæ* (asterias); *hydræ* (multivalves); *polypi* (madrepores); *corneæ* (lithophytes); *infusoriæ* (microscopic animals). In this arrangement, the insects, the crustaceæ, and arachnoides, are excluded; for the molluscæ undergo no metamorphosis, do not change their skins, and have no really articulated limbs.

The coriaceæ once furnished their shells as absorbent medicines. They sunk into dentrifices, and are now disregarded. One species, the sepia octopus, the octopus vulgaris of La Marck is said by Ætius, and many of the other Greek physicians, as well as the poets, to be aphrodisiac. The sepia moschata (octopus moschatus of La Marck) was esteemed for the same qualities, also as an emmenagogue, and as highly nutrient. All the polypi are occasionally eaten. They are a hard indigestible food, employed only from necessity, and rendered as palatable as possible by the arts of cookery. The tongue is said to be delicious, and is greedily devoured raw. The animal styled the *argonaut* is of this genus; and the nautili which agree in structure with it, though not like the former, are solitary animals, also eaten by the common people.

With these animals the work of Denys Montfort concludes, and his successor is peculiarly short, imperfect, and unsatisfactory. The tentaculatæ furnish animals highly nutritive, and employed on this account in hectics. The gluten of the large black snail is said to be useful as a discutient. The only other divisions which offer medicinal substances is the seventh, which contains the sponge, and the ninth, the lithophytes, which furnish the coralline.

Histoire Naturelle de Buffon Ed. Sonnini. Molusca. Memoires et l'Histoire de la Societe d'Histoire Naturelle, a Paris, Annales du Musæum National. Linnæan Transactions.

MO'LVA, (from *mollis*, *soft*). See ASELLUS MAJOR.

MO'LY, (from *μωλος*, *battle*; supposed to have sprung from blood spilt in battle). *Allium latifolium liliflorum*. MOLY of THEOPHRASTUS, or HOMER. Various plants have had this appellation, and each is a kind of garlic, though it has been styled with less reason, a species of rue.

MO'LY ALPI'NUM. See OPHIOSCHORDON.

MOLYBDÆ'NA, (from *μολυβδος*, *lead*; *elersna*, *galena*). *Molybdène sulphure*, Haüy, iv. 289, a metallic ore, often confounded, from its resemblance, with plumbago, but differing essentially from it. It is one of those metals which, when calcined, are acid. Its texture is lamellated, the marks it leaves of a greenish colour, and its specific gravity nearly 6, while the carbure of iron is compact, leaving black marks on paper, and in gravity exceeding 6. See also CHEMISTRY.

MOLY'BDAS. MOLYBDAT. Salt formed by the union of the molybdic acid and different bases.

MOLY'BDOS, from *μολυβδος*: *οτι μολει εις βαθος*, from its gravity. See PLUMBUM.

MOLY'ZA, (a dim. of *μωλυ*, *moly*). See ALLIUM.

MO'MIN. See MAMEI.

MOMI'SCUS, (from *μωμος*, *a blemish*). The part of the dentes molares next the gums, usually covered with a tartareous matter. The molares themselves have the same appellation.

MOMO'RDICA, (*mordeo*, *to bite*,) from its sharp taste, *balsamina mas*, *pomum Hierasolymitanum*, *pomum mirabile*, *balla*, *muccapira*, *cucumis*, *momordica balsamina* Lin. Sp. Pl. 1433; the MALE BALSAM APPLE, is cultivated in gardens, but not used in medicine, though the fruit is cooling.

MOMO'RDICA ELATE'RIUM. See CUCUMIS AGRESTIS.

MONADE'LPHIA, (from *μονος*, *unicus*, and *αδελφος*, *frater*). The sixteenth class of the Linnæan system, comprehending those plants which produce hermaphrodite flowers, with one collection of united stamina. It is a natural association.

MONA'NDRIA, (from *μονος*, *unicus*, and *ανηρ*, *maritus*). The first of Linnæus's classes, comprehending plants which produce hermaphrodite flowers with a single stamen.

MONA'NGIA, (from *μονος*, and *αγγος*, *a vessel*). Plants which have their seeds in a single cell.

MONA'RDA PURPU'REA; *m. fistulosa* Lin. Sp. Pl. 32. The smell is fragrant; the taste aromatic and bitterish. It has been styled a deobstruent and a stomachic; but has been chiefly employed in intermittents.

MONE'RES, (from *μονος*, *alone*,) properly a boat with a single oar; but figuratively applied to a melancholy person fond of solitude.

MONO'CEROS, (from *μονος*, *unicus*, and *κερας*, *cornu*, *horn*). See UNICORNU.

MONO'COLON. See CÆCUM INTESTINUM.

MONO'CULUS, or MONOPHTHA'LMUS, (from *μονος*, or *οφθαλμος*, *an eye*). A roller of ten or twelve feet in length, and two or three fingers in breadth, to retain the dressings on the eyes. It is fixed on the occiput, letting about a foot hang down, and from thence carried obliquely round the head, across the wound, to its commencement: having carried it thrice round, the remainder goes circularly about the temples, occipit, and forehead; the end hanging behind is then to be brought over the vertex to the forehead, and the whole secured. A napkin, or a handkerchief, is equally useful. It also signifies, as the name implies, a person with only one eye, or with one eye less than the other. See MONOPIA.

MONŒ'CIA, (from *μονος*, and *οικος*, *domus*). The name of the twenty-first class in the Linnæan system, comprehending the androgynous plants, or such as produce male and female flowers on the same individual without hermaphrodites.

MONOGA'MIA, (from *μονος*, and *γαμος*, *marriage*). Plants whose flowers are single.

MONOGY'NIA, (from *μονος*, and *γυνη*, *mulier*). The name of the first order in the first thirteen classes of the Linnæan system, comprehending such plants as have one pistil or one stigma.

MONO'MACHON. See CÆCUM INTESTINUM.

MONOPE'GIA, (from *μονος*, and *πηγνυμι*, *to compress*). A pain in the head affecting only one point.

MONOPE'TALI, (from *μονος*, and *πεταλον*, *a petal*). Containing but one petal.

MONOPHY'LLON, (from *μονος*, and *φυλλον*, *a leaf*,) *smilax unifolia humillima*, *unifolium*, *lilium con-*

vallium minus, *ophrys monophyllos* Lin. Sp. Pl. 1442, ONE BLADE, grows in woods and thickets, and flowers in May and June. The flowers are styled alexipharmac and vulnerary. See Raii Historia.

MONO'PHIA, and MONO'POS, (from μονος, *solus*, and ωψ *an eye*,) *Monoculi* and *arimaspes*, a term of the same signification in the Scythian language, from their custom in shooting, to shut one eye. In consequence of this habit the other was rarely seen, and they were said to have but one; but the same term is applied to those who have one eye less than the other. When this deformity is observed in infancy, such exercises as require the use of only one eye, as looking through microscopes, telescopes, &c. should be avoided.

MONO'RCHIS, from μονος, and ορχις, *a testicle*.

MONOSPE'RMUS, from μονος, *single*, and σπερμα, *seed*.

MONS VE'NERIS. The HILL or MOUNT of VENUS, lies before and on the upper part of the symphysis of the ossa pubis, formed by fat in the subjacent cellular membrane, and in adults generally covered with hair.

MO'NSTRUM, and MONSTRO'SITAS, (from *monstro*, *to show*). MONSTER, or a monstrous, i. e. a preternatural production.

A monster is very judiciously defined by Dr. Hamilton, in his valuable and comprehensive Outlines, to consist in "any considerable deviation in the structure of the fœtus from the common order of nature, whether such deviation be consistent with life or not."

Monsters, according to the same author, are, 1st, those which are double, or have supernumerary parts; 2dly, those who have a deficiency of some organ; 3dly, those who have any remarkable deviation either in the situation of the viscera, the distribution of the vessels, nerves, or secretory organs, though not externally visible, or materially affecting the different functions; 4thly, the productions of animals of different species.

Monsters double, or with supernumerary organs, have been often described. The Bohemian sisters, united by the glutæi muscles, with a more intimate connection in the abdominal viscera, are well known to physiologists. The monster, mentioned in the Philosophical Transactions (No. 2), consisted of two bodies equally distinct, and in various other parts of this collection there are cases where the union is more or less complete. This double form gradually sinks to the child growing from the side of another, recorded in the Asiatic Transactions, down to the double head of the Hindoo child, in Mr. Hunter's collection. Supernumerary organs are very frequent, and this peculiarity is at times confined to particular families. It is remarkable that the peculiarity will disappear for one, and sometimes two, generations, reviving again in the third. The internal organs are occasionally double or supernumerary. The most singular case of this kind is where two hearts were discovered.

Deficiencies are also numerous. A head, an eye, an arm, a leg, a hand, foot, or finger, are sometimes wanting; but the chief deficiency, which calls for our attention is that of the head. This has occasioned many speculations; but in every instance there is a point at which all the nerves converge, or from which they proceed, and this contains very generally a cortical, or a nucleus of cineritious, matter. We may, however, remark as a fact of future application, that the acephalous children are often plump, and of no diminutive size; yet the instance has escaped us, if any has occured, where such children are not in other respects monstrous. The vital organs must be always, to a certain degree, perfect: at least neither the heart nor the large vessels can be wanting in a child which has arrived at its full time.

The third instance of monstrosity is rare, or at least rarely ascertained. We have instances on record of the viscera being on the sides opposite to those in which they are usually placed, and the pulmonary vessels are occasionally defective, or useless from the fœtal passages continuing open. From the last cause chiefly arises the cærulian complexion of some children. Various are the changes which may occasionally take place in the distribution of the vessels, the situation of the glands, or the direction of the nerves within the limits of health; and numerous must necessarily be the instances in which these irregularities have not been observed. The imperfection of natural passages is scarcely sufficient to arrange such persons under the rank of monsters. It is a disease of structure, which merits no such appellation, and we have anxiously excluded them by our definition.

The productions of animals of different species are rare; and these very seldom, if ever, fertile. Providence has thus wisely preserved every species distinct, and the world is not peopled with monsters. Yet, among animals of the larger size, which usually produce only a single offspring, twins are rarely, both, perfect. This, however, is not the case in man, or in the lower orders of animals. We only see it distinctly in the cow.

In the vegetable kingdom, we find monsters produced by excess of nourishment, or by the opposite extreme of confinement and deficient nutriment. To the former we attribute the double unfertile flowers; to the latter the variegated leaves of plants. We are not without similar instances in the human species. The full plethoric female is seldom a mother of many children, and the Laplander, the Esquimaux, and the Cretin are deformed in their bodies, and imperfect in their intellectual faculties. They have not, however, been distinguished by the appellation of monsters.

To what are these deviations from the common structure owing? We have endeavoured to render the preexistence of the germ in the female constitution probable; and the monstrosities observable in succeeding generations are owing probably to the imperfect germ. Where, however, parts are double, or the deviations from the common structure are considerable, we cannot admit this source. M. Lemery long since contended that monsters were rendered such by accidents in the uterus. Winslow supported the idea of Duverney, who supposed the germ to have been monstrous, and first started this opinion. Each opinion has been supported with great obstinacy by their respective authors, in the Memoires de l'Academie des Sciences, An. 1728, 1740, 1742, and 1743.

The double children are certainly such as from contiguity have accreted in their tenderest state. We can have no doubt of this in the instances recorded in the Philosophical Transactions, where they ate and slept at different hours; where their excretions and tempers were distinct and discriminated. If it be the case in these instances, may we not suppose that, by a stricter

approximation, some of the abdominal viscera may be so closely pressed as to destroy the parietes on the weaker side, and the canals to be consequently common? This was the case with the Bohemian sisters. Again, may not a more partial and a stronger pressure obliterate even the lower extremities of the weaker child, and the trunk inosculate with that of the stronger, as in the case recorded by Dr. Bland in the Philosophical Transactions? and may not a similar cause, in twins greatly disproportioned in strength, account for all the varieties of a child growing out of the side, down to the double head of the Hindoo, or even the double heart? It was not from accident that we said disproportioned strength; for the double portion is usually small and imperfect.

It is not possible to follow all the varieties. While we have admitted, at one extreme, the monstrous germ, we have endeavoured to support, at the opposite, the effects of pressure. We can go no farther. Where the limits of either cause may be, is uncertain; nor is it necessary to follow doubtful and unsteady lights in a track which leads to no useful purpose. One thing we may add, that in no instance is it probable that deficient or redundant monsters are owing to the fright of the mother, or disgusting objects presented to her.

The absurdities that crowd the pages of Schenkius, Bartholine, Ælian, De Reies, Vanderwiel, Paulini, &c. down to our own rabbit woman, and Roederer's relation of a female that brought forth a fish, must not detain us. It is enough to have stated the several facts, and to have made some approaches towards an explanation.

Philosophical Transactions, No. 2, 99, 226, 228, 234, 251, 308, 320, 453, 456, 487, &c.; Medical and Physical Journal, Passim; Memoires de l'Academie des Sciences, An. 1724, 1738—43; Mauriceau, Smellie, and De la Motte's Midwifery; Journal de Physique, An. 1774, and 1776. See Acephalos and Præsentatio.

MO'NTA PA'NNA. See Palma Japonica.

MO'RBI ORGA'NICI. Parts affecting the organization, sometimes synonymous with the locales. See Locales.

MORBI'LLI, (a dim. of *morbus*, *disease*). The measles. *Variola cholerica* of Avicenna; *blacciæ* of Rhazes; *bothor; bovilla; fersæ* of the Arabians. Dr. Cullen places this disease under the title *rubeola*, in the class *pyrexiæ*, and order *exanthemata*, defining it a contagious fever of the inflammatory kind, attended with sneezing, watery eye, and a dry hoarse cough; on the fourth day, or a little later, small spots, crowded together, scarcely prominent, break out, converted after three days into small furfuraceous scales. He distinguishes two species. 1. *Rubeola vulgaris*, with eruptions very small, confluent, and corymbose, hardly rising above the skin. Of this there are two varieties; in one the symptoms are more severe, and the course of the disease not so regular—the anomalous measles of Sydenham: in the other they are accompanied with a sore throat. 2. *Rubeola variolaris*, where the eruptions are distinct and elevated. Dr. Cullen, however, doubts whether this disease be truly measles; for the eruptions differ, and the catarrhal symptoms are absent: in Scotland this disease is called the *nirles*. The measles appeared in Europe nearly with the small pox: both came from the east, both are infectious, and attack only once; both appear at a definite period after the attack of the fever.

The measles is an acute disorder, of the peripneumonic kind, sometimes only an eruptive catarrhal fever. Dr. Morton calls the scarlet fever the confluent measles; and Dr. Watson observes, that in the small pox the eruption is critical, but that in the measles it is merely symptomatic, for the cough and peripneumony are not relieved by it. It was formerly a common opinion that the measles are a good preparative for the small pox; but in general the former leaves an inflammatory tendency, which greatly exasperates the symptoms of the latter. All ages are subject to this disease, but it chiefly attacks children.

The measles usually announce their approach by a small, frequent, and dry cough, which often continues many days, without any other sensible complaint, though more frequently the cough is attended with a general uneasiness, successions of shivering and heat, and a severe headach in grown persons; great depression of the strength, a heaviness of the head in children, giddiness, hoarseness, pain across the forehead, an inflammation, with a considerable heat in the eyes, a swelling in the eye lids, a defluxion of sharp tears, and such increased sensibility that the eyes cannot bear the light, very frequent sneezing, and a discharge of acrid serum from the nose. Fever and a cough soon come on, with frequent vomiting, pain in the loins, a soreness or roughness in the throat, and sometimes a looseness, which relieves the vomiting. The tongue is furred, the urine high-coloured, and the pulse very quick, often irregular. These symptoms usually increase from the third to the fifth day, at which time little red spots, like fleabites, begin to appear in the forehead, and other parts of the face, which, increasing in number and diameter, run together, forming large red spots of irregular figures, scarcely, if at all, rising above the surface of the skin. These eruptions are afterwards extended to the rest of the body; but sometimes red effusions are seen on the breast, before any appear on the face. The eruption is not followed by so sensible an abatement of the symptoms as in the small pox; the vomiting usually abates, but the cough, fever, and headach, grow more violent: the difficulty of breathing, the weakness of, and defluxion on, the eyes, the swelling of the face, drowsiness and loss of appetite, continue, though the vomiting abates. A bilious vomiting a day or two after the eruption is often useful, and occasionally the patient is relieved by a copious discharge of blood from the nose. On the third or fourth day after the eruptions first appear the redness diminishes, the spots fall off in branny scales, while in other parts of the body they appear very large and red; but in a day or two they all disappear in the same branny scales, leaving a little discoloration on the skin, with considerable itching. On the ninth day from the beginning, when the progress has been speedy, and on the eleventh, when it hath been slow, no trace of redness remains. As the spots disappear, the defluxion on the eyes, the fever, and difficulty of breathing, sometimes increase, the cough becomes more troublesome; and these symptoms are increased by a hot regimen. These peripneumonic symptoms are often followed by a looseness, which immediately succeeds the disease, and often continues with obstinacy

after all other symptoms are removed. After a hot regimen the eruptions sometimes turn black; but this chiefly occurs in grown persons, and is often fatal. If, during the course of the disease, or immediately after it, some considerable evacuation, such as the vomiting of a bilious matter, a bilious diarrhœa, a considerable discharge of urine, or plentiful sweating come on, the patient recovers soon after the spots disappear from the skin.

The measles are sometimes followed by boils resembling anthraces, livid, often deep, suppurating with difficulty and pain; sometimes attended by soft pustules containing a viscid straw coloured fluid, which appear highly salutary, by watery vesicles, and occasionally by aphthæ. Swellings of the lymphatic glands often follow, occasionally suppurating, and leaving, as usual, troublesome sores, which heal with difficulty.

Measles is generally a disease of little importance; but it becomes dangerous when the peripneumonic symptoms are violent, and when the eruption recedes. The most favourable symptoms, as in other fevers, are the moistness of the skin, and the bowels moderately relaxed. If the cough is inconsiderable, the eyes not much swollen, the breathing moderately free, there is little danger; but the period of difficulty is often when the eruptions begin naturally to recede. The peripneumonic symptoms are then usually violent; and if at any time the eruptions should suddenly disappear, delirium, anxiety, great debility, with cold extremities and livid spots, come on, terminating soon in death. If the lungs are affected with tubercles, they are often excited to action by this disease, and the foundation of a phthisis is laid.

The treatment of measles has, we think, been mistaken and misrepresented. It has been considered as a peripneumonic disease, and the most liberal bleedings have been ordered: but the peripneumony only comes on by accident, or by mismanagement; for the disease is purely catarrhal. The common measles rarely require *bleeding;* and, in general, the treatment is the combined management of a catarrhal and an eruptive disease. An emetic is undoubtedly at first required, and the mild relaxing diaphoretics, with neutral salts, continued through the whole course, will carry the disease safely to a conclusion. The only remedies necessary, independent of these, are *laxatives;* which, if steadily persisted in from the beginning, will very certainly prevent the occurrence of those violent peripneumonic symptoms, which sometimes come on about the eighth or ninth day. In general it is sufficient to procure two or three stools daily; but the author of this article, when his son, whose tenderness, joined with apprehension of weak lungs, rendered the measles a dangerous disease, was affected, carried the evacuations farther. He watched him hourly, and found him always relieved by stools, so that about the disappearance of the spots, six or eight motions were procured daily. He thought that the recovery was peculiarly quick: the boy was soon brought into the air, and in three days from that period not a cough was heard. No other medicine was administered, except once a slight opiate when the cough was peculiarly troublesome. He mentions the single fact, but without advising an imitation, except where the attendance can be equally unremitted.

