Leonard Chase's

Book No. 1st

THE

AMERICAN

MEDICAL LEXICON,

ON THE PLAN OF

QUINCY'S LEXICON PHYSICO-MEDICUM,

WITH MANY

RETRENCHMENTS, ADDITIONS, AND IMPROVEMENTS;

COMPRISING AN EXPLANATION OF THE

ETYMOLOGY AND SIGNIFICATION

OF THE TERMS USED IN

ANATOMY, PHYSIOLOGY, SURGERY, MATERIA MEDICA, CHEMISTRY,
AND THE PRACTICE OF PHYSIC.

COMPILED FROM THE MOST APPROVED AUTHORITIES.

NEW-YORK:

PUBLISHED BY T. AND J. SWORDS,

NO. 160 PEARL-STREET.

1811.

To the Physicians and Students of Medicine in America.

ALTHOUGH there are several Medical Dictionaries extant, yet there was a call for a new edi:ion of the LEXICON PHYSICO-MEDICUM of Dr. *Quincy*. His work was indeed first published many years ago, and has undergone various editions. And in the mean time, *Parr's Medical Dictionary*, *Morris's* and *Hooper's Works under a similar title*, have been offered to the public in England. It might thence be supposed by some, that imported copies of these books would supply the demand within the United States.

The Publishers weighed carefully this consideration. They reflected that the large quarto volumes of Parr and Morris, though respectable performances, were too bulky and expensive for the greater part of readers. And on examining the duodecimo production of Hooper, they found, that although it would not be subject to the objection of a high price, yet that it laboured under the disadvantage of being too concise and limited in its objects.

In short, it was highly desirable, that a book of definitions and explanations should be offered to medical Gentlemen, which should be cheaper than the two former, and more comprehensive than the latter of these dictionaries.

There was no publication extant, which approached so near this character as Quincy's Lexicon. Without costing the purchaser more than a very moderate price, it offers him a great variety of matter. In this edition many obsolete terms have been left out. There was little use in perpetuating words that were never employed by any writer of note or value in modern times. To retain great numbers of hard and uncouth names, which the present state of knowledge did not warrant or require, would be superfluous and disgusting, as well as perplexing to beginners. In these retrenchments, however, the reader may be assured, not an article of worth has been omitted.

In the place of the words left out, on account of having become antiquated and fallen into disuse, a very considerable number of *new* articles have been added. Some of these are names and definitions not in the original. Others are modern expositions of titles already in the work, but standing in need of correction, to adapt them to the existing state of practice and experiment. And in numberless places of this New-York copy, the pages have been cleared of the typographical errors which abounded in the London text.

New-York, Jan. 1811.

THE

AMERICAN

MEDICAL DICTIONARY.

A, A term in *Pharmacy*, otherwise written *ā* or *āā*, or *ana*, which being never used but after the mention of two or more ingredients, implies that they should be taken in quantities of the same species and denomination, whether by weight or measure, to form the composition wherein they occur. The word is originally Greek, ἀνὰ, a preposition, which signifies *separately*, or *of each by itself*.

Abalienatus, corrupted. Celsus. A part so destroyed as to require immediate extirpation. It also signifies the fault or total destruction of the senses, whether external or internal, by disease.

Abbreviatio. The principal uses of medicinal abbreviations are in prescriptions; here they are certain marks, or half words used by physicians for despatch and conveniency when they prescribe.—Thus ℞ readily supplies the place of *Recipe; h. s.* that of *hora somni; n. m.* that of *nucis muschatæ; elect.* that of *electarium*, &c. and in general all the names of compound medicines, with the several ingredients, are frequently written only up to their first or second syllable, or sometimes to their third or fourth, to make them clear and expressive. Thus *Croc. Anglic.* stands for *Crocus Anglicanus; Theriac. Andromach.* for *Theriaca Andromachi*, &c. A point being always placed at the end of such syllables in medicine, shows the word to be incomplete.