The usual remedies of saline diuretics, with antimonials, and occasionally opiates, spermaceti, &c. must also be given, if the practitioner would not be thought ignorant or inattentive; but the laxatives should never be omitted. Should, notwithstanding the evacuations, the peripneumonic symptoms come on, bleeding will be necessary, in very young children by means of leeches; but after the age of five or six, by the lancet, with blisters, and the other remedies of pneumonia. No such instance has, however, occurred to us in an extensive practice; nor to those from whom we learned it, whose practice, equally long, had been more extensive. We have mentioned a diarrhœa as a favourable symptom, and we may now add, that it should not be checked, but regulated according to the strength. The catarrhal inflammation may rise to suffocation; and in that case the emetics must be repeated, and blisters applied to the neck or the upper part of the sternum. A blister to the pit of the stomach is generally an useless application.

When the cold regimen was introduced for the small pox, some rash innovators transferred the analogy to measles, often inducing the violent peripneumony they intended to avoid. Yet a very warm regimen is injurious; for we have shown that it is inconsistent with the diapnoe, which in every febrile disease is so peculiarly salutary. The room should be large and airy, the child kept in an erect or a slightly reclining posture, according as either can be borne from the load of the head. The drinks should not be hot, but warm only, and the food light, diluent, and in a liquid form. If the cough is troublesome, breathing the steams of warm water will be useful, but these steams should not be drawn hot from an inhaler. The warm water should be put in a bason, and the head covered with a flannel large enough to hang over its edges. The eyes will in this way be also relieved by the relaxing vapour.

Should, from debility or cold, the spots recede, convulsions, pneumonia, and sometimes phrenitis, will come on. In such cases, blisters, with warm cordials, and the warm bath, will be necessary; but this occurrence is peculiarly rare.

The continuance of diarrhœa, after the disease, is sometimes troublesome; and the sagacity of Sydenham has been highly extolled, who recommended bleeding "because the halitus of the inflamed blood was carried to the intestines." We have never found the purging troublesome when the bowels have been kept free during the disease; and when it has occurred, bleeding seems to have exhausted the little strength that remained, often without relieving the diarrhœa. In this case a generous, but not a highly stimulating, diet, bathing the feet, and giving small doses of Dover's powder, have succeeded, interposing occasionally gentle laxatives.

The *rubeola sine catarrho*, in Dr. Willan's opinion, is not true measles, nor does this disease emancipate the patient from being afterwards affected with the real complaint. Indeed the very vague distinctions of rashes will not enable us always to discriminate from the eruption alone, and to this, with the catarrh, we would add some affection of the eyes before we pronounced a child safe. The morbillous fever without the eruption is only a violent catarrh, and equally liable to deceive. The NIRLES, as we have said, is equally a distinct disorder from rubeola.

Dark livid spots are sometimes intermixed with the true eruptions, and in this case an alarm has been spread of putrid measles; but these little petechiæ are usually attended with no danger, and a light infusion of bark, with the vitriolic acid, soon restores the colour. Real putrid measles have been described, but Dr. Willan has shown very clearly that in each instance the disease has really been scarlatina. We cannot deny the existence of putrid measles, since we have frequently seen putrid peripneumony. The plan of treatment, however, should it occur, will be nearly the same; but we cannot enlarge on a disease which no one seems to have seen, and which may never occur.

It has been proposed to inoculate measles like small pox, and the blood, the acrid serum from the eyes, and the matter from miliary vesicles, sometimes interspersed between the true morbillous eruption, have been employed. Each has succeeded, but more often failed; nor does the disease, when produced, appear more mild. The attempt, therefore, has not been frequently made, and to avoid a complaint usually so mild, such precautions are not necessary.

See Hoffman and Sydenham, on the *Measles;* Home's Medical Facts; Tissot's Advice to the People; London Medical Observations and Inquiries, vol. iv. p. 132—135, and p. 247—260; Medical Museum, vol. ii. p. 46—48; Cullen's First Lines, edit. 4. vol. ii. p. 173; Edinburgh Medical Essays, vol. iv. art. 2; London Medical Observations, vol. iv. art. 11; Willan on Cutaneous Diseases, part i. order 111.

MORBILLOSA, belonging to the measles.

MOR'BUS, (from *μορος, death*). A DISEASE; *malum, nosos.* A disease we have already defined to be "that condition of the human body in which the actions of life and health are not performed, or performed imperfectly." (See CAUSÆ.) The various imperfections in the functions therefore constitute it, a circumstance which the accurate distinction of diseases, according to nosologists, renders indispensable.

Diseases may therefore be as different as the functions injured, but this would render them too numerous, and it has consequently been usual in the morbi universales to combine a certain number of the injured functions to constitute one disease. In the local diseases, one injured function has been supposed alone to constitute a genus. Diseases, however, differ, either as many persons are usually affected at the same time, and they are then styled EPIDEMIC; or, as peculiar to one country, and called ENDEMIC: when they occur accidentally, they are styled SPORADIC. They differ also as the mind or body is affected; as any particular organ suffers; or from the cause which has produced them: but such varieties are now disregarded; and those who pursue distinctions for the sake of diagnosis, at this time, arrange diseases from their symptoms. See NOSOLOGIA.

While we omit many useless disquisitions respecting disease in its abstract, we have referred to this article for the more general pathological inquiries, and shall proceed to consider the MORBI FLUIDORUM; SOLIDI SIMPLICIS; SOLIDI VITALIS; and MORBI SOLIDORUM CONTINENTIUM, in their order.

MORBI FLUIDORUM. We begin with diseases of the fluids, as in this form our nutriment is taken in, and, if these are defective, the whole system will suffer; though we shall soon endeavour to establish this axiom, that the state of the fluids, in the body, depends on that of the solids, particularly the vital solid. We have already had occasion to observe, that every deviation from the sound state is not disease, but that there are different degrees of such deviations within the limits of health, though probably each may be supposed to form a predisposition to disease.

Diseased fluids are said to differ from those in the natural state, from a difference in their cohesion, or from any acrimony, formed either by the animal process, or introduced with the air or aliment. The cohesion of the fluids may be too great, constituting tenacity and lentor; or too little, when they are said to be in a dissolved state. The blood, to which these diseases are chiefly confined, we have found consisting of different parts in a state of mixture only, and the lentor can be owing only to a diminution of the proportion of water, or a less proportion of neutral salts, by which some of the gluten is kept in solution. It may be doubted whether the excess of the fibrin or gluten may not produce a similar effect, but this we shall soon consider.

The causes of lentor, which result from a diminution of the watery portion of the blood, are said to be a deficiency of drink, an increase of the fluid secretions, a stagnation and absorption of the watery parts separated from the crassamentum. Each of these causes, however, is imaginary, so far as regards this change, for the secretions are so nicely balanced, that an increase of one is followed by a diminution of the other; and when fluids are not thrown in, they are, in a great degree, checked. Thus, a nurse who has not drank any thing for a long time, is not greatly loaded with milk, but immediately, on drinking, it flows freely. The circulation also keeps up the union between the discordant portions of which the blood consists; and while the secretions are supported, no stagnation of watery fluid can take place.

The idea of Gaubius, that a glutinous matter, arising from foods of this kind which absorb water, from a weaker digestion, a more languid circulation, or insufficient exercise, is certainly imaginary; for the glutinous foods produce no such effect, and the other causes of this supposed gluten rather contribute to lessen the tenacity of the fluids. The earthy substances and their various sources, supposed to have the same effect, rest on a foundation equally insecure. The opinion has not a single fact for its support. We know indeed but one cause of lentor, high health, with a consequent increase in the proportion of the gluten and fibrin of the blood; but this is connected with increased tone, and more powerful action of the arterial system, which prevents any bad effects, but which itself constitutes predisposition to disease, under the appellation of *diathesis phlogistica.* See INFLAMMATIO.

Increased tenacity in the secreted fluids is more common; but we chiefly perceive it in the bile and the mucous follicles. It never appears to arise from any defect in the blood, but from stagnation in consequence of debility, sometimes in consequence of a want of irritability in the excretory ducts. We certainly see, in the urinary organs, that the state of the fluids, from which the urine is secreted, influences the nature of this discharge, and a suspicion may arise that a similar effect may produce morbid bile, but in neither case is

the morbid fluid referrible to lentor; and the idea of earth joined with acid, so as to form a "pitchy acrimony," is neither supported by observation nor chemical experiment.

Too great *fluidity* is in part owing to an excess of watery fluids, and such a change undoubtedly takes place; but the causes usually assigned are often imaginary. Too large a proportion of watery fluids is corrected by the increase of the watery secretions, and increased evacuations from some glands are generally compensated by the retention of other secretions. In this view an indolent life and a humid atmosphere produce certainly some effect; but the principal diseases which they previously induce are general debility and impaired digestive powers: from hence proceeds the deficiency of the gluten and fibrin; and, of course, the greater tenuity of the serosity.

A more certain cause of preternatural tenuity is acrimony. It may certainly be of various kinds, but we can only perceive with clearness the saline acrimony. Yet we have little doubt of this effect being produced by many other substances. In putrid diseases, Deyeux and Parmentier did not discover an increased proportion of ammonia; but the union of the albumen with the serum was affected, and the crassamentum (see Blood) was weak. Symptoms also of a preternatural tenuity of the blood come on often suddenly, without any evident cause. We dare not then carry the axiom before mentioned to its utmost extent, for causes not yet within the reach of our knowledge, often produce unexpected changes.

A peculiar tenuity of the secreted fluids often occurs, and it may arise from tenuity of the blood, increased, and sometimes inflammatory, action of the secreting vessels. Thus the increased flow of urine arises not only from an abundant proportion of water in the blood, but from the increased action of the vessels, as in hysteria, and sometimes from fright. Increased discharge of bile arises chiefly from increased action, which sometimes is occasioned by mental affections, as a violent fit of anger. In hot weather it appears owing to the increase of that portion of the circulating fluid, whatever it may be, which contributes to its secretion. The tenuity of the semen arises also from increased action, owing to the indulgence of lascivious thoughts, or improper indulgencies; of tears and saliva from the same cause, owing often to association. When the increased tenuity is owing to *inflammatory action*, the secreted fluid is usually acrid, as the tears in measles, the mucus of the nostrils and bronchial glands in coryza and catarrh, the bile in cholera, the urine in nephritis, though in the last instance the increased discharge covers the acrimony.

Morbid acrimony of the fluids has been accused as the cause of many diseases; but in the circulating system there are few marks of its existence. When separated by the powers of nature, and carried to the excretories, we perceive only its effects.

Philosophy has divided acrids into mechanical and chemical. Pathology followed, and the mechanical pathologists and therapeutists spoke with much feeling of the wounds which the tender nervous fibrils sustained by cruel angles of salts, or the salutary momentum with which mercury removed obstructions. Even the later disciples of the Boerhaavian school have disused this language, and speak of acrids as chemical only.

Nature has, however, anxiously guarded against the admission of morbid acrimony. The taste discovers, the stomach and the bowels reject, what is highly injurious. What may be less so is often altered by digestion, and the mixture of the fluids which it meets with in that process. If, however, it prevails to any considerable degree, we have reason to think that the lacteals refuse their office. When conveyed to the thoracic duct, it is slowly added to the mass, and largely diluted by the considerable proportion of the circulating fluids, and probably sheathed by the albuminous portion of the blood. But even when admitted, either by its chemical affinity or its specific stimulus, (see Secretion,) it is carried to its appropriate gland, and by that outlet safely, often silently, carried away.

The source of morbid acrimony may be therefore air, meat, drink, condiments, medicines, or poisons; and the air may convey either miasmata or contagion. When we mention condiments, however, as a source of acrimony, we must except common salt. This seems a necessary stimulus to the process of digestion, and probably accompanies, in a small proportion, the chyle, since its acid is found in the ammoniacal salts of the blood, while its alkali appears to have undergone some change by the animal process, and to have become ammonia. We find miasmata and contagion conveyed by the air, in cases of remittents and intermittents; but a more decided acrimony is evident in the causes and consequences of epidemic catarrh and dysentery; of many of the exanthemata, and of some of the phlegmasiæ. In diseases of the skin there is also evidently an acrimonious substance eliminated, for the reasons assigned under that article. See Cutanei morbi. In syphilis, in hydrophobia, and many others, it is equally conspicuous.

The animal process, that is, the changes which take place in the system by the exercise of the animal functions, produces an acrimony which is usually covered by the bland nutriment, constantly supplied till carried off by the fluids, styled, for this reason, *excrementitious*. If, however, these are retained, or the supply of nourishment withheld, an acrimonious state of the fluids follows. What this acrimony is we do not clearly perceive. It is partly saline, partly, perhaps, the dissipation of, or change in, the albuminous portion of the blood, and very probably some admixture of putrid fluid. When this animal process goes on more rapidly, as in fevers, these changes are more conspicuous. The most evident consequences are, all the symptoms of putrefaction, with gangrene, putrid evacuations, fetid breath, &c.: convulsions and spasms, attributed to this acrimony, appear to come on in consequence of the debility which every degree of putrefaction induces.

The various foods which have been accused as producing acrimony in the *primæ viæ*, and afterwards in the fluids, have probably, for the reasons assigned, little influence in this respect. The acid in the stomach produced by the continued use of acids and acescents certainly injures the digestion, and produces in consequence debility; but there is no trace of acid in the blood, none in the secreted fluids, if we except the ureal and arthritic concretions; and of these the latter only can be very obscurely traced to acescent aliment. An alkalescent diet is uncommon. Putrid meat, or rather meat advancing to putrefaction, does not appear

injurious, if it neither excites sickness nor uneasiness in the bowels; and though dyspeptic symptoms have been observed after a continued course of alkaline medicines in cases of calculus, no injury seems to have been felt in any other organ. The tetradynamiæ have been styled *alkalescent plants;* and these have been blamed for introducing saline acrimony, but, on the contrary, they are the best remedies for a disease in which this acrimony very evidently exists, the sea scurvy.

The scurvy is admitted to arise from salt provisions, but in these the milder animal fluids are separated and in part decomposed; the texture of the animal fibre is also destroyed, and in reality the disease arises from a want of the supply of that bland aliment which corrects the acrimony formed by the animal process. We have evidence of the same cause producing a similar state, where unalimentary food has been for a long time taken, though without salt. It has occurred, however, only in damp, confined situations, and each cause seems to have concurred in producing debility and destroying irritability. It may be said that if this were true, bland mild nourishment should be its most effectual cure: but nourishment of this kind is not sufficiently stimulant to excite the torpid fibres; and while the state of the fluids requires acids and acescents, perhaps oxygen, the stomach is best excited by the warmer vegetables. See Scorbutus. Other acrimonies have not been distinctly pointed out. Effects similar to those of scurvy were found by Dr. Stark to arise from a diet on sugar: but he had before tried so many experiments, that his constitution was exhausted. A saccharine acrimony, if it may be called so, is conspicuous in the diabetes mellitus. We have seen a sweet secretion of a similar nature in the mouth, and have reason to suspect that the discharge in lientery is of the same kind. See Lienteria.

One other source of acrimony remains, viz. the *aromatics*. They are much insisted on by pathologists, but we have found little foundation for accusing them. We have suspected their noxious influence in those diseases of the bladder which in old age are connected with a tenderness at its neck, or some affection of the prostate gland; but it is a suspicion which rests on a slender basis. Since, however, in such cases they are not necessary as medicines, they may perhaps be more safely avoided.

The subtility of modern investigators has, however, added to this subject a source of humoral diseases, not suspected in the schools of the mechanical physicians, and which has not yet received a public share of the pathologist's attention; we mean those changes which depend on the composition of the animal fluids. We may repeat shortly, that the carbone and the oxygen of vegetable bodies are converted by the animal process into nitrogen and hydrogen; but they still, in a certain degree exist, and the change of the oxygen gradually going on has been supposed the cause of animal heat. It is at least certain that a large proportion of oxygen is connected with a fresh florid colour of the blood, with increased vigour and activity of the circulating system, probably with an increased firmness of the simple solid. When therefore in excess, it constitutes a morbid state: such is the extreme of vigour, which, when the balance of the circulation is destroyed, favours topical congestions.

On the contrary, oxygen is too copiously expended in different circumstances, so that its defect is equally morbid. It is too copiously separated in the active exertions of body and mind; but the former, if in the open air, greedily attracts the necessary supply both from the atmosphere and the food for which, by exercise, a craving desire is excited. In low, damp situations, and in a confined air, it is not supplied. If the food is unalimentary, the expenditure will exceed the supply; if the bodily exertions are slight, and the mental ones considerable, the excess of expenditure will be more obvious in the symptoms. These are, languid circulation, a pale cadaverous look, diminished irritability, and impaired vigour. In such circumstances the oxygen does not always appear deficient in quantity, but is not evolved in the due proportion, since it probably produces its effects in the period of its separation. Thus oxygenated remedies are not useful in the proportion of their quantity of oxygen, but in that of its loose adherence. The oxygenated muriats are by this means more beneficial than the mineral acids; and of these the nitrous is, from the same cause, superior to the muriatic, and the latter to the vitriolic, acid. An argument we think equally decisive may be drawn from the effects of light. This principle certainly separates oxygen from those bodies which contain it; but dark apartments show in their inhabitants a deficiency of this principle. In fact, it is apparently present, but too closely united to show its peculiar effects.

With the excess and deficiency of oxygen are connected the opposite proportions of azote, or nitrogen. They seem in the human body antagonising principles; but though they form air by an union not perhaps properly chemical, we cannot trace the effects of such an union, for the halitus of the insensible perspiration, if not azote, is carbonic acid gas. With hydrogen, however, the oxygen forms water; and when the oxygen disappears we sometimes see, or suspect we see, watery effusions.

We can scarcely ever discover the consequences of an excess of hydrogen or carbone. The singular stories of the spontaneous combustion of the whole body may appear to be of this kind, and to support the delusion, we are told that the victims have been persons accustomed to excesses of drinking spirits; but from such casual facts no general conclusion can be drawn. We may, with equal truth, attribute the pimples of the drunkard's face to the brandy which he has swallowed, producing an halitus of hydrogen, instead of carbonic acid gas, or azote, while they probably arise only from continued and excessive stimulus.

We have found in the blood traces of sulphur, though we are unable to discover its source. We see its excess or its separation in cancerous sores, and some malignant ulcers, which, we are told by Dr. Crawford, discharge an hepatised ammonia. The source of this sulphur, and its deposition, seems subjects equally intricate. Is this (according to modern chemists) the most truly elementary body, really a composition? Is azote a component part? or what are the consequences of an union of azote and hydrogen? "Doceat Dies!"

An *excess* or *defect* in the *quantity of the fluids* is scarcely an object of this part of our work, yet to consider the doctrine of plethora in this place may facilitate some future enquiries. These sources of disease are the πολυχυμια and ολιγοχυμια of pathologists, and are, on

the whole, the distinguishing marks of youth and old age. Each, as may be supposed, is relative to different temperaments, and even idiosyncracies; each may be apparently in excess, and each may predispose to disease, though still within the limits of health. The consequences of the excess of either of the component parts of the blood may be easily understood from the former observations on lentor or tenuity. We now mean to speak only of the excess of the whole mass, which is styled *plethora*. This is divided into the *plethora ad molem; plethora ad spatium; plethora ad volumen*, and *plethora ad vires;* nor is the distinction frivolous: it were better that it had been more attended to by modern authors.

The *plethora ad molem*, *ad vasa*, or *ad venas*, for they are synonymous in ancient authors, is the exuberance of the absolute quantity of blood, and, in more delicate habits, is seen by the fulness and redness of the minute vessels. In scrophulous habits, however, this redness does not always denote plethora; nor do they easily bear large evacuations, much less astringents, which are often ignorantly prescribed on account of a fancied weakness. In more robust habits this kind of plethora is chiefly discovered by a full, oppressed, or rather a laboured pulse, and sometimes by a fulness of the veins. In general it occurs in strong robust constitutions, where the digestive powers are vigorous, and the waste from exercise disproportioned to the supply.

The *plethora ad spatium* is produced when the quantity of circulating fluids remaining the same, the capacity of the vessels is contracted. This happens in cold weather, and in the cold fits of fevers, when in weak habits hæmorrhages are not uncommon. It happens also more frequently than is suspected, by the rash imprudent use of astringents, particularly in full mobile habits, in persons of a languid circulation, or in cases of hæmoptoe.

Plethora ad volumen usually implies an increased bulk of the blood from external heat, from violent inflammatory fevers, from friction, from violent passions, spirituous liquors, &c. The blood, however, is not capable of any very considerable expansion, and these appearances of plethora arise from relaxation in consequence of external warmth, or a determination to the surface, from a more accelerated circulation.

The *plethora ad vires*, though it exist, is still less an object of our present consideration, as it means only a greater quantity of blood than the strength will bear. This, of course, must be relative to the constitution of the patient; but we may add, that it is a more frequent source of disease than is suspected, and peculiarly difficult to relieve, as we have often had occasion to remark, since the slightest diminution of the circulating fluids produces faintness.

It will be obvious that these different plethoras are not inconsistent with each other, and that all may be occasionally combined. The disease such an union may produce will be of course more dangerous, and sudden death has often been the consequence.

The deficiency of blood the ὀλιγοχυμια, is supposed to arise from copious evacuations, or from famine. Faintness, however, arises in the former instance before a considerable portion can be lost, and in the latter the contraction of the vessels accommodates them to the quantity. In the infant, however, who dies from not tying the umbilical cord, we have remarked (see MEDICINA FORENSIS) that the vessels are unusually empty, and Lieutaud, as well as Morgagni, has recorded instances of the vessels being peculiarly empty, though without connecting this appearance with the previous symptoms; an omission too common in each. It is sufficient therefore to point out the existence of such a state, since from want of such information we cannot enlarge on its source or its consequences.

MORBI SOLIDI SIMPLICIS. This subject fills a large space in the foreign systems of pathology, and were it not from respect to the talents of men like Boerhaave, Gaubius, De Haen, and Ludwig, we should pass it over very slightly. It will not, however, detain us long, though we shall add in part to their views.

The diseases which can affect the simple solid are those which relate to its cohesion or its chemical nature. The state of cohesion, the only objects of the Boerhaavian school, must be relative in different organs, in different ages, sexes, temperaments, and constitutions. In general, the cohesion of the various organs must be in the natural proportion of each. If too slight to bear the requisite motions, it constitutes disease; or indeed if it require very peculiar caution to avoid injury from such motions, it is equally a disease, though in a less degree.

Weakness, or diminished cohesion, in a solid when not ruptured, is divided into, 1st, the *lax* and *flaccid* in soft parts which admit of distention by a moderate force; 2dly, the *inert*, or *inelastic*, in parts naturally elastic; 3dly, the *flexible*, as in bones which admit of being bent, after being previously softened.

When rupture has taken place in the tender fibres of soft parts, it is styled *tenerum gracile:* when accompanied with general softness, as from putrefaction, *tabidum*. It is called *fissile* when parts, naturally soft, are dry and chapped; and *fragile* when hard parts are broken in consequence of their weakness.

Rigidity, an opposite disease, consists in increased cohesion, and is styled *tenax* when in soft parts, as the muscles of old animals; *durum*, when in the harder parts, as cartilages proceeding to ossification; and *fragile vitreum* when in the bones.

In all these cases the vital solid is often the chief and the principal cause. The want of elasticity arises from water being poured into the cellular membrane instead of the usual halitus; the flaccidity and flexibility from previous debility. It is extremely doubtful whether the tender fibres of soft parts can be even broken, independent of previous disease, except in consequence of extreme violence, which is not our object; and the *fragile vitreum* attributed to cold has certainly no foundation, for the heat in the internal parts is uniform, and cold could not produce the effect without the previous destruction of life from its sedative power. If softness exist independent of these previous diseases, it must be attributed to the larger proportion of water, or a change in the chemical combination. A similar chemical change must take place in cases of rigidity, but with a diminished proportion of water. We shall therefore consider softness and rigidity as diseases independent of the distinctions just noticed.

When softness becomes a disease, the increased proportion of water, as we have said, arises often from

debility a disease of the vital solid. With respect to the chemical change, the chief substance which attracts our attention in the composition of the soft parts is the Gelatin, q. v. We must add, however, to the remarks contained in this article, some later discoveries. The gelatine then differs from vegetable jellies, in consequence of the union with lymph, an animalized fluid, containing or consisting of nitrogen. This lymph is more copious in advanced life, and in the same proportion the animal gelatine is less soluble in water. In the earlier periods of existence this gelatine admits of the union with water, but not of the later; so that softness is the disease of the young, and rigidity of the old. But we find, from Parmentier and Deyeux, that diseases chiefly affect the gelatinous parts of the blood; so that this gelatine, in early life, from its affinity with water, and in the later period if not supplied in due proportion, or with the requisite qualities, produces the diseases of the simple solid referrible to diminished cohesion. In each view, therefore, these diseases arise from an excess of water, or rather from debility; and from opposite states, rigidity, the disease of old age, must be understood. In the latter state, also, many of the smaller vessels are obliterated; the coats of the larger, which remain, are more dense, and less irritable; the exhalations fewer: changes which contribute to increased rigidity.

The fleshy parts of animals experience the progressive changes chiefly from the gradual addition of lymph in a large proportion, of which the fibres seem to consist, as they are not very soluble in water, and appear to yield nitrogen copiously; for though Thouvenel obtained what he styled extractive matter from flesh, muscles probably differ from harder parts chiefly in consequence of their containing the blood. This animalized lymph is apparently that portion of the blood which separates in the fibrin. The cartilages are chiefly gelatinous.

Bones are only subject to softness and friability, which must in this case be distinguished from fragility, as it chiefly arises from an absorption of the bony matter. Bones are originally gelatinous; and in this jelly a calcareous phosphat gradually crystallizes in different forms, according to the shape of the bone. (See Bones). The gelatinous part assumes the form of membranes by the pressure of the bony fibres, and may be seen when the earthy salt is separated by solution in acids. The bones of the fœtus are naturally soft and flexible. They continue so in a certain degree till their shape is gradually formed by the action of the muscles. The degree of softness unsuitable to the age is what constitutes disease. It arises from weakness, as in rickets, and from diseased fluids, as in scurvy, and occasionally in syphilis; and immediately depends, in a great measure, on a defective supply of the earthy salt. In rickets, debility of the digestive organs precedes the softness of the bones, and in scurvy the whole system is weakened. In syphilis the bones are perhaps eroded, and become friable rather than softened. They are, however, sometimes softened in cases of general debility, without any peculiar affection of the digestive organs, frequently from a sedentary life, and from confinement by a long chronic disease. This softness, which generally produces deformity, and in one instance rendered the pelvis so deformed as to require embryulcia, or the Cæsarian section in a woman who had before born children of the usual size, does not produce the peculiar appearance of rickets, because it happens when the shape of the bones has been more perfectly established, as we shall see in that article.

Since, however, our attention has been more particularly turned to the changes in the lymph, we may be allowed to doubt whether the softness of young bones, or the friability of old ones, is wholly owing to the change in the bony matter. Each may be affected by a change in the state of the lymph, as already explained, and in part to the greater or less extent of the vascular system: to these views we may return under Rachitis, q. v.

Morbi solidi vivi. The solidum vivum, in the language of Gaubius, is the living portion of our bodies, or, in other words, the nervous system, in which we include, with Dr. Cullen, the brain, the spinal marrow, and the nerves either as sentient or moving organs. The distinction of every part of the nervous system is excitement by stimuli, not acrids only, but every thing generally understood as necessary to life, as food, drink, air, heat, and even volition. As the functions of the nervous system are those of sense and motion, their exercise may be affected by the state of either organ, the state of the brain, or of the nerves in their progress.

The diseases of sensation are in part influenced by the state of the media through which they are conveyed, as those of the skin, the humours of the eye, &c. These will, therefore, give the appearance of different degrees of sensibility, without any disease of the nerves. Different parts of the body differ also in sensibility. The experiments of Haller place the heart in the first rank, and, in succession, the stomach, the intestines, the diaphragm, and the muscles. These have, however, been disputed; but the controversy need not detain us. In the sound state he is not probably in error; but, when inflamed, membranes, and particularly nervous expansions, are by far more sensible than the heart or the muscles. Sensibility also differs in various ages, sexes, temperaments, and idiosyncracies; in pregnancy and child bed, as well as from habit. The state of mind has also a considerable effect on the sensibility; and sympathy, as well as association, often greatly increases it. Dr. Cullen has supposed that the state of the nervous fibril, or the fluid in the nerves, greatly influences the sensibility, and the opinion gains force from the peculiar irritable state of some constitutions, chiefly known by the name of hysterical habits, where the sensibility is considerable. The state of the fibre, as affected by the blood vessels, interspersed, has a similar effect. We have just mentioned the increased sensibility from inflammation, and the professor supposes that the fulness of these vessels gives a greater tension, with which he connects, with great probability, increased sensibility.

Heat increases sensibility, and cold diminishes it. The sensibility is also less in torpid constitutions, in weak states where the circulation is not carried on to the extremities, from the application of narcotics from habit, and the attention strongly directed to some interesting object. Will not a fixed resolution have a similar effect?

Depravity of sense is also an affection of the vital solid, and consists in either a false estimate of the

force of external impressions, or in referring to the external what is owing to the internal ones. This is, however, as we have had occasion to observe, a disease of the brain itself, and owing to an inequality of excitement, or some impediment to the free communication between its different parts. See MANIA.

The diseases of the moving organs are nearly the same in principle, though not in name. These are irritability and torpor, corresponding in their causes, perhaps their nature, to increased and diminished sensibility, and generally connected with the same constitutions. The former is the distinguishing mark of the sanguine, the latter of the melancholic, temperament. There is, however, another state consistent with the highest health, which consequently may become disease, and is always a predisposition to disease, viz. the vigour of the muscular fibres, the attendant of the diathesis phlogistica, and in which it indeed consists. But to be more particular.

Irritability is generally connected with the more delicate texture of the solid parts, an increased elasticity of the fibres, peculiar quickness of the senses, a more fluid blood, a tender constitution, a more rapid action of the heart and arteries: it is consequently often hereditary, more frequent in females, in warm climates, those who live luxuriously without exercise, an attendant on inflammatory fevers, and considerable evacuations, the pregnant and puerperal state. The effects of this increased irritability are spasms, convulsions, irregular secretions, and unequal temper, faintings, excessive menstruation, abortions, &c.

The torpor of the living solid is marked by a firmer, ruder texture of the simple solid, sometimes by inflexibility, as in the melancholic, occasionally by a want of elasticity, as in the phlegmatic temperament; by a slower action of the arterial system, by yielding less readily to stimuli, and by a dulness of the intellectual functions. It is the constitution of the inhabitants of higher latitudes, and has been sufficiently considered under the article of COLD, q. v. The effects of this torpor are a diminution of the excretions, with accumulations in the liver and the head, which induce many chronic diseases.

The diseases arising from the state of the brain chiefly depend on its mobility or torpor, as a portion of the nervous system; but more particularly on the free communication between its different parts. The diseases depending on the state of the nerves in their progress depend also on their degree of excitement, or the communication through them being more or less free.

We had intended in this place to have engaged at some length in the inquiry started in the article ASTRINGENTIA, how far the state of the vital depended on that of the simple solid. We could, however, add little, except to repeat the facts recorded in the pathology of the vital solid; and these seem strongly to support the opinion, that firm cohesion and vigour, a more tender texture and mobility, the first with diminished, the second with increased, sensibility, are at least very closely connected. Are they ever separated, or do they depend on the same state of the solid? Future inquiries may enable us to decide.

MORBI SOLIDORUM CONTINENTIUM. The containing solids, or the parietes of cavities, are muscular or membranous; and their size may be, in different ways, increased. When merely dilated beyond what their elasticity or their muscular power can restore, it is styled *dilatatio;* when cavities, as arteries or excretory ducts, are so enlarged as to suffer the contents to pass out, *anastomosis;* when the fibres of cavities are separated so as to suffer fluids to escape through them, *diapedesis;* when ruptured, *diæresis;* if ruptured by distention, ῥηξις, if by erosion, διαβρωσις. The effects of these changes will be sufficiently obvious; and, indeed, we should not have introduced the subject but to explain the terms.

The diseases from contraction are *obstructio*, when from anastomosis a denser fluid than the vessel is destined to carry passes into it, when its contents are inspissated, or when a solid substance impacts it; *obstipatio*, when the thickened parietes, or any tumour, obstructs the vessels; *compressio*, when cavities are diminished or obliterated by pressure; *collapsus*, when the sides fall in from diminished contents; *contractio*, when diminished from great elasticity or spasm; and *coalitus*, when the sides unite, and are conglutinated.

The morbi solidorum intrumentarii are the local diseases of nosologists, and not a part of this subject.

Haller and De Haen Commentarii in Boerhaavii Institutiones; Ludwig and Gaubii Institutiones Pathologiæ Medicinalis.

MO'RBUS ATTO'NITUS, CA'DUCUS, COMMITI'ALIS, HERCU'LEUS, INFANTI'LIS, PUERI'LIS, INTERLU'NIUS, MA'GNUS, SA'CER. See EPILE'PSIA.

MO'RBUS COXARIUS. This is properly the arthropyosis, but various circumstances prevented our enlarging sufficiently on it at that time, and we prefer inserting our account of it under this title, as the disease is better discriminated by it from psoas abscess, and from sciatica. De Haen, who first considered it distinctly, also employs this term.

It generally comes on almost imperceptibly. The first sensation is a dull pain, often attributed to fatigue, to a strain, or, in more advanced life, to gout. When the pain becomes so violent as to attract attention, it is described as deeply seated, but on strong pressure it is greatly increased; the glutæi and the vastus internus are flabby; and the glutæus, losing its elasticity, obliterates the line which apparently divided it from the biceps and semitendinosus. The thigh itself is less, though the nates on the side affected are sometimes extended in breadth. In many cases the tubercle of the ischium is lower, and the leg, on the side affected, longer. In general, on walking, the toe drags a little on the ground; and the limb is raised, or extended sideways, with difficulty, though moved circularly with some ease. The pain is not considerable, except in the advanced states of the disease, but it is not confined to the joint. It sometimes extends to the knee, and is felt there with so much violence, as to lead to a suspicion that this joint is the seat of the disease. From the knee it extends to the ankle, but is felt there less acutely. The pain is sometimes on the upper part of the pectinæus, near the place where psoas abscess first appears, and then it descends on the inside of the thigh, nearly in the direction of the adductores of the triceps and vastus externus, almost in a straight line from the knee to the ankle.

For some time the general health remains unintер-

rupted; but, when the disease advances so as to be acutely sensible to the touch, with an acute or throbbing pain, and a redness of the skin, hectic exacerbations come on; the patient starts in his sleep; the face is of a leaden paleness, except when flushed with hectic heat; the skin is clammy; the body wastes, and the strength gradually sinks.

The shortening of the limbs has been esteemed a mark of suppuration coming on; but this is not correct. The limb is sometimes shorter from the beginning, as well as in the advanced stages; nor is any certain consequence to be drawn from this circumstance, unless it suddenly becomes so, when it may give some suspicion of matter having formed.

On dissection, the head, sometimes the neck of the thigh bone, is carious; nor is the change confined to this bone, for the acetabulum equally suffers, and the matter has been found to escape through it into the cavity of the pelvis. Matter in proportional quantities is occasionally found in the cotyloid cavity.

In this disease there is evidently relaxation of the ligament, with a slight inflammation. It probably begins with inflammation of the head of the bone, like that which occurs in the vertebræ, in cases of distorted spine, and gradually presses it downward, upward, or to either side, according to the portion of the head affected; and this will account for all the variety of lengthening or shortening of the limb; for the difficulty of moving the legs sideways and outwards, or, for what sometimes happens, of keeping them together.

It is often confounded with rheumatism, and with psoas abscess; but from each may be distinguished by the elongation or the abbreviation of the limb, by the increased breadth of the nates, and the laxity of the glutæi muscles. In the earlier periods also of psoas cases, the difficulty of bending the body, or of putting either leg forward, will sufficiently point out the part affected, while the pain on pressure, dragging the toe, and the relaxation of the glutæi muscles, will sufficiently distinguish it at a subsequent period. In rheumatism also the pain is more extended, the earlier fever more considerable, with often external soreness. At every period of the complaint the prognostic must be unfavourable; but if the constitution is sound, without any scrofulous taint, the disease incipient, and the patient willing to pursue the necessary plans, we sometimes succeed. Even when suppuration has come on the patient may escape, but it must be by the efforts of nature alone. In such cases the abscess occasionally bursts, though this sometimes does not occur, and the matter is absorbed. In each circumstance the most absolute rest, free country air, a milk diet, keeping the bowels free, with the occasional use of the bark, are chiefly useful. If any thing is more essentially necessary than the others, it is absolute rest, with free country air. If any thing is less so, it is medicine. A stiffness of the joint is, however, the inevitable consequence.

The causes appear to be most generally cold, from damp beds, and lying in damp sheets. Blows and strains also induce it; but in children it often comes on without the known influence of either, and seems to be of a scrofulous nature, as it chiefly affects those whose appearance shows the seminium of that disease.

The cure of the disease, in the earlier or middle stages, requires peculiar attention in the practitioner, and no little resolution in the patient. Inflammation, we have said, is the first symptom, and bleeding with leeches, a moderately low diet, occasional doses of neutral salts, together with the continued discharge of a blister, will succeed. If the season permit, sea bathing or cold pumping will complete the cure. In this state, also, a light infusion of the bark, or any other bitter, seems to have been of service. Should, after a trial of this plan, the disease continue, or seem to increase, an issue should be made just behind the great trochanter. The application of a caustic will, on the separation of the eschar, form a deep sore, which should be so large as to require, both in breadth and depth, a horse bean for its continuance. Tenderness is in this case cruelty: it should be done effectually, or wholly omitted. If the pain and fever have not been violent, or have been mitigated by the usual remedies, sea bathing may be continued with this issue, as it can be easily covered by leather spread round its margin with sticking plaster. Some surgeons have recommended a seton; but the cord does not penetrate so deep, and cannot be so conveniently covered to admit of sea bathing, which is a most essential remedy.

Instead of leeches, cupping glasses have been recommended; and instead of blisters, the lime poultice, made of one part of quicklime slacked in the air, with two parts of oatmeal, made into a poultice with hogs' lard. These are less effectual remedies, though sometimes useful in irritable habits, where the terror excited by the more acute remedies might be injurious. They should be trusted, however, only in the slightest cases. Opiates, particularly in the form of Dover's powder, may, at any period of the disease, be allowed with safety; and often when the pain is violent with advantage.

Though we have chiefly trusted sea bathing and cold pumping, yet the annals of the Bath hospital speak with confidence of the utility of warm pumping; and Dr. Falconer has lately given a very satisfactory view of its utility. The Bath waters can only be admitted when fever has not come on, or when it has been checked by the appropriate remedies. If the patient be tolerably strong, and the symptoms moderate, the bath of 105° is used two or three times a week, and the patient continues in it from fifteen to twenty-five minutes. After bathing a few times, on the intermediate days, the part is pumped on for about five minutes, when the patient receives 500 strokes. From this remedy the stiffness and pain are relieved, the soreness and swelling diminish, the strength and plumpness of the limb gradually return, and the leg, whatever was the change, resumes its natural length and direction.

A similar application of hot water has been attempted at a distance from Bath; but whether it arises from the heat employed being too low, or that the Bath waters derive, in part, their virtues from the mineral impregnation, is uncertain; the effects, however, have not answered the expectations of the practitioner. The warm sea water bath promises to be very useful, and o this a pump may be readily adapted.

If the suppuration proceeds, notwithstanding every

effort, we have already remarked that nature must effect a cure, if the patient ever attains it; and the plan has been sufficiently detailed.

Hippocrates de Morbus Internis, cap. 54—58; Cælius Aurelianus de Morbis Chronicis, lib. v. cap. 1; De Haen de Morbo Coxario; Falconer's Memoirs of the Medical Society of London, vol. vi.