Abdomen, the belly; from *abdo*, to hide; because it hides the viscera. A cavity between the thorax and the pelvis, lined by a smooth membrane called the peritoneum, and containing the omentum or epiploon, stomach and intestines, liver, gall-bladder, mesentery, spleen, pancreas, kidneys, renal glands or capsules, part of the thoracic duct, descending aorta, and vena cava ascendens. Externally the abdomen is distinguished into the epigastric, hypochondriac, umbilical, and hypogastric regions.

Abdominal Muscles. They are five on each side. See *Muscles.*

Abdominal Ring, Inguinal Ring. An oblong, tendinous opening in both groins, through which the spermatic cord of men, and round ligaments of the uterus of women, pass. It is through this opening, that the intestine or omentum falls in ruptures.

Abducent Muscles, from *abduco*, *to draw from*, or those which serve to open or pull back divers parts of the body; their opposites being called *adducent*, from *adduco*, *to draw to.*

Abducent Nerves. The sixth pair of nerves are so called, because they go to the abducent or rectus externus muscle.

Abductio, a species of fracture; when a bone is divided transversely near a joint, so that each part recedes from the other. In Cœlius Aurelianus it signifies a strain;

and is mentioned as one of the causes of ischiadic and psoadic pains.

Abductor. From *ab*, from, and *duco*, to draw; a name given to those muscles which pull back parts of the body into which they are inserted.

Abductor Brevis Alter. See *Abductor Pollicis Manus.*

Abductor Indicis Manus. It rises from the os trapezium, and from the superior part and inner side of the metacarpal bone of the thumb; inserted by a short tendon, into the outer and back part of the first bone of the fore-finger. Its use is to bring the fore-finger towards the thumb.

Abductor Indicis Pedis, arises, tendinous and fleshy, by two origins, from the root of the inside of the metatarsal bone of the fore-toe, from the outside of the root of the metatarsal bone of the great-toe, and from the os cuneiforme internum; inserted, tendinous, into the inside of the root of the first joint of the fore-toe. The use is to pull the fore-toe inwards from the rest of the small toes.

Abductor Longus Pollicis Manus, i. e. *Extensor Ossis Metacarpi Pollicis Manus.*

Abductor Minimi Digiti Manus, arises, fleshy, from the os pisiforme, and from that part of the ligamentum carpi annulare next it: inserted, tendinous, into the inner side of the upper end of the first bone of the little finger. The use is to draw this finger from the rest. It is a name also of the *Flexor Parvus Minimi Digiti.*

Abductor Medii Digiti Pedis, arises, tendinous and fleshy, from the inside of the root of the metatarsal bone of the middle toe internally; inserted, tendinous, into the inside of the root of the first joint of the middle toe. The use is to pull the middle toe inwards.

Abductor Minimi Digiti Pedis, arises, fleshy and tendinous, from the semicircular edge of a cavity on the inferior part of the protuberance of the os calcis, and from the root of the metatarsal bone of the little toe; inserted into the root of the first joint of the little toe externally. The use is to draw the little toe outwards from the rest.

Abductor Oculi, arises from the inferior part of the foramen opticum, between the obliquus superior and depressor, being, from its situation, the shortest; inserted opposite to the inner angle. The use is to turn the eye towards the nose.

Abductor Pollicis Manus, arises, by a broad, tendinous, and fleshy beginning, from the ligamentum carpi annulare, and from the os trapezium; inserted, tendinous, into the outer side of the root of the first bone of the thumb. The use is to draw the thumb from the fingers. Albinus names the inner portion of this muscle *abductor* brevis alter.

Abductor Pollicis Pedis, arises, fleshy, from the inside of the root of the protuberance of the os calcis, where it forms the heel, and tendinous from the same bone where it joins with the os naviculare; inserted, tendinous, into the internal os sefamoideum, and root of the first joint of the great toe. The use is to pull the great toe from the rest.

Abductor Tertii Digiti Pedis, arises, tendinous and fleshy, from the inside and inferior part of the root of the metatarsal bone of the third toe; inserted, tendinous, into the inside of the root of the first joint of the third toe. The use is to pull the third toe inwards.

Abelmosch. It is the *Hibiscus Abelmoschus* of Linnæus. Its seeds have the same odour as musk, and therefore are mixed with coffee by the Arabians, &c. to render it more agreeable.

Abies, the fir-tree. Linnæus includes it in the genus of pines, calling it *Pinus Abies*.

The *Silver Fir (Pinus Picea* of Linnæus) produces the Strasburg turpentine. The tops and leaves are recommended in the scurvy.

The *Canada Fir (Pinus Canadensis* of Linnæus) produces the Canada balsam.

The *Common Fir*, or *Pitch Tree, (Pinus Abies* of Linnæus) produces the common turpentine, from which we have the common rosin, tar, common pitch, oil of turpentine, Burgundy pitch, &c.

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

The food should be simple and light; without wine or spices. Well fermented bread, baked hard and reduced to powder, will make a proper food, when boiled smooth in water. Should the stomach be flatulent, a few caraway seeds may be added. If this food turn sour, beef or mutton tea (prepared by infusion only) may be occasionally substituted, or a little beef gravy may be given. A child will in feeding, always first endeavour to drink. He may be allowed to do so with moderation. A little time should be suffered to elapse, and the soaked bread should then be offered. If refused, he may drink again, but in less quantity; and should he still refuse the bread, it is a sign that he does not require any solid food. In feeding, he should be in a sitting posture; or, if recumbent, should be occasionally raised, gently moved, and amused. After feeding, he will soon sleep; but a child should never be awakened, unless the sleep be uneasy or morbidly continued. —Moss, Cadogan, and Armstrong.

Abortion, a miscarriage, or the expulsion of the fœtus from the uterus before the seventh month. —*Precursors*. Pain in the back, loins, and hypogastrium; shiverings; bleeding from the womb; nausea, anxiety, palpitation, syncope, an opening and moisture of the os tincæ; a sensation of weight or coldness in the epigastrium, and flaccidity of the breasts. —*Prevention.* In plethoric habits, venesection, the antiphlogistic regimen and digitalis; in debilitated ones, bark, iron, sulphate of zinc or copper and acetite of lead; in general recumbent posture, occasional laxatives and opiates, and cold both generally and topically applied.

Abrasion, from *abrado, to tear off.* It generally expresses the wearing away the natural mucus which covers the membranes, particularly those of the stomach and guts, by corrosive or sharp medicines or humours. It is also used to express that matter wore off by the attrition of bodies against one another.

Abrotanum. From αϐρος, *soft.* Common southernwood. *Artemisia Abrotanum* of Linnæus. A plant possessed of a strong, and, to most people, an agreeable smell; a pungent bitter, and somewhat nauseous taste. It is supposed to stimulate the whole system, but more particularly that of the uterus. It is rarely used, unless in the way of fomentation.

Abscessus, an abscess, from *abscedo, to go off.* The words αποστημα *(aposteme)*, and αποστασις *(imposthumation)*, frequently used by Hippocrates, are translated by Celsus, *abscessus*, and sometimes *vomica.* Hence the word abscess, generally used by modern authors to signify a suppurated phlegmon, or inflammatory tumor. These words seem originally, by their derivation, to import any sort of exclusion of morbific matter, αφισταμαι and αφιστημι signifying *to recede* and *retire.* Accordingly they are generally used by Hippocrates to express any critical removal of offending humours from the vital parts, either to some of the emunctories for an immediate discharge, as the glands of the intestines, kidneys, or skin, whence they are eliminated by plentiful stools, urine, or sweat; or to some part where they find an easy egress by the rupture of a blood-vessel, as the uterus or nose; or to some muscular part or gland, whence they cannot be so easily expelled, and therefore stagnate and suppurate, and at last are separated in the form of pus or matter. Sometimes Hippocrates means by these words, the transmutation of one disease into another, as a quincey into a peripneumony, or of a continual fever into a quartan, &c. And sometimes, the destruction of a part of the morbific matter of a distemper fixing upon it. Hippocrates also uses the word αποστασις, to express the fracture, or exfoliation of a bone, when the parts of it which were contiguous in a state of health, recede from each other. Paulus Ægineta seems to have limited the signification of *abscess* to suppuration, by defining (αποστημα) *abscess*, a corruption of the fleshy parts, muscles, veins, and arteries. Of all the significations of an *abscess*, the present surgeons confine themselves to that which is the consequence of an inflammation.