Mo'rbus Ga'llicus I'ndicus. See Lues venerea.

Mo'rbus Hunga'ricus. See Amphemerina Hungarica.

Mo'rbus strangula'torius, trucule'ntus i'nfantum. See Suffocatio stridia.

Mo'rbus ni'ger. The black disease, *melæna* of Sauvages, *melaina nosos* of Hippocrates, of which he describes two kinds. In the first the patient vomits black bile, sometimes bloody and sour; a thin saliva, or green bile. The acrimony of the fluid occasionally inflames the mouth, and its acidity affects the teeth in the usual way. Vomiting relieves, but flatulence affects the patient when empty, and a great load is felt after eating. A slow fever, head ach, dim sight, heaviness in the legs, and blackness in the skin, are common symptoms. Frequent cathartics, with whey, milk, and other diluent drinks, are only necessary. The second kind consists of a discharge of concrete blood of a blackish red colour, mixed with a large quantity of insipid, acid, or viscid phlegm, thrown up by vomit. This evacuation is generally preceded by a pungent tensive pain in both hypochondria, and the appearance of the disease is attended with anxiety, a compressive pain in the præcordia, and fainting, which last is more frequent, and more violent, when the blood evacuated is fetid and corrupt.

In modern authors, every dark coloured discharge has this appellation, and little care is taken to distinguish its source. A black discharge may be either bile or blood. Each is distinguished by the colour when diluted, for bile is of a dark yellow, and blood is red. But in worn-out constitutions the bile will not always assume on dilution the yellow hue; and in this case the black matter consists of dark flakes, or sometimes a dark pitchy matter is discharged. The latter appearance is not indeed a diagnostic mark, for it is the colour of the meconium in young children, and is the substance often discharged after long continued constipation.

When these distinctions are kept in view, the practice is easy. The discharge of blood is either an active or a passive hæmorrhage, generally passive, and in neither case highly dangerous. Indeed we have seen very considerable discharges of blood by stool, from strains in the young and active, yield to nitre, to opiates with occasional mild laxatives. The passive hæmorrhages require astringents, with the vitriolic acid. The blood in these cases flows from different arteries, and its source requires no variation of practice.

When the bile is dark, a previous suppression has usually occurred; and the discharge, which is essentially necessary, must be regulated by the strength of the patient. The pitch-like bile, or perhaps the grumous blood, requires also to be evacuated; and the best medicine for each purpose, if the strength of the patient will admit, is calomel. This medicine, were we to revive the term, we should style the true cholagogue. But the pitchy and the flaky bile, in worn-out constitutions, must be gradually discharged, and the strength supported by wine, by nourishing diet, by aromatics, and by any thing but astringents.

Pains are uncommon; and if they occur, must be obviated by fomentations, and by opiates. They are truly spasmodic, for inflammatory pains only attend inflammation of the membranes of the liver.

The discharge from piles sometimes resembles the melæna; but the pain, at the lower part of the rectum, the fulness and tension, sufficiently distinguish them.

See Hippocrates, lib. ii. De Morbis, sect. v.; Hoffman, Rationalis Medicina Systema; Edinburgh Medical Commentaries, vol. iv.; London Medical Journal, vol. i. p. 10.

MORDE'HI. A disease to which the East Indians are subject. It is a fever seemingly from bile in the stomach. See F. Hoffman, De Morb. Epidemicis.

MORDE'XYN. A disorder very common at Goa, which seizes the patient suddenly, attended with a continual nausea and vomiting, and often proves fatal. F. Hoffman, De Morbis Epidemicis.

MORHU'A. See Asellus major.

MORI'LLE. See Amanita.

MORI'NA. A plant, named in honour of Dr. Morin of Paris. *Morina persica* Lin. Sp. Pl. 39, said to be cordial and perspirative.

MORI'NGA. *Guillandina moringa* Lin. Sp. Pl. 546. A large tree in Malabar and Ceylon, whose fruit is a foot long, angular, as thick as a carrot, and delicious to the taste. The leaves, root, bark, and fruit, are said to be antispasmodic and sudorific. See Raii Historia.

MO'RO (from *morus*, *a mulberry*). An abscess in the flesh, resembling a mulberry.

MOROCTHUS. See Omorocthus.

MORO'SIS, (from μωρος, *foolish*). Stupidity, idiotism. This may be styled a mental disease, sometimes owing to a more slow expansion of the mental faculties, which often, however, attain their powers suddenly, and in perfection, as suppressed irritability is followed by excess of excitement. When the mental powers are developed slowly, we often find a defective conformation of the cranium, and particularly an elongation of the upper part, while the sides are unusually depressed. Pinel, who scarcely admitted any organic defect to produce mania, admits it as a cause of idiotism. When in a less degree, it is not connected with any defective organization which the knife can discover.

Dr. Cullen considers this disease as synonymous with amentia. Sauvages makes it a species of amentia, and defines it a slowness or inability in the faculty of imagining or conceiving; consequently a debility in judgment without delirium. Stupidity differs from folly, as stupid or idiotic persons want both conception and memory. See Amentia.

MOROSITA'TES, (from *morosus*, *peevish*,) are diseases wherein the desires and aversions are unnatural and depraved, and in which it is difficult to please or satisfy. A morose man, speaking of him in a state of disease, constantly requires what is injurious, and is averse to what would be beneficial. In Dr. Cullen's system these diseases are synonymous with dysorexiæ, appetites erroneous and defective. In the last editions they are included under the class *locales*, because almost all the species of dysorexy are affections of a

particular part rather than of the whole body. The nostalgia alone, if it can be called a disease, cannot be esteemed a local one; but he thought he could not well separate an uncertain disease from the rest of dysorexies. See Nosologiæ Methodicæ Synopsis, vol. ii.

MORPHÆ'A, (*μορφαια*, from *μορφη*, *forma externa*). Morphew, scurf, a species of the leprosy seated in the skin. The brown itching morphew is named *hepatizon*.

MORPIO'NES. Crab lice, so called from their resembling crabs: *pediculi pubis* Lin. *plactulæ*, *petolæ*, *pessolatæ*. They are flattish, more round than the common lice, with a shorter thorax, and the four hinder feet, very strong, perforate the cuticle, and stick so close that they can be with difficulty dislodged. They do not only affect the pubes, but the axillæ, eye brows, and eye lids, and are often found on the breast, abdomen, thighs, and legs, in persons who have those parts covered with strong hair; but they seldom fix upon the hairy scalp. They occasion considerable itching, which may be cured by destroying them with black soap, or a solution of sublimate in rose water, in the proportion of ʒ ss. to ℔ i. of the water: strong mercurial ointment is an effectual remedy. See Pediculus.

MORS. See Death.

MORSE'LLUS, or MORSU'LUS, (a dim. of *morsus*, *a bite*). See Trochisci.

MORSU'RA, (from *mordeo*, *to bite*,) a bite, generally applied to the bite of a mad dog, a viper, or any venomous animal.

MO'RSUS, (from the same). A bite, or pain resembling that from a bite of an insect.

Mo'rsus diabo'li. See Tubæ fallopianæ, or Devil's bit, and Sucisa.

Mo'rsus galli'næ. See Alsine.

Mo'rsus ra'næ. See Microleuconymphæa.

MORT DE CHIEN. A spasmodic disease of peculiar violence and obstinacy, not generally understood. The name is assigned by the seamen, who probably consider this disgraceful termination of their lives as the *death of a dog*. The disease is mentioned by Bontius, and by Mr. Girdlestone; but considered more distinctly and accurately by Mr. Curtis in his account of the Coast Diseases of the East Indies. It is a violent spasm affecting not only the extremities, but the bowels, drawing the intestines into a hard knot, attended with great coldness and debility, and within a very short period fatal. It has been attributed to acrimonious bile; but previous evacuations do not prevent it, nor emetics, with purgatives, relieve it. External warmth, with the most active stimulants, and opium, in very large doses, appear to have been the most useful remedies. See Curtis's Account of the Coast Diseases of the East Indies.

MO'RTA. Synonymous with pemphigus.

MORTARIO'LUM, (dim. of *mortarium*, *a mortar*). In chemistry, a mould on which cupels are formed; in anatomy, the sockets of the teeth. See Alveoli.

MORTIFICA'TIO, (from *mors*, *death*, and *fio*, *to produce*). A mortification. *Sphacelus*, *ignis frigidus*. Hippocrates uses sphacelus in different senses, sometimes confining it to a corruption of the bone, which, in the language of Celsus, is called *vitiari;* but these words are used in general to express the corruption of the flesh as well as bones. A mortification of the soft parts only Hippocrates styles *sapiron*, *mydosen*, and *sepomenon*. The word *sphacelus* was used by the ancients to express violent pains and inflammations terminating in mortification, as well as the withering of any part. Galen confines the term sphacelus to an incipient gangrene.

Boerhaave considers gangrene as a beginning mortification. Mr. Pott calls it gangrene in the cellular membrane and the skin, but when attacking the muscles, sphacelus. A mortification in the bone is called a *caries*. Dr. Cullen considers the mortification not as a genus of disease, but as a termination of inflammation; and he divides it into gangræna and sphacelus. In the first, after an inflammation, the part becomes livid, soft, has little sensibility, and is often covered with ichorous vesicles; in the second after a gangrene, the part becomes black, flaccid, easily lacerating, without sensation or heat, and attended with the fœtor of putrid flesh; the malady quickly spreading: the latter is, therefore, an higher degree of the former.

A mortification is, the death and consequent putrefaction of one part of the body while the rest is alive. Celsus describes its progress in the following terms. The flesh is black or livid, dry or parched, and the external skin generally full of blackish pustules: then that which is next to it is pale or livid, almost ærugi-nous, and without sensation. It is still worse in an inflammation, since all the symptoms spread at once, the ulcer into the pustulous place, the pustules into that which is pale and livid, the pale or livid into that which is inflamed, and that which is inflamed into that which is sound.

It is singular that this subject has so long remained in a state of so much confusion, not only with respect to its nomenclature, but to its causes and treatment. We have found in no author a connected and systematic view of the subject; and we must, therefore, on this, as on several other occasions, endeavour to unite the scattered limbs and supply the deficient links. In this enquiry we shall employ the term mortification as a generic one.

The simple idea of mortification is, as we have already said, the death of a portion of the body while the rest continues alive, often in a sound state. This partial death may arise from general or local causes. The general causes are fever, or great debility; each occasionally attended with a dissolved state of the fluids. Fevers attended with mortification are the violent inflammatory ones, with local inflammation, or the jail and hospital fevers. Diseases of debility are those of old age, anasarca, scurvy, bruises, and causes which check the circulation of the blood, or impede the nervous influence. In these cases, the life of the part is destroyed by the violent excitement, or the tone of the constitution gradually diminished, by advancing age, a sedentary life, or an unalimentary diet. In internal inflammations we cannot see the progress, but it is probably the same as in the external parts. In the latter the pain ceases, the purulent matter becomes acrid and sanious; air bubbles are set at liberty, collecting in small vesications, under the skin, or distending the whole organ by an emphysematous swelling. A slight delirium comes on, with either dejection of spirits, or with a calm serenity of mind; but, in each case, attended with a peculiarly wild expression of countenance; though sometimes with a very peculiar expression of serenity, with a blackness under the eyes. The pulse is usually quick,

low, and often intermitting. In the earlier stages, deep incisions are attended with a discharge of blood still florid; but the skin, the muscles, and the cellular membrane, soon melt down into a brownish offensive mass. See INFLAMMATIO.

In the jail and hospital fevers, depositions sometimes take place, resembling, at first, in appearance, critical abscesses, but rather of the nature of the anthrax or carbuncle, running rapidly into mortification; and, when these do not appear, discolorations, apparently slight will be observed on the skin, which often run deep, and the mischief is concealed till no longer within the reach of art.

Mortifications, from debility, are frequent in old age, and these are sometimes chiefly local. When attended with great pain, they are highly distressing; but they sometimes occur without being perceived. Mr. Pott first pointed out the painful kind, as the subjects of treatment different from that which had been usually recommended: the other kinds are the *dry*, and what has been styled the *white* gangrene. In the *dry gangrene* the parts shrivel, the fluids are observed, but no putrefactive fermentation can take place without moisture. The part remains attached, for a time, like an extraneous one, and may be amputated above the mark, which separates the dead from the living portion; but nature at last often makes the separation, as in other gangrenes. The *white gangrene*, sometimes mentioned, seems rather to be a paralytic insensibility than truly gangrenous.

In general, the topical gangrenes of advanced life are owing to ossifications of the arteries, and we suspect the pains attending those described by Mr. Pott are owing to the effort of the arteries above, endeavouring to conquer the obstruction. We have instances of similar pains in paralytic limbs, when sensation is recovering, and in anasarcous ones, when the water is removed. What adds to the probability of the cause is, that the pains occur some time previous to the darkness appearing on the skin, which is usually first observed between the toes.

Water, collected for a long time, in the lower extremities, presses on the nerves and arteries, destroying both sensibility and irritability. In such cases, a slight wound often becomes gangrenous, and the vesicles, raised by the water, and by which it is occasionally discharged, sometimes cover a deep mortification. Such consequences are not, however, common, and when mortification, in such instances, does follow, it is superficial, and often easily removed. See ANASARCA.

In scorbutic habits, particularly in sailors after long voyages, in soldiers from an unhealthy encampment, or after a siege, and in prisoners after confinement, ulcers break out chiefly in the lower extremities, which discharge a thin ichor, and sometimes terminate in mortification. Instances are also recorded of mortifications rapidly coming on without any evident cause.

Other causes are ligatures, wounds, fractures, where the soft parts are greatly bruised or lacerated; aneurisms, or ruptured arteries, with whatever impedes the influence of the nervous power, or the flow of blood from the heart. From these causes, mortification often occurs in palsied limbs, or is the effect of severe long continued COLD, q. v. Compression of the spinal marrow in cases of distorted vertebræ, or of other tumours in the course of the larger nerves, equally produce it, by first inducing palsy.

The event of mortification is always doubtful; and when the cause is irrecoverable debility, obstructions which art cannot remove, or ossifications of the arteries, we can scarcely expect a cure. Internal mortifications are usually beyond the reach of medicine; yet we see in cases where the operation is performed for strangulated hernia a beginning blackness, not followed in some cases by any fatal event; and find that even a portion of intestine may be thrown off, after intususceptio, in which internal mortification must have preceded. We should not, therefore, relax in our efforts, when appearances of internal mortification have come on; and, in fact, we find in enteritis the most threatening symptoms of this kind apparently relieved.

The most important symptom to guide us in cases of mortification, is the appearance of separation. When the general principle of the disease, in the constitution, is checked, a red line, sometimes considerably above the mortified part, appears. At this line the dead part drops from the living; and, when it is discovered, amputation above that line will greatly save the strength of the patient: were the natural separation suffered to go on, amputation would be afterwards necessary, if the stump is expected to be ever useful. In cases, however, where, from the violence of the bruise, mortification appears inevitable, amputation, previous to its coming on, will succeed, at no great distance from the wounded part, if above the place where it is bruised, or to which inflammation has extended.

When mortification appears to have taken place after internal inflammation, we have said our endeavours must not be relaxed, but we must check all evacuations, and support the strength with more generous nourishment, give wine so far as the original disease will permit, occasionally bark, and more certainly opium.

In external mortifications, from inflammation, it has been common immediately to give bark. But this is not always necessary, and sometimes injurious. If the increased action of the vessels still continues, it must be moderated by a stimulus, a little below that which supports the inflammation; and it is in this state that the application of a solution of muriated ammonia with vinegar is peculiarly useful. At this period also, opiates will be advantageous. When the disease has proceeded farther, and the part is wholly dead, the warmer applications, soon to be mentioned, will be necessary. It has been usual to direct, in such cases, incisions or scarifications down to the living portion of the limb. It has been practised, and opposed, without sufficient foundation. It is often useful to admit of the access of the stimuli to the living part, to assist the separation; and there is no danger from the absorption of the putrid matter, as has been supposed. Yet, on the whole, the advantages of this plan, in practice, do not appear to be considerable.

In those mortifications which attend jail and hospital fevers, the bark, with cordials, each in the fullest doses, are absolutely necessary; nor are there any limits to the exhibition, but what arise from the situation of the patient. In such cases, all abscesses must be opened very early. We cannot wait for a proper purulent matter, which nature is most frequently unable to form; for the discharge is most often fetid and sanious.

The topical mortifications are most frequent; and, in these, Mr. Pott has taught us the superior advantages of opium. In general, this medicine is indicated when great pain has preceded; and it is probable that, as excess of contraction lessens the irritability of muscular fibres, so excess of excitement will impair the nervous energy. Opium, therefore, as diminishing the cause, will contribute to lessen the effect. Whether opium will add to the efficacy of other medicines, or will, alone, relieve diseases of this kind, has not yet been ascertained. We have reason to think it will prove a useful addition, in the greater number of cases.

If opium fails in the painful gangrenes, proceeding from ossifications, we know not what can be substituted. Bark, wine, and other cordials will have little effect; nor will any thing succeed but amputation. Where, however, must we amputate, or where does ossification end? and in an old, worn out, debilitated frame, is the operation advisable? To add a few weeks to a decaying constitution will not justify what Dr. Aitkin calls an *Herculean experiment*.

The rest of the practice is empirical. Bark, wine, ardent spirits, and opium, must be given in doses equal to the emergency, and often accumulated with great rapidity. It might perhaps render the practice less empirical, if surgeons were to distinguish more accurately when stimulants and when antiseptics were necessary. The list of stimulants is unusually long; but the order indirecta, including wine, alcohol, &c. is of equivocal use, as followed by loss of tone, unless the application is continued. As powerful antiseptics also they have been preferred, and we should also remember, that in general, when the disease is first checked, nature exerts all her powers to continue the salutary process. We add to the antiseptic power of these stimulants by camphor, which may be properly combined with them, and sometimes by the warmer essential oils, which may perhaps be more often used with advantage; and the effects of all are increased, by their being heated to a degree so high as the patient can bear. In local mortifications from debility, the antiseptics are often only necessary; and of these the myrrh is frequently very useful, and in cases of a high degree of fætor, the carrot poultice, the charcoal, the effervescing poultices, particularly with the oak bark, and the cummin seed, are highly advantageous. In every situation of this kind, however, the constitution must be supported, by a generous diet; by wine, frequently by bark.

In many instances, the bark is inadmissible, either from fulness, asthma, or other constitutional complaints. In these circumstances, wine, probably opium, ammonia, with stimulant applications of the greatest efficacy, must be employed. We have not found that the other bitters will supply the place of the bark; but the camomile flowers have been recommended, though modern practice appears to rank them among the more inert remedies.

Antiseptic poultices are of different kinds. The astringents, of which the chief is the oak bark, are highly useful; and this, joined with fermenting substances, is often highly useful. The addition of charcoal is said to correct the fœtor, and it may add also to the antiseptic power. Since, however, it was introduced by the recommendation of the first Monro, the bark has been implicitly trusted.

We might add a hint, that amputation has been often employed too early, and that ecchymosis has been mistaken for mortification. Yet, as we can lay down no general rules for the conduct in cases of emergency, we would not insinuate doubts which might be prejudicial to the character of the surgeon, without reason or foundation.

The tendency to mortification from scorbutic affections must be obviated by fresh vegetables, and the native vegetable acids. Those from tumours of the spine or other parts, from palsies, &c. must be relieved by remedies adapted to the original affection.

Boerhaavii Aphorismi. Hildanus de Gangræna et Sphacelo. Heister's Surgery. Kirkland on Pott's Remarks on Fractures. Pott's Works. Bell on Ulcers, edit. 3. p. 93—122. Kirkland's Medical Surgery, vol. ii. p. 291—433. London Medical Transactions, vol. iii. p. 47. Pearson's Principles of Surgery, vol. i. p. 105. White's Surgery, p. 8.

MO'RTUA TE'RRA. See CAPUT MORTUUM.

MO'RUM, (from *morus*, *a mulberry*). An excrescence on the surface of the skin in many parts of the body, resembling a mulberry. When on the eyelids, the Arabians call it *alchute*.

MO'RUS, (from the Hebrew term *mora*, *black*). The MULBERRY TREE, *morus nigra* Lin. Sp. Pl. 1398. Its fruit hath the common quality of all sub-acid fruits, quenching thirst by their coolness, and by exciting an excretion of mucus in the mouth; a similar effect is also produced in the stomach, where they also correct putrescency, which occasions an uneasy clammy sensation in the fauces. A syrup is prepared from this fruit, though but little used. See Raii Historia. The bark of the root of the mulberry tree has an acrid bitter taste, is said to be a cathartic, and has been used with success as a vermifuge, particularly in cases of the tape worm, given in powder, in the dose of half a drachm.

MO'RXI. A pestilential distemper very common in Malabar and other parts of the East Indies.

MO'SA. A liniment used in Germany, made of wheat flower and milk, nearly of the consistence of thin paste.

MOSCH. The roriferous vessels, which Bilsius thought that he had discovered, but never demonstrated. Castellus.

MOSCHATELLI'NA, *adoxa moschatelina* Lin. Sp. Pl. 527, *ranunculus nemorosus*, *aristolochia rotunda*, *concava*, *denticulata*; a diminutive from *moschus*; called so in consequence of its smell. The root is supposed to be resolvent and detergent. See Raii Historia.

MO'SCHUS, (from the Arabic term *mosch*). MUSK, *amisa*, is an odoriferous grumous substance, an inspissated secreted fluid of the *moschus moschiferus* of Linnæus, and the *Tibet musk* of Pennant. This animal is of the deer kind, and the drug is found in a follicle of the size of a hen's egg, on the belly of the male only. The bag is kidney shaped, pendulous, opening by two small orifices; a naked oblong one, and another smaller with long hairs. The best musk is brought from Tonquin in China, in thin bags, with brownish hairs; an inferior sort from the East Indies is in bags with white hairs. Neumann thinks both equally good.

The best musk is dry, with a kind of unctuosity, of a dark reddish brown colour, in small round grains, with very few hard black clots, perfectly free from any sandy

or other visible foreign matter. Chewed and rubbed with a knife on paper, it is bright, yellowish, smooth, and free from grittiness. Laid on a red hot iron, it flames, and burns almost entirely away, leaving only an exceedingly small quantity of light greyish ashes. The taste is bitterish and subacrid, the smell highly fragrant, in small quantities, or at a distance. Rectified spirit of wine takes up the whole of the active part; but the smell is only discovered on dilution: a drop or two communicates to a quart of wine, or to water, a rich scent. The quantity of liquor which may thus be flavoured by a certain known proportion of musk is the best criterion of its goodness. With water it is mixed only by the intervention of mucilage, as in the following preparation.

MI'STURA MOSCHATA, formerly *Julépum è moscho.* —Take of rose water, six ounces; of musk, two scruples; of the mucilage of gum arabic, and of double refined sugar, of each one drachm; grind the musk with sugar, then with the gum, and add the rose water by degrees. Volatile spirits enable the water to suspend or dissolve more of the musk; and two drachms of the volatile spirit may be added to the above mixture. Dose, two or three table spoonfuls. In distillation, however, water carries over all the odoriferous matter, while the rectified spirit scarcely conveys any portion of it.

Though the smell of musk sometimes disorders those who are peculiarly sensible and irritable, yet, when taken inwardly, it abates those symptoms which its smell produces. It is one of the principal antispasmodics; but its advantages are often lost by giving it in too small doses. Dr. Wall informs us that two persons, labouring under a subsultus tendinum, extreme anxiety, and want of sleep, occasioned by the bite of a mad dog, were perfectly relieved by two doses of musk of sixteen grains each; adding that convulsive hiccoughs, attended with the worst symptoms, were removed by two doses of ten grains each. When, on account of convulsions, no medicine could be given at the mouth, musk succeeded in a clyster; and those who were averse to perfumes, expressed no objection to it in a bolus; but under six grains he never saw any benefit by its use. Ten grains and upward promoted usually a diaphoresis without heating or giving any uneasiness: on the contrary, it abates pain, raises the spirits, and, after the sweat begins, promotes sleep; and in maniacal cases hath afforded a temporary relief. Dr. Owen, of Shrewsbury, relates a singular instance of success from yet larger doses, viz. of half a drachm every four hours, in a convulsive disorder, after all the usual methods had failed. See London Medical Observations and Inquiries, vol. iii.

Though we highly respect these authorities, yet our own experience does not support them in their full extent, which may probably be owing to the medicine not being genuine. In large doses it is said to procure sleep, and as certainly to occasion a profuse sweat. It has been hence considered as a sudorific, and given in the latter stages of fever, particularly where subsultus and convulsions had come on. In gout retroceding to the stomach or head, and in delirium, it is also said to be a valuable medicine.

Some practitioners consider musk as a medicine of little or no consequence; but for what reasons it is difficult to determine, since the experience of every day proves it certainly a diaphoretic and antispasmodic, given in such doses as are properly adapted to the constitution of the patient and nature of the complaint; but, on the whole, it is not a very certain or a very powerful medicine.

See Lewis and Cullen's Materia Medica, and Neumann's Chemical Works.

MO'SCHUS A'RABUM. See ABELMOSCHUS.

MO'SCHUS A'RTIFICIALIS, is a medicine lately introduced from Germany. Four ounces of nitrous acid are added to an ounce of oil of amber, constantly stirring them; and the result is a spongy mass, highly fetid, but resembling in smell nitrous oxide rather than musk. This preparation has been for some years known, and was introduced as a medicine for the hooping cough; but, even among the young, sanguine innovators is now seldom heard of.

MO'SE HAZUA'NIA. See ENDICA.

MOSQUI'TÆ. A cutaneous disorder in the East Indies, sometimes produced by sweating, sometimes by the bite of an insect of this name, *mosqueta*. With the pimples an itching comes on, succeeded by an ulcer. When from sweating, the relaxant or diapnoic sudorifics are useful; and the itching is allayed by washing with vinegar in which nitre is dissolved, or with which lime juice is mixed. See Bontius de Medicina Indorum.

MOSY'LLON, (μοσυλλον). See CINNAMOMUM.

MO'TA. See CASTANA.

MOTO'RES OCULO'RUM, *motorii oculorum communes*, *oculares communes*, and *oculo musculares*, are the third pair of nerves from the head, which pierce the dura mater by the sides of the sella turcica, run through the foramen lacerum orbitale superius, to all the muscles of the eyes, except the obliquus superior and abductor of each. They likewise supply the levator palpebræ superioris, and send twigs to form the ciliary nerves, to the choroides and iris.

MOTO'RES OCULO'RUM EXTERNI, *occulares externi*, *ophthalmici externi*, *orbitarii*, and *oculo musculares*, *externi*, are the sixth pair of nerves that go out from the head to the abductores oculorum, running forward on the side of the cella turcica, and getting into the orbit by the foramen lacerum orbitale superius. By the side of the sella turcica they give off what is called the beginning of the intercostal nerves, but they are more properly branches of the intercostal, which join these nerves.

MOTO'RII. See SPASMUS CLONICUS, and MOTORES OCULORUM.

MO'TOS, LINT, (μῶλος). See CARBASUS.

MOUL-I'LA seu MOUL-ELAVOU, the INDIAN LEMON TREE, *bombax ceiba* Lin. Sp. Pl. 959, the fruit of which is both acid and aromatic, like the pepper. See Raii Historia.

MOUNT-SION WATER, a chalybeate, which seems to retain for a long time its ingredients, without decomposition. See an Essay on the Liverpool Spa Water, by T. Houlston, M. D.

MO'XA, (a Japanese term,) *artemisia vulgaris* Lin. Sp. Pl. 1188, *musia-piattræ*, MOXA, is a soft lanuginous substance, prepared in Japan from the young leaves of a species of mugwort, by beating them, when thoroughly dried, to separate the fine lanuginous fibres, which are then formed into small cones. The

down on the leaves of mullein, cotton, and hemp, are not greatly inferior.

In the eastern countries, when the actual cautery is required, a little cone of the *moxa* is laid upon the part, previously moistened, and set on fire at the top: it burns down with a temperate glowing heat, and produces a dark coloured spot, the exulceration of which is promoted by applying a little garlic. In Asia this kind of cautery is employed in preventing and curing many complaints, particularly chronic rheumatisms, gout, the morbus coxarius, and other painful affections of the joints. See Kæmpfer Amœnitates Exoticæ, p. 502, &c. Abbé Grosier's History of China.

MUCA'GO, (from *mucus*, *mucilage*). See Mucilago.

MUCHA'RUM. A barbarous word, signifying an infusion of roses, in warm water, reduced to a syrup, with sugar.

MUCIFLU'XUS ACTI'VUS, and PASSI'VUS, (from *mucus*, and *fluo*, *to flow*). See Gonorrhœa.

MUCILA'GO, (from *muçus*). A mucilage; *mucago*, a viscid glutinous liquor, made by dissolving the gum, or the soluble part of gum arabic, quince seeds, &c. in water.

Young plants particularly abound in mucilage, and seem to consist of it almost wholly. In the mallows, lintseed, and some of the cryptogamiæ, as the lichens, confervæ, and mushrooms, it is almost uncombined: in the milky plants it is in part separated, and united with oil and water. In every instance, it seems to be formed independent of light, which is rather an ingredient of the gluten. It is occasionally united with sugar, sometimes with oil, forming what are styled *fat* oils. It is insipid; soluble in water; insoluble in alcohol; coagulated by weak acids, and metallic solutions; not inflammable, but almost wholly exhaling in carbonic acid gas; changeable by the nitric acid into the oxalic, and by the muriatic into the citric acid. When diluted with water it becomes acid, and, in distillation, gives over the pyromucus acid.

The fluid, separated from the glands about the joints to facilitate their motion, is styled *mucilage*. See Synovia.

MUCILAGINO'SA LIGAME'NTA. See Capsularia ligamenta.

Mucilagino'sa extracta, are what the French chemists have styled *extractive matter*. They are the mucilage of the plant, united with its proper juices, scarcely changed by heat.

MUCOCA'RNEUS, (from *mucus*, and *caro*, *flesh*,) *myxo sarcoma*, an epithet for a tumour, or abscess, partly fleshy, and partly mucous. Severinus.

MUCO'SÆ GLA'NDULÆ. See Cowperi glandulæ; sometimes the name of the conglobatæ, to distinguish them from the glandulæ conglomeratæ, called vasculosæ.

MUCO'SUM LIGAME'NTUM, a ligamentous cartilage, and full of mucus, situated betwixt each vertebra, admitting them to recede from, or approach nearer to, each other. To their elasticity it is owing, that at night a man is somewhat shorter than in a morning.

MU'CRONATI, (from *mucro*, *a sharp point*). Leaves or fruits of plants terminating in a point, termed mucronated. Mucro is also the sharp point of the heart.

MUCRONA'TUM OS. See Ensiformis cartilago.

MUCU'NA GUA'CU, *dolichos urens* Lin. Sp. Pl. 1020. The largest and most beautiful kind of phaseolus in Brasil; growing also in Malabar. The beans are poisonous, but easily rendered fit for food. See Raii Historia.

MU'CUS, (from the Arabic *muk*,) *myxa; myxara; myxas;* the viscid fluid which covers the surfaces of all the membranes, exposed to any extraneous matter, as the skin, internal membrane of the mouth, nose, lungs, œsophagus, stomach, intestines, urinary passages, &c. It is thin at its first secretion, but more viscid apparently from its union with oxygen, colourless, insipid, inodorous, and incapable of stimulating; but if its secretion is suddenly increased, it becomes a watery acrimonious fluid of a whitish or a greenish yellow colour, sometimes acquiring a smell, and occasionally the appearance of pus. In its natural state it contains some common salt and phosphat of soda, inviscated in albumen. From Dr. C. Darwin's Experiments, which Dr. Darwin himself has since claimed, it appears that, if any suspected matter be in separate equal portions, dissolved in vitriolic acid and caustic alkaline lixivium, water will precipitate any pus which exists. Pure pus will not dissolve in a dilute alkaline solution. But an experienced eye requires no such assistance.

MU'FFLE, in chemistry, a little oven, in which tests or cupels are placed to defend the metals in assaying from the contact of the fuel.

MU'GILIS, (*à muco*, from its viscidity). Mullet. *Mullus* Lin. Syst. Nat. the cephalus of Aristotle and the Greeks, the cestreus of Oppian and others. It is sufficiently soluble, and nutritious. The Romans valued a fish of this name highly for its exquisite relish, which was probably the sur-mullet of the western coasts of the channel, an exquisite dainty, which will not, however, bear carriage. See Diæta.

MU'LÆ. Pustules contracted either by heat or cold.

MULE, any production between individuals of different species; sometimes styled hybrid animals, or plants. The species must be nearly related, or generation will not take place, and mules of either kind are generally barren.

MU'LSUM, (from *mulceo*, *to refresh*). *Hydromeli*, honey and water. *Acratomeli* signifies wine sweetened with honey.

MULTICAPSULA'RES PLA'NTÆ, (from *multus* and *capsula*,) such plants as have several pods of seeds succeeding each flower.

MULTI'FIDUS SPI'NÆ, Mu'sculus, (from *multus* and *findo*, *to cleave*,) lies under the spinalis; rises from the roots of the transverse processes, and runs to those of the spinal processes: it is commonly called *transversalis*, distinguished into the transversalis colli, dorsi, and lumborum. The last is also called sacer; q. v.

MULTIFO'RME OS, (from *multus* and *forma*). See Cuboides os.

MULTISI'LIQUÆ PLA'NTÆ, (from *multus* and *filiqua*,) plants which have after each flower many distinct, long, slender, often crooked seed pods. It is the name of the twenty-third order in the Fragments, and

of the twenty-sixth in the *ordines naturales* at the end of the *genera plantarum*.

MUM. A bitter infusion in beer, to which the ingredients are added, generally while the beer is fermenting, though it is sometimes made extemporaneously by adding a bitter tincture. It is a German liquor, introduced to us from Brunswick, and is there said to be made in the following manner:

Sixty-three gallons of water are boiled to forty-two, and with this seven bushels of malt, a bushel of oatmeal, and as much of ground beans, are brewed in the usual manner. When the fermentation begins, three pounds of the inner rind of the fir, one pound of the tops of fir and beech, three handfuls of carduus benedictus, two of the flowers of rosa solis, a handful and half of burnet, betony, marjorum, avens, pennyroyal, and wild thyme, two handfuls of elder flowers, thirty ounces of cardamoms, and an ounce of bruised barberries, are added. The herbs and seeds, however, are put in the hogshead after the fermentation has continued a little time. When stopped, ten new laid eggs unbroken are added, and it is kept two years before it is drunk.

The English brewers chiefly use cardamoms, ginger, sassafras, elecampane, and for the colour, madder or red sanders. It is a warm carminative, useful in weak and gouty stomachs, used by common labourers as a warm stimulating liquor in the morning, chiefly to restore the tone of the stomach after excess. It was formerly drunk after dinner to assist digestion, generally from high narrow glasses.

MU'MIA, (from the Arabic *mum*, *wax*). MUMMY signifies *pissasphaltum*, *bitumen*, or a brown fluid found in sepulchres, in which bodies embalmed have been preserved many years; sometimes a carcass dried by the sun and sands, of the consistence of horn, and light, called white mummies. In general, the embalmed bodies from Egypt, preserved with peculiar care, swathed in linen, impregnated with bituminous matter, and adorned with hieroglyphics, have this appellation.

Mumia medullæ is the marrow of the bones. *Mumia elementorum*, a balsam of the external elements. (Paracelsus and Van Helmont.) *Mumia transmarina*, manna. Water deposited in a phial from breathing in it has the same appellation. *Mumia* sometimes means the subtle, spirituous, ethereal substance, supposed to be innate in every body, and to remain in some measure after death. The *mummy* taken from a human body is a resinous matter, hath a hardened, black, shining surface, is acrid and bitter to the taste, and of a fragrant smell. That which is particularly called *mummy* of the Arabians is a fluid liquor, obtained in sepulchres by exudation from carcasses embalmed with aloes, myrrh, and balsam.

MU'NDI A'NIMA, according to Plato, or rather his commentators, is a certain universal ethereal spirit, which exists perfectly pure in the heavens, as retaining its proper nature; but on the earth pervading elementary bodies, and intimately mixing with their minutest atoms, it assumes somewhat of their nature, and becomes of a peculiar kind.

> "Spiritus intus alit, totosque infusa per artus,
> "Mens agitat molem, et magno se corpore miscet."

See ARCHÆUS, and ANIMA MUNDI.

MUNDIFICATI'VA, (from *mundifico*, *to cleanse*). Cleaning, detergent, purifying.

MUNDIFICATI'VUM PARACE'LSI. R. Mellis Britannici terebinthinæ Venet. āā ℔ss. vitel. quatuor ovorum coq. ad consist. unguenti et sing. unciis adde hydrargyri nitrat. rub. ʒ i.

MU'NDY-GUA'CU. See CATAPUTIA MINOR.

MUNGOS RADIX. *Ophiorrheza mungos* Lin. Sp. Pl. 213. Its root is considered as a specific against the bites of mad dogs, and of the serpent *naya*. Its seeds are accounted among the febrifuges.

MUOI'DES, (from μυς, *a muscle*, and εἰδος, *likeness*). See PLATYSMA MYOIDES.

MURÆ'NA. The generic name of the eel. See ALIMENT.

MURA'LIS, (from *murus*, *a wall*,) because it grows on walls. See PARIETARIA.

MU'RECI. A tree in Brasil, whose berries are purging. See Raii Historia.

MU'RIA, (from μυζω, *to flow*). BRINE, a solution of common salt: also a supposed acrimony in the fluids, resembling brine.

MU'RIAS, (from *muria*). MURIAT. Salt formed by the union of the muriatic acid with different bases.

MURIATIC ACID. See MARINUS SAL.

MURICA'TUS, (from *murex*, *a prickly fish*). The stalk of a plant covered with prickles like the shell of the murex.

MU'SA, (from the Arabic term *mauz*,) *palma humilis*, *ficus Indica*, *bala*, *platanus*, the PLANTAIN TREE, *musa paradisiaca* Lin. Sp. Pl. 1477. Though called a tree, it scarcely merits the name of a shrub, since it hath an annual stalk like a reed. The leaves are an ell long, and three spans broad; of which it is supposed that Adam and Eve made aprons. The fruit is of the shape of a cucumber, of a yellow colour, and a most delicious food, and resembles meal and butter. The stalk is cut down to obtain the fruit, the spikes of which sometimes weigh fifty or sixty pounds. The fruit, when roasted, is beat in water, and the juice, styled *mislaw*, is drunk; and even the pulp, when dried and baked, may be used in the same way, to prepare the mislaw. It is found in all the eastern countries, and in Africa. See Raii Historia.

MU'SA FRU'CTU CUCUMERI'NO BREVIO'RI. See BANANA.

MU'SAM. See CASSADA.

MU'SCÆ HISPA'NICÆ. See CANTHARIDES.

MU'SCARI, (from the smell of its flowers). See BULBOS VOMITORIUS.

MUSCA'RUM FU'NGUS, (from *musca*, *a fly*). See BESONNA.

MUSCI'PULA, (from *musca*, and *capio*, *to take*). *Lychnis viscosa rubra*, *viscaria*. CATCH FLY grows among corn, and is cultivated in gardens. Its seeds are said to be warm and diuretic. See Raii Historia.

MUSCI'PULA PRATE'NSIS. See BEHEN ALBUM VULGARE.

MUSCULA'RIS ARTE'RIA, (from *musculus*, *a muscle*). See SCAPULARIÆ ARTERIÆ.