Abscission. The most common use of this word is to signify the dividing any corrupted and useless part of the body from the sound, by a sharp instrument. It is principally applied to soft parts of the body; for in the bones it is called amputation. Sometimes it signifies the sudden termination of a disease in death, before it arrives at its declining state.

Absinthium, wormwood; αψινθιον, *unpleasant*, of α privative, and ψινθος, which Hesychius interprets τερψις, *delectation;* others will have it απινθιον, i. e. *not potable*, from α priv. and πινω, *to drink*, on account of its bitterness; others derive it of απτεσθαι, *to touch* or *handle*, by antiphrasis, because no animal touches it, on account of its extreme bitterness. The English name wormwood is from a similar one in the Anglo-Saxon language. In the College Pharmacopeia, two species of absinthia are retained; viz. the *maritimum*, or *sea wormwood*, *Artemisia maritima*, Lin. and *vulgare*, or *common wormwood*, *Artemisia Absinthium*, Lin. The recent tops of the *former* are directed to be beaten with sugar to form a conserve: they enter the decoctum pro fomento, or common fomentation, formerly called Fotus Communis. This latter is a good tonic and stomachic, and is given also by many as an antihelmintic. Externally it is used as an antiseptic, in fomentations. There is a tincture of the flowers ordered by the Edinburgh Pharmacopeia; but the most agreeable way of administering this medicine is in pills made of the extract.

Absorbent, from *absorbeo*, *to drink up*, is such a medicine as by the softness or porosity of its component parts, either sheathes the asperities of pungent humours, or, like a spunge, dries away superfluous moisture in the body; and is the same with a drier or a sweetener. Most animal concretions, shells of fishes, and bolar earths, &c. are possessed of those qualities; hence their use in relieving complaints arising from acidities and sharp humours in the first passages. Those chiefly in use at present are calcined magnesia, prepared chalk, oyster-shells, crabs' claws, crabs' eyes, and coral.

Absorbent Vessels. They are those lacteal vessels which open with their mouths into the sides of the intestinal tube, to drink in the chyle from thence, which they discharge into the mesenteric veins. Later anatomists have applied this term to the lymphatics, which are distributed in great number throughout the whole body, and whose extremities open into every cavity thereof, absorb all superfluous moisture, and carry it back into the circulation. By means of lymphatic vessels going from the skin, water passes into the habit from baths and fomentations; mercury also, and other penetrating substances, applied externally, as the venereal virus, &c. This compages of vessels is also called the system of absorbents.

Abstergents. See *Detergents*.

Abstinence. It is either general, from all sorts of aliment, or particular, from some kinds of food only. Erasistratus made a strict *abstinence* supply the place of bleeding, in inflammations and fevers.

Abstraction, from *abstraho*, or *abtraho*, *to draw from*, is a power peculiar to the mind of man, whereby he can make his ideas, arising from particular things, become general representatives of all of the same kind. Thus when the eye represents whiteness in a wall, a man can abstractedly consider the quality of whiteness, and find it attributable to many other things besides; as to snow, milk, or the like; and this quality, whatsoever it be, considered apart from the concrete, or the subject in which it adheres, is said to be taken in the abstract. This is the doctrine of Mr. Locke, and others who wrote before him; but it has since his time been called in question; for some there are who deny all such abstract ideas, and tell us, that a general abstract idea is a mere nothing, all the ideas we have being constantly particular; so that they would say, it is impossible to think of white, abstractedly or independent of some subject wherein it is lodged. Whether this be true or not, every man may best know by his own experience; but the point well cleared, would open a new scene in the doctrine of qualities, and possibly overset a great part of our present philosophy about them. This term is also used in pharmacy, for the drawing off, or exhaling away a menstruum from the subject it was put to dissolve.