MUSCULA'RIS VENÆ. A branch of the posterior or upper branch of the external jugular; it spreads in the muscles, which cover the scapula and joint of the

humerus. Winslow describes it also as rising from the axillaris.

MUS'CULI OBLI'QUI SUPERIO'RES NE'RVI. See Patheticus.

MU'SCULO CUTA'NEUS NE'RVUS. See Cervicales.

MUSCULO'RUM COMMU'NIS MEMBRA'NA, MEMBRA'NA MUSCULO'SA. Winslow denies its existence; but, in fact, it consists of compacted cellular substance, which, in finer ramifications, penetrates between the muscular fibres: in some places this membrane is closely united to the proper membrane of the muscles.

MUSCULO'SI. A class of diseases, comprehending external or muscular inflammations.

MU'SCULUS. See Mytilus and Cetus. In anatomy from *μυειν, to draw or contract.* Lacertuli, q. v. Muscles consist of those bundles of fleshy fibres by which the motions of all animal bodies are performed, and each is divided into the head, belly, and tail. The head is the part fixed on the immovable joint, called its origin, and is usually tendinous; the belly is the middle, fleshy part, which consists of the true muscular fibres; the tail is the tendinous portion inserted into the part to be moved, called the insertion; but in the tendon the fibres are more compact than in the belly of the muscle, and do not admit the red globules. The number and their nature are supposed not to differ.

The arteries, veins, and nerves, generally enter the middle of muscles, and ramify alike throughout their whole substance. The large arteries and veins run according to the direction of the muscular fibres; the less anastomose and run transversely: but a muscle seems to have a greater proportion of blood than is required for its nourishment, so that it probably assists in the performance of its functions.

The muscles are commonly attached to the bones, and the tendons are inserted into the substance of the bone; but when a muscle is fleshy at its insertion, it is only fixed to the periosteum. The muscles fixed to cartilages are attached to the perichondrium. Some are fixed to ligaments, as those in the fore arm; others into membranes, as those of the eye; and others again into fleshy parts, as those of the tongue.

Muscles are either oblong, hollow, or mixt; the oblong are divided into the rectilinear, half penniform, the penniform, the complex penniform, and the radiated. The muscular fibres are united very firmly in tendons, to lessen the bulk near the joint, which would have obstructed motion, and been otherwise inconvenient, as in the hand. By this means also the fleshy part of the muscle is nearer the centre of motion; and injurious friction is avoided. The appendices of muscles are, the fascia, or aponeurosis, the annular ligament, by which the tendons of some muscles are confined, and the sacculi mucosi.

The more intimate structure of the muscles has not yet been ascertained. The appearance of fleshy fibres is well known; and these, we have said, terminate in white, shining, firm cords, called tendons. The tendinous are seemingly the continuation of muscular fibres, losing, with their more compact structure, the peculiar muscular appearance. Yet this is contradicted on authority that we cannot lightly pass by, and it is said that they are obviously distinct; that the muscular fibres are attached to, without being continued in, them; that they are arranged in a different manner, and inserted at angles more or less obtuse. On the other side, tendinous aponeuroses, diminishing in thickness, constitute internal aponeuroses, giving tension to the fibres, as external aponeuroses sometimes give points of attachment, and almost an origin, to muscles; nor can we deny that tendinous fibres may be inserted into muscles on one side, as they are to ligament or bone on the other. At the same time it is certain that tendons partake of none of the peculiar structure of muscles, and that they are more nearly allied to the simple solid.

Muscular fibres are, when carefully washed, white, solid, and parallel. It is said that they are indefinitely ramified; an opinion, observes Mr. Carlisle, which an hour's labour at the microscope will refute. On these fibres arteries very minutely ramify; it is said, also, with the same indefinable minuteness: but it is at least certain, that before they escape the assisted sight they cease to give off branches. The minuter ramifications of the nerves cannot be ascertained. They enter into the muscle often at right angles, at least considerable ones; and when they spread on the fibres they lose their external coverings, and become transparent, so that we can no longer follow them. The fibres are connected by a cellular substance of different fineness in different muscles, but apparently of a more delicate texture, as the muscular fibre itself grows more minute, and has very seldom any adipose accumulations.

From these facts, which are now well established, we may reject the opinion of the primitive muscular fibre being globular, spheroidal, or rhomboidal, of its being wholly nervous or arterial. We own that we have indulged the language of calling muscular fibres the sentient extremities of nerves, and occasionally spoken of them as such; but if we have at any time expressed such an opinion, we beg leave, on mature reflection, to disclaim it. If there were no other arguments, the proportion of bulk in the vessel and nerve, compared with that of the muscle, oppose it: the peculiar structure and other properties of the muscles are equally adverse.

Though muscles are evidently fibrous and red, we must not deny a muscular structure where we do not find red fibres. The lymphatic system is probably muscular; for the fibrous structure is discoverable in the thoracic duct of a horse: and Mr. Home has rendered it probable that the fibres of the crystalline lens are equally so. At least we know, in numerous instances, that muscular contraction takes place where fibres are scarcely, if at all, discoverable, and where the red muscular structure is not found. Yet, as a part of the fibrous structure, the muscles form a part of the primordial germ. We see their influence at the first dawn of life in the punctum saliens: their action is coeval with animation.

These facts at once disprove the theory of Girtanner, who attributes muscular contraction to a kind of explosion, or effervescence, arising from the oxygen in the blood uniting with the azot, the hydrogen, and carbon of the muscles; for contraction exists when azot is not yet formed. We admit that azot, which furnishes

the zoonic acid, is chiefly discovered in the muscles; that their fluids are the most completely animalized of the whole system; that in animals who lead the most active lives, and in the organs most constantly exerted, it is most frequently found, as in wild animals, the red deer, and hares, the pectoral muscles of the moor fowl, &c.; but this seems the effect rather than the cause of the contraction, as we shall soon find; and, on the contrary, the action of a lympathic, for instance, is steady, and constant; that of the heart of the embryo rapid and unremitted, while each is transparent.

On what then does this action depend? certainly on one of those intricate states connected with life, which we cannot even approach by conjecture. We have nothing analogous to compare it with, nothing which possesses the same properties in different circumstances to enable us to divest it of the adventitious circumstances. We must content ourselves, therefore, with endeavouring to ascertain its phenomena and its laws.

We know, from various experiments, that a free circulation through the arteries of muscles is necessary to their contraction; for tying the artery will render a muscle paralytic; and even tying the inferior vena cava above the iliacs, we are told by Kauw Boerhaave, will render the muscles of the posterior extremities incapable of contraction. The free access of the nervous influence is equally necessary; for though we are vaguely told of animals without a nervous system possessing muscular power, none, which have been examined with care, are found to want this source of motion.

A muscle in action increases in absolute weight, in density, and in its power of resistance. That it increases in bulk may be doubted, for experiments are contradictory; and while the middle or the belly of the muscle is evidently enlarged, the diminution of its length compensates for the increase. Though the tendon is a firm, substantial cord, it is sometimes broken by muscular exertion; while the organ is uninjured, and the patella, as well as other bones, are fractured by a violent jerk, or a sudden, peculiarly violent, action of the muscles. It is, however, recorded, that the muscles themselves are sometimes ruptured, particularly the recti abdominis in tetanus, and the gastrocnemii in cramps; and, as it is difficult to suppose that increased cohesion should occasion a solution of cohesion, it has been suspected that this is the effect of the action of antagonists, or of unequal excitement. Neither, however, could be the cause in the present instances, nor is it difficult to conceive that the material may be ruptured by excess of power. Cord entwined with great force round any body, and then wetted, will be broken by the violent contraction. The choutchouc, a very elastic substance, is diminished in specific gravity by extension.

Muscular action, then, consists in an attraction of the parts of each fibre in a manner peculiar to animated nature. It is not a contraction in every dimension, since it would be then attended with diminished volume; but in length only attended with a proportional increase of bulk, so as to preserve the absolute volume unchanged, or perhaps somewhat increased. The force exerted by this contraction is enormous. It was calculated, however, by the mechanical physicians in the most extravagant manner, on foundations almost wholly chimerical; but on better grounds, from the very disadvantageous insertion of the muscles, which we shall soon enlarge on, to surmount a resistance of fifty pounds, the deltoid, it is said, must exert a force equal to 2568 pounds. In general, it appears that the force with which a muscle contracts is in proportion to the number of its fleshy fibres, and the extent of the surface to which these fibres are attached; but its degree of contraction, or the extent of its motion, is in proportion to their length. The limits of contraction differ in the long and in the circular muscles; for the former do not contract more than one third of their length; but the circular fibres of the stomach, which, in their utmost dilatation, may be expanded to a foot in circumference, will, after long fasting, be reduced to a circle of an inch. It must, however, be added, that in circular muscles no fibres pass completely round: bundles of fibres are collected, and end at different points, while some begin where others end. Each may, therefore, admit only of a limited contraction, while the dilatation just mentioned may be the sum of the whole.

Muscles are usually attached to bones near their joints, and, running almost parallel with the bone, are inserted at very acute angles. They are consequently levers of the third kind, situated between the fulcrum and resistance. By this contrivance, much force is lost to attain velocity, and to avoid deformity; for the muscle would start out in its action, if conducted in any other manner, and this starting would be in proportion to the celerity of the action of the resisting part. At present, the hand, for instance, sweeps through a large circle with great velocity, while the muscles, which raise the fore arm, viz. the biceps and brachialis internus, swell to a degree scarcely perceptible. In the force supposed to be exerted by the deltoid, a great proportion acts only in pressing the humerus to the shoulder, according to the common doctrine of the composition, and resolution of forces. Another loss of force arises from the oblique insertion of the fleshy fibres into the tendinous expansion, which pervades them: but, with the Author of Nature, power as well as life is obedient to the divine fiat, and each is profusely diffused: yet all this has been resolved into jarring atoms, molecules organiques, and animated filaments! Various contrivances, however, appear to have been adopted to lessen this considerable loss of power. In general, the extremities of the bones are enlarged, so that the muscle is removed from the parallelism, the tendons of the smaller line of direction of the bones are separated, or the angles at which they are inserted are augmented. Sometimes, for the same purpose, the tendons, or the muscles themselves, are reflected over pulleys. When the limb begins to move, the angle of insertion is, of course, increased.

The action of muscles is never intermitted, and only diminished in the sleeping state. This action arises from a less degree of that power which moves the limbs, and is styled, by Haller, the vis insita; by later authors, irritability, or tonic power. When muscles are not exercised, this power is very slightly exerted; but, by the position which the limbs assume, we discover the relative strength of the antagonizing muscles. Thus we find the flexors stronger than the extensors; for during sleep the head falls forward, the body, legs, arms, and fingers are lightly bent. We see the cause of

this strength, when we find that the flexors have stronger and more numerous fibres; that their insertion is farther from the centre of their motions, and under a larger angle, which, as we have remarked, must increase when flexion has begun. This superiority of the flexors bends the fœtus in utero into a round ball. When the infant is born, the same superior power of the flexors continues, though in a less degree, and frequent pandiculations are required, to give activity and energy to the extensors, which they again lose in advanced age. When we awake from a sound sleep the same yawning pandiculations occur; and Barthez fancifully refers the crowing of the cock, and the fluttering of his wings, to a similar purpose. It is always useful to examine, in diseases, the position of the limbs during sleep, particularly of children. If they deviate from the bent to a more straight position, there is generally some irregularity in the state of tone, and, of course, in the vital influx.

It is supposed by some authors, that the vital influx is not necessary to the contraction of muscles, but that they possess irritability as a quality, and this is the strict meaning of the vis insita of Haller; but we do not, in any instance, find this, for any time, unconnected with life. Irritability is, indeed, lost at different periods in different organs; for some, particularly the heart, soon lose it, while the voluntary muscles retain it; and apparently those which derive their nerves from the intercostal system lose it sooner than those whose nerves originate from the base of the cerebrum. Irritability is also exhausted in the agonies of death, and retained for a longer time when the death has been sudden and violent, except it happen from lightning. On this principle fish are crimped; for the muscles are cut across, while the irritability remains, and the muscular portions contract so as to give greater firmness to the flesh. To preserve this irritability, the fish receives a blow on the head as soon as it is taken from the water, when the operation is performed, is washed in hard water, whose astringency, from the selenite it contains, assists the contraction. Irritability is also soon destroyed by narcotic poisons, either if partially applied, or, more generally, if life is extinguished by their means. The power of contraction, by volition, by association, by a stimulus on the brain, or on the nerves in their course, as it acts through the medium of the nerves, is called the *nervous power;* though when volition only is the cause, Dr. Cullen chooses to call it the *animal power.* The *tonic power*, as we have said, is that state of constant contraction owing to life, or perhaps to the action of antagonizing muscles.

The state of muscles differs according to their vigour and their mobility. The first attends firm and robust, the second weak, constitutions. In the latter, muscular contraction frequently alternates with relaxation; and the greatest degree of this state is Convulsions, vide in verbo. Vigorous contraction is less subject to alternate with relaxation; but such alternation is common to muscles in general, and found in every long muscle but among the round muscles in the heart, the intestines, probably also the stomach only. Spasm is not a disease of vigour, but of a high degree of irritation, and owing to an irregular influx of the vital power. We have enumerated association among the stimuli, rather from a loose analogy than with strict pretensions to accuracy, including, in this way, each source of muscular action.

Muscular irritability is exhausted not only by exercise, by narcotic poisons, and every kind of excitement, but by mental exertions also: and the student, constantly at the midnight lamp, finds it greatly diminished, not only by his mental exercise, but by disuse. Violent emotions have a similar and more sudden effect. At the time we observe that violent muscular action diminishes, and occasionally destroys, sensibility. Thus, in battle, the soldier does not feel his wound; and the juggler violently contracts the muscles of his leg when he runs the pin into them. These facts, which might be supported by many analogous ones, seem to show that the sentient and moving powers are more closely connected than physiologists have supposed.

The bulk of a muscle is chiefly made up of cellular substance and blood vessels. When each is separated, the true muscular fibres occupy a very small space, and the muscles are found equally, often more, distinct in the emaciated invalid than in the robustest subject. We may conclude from hence, that muscular fibres are not destroyed nor produced; and we think the opinion is supported by observation. If a muscle is destroyed, the limb remains useless, or at least partially useful, by the assistance of those which remain. If cut through, the fibres are united by a compact cellular substance. Yet late authors have been fond of employing the analogy between the fibrin and the muscular fibre, particularly when they found the fibrin contract by the galvanic stimulus; and, in support of it, they quote an observation of Haller, that the generality of muscular arteries are curved on themselves, in a remarkable manner, when entering into the muscles. This structure, they think, must retard the blood, and facilitate the separation and deposition of the fibrin. The muscular flesh, they add triumphantly, is the most azotic fluid of the whole system, and the fibrin the most animalized portion of the blood. If, however, the fact be as just stated, that muscular fibres are not reproduced, this necessity no longer appears, and we know not that contraction is connected with azot. Irritability and sensibility are both, however, apparently peculiar to a fibrous structure; and we know so little of the means by which the nervous influence is connected with the nerve as a simple solid, that we may suppose this union in part depending on fibres, and, when these are formed, that they may share a portion of this incomprehensible power. Thus, then, the fibrin may enjoy a certain portion of life; thus the muscles may be more directly a part of the nervous system. Yet we have disclaimed both opinions; and, though the course of our argument has led us to this view of the subject, we must add that such reasoning appears loose and precarious. See Blood, vol. i. p. 357, &c. and Nervus.

Before we proceed to a general enumeration of the muscles, we must premise, that the most fixed point is styled its origin, the more moveable its insertion. In the motion, however, of limbs, the peculiar muscles are not exclusively employed, since some distant ones are exerted to fix the part from which the muscles originate. In other circumstances the fixed point becomes

occasionally, though in a less degree, the moveable; and for this reason we have styled the origin the *most* fixed point. In some instances, the part from which the muscle originates is equally moveable with that into which it is inserted.

Muscles of the Head. The forehead is wrinkled and drawn upwards, as are also the eyebrows, by a broad thin muscle, *occipito frontalis*, which rises at the back part of the skull, and, covering the head, runs down the forehead, to be inserted into the skin of the eyebrows.

The eyebrows are drawn towards each other, and the skin of the forehead pulled down and made to wrinkle, as in frowning, by a pair of small muscles, *corrugatores supercilii*, which rise from the root of the nose, and are inserted into the inside of the eyebrows.

The ear is moved by eleven small muscles. The first three are called common, because they move the whole ear. The next five are termed proper, and only move the parts to which they are connected; while the other three are internal, to move the small bone situated within the ear.

The eyelids are closed by a muscle, which, rising from the inner angle of the orbit or cavity in which the eye is embedded, covers the under eyelid, then surrounds the outer angle, and passing over the upper eyelid, descends to be inserted, by a short, round tendon, near to its origin, *orbicularis palpebrarum.*

The eye is opened by a muscle, which, rising from the inner and upper part of the socket, is inserted into the upper eyelid, to draw it upwards, *levator palpebræ superioris.*

The eyeballs are carried through all their motions by six small slender muscles to each. They arise from the bottom of the socket, and are inserted into the outer coat of each eyeball at different points. Four of these move the eye upwards or downwards, to the right and to the left; while the two remaining muscles give oblique directions to the eye, at the same time protruding it; and all acting in quick succession, enable the ball of the eye to describe a complete circle. See Oculus.

The nose is affected by several small muscles of the face, but only one muscle on each side is proper to it. This muscle straightens the nostrils, and corrugates the skin of the nose, *corrugator naris.*

The mouth and lips are moved by nine pair of muscles, *levator labii superioris alæque nasi; levator anguli oris; zygomaticus major; buccinator; depressor labii superioris alæque nasi; depressor anguli oris; depressor labii inferioris; levator labii inferioris; orbicularis oris;* which, arising from the contiguous bones of the face, are inserted into the lips and angles of the mouth: and from the termination of these muscles a tenth is formed, which surrounds the mouth like a sphincter, and closes it, by drawing the lips together. It is from the actions of these muscles on the mouth, particularly at its corners, that the emotions of the mind are expressed, and the predominance of particular feelings in characters is indelibly stamped: unless in those individuals whom nature has gifted with an unimpressible dulness of character, or in whom the more delicate lines are filled up by too great fatness.

The lower jaw has four pair of muscles for pulling it upwards, as in manducation, viz. two pair seen upon the outside of the face, and two pair concealed by the angles of the jaw. The first pair arise from the sides of the skull, above the temples, whence they are called temporal muscles, *temporalis;* and then descending under the bony bridges of the cheek bone, are inserted into the lower jaw near its ends. The second pair arise, at each side, from the under edge of the bony bridge, and descending along the cheek, are inserted into the angle of the lower jaw, *masseter.* These four muscles act powerfully in pulling the jaw upwards, and when we bite, may be felt swelling out in the flat part of the temple, and upon the back part of the cheek. The other two pair of muscles arise from the base of the skull, and are inserted into the lower jaw internally, for enabling this bone to move from side to side, the more effectually to grind the food, *pterygoideus internus* and *externus.* The lower jaw is pulled downwards by muscles, which extend between it and the bone of the tongue, and which also serve to raise the throat upwards.

Muscles of the Neck. The neck is covered with numerous and complicated muscles: those on the fore part or throat extend some between the head and upper part of the trunk, *latissimus colli* and *mastoideus:* others between the lower jaw and the os hyoides; more between this bone and the cartilages of the throat; while numerous other small muscles are situated between these cartilages and the trunk; and also about the root of the tongue and the back part of the mouth. Their names are sufficiently descriptive of their situations, viz. *omo-hyoideus; sterno-hyoideus; hyo-thyroideus; sterno-thyroideus; crico-thyroideus; digastricus; stylo-hyoideus; mylo-hyoideus; genio-hyoideus; genio-glossus; hyo-glossus; lingualis; stylo-glossus; stylo-pharyngæus; circumflexus; palati; levator-palati; palato-pharyngæus; constrictor isthmi faucium; azygos uvulæ; constrictor pharyngis superior, medius et inferior; crico-arytænoideus lateralis et posticus; arytænoideus obliquus et transversus; thyreo-arytænoideus; arytæno-epiglottideus;* and *thyreo-epiglottideus.* Their uses are, viz. to bend the head forwards; to open the mouth by pulling the lower jaw downwards; and to move the parts concerned in deglutition and speaking.

The muscles on the back part of the neck are rather portions of the great muscles, which cover the back, than distinct bundles of fibres; but, having some of their extremities fixed to the back part of the skull, and also to the hinder portion of the spine of the neck, are intended to move those parts, drawing them backwards and sideways.

Muscles of the Trunk. Those are principally the muscles which cover the breast; those which constitute the fore part and sides of the abdomen; and the great muscles that are spread over the back.

The muscles of the back are numerous and large: they arise from the whole length of the spine or back bone, having their originating fibres firmly fixed to the numerous processes or handles of that bone; from the upper and posterior edge of the pelvis; and also, some portions from the back part of the skull; and from these different organs, they spread over and cover the back of the trunk, and run to be inserted, some into the base of the arm, others into the spine at a distance from their origin, and the remainder into the ribs and back part of the skull. They consequently not only cover and protect the whole back part of the body, but also serve to pull the head backwards, move the whole arm,

assist respiration by acting on the ribs, and to raise the body by extending the spine. These are, the *trapezius*, or *cucularis; rhomboideus; latissimus dorsi; serratus inferior et superior posticus; levator scapulæ; splenius; complexus; trachelo mastoideus; rectus capitis posticus major et minor; obliquus superior et inferior capitis sacrolumbalis; longissimus dorsi; spinalis et semispinalis dorsi; multifidus spinæ; semispinalis colli; scalenus; interspinalis et intertransversales.*

The cavity of the abdomen is completed at its fore part and sides by a few broad and thin muscles, which extend from one bone to the other, having their ends firmly fixed to the edges of these bones; and passing over each other, to constitute walls for covering in and containing the bowels. These are *obliquus externus* and *internus; transversalis; rectus abdominis* and *pyramidalis.* These muscles also assist respiration by helping to expel the air from the lungs: and they contribute to the movement of the body, by bending it forward as in bowing, and by raising the pelvis.

The breast is covered by a few broad and strong muscles, which arise from the whole length of the breast bone, and form the fore part of the ribs, and running from each other over the chest, are inserted into the shoulder for moving the limb forward, *pectoralis major; serratus magnus; levatores costarum.*

The ribs are raised, and the cavity of the chest enlarged, during inspiration, by eleven double rows of small muscles on each side. They grow out from the lower edge of one rib, and are inserted into the upper rim of the next: *intercostales externi et interni; sterno costales:* at the fore part of the neck, close to the vertebræ, are the *rectus capitis internus, major, minor et lateralis; longus coli.*

Muscles within the Body. The principal one is called the diaphragm; it is a broad thin muscle, occupying partly a horizontal position, when the body is erect; but inclining downwards towards the back, and dividing the trunk of the body into the two great cavities, the thorax and the abdomen. It arises from the lower end of the breast bone; from the cartilages of the seventh, and of all the inferior ribs on both sides; and from the second, third, and fourth lumbar vertebræ; and from these origins its fibres run, like radii from the circumference to the centre of a circle, to be inserted into a broad flat tendon, which is situated in the middle of this muscle. The diaphragm is the principal agent in respiration, as shall be more fully described under that head.

The other muscles within the body arise from the sides of the lower end of the back bone, and from the inner surface of the pelvis, and, passing down to be inserted into the thigh bone, a little below its head, they help to turn the toes outwards, and to bend the thigh; or when the limb is fixed, they assist in bending the body, *psoas parvus et magnus; illiacus internus; quadratus lumborum.*

Muscles of the Superior Extremities. These anatomists divide into the muscles that are situated on the shoulder blade, on the arm, on the fore arm, and on the hand.

The muscles situated on the shoulder blade are called muscles of the arm, because, though they arise from the former bone, which serves them as a base, yet they are inserted into the bone of the arm to effect its movements: the same observation holds with respect to the other divisions of these muscles.

The arm then is moved by seven muscles which arise from the shoulder blade, and passing over the joint are inserted into the arm bone at its upper and middle parts. The *deltoides; supra et infra spinatus; teres minor et major; subscapularis et coraco brachialis;* these, together with the muscles coming from the back and breast, already described, complete the motions of this part of the limb.

The fore arm is moved in flexion and extension by three muscles, which arise from the upper part of the arm bone; run down its whole length, and constitute its fulness and figure: they then pass over the elbow joint to be inserted into the upper ends of the two bones of the fore arm. These are the *biceps flexor cubiti; brachialis internus et triceps extensor cubiti.*

The hand is moved at the wrist by six muscles; three of these arise from the upper part of the fore arm, and descending along its whole length, are continued over the wrist, and are inserted into the hand close to this joint; they bend the hand, and are consequently called its flexors, *flexor carpi ulnaris; palmaris longus et flexor carpi radialis.* The three extensors, so called, because they extend the hand, and bring it backwards, arise from the lower end of the arm bone, and passing down the fore arm also, run to be inserted into the back of the hand just beyond the wrist, *extensor carpi radialis, longus et brevis; extensor carpi ulnaris;* all these muscles, before they reach to the wrist, become slender tendons, which is the cause of the tapering of the fore arm from about its middle to the hand.

Besides flexion and extension, the hand has a circular kind of motion called pronation and supination: the former takes place when we turn the palm down, as upon a table; the latter when we turn the palm upwards; and both motions are produced by four short muscles which extend obliquely across from one bone of the fore arm to the other, and roll the radius upon the ulna, carrying the wrist round in circles, *supinator longus et brevis; pronator radii teres et quadratus.*

The fingers are principally moved by two flexors and one extensor. The former muscles arise from the upper part of the fore arm near the bend, and running down towards the wrist, send off four round tendons each; which passing over the palm of the hand, are inserted, the one set of tendons into the upper part of the second bone, and the other into the last bone of each of the four fingers: the latter set of tendons pass through slits in the former, which help to bind them down, when the fingers are bent. The extensor muscle arises above the elbow, passes down the fore arm, and also splits into four round tendons, which can be plainly felt on the back of the hand, and are inserted into all the bones of the four fingers for extending them.

The other movements of the fingers, and those of the thumb, are performed by muscles, chiefly situated upon the hand; and which, together with those we have described, complete the motions of these parts. Except the *indicator* which extends the four fingers, the names express their uses. The *interossei interni et externi* extend the fingers, and move them in different directions. The *lumbricales* bend the first, and extend the two last, joints of the fingers.

Muscles of the Inferior Extremities. The great

muscles which move the thigh all arise from the pelvis, or the lower part of the trunk; covering, and also giving plumpness and shape to the external surface of these parts, they descend over the hip joint, to be inserted into the thigh bone below its articulating head: by the action of these powerful muscles the thigh is carried through all its motions. These are the *glutæi; pyriformis; gemini; obturator internus, et quadratus femoris; pectinalis; adductor longus brevis et magnus femoris; obturator externus.*

The leg is moved by eleven muscles, which arise partly from the pelvis, and partly from the upper end of the thigh bone: they descend along this bone, giving fulness and shape to the thigh, and passing over the knee joint, are inserted into the bones of the leg; the extensors into the upper edge of the knee pan, for extending the leg, and the flexors into the posterior sides of the long bones of the leg, a little below their heads: the tendons of these muscles form the inner and outer ham strings. *Biceps flexor cruris; semitendinosus; semimembranosus; tensor vaginæ femoris; rectus; sartorius; gracilis; vastus externus et internus, cruræus et poplitæus.* They bend the leg.

The foot is moved by three extensors, and by four flexors. The extensors arise, the two first by double heads from the lower end of the thigh bone, near the bend of the knee: these heads soon after unite into the great fleshy bellies, which, swelling out, form the calf of the leg; but decreasing where the leg begins to grow small, they each give off a broad thin tendon, which also uniting, form the tendon of achilles, to be inserted into the extremity of the heel. Those powerful muscles extend the foot by bringing it backwards, and are principally engaged in running, walking, leaping, &c. The third extensor of the foot arises also from the lower end of the thigh bone, and descending by a long, slender tendon, is inserted into the heel, to assist the former: but this muscle is sometimes not to be found in the human subject. *Gastrocnemius internus et externus; plantaris.*

The four flexors arise, the two first from the upper part of the tibia, or principal bone of the leg, and continuing fleshy about half way down that limb, send off two round tendons, which pass under the inner ankle, and are inserted into the bones of the foot. The other two flexors of the foot arise from the superior part of the fibula or smaller bone of the leg, and sending off two round tendons, which pass under the outer ankle also, are inserted into the bones of the foot. These assist the former in bending the foot by drawing it upwards. *Tibialis posticus et anticus; peronæus longus et brevis.*

The toes have two extensors and three flexors. The first extensor arises from the upper part of the leg, and descending to the ankle, splits into four round tendons, which run forward upon the upper part of the foot, where they can be plainly felt, and are inserted into the four small toes to extend them: the other extensor arises from the heel, and running forward upon the foot, also splits into four tendons, to be inserted into the toes likewise, and to assist in extending them.

The flexors of the toes arise, the first from the under and back part of the heel, and running forward along the sole of the foot, sends off four tendons to be inserted into the second row of bones of the four smaller toes. The second flexor arises from the back part of the tibia below its head, and descending the leg, passes at the inner ankle to run along the sole of the foot, on the middle of which it splits into four slender tendons, which perforate the former, in the manner of those which bend the fingers; and extending beyond them are inserted into the extremities of the last joint of the four small toes. The third flexor assists the two former in bending the toes, and also draws them inwards. Besides these there are other small muscles which are situated upon the foot, and which, with those coming from the leg to be inserted into the great toe, complete the movements of these parts. These muscles are sufficiently known by their names, and what has been said on those of the hand.

Thus we see that the muscles or flesh cover and spread over the whole frame of bones, connecting and securing its different divisions and parts; and not only producing all its movements, but also giving to it fulness, shape, and beauty.

See the Croonian Lectures in various volumes of the Philosophical Transactions; Haller's Elementa Physiologiæ; Brown on the Muscles; Winslow's Anatomy; Cowper's and Albinus's Tables of the Muscles; Innes and Douglas on the Muscles.

MU'SCULUS ANTE'RIOR MA'LLEI, or MU'SCULUS EXTE'RNUS AU'RIS DUVE'RNII; *anterior malleolus;* is placed in a fissure on the temporal bone, above the glenoid cavity, where the lower jaw plays, runs inward, and is inserted into the Ravian process of the malleus irregularly forward from the incus; and by taking off from the vibratory motion of the bones, it is supposed to fit the ear for receiving weaker sounds.

MU'SCULUS EXTE'RIOR. See ABDUCTOR OCULI.

MU'SCULUS INFE'RIOR. See DEPRESSOR OCULI.

MU'SCULUS TU'BÆ NO'VUS VALSA'LVÆ. See CIRCUMFLEXUS PALATI.

MU'SCUS CLAVATUS. See LYCOPODIUM.

MU'SCUS CUMATILUS. *Lichen aphthosus* Lin. Sp. Pl. 1616, is supposed to be anthelmintic, and is given in infusion or decoction to destroy worms, or to remove aphthæ. The dose of the powder is twelve grains to infants. Its smell is highly fetid and disgusting.

MU'SCUS ARBOREUS, *lichen plicatus* Lin. Sp. Pl. 1622, *usnæa officinarum.* It is slightly astringent, used to stop hæmorrhages, and by the Laplanders to relieve excoriations from travelling.

MU'SCUS LAPIDEUS. See CORALLINA.

MU'SCUS PULMONA'RIUS. *Pulmonaria arborea,* OAK LUNGS, and LUNG WORT, is made up of flat, wrinkled, rough leaves, greenish above, and ash coloured underneath, with several round, reddish brown spots on the surface, in which the seed is supposed to lie. It hath a bitterish astringent taste, and grows spontaneously on the oak tree.

MU'SCUS PYXIDATUS, *musculus pyxoides terrestris, lichen pyxidatus major; lichen coccifcrus* Lin. Sp. Pl. 1618. CUP MOSS, a species of lichen, growing on barren dry ground, with many hoary whitish green, small leaves, spread on the surface of the earth, among which arise little, whitish, dusky, hollow cups, a quarter of an inch high, showing neither flower nor seed. The decoction is reckoned a specific in the hooping cough.

MU'SCUS SQUAMOSUS TERRESTRIS. See LYCOPODIUM.

MUSTELA'NEI. See Anci.

MU'STUM, (vinum mustum, i. e. novum, from μοστχος, *tener*). Must, *gleucos*. This term usually given to new wine, is now applied to the saccharine juice of several fruits, susceptible of the spirituous fermentation, and particularly of grapes, before its commencement. When boiled till one third is consumed, it is called *carænum;* when to one half, *defrutum; hepsema;* and when its fermentation hath been prevented, or prematurely suppressed by fumigation with sulphur, *stum*. See Vinum.

MU'STUS, (from μοστχος, *tener*). The white calx of urine, and whatever is young or tender, as *virga musta, agna musta*.

MUTELLI'NA. See Meum Alpinum Germanicum.

MUTI'LLA. The velvet ant of South America, highly troublesome from its sting. It is usually found in sandy places, runs very swiftly, and lies concealed under stones and flowers. There are many European species, but these are not troublesome.

MU'TITAS, (from *mutus, dumb*). Dumbness. The want of power to articulate words. Dr. Cullen places this disease in the class *locales* and order *dyscinesiæ*, defining it an inability of articulating words. The species are,

1. Mu'titas organica; when the tongue is taken away or injured.

2. Mu'titas atonica, when the nerves are chiefly affected.

3. Mu'titas surdorum, from early deafness.

MYACA'NTHA, (from μυς, *a mouse*, and ακανθα, *a thorn;* because its prickly leaves are used to preserve substances from mice). See Ruscus.

MYA'GRO, and MYA'GRUM, (from μυια, *a fly*, and αγριυω, *to seize;* because flies are caught by its viscidity). *Myagrum perenne* Lin. Sp. Pl. 893. (See Rapistrum.) This plant has a turbinated fruit, like an inverted pear, unicapsular, pressing in the stalk, containing one seed, with two empty cells, resembling in virtue the rapistrum, or raphanistrum.

MY'CE, (from μυω, *to wink*.) A winking, closing, or obstruction. It is applied to the eyes, to ulcers, and to obstructions of the viscera, especially the spleen. In botany it means a fungus; in surgery the fungus which rises in ulcers or wounds. In some authors it signifies a yellow vitriol.

MYCHTHI'SMOS, (from μυχθιζω, *to mutter* or *groan*). A sighing or groaning during respiration, while the air is forced out of the lungs. Hippocrates.

MYCONOI'DES, (from μυκης, *a nostril*, and ειδος, *resemblance*). An epithet of an ulcer, which is full of mucus.

MY'CTER, (from μυσσω, *to blow the nose*). See Nasus.

MY'CTERES. See Nares.

MYDE'SIS, (from μυδαω, *to abound with moisture*). A disease of any part from redundant moisture, applied by Galen to the eyelids.

MY'DON, (from μυδαω, *to grow putrid*). Fungous flesh in a fistulous ulcer.

MYDRI'ASIS, (from μυδαω, diseases supposed to arise from too great influx of humours). Different complaints have been attributed to this cause, the distinguishing symptom of which is a dilatation of the pupil. These are amaurosis, hydrocephalus, worms, the adhesion of the uvea to the capsule of the crystalline, paralysis and spasm. See Amaurosis.

MYLA'CRIS, (from its resemblance to μυλη, *a grindstone*). See Patella.

MY'LE, (μυλη). See Patella and Mola.

MYLO-GLOSSI, (from μυλη, *dens molares*, and γλωσσα, *lingua*). These muscles are small fleshy planes, situated transversely on each side, between the ramus of the lower jaw and the basis of the tongue; they rise from near the inner side of the dentes molares, and thence run to the basis of the tongue, but are often wanting.

Mylo-hyoi'des, (from μυλη, *a grinding tooth*, and ὑοειδης, *the hyoid bone*,) muscles which rise with a large basis from the inferior part of the lower jaw, and are inserted at the basis of the os hyoides.

Mylo-pharyngæ'i, (from the same, and φαρυγξ, *the pharynx*,) *cephalo pharyngæi*. See Geniopharyngæi and Pharynx.

MY'LON. See Staphyloma.

MYOCE'PHALON, (from μυια, *a fly*, and κεφαλη, *the head*). A tumour in the uvea of the eye, resembling the head of a fly. See Staphyloma.

MYOCOILI'TIS, (from μυων, *musculus*, and κοιλια, *venter*). An inflammation of the muscles of the belly. (Vogel). See Inflammatio musc. abdominis.

MYOLO'GIA, (from μυς, *a muscle*, and λογος, *sermo*). A treatise on the muscles.

MYO'PIA, MYOPI'ASIS, (from μυω, *to shut*, and ωψ, *the eye*). Short sight; *dysopia dissitorum* of Cullen; *nuciositas*, because the eyes are generally partly closed. This disease is owing to the excessive convexity of the crystalline, by which the rays, unless the object is placed close to the eye, are united before they reach the retina; consequently vision must be indistinct. This convexity may arise from a beginning hydrophthalmia, or a too copious secretion of the aqueous humour; from a distention of the axis of the eye, in consequence of habit; from a natural (often an hereditary) convexity of the anterior curvature of the crystalline; from the density and, in consequence, the increased refractive power of the cornea. The increased convexity of the cornea is not uncommon in the infant state. The concavity of the spectacles must be proportioned to the sight, and myopes should begin with the least concave glasses. When they read they should never use them. See Amblyopia, and Oculus.

MY'OPS. Short sighted person.

MYORE'SHALON. The uvea growing over the sight.

MYO'SIS, (from the same). A contraction of the pupil, not enlarging in darkness. This sometimes arises from spasm, occasionally from paralysis, and in the internal ophthalmia, or from wounds, from inflammation, when it is, perhaps, ultimately referrible to spasm. It is sometimes like the myopia acquired, sometimes hereditary.

MYOSI'TIS, (from μυς, *a muscle*). Rheumatism, particularly when it affects the muscles of the limbs proceeding from the joints. (Sagar.) See Rheumatismus.

MYOSU'ROS, (μυς, *a mouse* and ουρα, *a tail;* from its resemblance,) *cauda muris, holosteum, holostes, ranunculus, myosurus, minimus* Lin. Sp. Pl. 407. Mouse

TAIL. The leaves are gramineous; it flowers in May, and grows in the highway, resembling in virtue the plantain.

MYOTO'MIA, (from *μυς, a muscle*, and *τεμνω, to cut*). A dissection of the muscles.

MYRE'PSICUM O'LEUM. See BEN.

MY'RICA, (from the Hebrew, *marak*). See TAMARISCUS.

MY'RICA GALE. See MYRTUS BRABANTICA.

MYRIOPHYLLON. See MILLEFOLIUM.

MYRI'NGA, MY'RINX. See AUDITUS.

MYRI'STICA NUX, (from *μυρον, an odoriferous ointment;* named from its sweet smell). See NUX MOSCHATA.

MYRME'CIA, (from its being the size and shape of *μυρμηξ, a fismire*). A soft, often a moist, wart, about the size of a lupine, with a broad base, growing on the palms of the hands, or on the soles of the feet, deeply rooted and painful.

MYROBA'LANI, (from *μυρον, an ointment*, and *βαλανος, a nut*,) MYROBALANS, a dried fruit of the plum kind, brought from the East Indies, of which three kinds are brought fron Bengal, *faba Bengalensis*, *Cambaia*, and *Malabarica*. (See ADIPSOS.) They have been recommended as somewhat astringent and tonic, but are not now in use. Myrobalanus means *nux*, or *glans unguentaria*, a NUT or ACORN, fit for making precious ointments; for from the myrobalans described by Dioscorides, Pliny, and Galen, they used to express a fragrant oil used in ointments. All the different kinds, which we hasten to describe, are probably varieties of the *phyllanthus emblica* Lin. Sp. Pl. 1393.

MYROBA'LANI BELLI'RICI, *belleregi*, *bellegu*, BELLIRIC MYROBALANS, are of a yellowish grey colour, and an irregularly roundish or oblong figure, about an inch long, and three quarters of an inch thick.

MYROBA'LANI CHEBULÆ resemble the yellow sort in their figure and ridges, but are larger and darker coloured, inclining to brown or blackish, and with a thicker pulp.

MYROBA'LANI CITRI'NI, vel FLAVI, are somewhat longer than the belliric, have generally five large longitudinal ridges, and as many smaller between them, somewhat pointed at both ends.

MYROBA'LANI E'MBLICI, *ambegu*, are of a dark, blackish grey colour, roundish, about half an inch thick, with six hexagonal faces opening from one another.

MYROBA'LANI I'NDICI, vel NIGRI, *asuar*, are of a deep black colour, oblong, octangular, differing from all the others in having only the rudiments of a stone, and supposed to have been gathered before maturity.

All the sorts have an unpleasant, bitterish, austere taste, strike a black colour with a solution of vitriol, contain tanin, are gently purgative and astringent. The dose in substance is from ʒ i. to ʒ ss. in infusion or decoctions from ʒ ss. to ʒ i. ss. Water extracts their styptic virtue, and the extract is astringent. The *faba Bengalensis*, or the Bengal bean, is an abortive fruit of the myrobalans, round, flattish, wrinkled, and of the size of a small fig, hollow in the middle, of an irregular shape, hard, tough, brown outwardly, and blackish within, of but little smell, but an austere and astringent taste. It is vitiated by the puncture of an insect, by which it is often hollowed like a gall; but is a powerful astringent, and is said to be demulcent. See Raii Historia; Tournefort's Materia Medica.

MYROBA'LANUS ZEYLA'NICUS. See ELEMI.

MY'RON, (from *μυρω, to flow*). An ointment, medicated oil, or unguent.

MYROPHY'LLON. *Millefolium aquaticum*. WATER FENNEL, grows in marshy soils; flowers in April and is styled vulnerary. See Raii Historia.

MYRO'XYLON, (from *μυρον, an ointment*, and *ξυλον, wood;* because it flows from a tree). See PERUVIANUM BALSAMUM.

MY'RRHA, (from Hebrew, *mar, bitter*). MYRRH, *stacte*, *ergasma*, in the ancient designation, Z z. Dioscorides mentions a fatty species, *gabirea*. It is a gummy resinous concrete, brought immediately from Alexandria, Smyrna, and Aleppo, said to be a produce of the *scandix odorata;* found, according to Bruce, in that part of Africa to the south of the straits of Babel-Mandel. When he inquired after the plant which produced it, they constantly brought him the branches of the *acacia nilotica*. Loueiro has told us that it is the production of a species of laurus, but this is improbable; and from its sensible qualities, it seems rather to belong to the genus *amyris*. It is brought to us in globules, or drops, of various colours and sizes. That of a reddish brown colour, not verging too much to a yellow or black, uniform on the outside, internally speckled or streaked with white, semicircular striæ, clear and bright, somewhat unctuous to the touch but not so tenacious as to stick to the fingers, is the best. If whitish, or dark, resinous, fetid or mixed with impurities, it should be rejected.

This drug is subject to a variety of frauds; it is mixed with hard, shining, yellow pieces of a gum, void of smell or taste. Pieces of bdellium are found with it, known by their darker colour, their being soft within, and by their different smell and taste. Sometimes an unctuous gummy resin, of a moderately strong, somewhat ungrateful, smell, and a bitterish, very durable taste; obviously different both from those of bdellium and myrrh; at others, pieces of a hard, compact, dark coloured kind of tears, less unctuous than myrrh, of an offensive smell, a most ungrateful bitterness, and of a very resinous nature, are mixed with it. The myrrh itself is sometimes blackish, gathered probably from old trees, and fitter for tinctures; or yellow, apparently from young trees. The latter easily dissolves in the mouth, hath a much more agreeable aromatic smell, and is preferable for pills, powders, and watery solutions. All the variety seems, according to Bruce, to arise from the age of the tree, and the period of collecting.

Myrrh is said to be balsamic, vulnerary, antiseptic, attenuant, and deobstruent; but its real virtues seem not to be clearly understood. It is a bitter, apparently of the narcotic kind, and in doses from ten to fifteen grains appears to be mildly corroborant, and gently sedative. That it promotes the secretions is doubtful, but its having been so frequently given as an emmenagogue seems to show that it has some power in promoting this discharge. We find it reprobated by the French physicians, as promoting bloody urine; and we have confessed some prejudice against it in hectics where hæmoptoe had occurred, or was dreaded. In cases of languid circulation and cachexy, it seems to be useful rather as a tonic than as a stimulant; and it seems

occasionally of service as an antispasmodic. In external sores it is a mild sedative, and frequently an antiseptic application; effects which perhaps recommended it to internal use in hectics. In doses of from half a drachm to two scruples it is said to be stimulant; but such we have never given. In some states of low fever, however, it seems occasionally to act as a cordial.

It dissolves almost totally in boiling water; but as the liquor cools, the resinous part subsides; and if the solution is evaporated to an extract, the bitter of this drug only remains. By distillation with a boiling heat in water, the whole of its flavour rises, partly impregnating the distilled water, and partly collected and concentrated in the form of an essential oil, in smell extremely fragrant, and more agreeable than the myrrh in substance; in taste remarkably mild, and so ponderous as to sink in water. Two or three drachms of this oil are obtained from ℥xvi. of the gum. Rectified spirit dissolves less of the myrrh than water; but it extracts more perfectly that in which its bitterness, flavour, and virtue consist. The spirituous solution contains all the active matter; in distillation nothing is caaried away by the spirit, so that the extract obtained from a spirituous solution is a very fragrant, bitter, tenacious resin, and possesses all the virtue of the myrrh.

From 7680 parts of myrrh Neumann procured 6000 of watery extract, 180 of volatile oil, and 720 of alcoholic extract: by inverting the order, 2400 of alcoholic and 4200 of watery extract. Myrrh is not fusible, and with difficulty inflammable, soluble in alkalis; but the tincture poured into water becomes yellow and opaque. The watery solution, when filtered, is also yellow. Myrrh was anciently of great value, not as a medicinal substance, but as one of the ingredients for embalming.

The London College directs the tincture of myrrh to be prepared by adding three ounces by weight of bruised myrrh to a pint and half of proof spirit, and half a pint of rectified spirit of wine. It must be digested with a gentle heat for eight days, and strained. This tincture is frequently employed in detergent gargles (see Aphthæ); but if one ounce of hepatic aloes be added it becomes the *tinctura myrrhæ cum aloe*, and is applied externally to ulcers as a vulnerary, and is useful when such are foul and fetid, requiring stimulating applications.

Elixir myrrhæ compositum. Tinctura sabinæ compositа, is made by adding one ounce of the extract of savin to tincture of castor, one pint; tincture of myrrh half a pint. Digest until the extract is dissolved, and strain. (Pharm. Lond. 1788.) This was formerly called *elixir uterinum;* and is given in a dose of from twenty to forty drops, in a cup of pennyroyal tea, twice a day. It is esteemed a good emmenagogue, possessing similar virtues to the powder and extract of sabine.

Pulvis è myrrha compositus. Take of the leaves of dried rue, savin, myrrh, and Russia castor, of each an ounce; mix and beat them into a powder (Pharm. Lond. 1788). Given in a dose of twenty-five or thirty grains two or three times a day, it is esteemed an efficacious medicine, in uterine obstructions, and hysteria.

Pulvis myrrhæ added in an equal proportion to the lapis calaminaris is sometimes sprinkled upon an ulcer, to promote cicatrization.

Oleum myrrhæ per deliquium. Boil an egg very hard, take out the yolk, and fill the cavity with myrrh, bind the divided sides together, and it will deliquesce in a cool moist atmosphere.

It possesses all the smell and taste of the myrrh, may be precipitated and coagulated by spirit of wine, and the coagulum dissolved by water. It is used as a cosmetic. See Raii Historia; Tournefort, Lewis, and Cullen's Materia Medica; Neumann's Chemistry.

My'rrha. See Anime.

MYRRHI'NE, (because it smells like myrrh). See Myrtus.

MY'RRHIS, (from its smell). *Cerefolium Hispanicum, conile* from its resemblance to hemlock, *cicutaria odorata*, sweet cicely, great chervil, *scandix odorata* Lin. Sp. Pl. 368. The petals are unequal, the seeds striated, resembling the beak of a bird. In virtue it agrees with chærefolium, resembles in taste the cloves, and, like them, is said to be useful in scurvy. The branches resemble those of fern, with a pleasant aromatic smell, the stalks hairy, the flowers white, and appear in May or June. It is rather an esculent than a medicinal plant, though said to be diuretic. See Raii Historia.

My'rrhis a'nnua. See Daucus Creticus.

My'rrhis sylve'stris. An appellation of the *chærophyllum sylvestre*, &c.

MYRTACA'NTHA, (from its likeness to myrtle, and from its prickly leaves). Butcher's broom. See Ruscus.

MYRTI'DANON, (from μυρτος, *the myrtle*). According to Hippocrates this is the fruit of the Indicum, called from resembling myrtle berries, which the Indians called pepper. But Dioscorides means by it an excrescence which grows on the trunk of the myrtle, more astringent than the plant itself.

MYRTI'LLI, (a dim. of *myrtus*). See Myrtus communis italica.

MYRTOCHEI'LIDES, (from μυρτον, *the clitoris*, and χειλος, *a lip*). See Nymphæ.

MY'RTON, (from its resemblance to the myrtle berry). See Clitoris.

MY'RTUS. The myrtle; *myrrhine*, because it smells like myrrh.

My'rtus Braba'ntica and Anglica, called also *rhus myrtifolia Belgica, myrica gale* Lin. Sp. Pl. 1543, *rhus sylvestris; acaron; frutex odoratus septentrionalium elæagnus chamælæagnus Dodonæi.* Gaule, sweet willow, Dutch myrtle, is a small shrub much branched, with smooth, oblong, whitish green leaves, somewhat pointed, or converging at each end; among which arise pedicles, bearing scaly cones, which include the seeds, one little seed being lodged in each scale. It grows wild in uncultivated watery places, in many parts of England, flowers in May or June, ripens its seeds in August, and loses its leaves in winter. The leaves, flowers, and seeds, have a strong fragrant smell, and a bitter taste: they are used to destroy moths and cutaneous insects; sometimes to preserve malt liquor; but they render it very inebriating. An infusion taken inwardly is said to destroy worms, and strengthen the stomach. This plant has been highly esteemed, but is little valued in this kingdom. See Raii Historia Plantarum; Lewis's Materia Medica.

My'rtus commu'nis Ita'lica. Common myrtle; *myrtus communis* Lin. Sp. Pl. 673, var. γ, is an

evergreen shrub, with oblong leaves, pointed at both ends, in the bosoms of which spring solitary white pentapetalous flowers, followed by black, oblong, umbilicated berries, full of white crooked seeds. It is a native of the southern parts of Europe; the berries, which are called *myrtilla*, rarely come to perfection with us, and they are usually supplied by those of the *vaccinium myrtillus* Lin. Sp. Pl. 498.

The berries are recommended in alvine and uterine fluxes, and disorders from laxity and debility; they have a roughish, not unpleasant, taste, and are accompanied with a sweetish aromatic flavour. The leaves are astringent, and, if rubbed, yield an aromatic flavour. See Raii Historia; Lewis's Materia Medica.

MY'RTUS PIME'NTA vel JAMAICE'NSIS. See PIPER JAMAICENSIS.

MY'STAX. That part of the beard which grows on each side of the upper lip. The etymon of *mustachio*.

MYSTICE'TUS. See CETUS.

MY'TILUS. The MUSSEL, *mytilus edulis* Lin. Syst. Naturæ, *musculus*. A sea shell fish of a luscious flavour, found on many parts of our coast, of a moderate size, larger between the tropics, and smaller in the arctic sea. As from mushrooms, so from this shell fish very alarming symptoms are often produced, ascribed to a quality in the mussels, either proper to them, or accidentally acquired from their situation or nourishment. The pea crab, often found in them, has been accused; but as similar effects are observed to arise from various other causes besides mushrooms and mussels, the peculiarity of the person's constitution is generally supposed to occasion them. Similar complaints have sometimes been produced by eating salmon, taking the Peruvian bark, by washing the hands in water after fish hath been boiled in it, bathing in the sea, cantharides applied to the skin, and the internal use of wild valerian root.

"The signs which announce the noxious effects of boiled mussels," observes an author in the second volume of the Memoirs of the Academy at Brussels, "are an universal uneasiness, or numbness, that commonly takes place three or four hours after they have been eaten. These symptoms are succeeded by a tightness of the throat, a sense of heat about the head and eyes, immoderate thirst, nausea, and sometimes vomiting. If the patient hath the good fortune to vomit up the whole of the offensive matter, this evacuation is generally sufficient to stop the progress of the complaint; but if he does not bring up any or only part of the noxious substance, the disorder becomes more or less alarming, according to the quantity of the deleterious matter in the first passages, and the particular constitution of the patient. The want of a sufficient evacuation, by vomit, increases the tightness of the throat, and the swelling of the face, eyes, and tongue: all the parts within the mouth appear inflamed, and, as it were, excoriated; and the redness soon spreads to the outer surface, appearing first in the face, and extending from thence to the neck, breast, and abdomen, and by degrees over the whole body. This particular eruption is the symptom the most distinguishing and characteristic of the malignancy of mussels; it is constantly accompanied with a kind of delirium, with singular uneasiness, and an insupportable itching. It has no affinity with the eruption produced by the erysipetalous fever, with the scarlatina, measles, purpura urticaria, or any other known species of red eruption; but has these particularities, viz. that it never appears unless mussels have been eaten; is not preceded by fever, or accompanied by symptoms which appear united in any other disease; and lastly, that the whole surface of the body, though redder than in any other eruptive disease, appears as it were spotted with an infinite number of points of a deeper red than the rest of the skin. These points are infinitely smaller than a millet seed; if we examine them through a lens, we see distinctly that they are the opening or pores of the cuticle, while the redness which is seen only through the epidermis appears of a paler hue."

The proper treatment of these complaints is the same with that directed when mushrooms are the offending cause. (See AMANITA.) The itching is considerably allayed by washing the whole surface of the body with vinegar and water for about half an hour.

It is advised as a preventive of their injuries to wash them with water, and afterwards with vinegar, to boil them for use in an earthen pot with vinegar and water, and a few grains of Jamaica pepper.

The dangerous consequences supposed to arise from eating mussels are, however, greatly exaggerated. They very rarely occur, and scarcely with the violence just described; and, though such effects are occasionally heard of, yet years elapse without such an occurrence, on coasts where mussels are a common article of food. These deleterious consequences are sometimes attributed to one particular part of the fish; at others, to their lying on beds of cupreous pyrites; sometimes to their richness, at others to a peculiarity of constitution. No part of the fish, however, seems to have been pointed out, the absence of which would secure the person from the peculiar effects: the symptoms are not those which follow the swallowing of copper, and the fish is not peculiarly rich. It is certainly more deleterious to some constitutions than others. M. Debeunie thinks that the cause is the spawn of the star fish (the asteria), and has added some experiments in a late volume of the Journal de Physique to support his opinion. This is by no means improbable; but the little crabs often found in mussels are far from being unwholesome.

MYTTO'TUM. A kind of food made of garlic, onions, and cheese, bruised together.

MYU'RUS, (from μυς, *a mouse*, and ουρα, *a tail*). An epithet for a sinking pulse, when the second stroke is less than the first, the third than the second. The pulse sometimes sinks irrecoverably, but occasionally rises again in some degree.

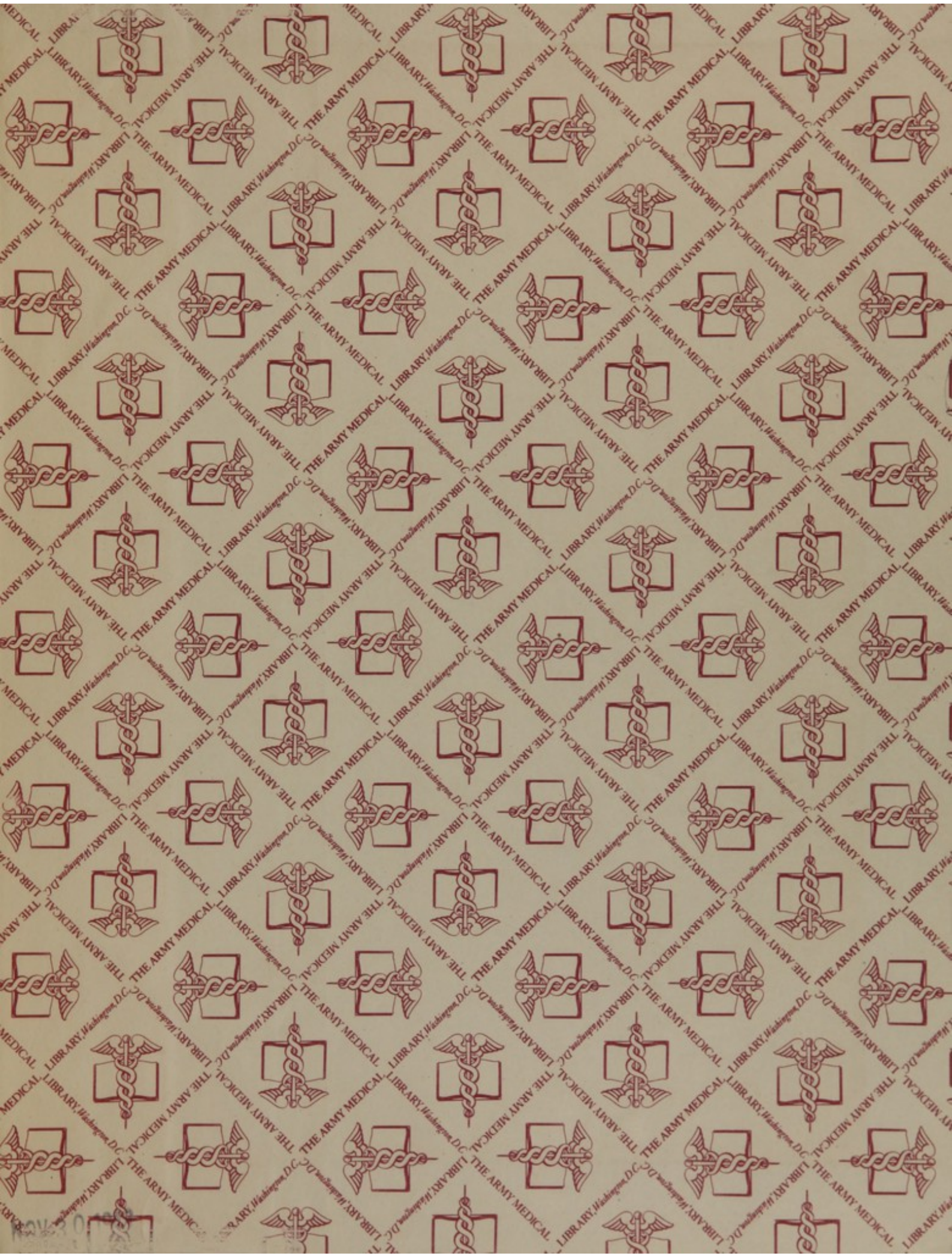
MY'XAS, MYXA'RIA, (from its viscidity, resembling μυξα, *mucus*). The *sebastina domestica*, *cordia myxa* Lin. Sp. Pl. 273. See SEBESTEN.

MYXOSARCO'MA, (from μυξα, *mucus*, and σαρξ, *flesh*). See MUCOCARNEUS.

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