Acceleratory Muscles, from *ad*, *to*, and *celar*, *swift*; or from *accelerare*, *to hasten*, or *despatch*. These belong to the penis, and are generally called

Acceleratores Urinæ, from their use in expediting the ejection of urine. They arise, fleshy, from the sphincter ani, and membranous part of the urethra, and tendinous from the crus, near as far forwards as the beginning of the corpus cavernosum penis; the inferior fibres run more transversely, and the superior descend in an oblique direction. They are inserted into a line in the middle of the bulb, where each joins with its fellow; by which the bulb is completely enclosed. Their use is to drive the urine or semen forwards, and, by grasping the bulb of the urethra, to push the blood towards its corpus cavernosum and the glans, by which they are distended.

Accession, the same as παροξυσμος, among the Greeks, and the *exacerbatio* of the Latins, is the fit, or time of being worst in any intermittent disease.

Accessorius. Willis gave this name to a particular nerve, which is thus named, from *ad*, *to*, and *cedo*, *to approach*. The eighth pair of nerves rise from the lateral vases of the corpora olivaria, in disgregated fibres; and as they are entering the anterior internal part of the holes common to the os occipitis and temporum, each is joined by a nerve, which ascends within the dura mater from the tenth of the head, the first, second, and inferior cervical nerves: this has the name of nervus *accessorius*. When the two get out of the skull, the *accessorius* separates from the eighth, and, descending obliquely outwards, passes through the sterno-mastoidæus muscle, to which it gives branches, and afterwards terminates in the trapezius muscle of the scapula.

Acer, the maple-tree. It is a genus in Linnæus's system. There are seventeen species.

Acerb, from *acerbus*, *sour*, *harsh*. It signifies somewhat acid, with an addition of roughness; as most fruits before they are ripe. Sometimes, figuratively, it signifies prickly, ςρυφναι ακανθαι. Dioscorides.

Acetabulum. It signifies a large cavity in a bone, which receives another convex bone, for the convenience of a circular motion of the joint thus articulated, as that of the os innominatum which receives the head of the femur.

Acetated vegetable Alkali, *Kali acetatum*. See *Acetum*.

Acetated volatile Alkali, *aquæ ammoniæ acetatæ*. See *Acetum*.

Acetates. Salts formed by the combination of the *acetic acid* with different bases, as alkalies, earths and metals: there are twenty-four different species of *acetates* in M. Fourcroy's Elements of Natural History and Chemistry.

Acetic Acid. Concentrated acid of vinegar. Radical vinegar. It may be obtained by exposing vinegar to frost. The frozen part consists almost entirely of water, and the part which remains is the acetic acid.

Acetites, salts formed by the union of the *acetous acid*, or vinegar distilled from *common vinegar*, with different bases, as alkalies, earths and metals. Of *acetites* M. Fourcroy has inserted twenty-three species in his Elements of Natural History and Chemistry.

Acetosa Pratensis. Common sorrel. *Rumex acetosa*, of Linnæus. A common plant in meadows and pastures. Its leaves have a sharp and pleasant acid taste. They are used in many places as food, and are found to be of important advantage where a refrigerant and antiscorbutic regimen is required. They are, also, of infinite service to foul ulcers, applied in the form of poultice.

Acetosa Esurina, esurine spirit of vinegar, or hungry vinegar. When vinegar is concentrated, it creates an appetite; hence this name.

Acetosella, sheep's sorrel. A species of *Rumex*.

Acetosella, wood sorrel. *Oxalis Acetosella.* L. Retained in the Pharmacopeia among the conserves.

Acetous Acid. Distilled vinegar. Salts formed by the union of this acid with different bases, are termed *acetites*.

Acetum, *Vinegar*, is an acid produced by suffering substances that have undergone the change induced by the vinous, or first stage of fermentation, to be further altered by the next stage, called the acetous fermentation, wherein the alkohol and tartar are reunited, and if the vinegar be perfectly formed, their properties are entirely lost. During this fermentation much pure air is absorbed, an innoxious acid smell is emitted, and a reddish mucilaginous sediment is deposited. This fermentation succeeds best in an heat between 75 and 90 degrees of Fahrenheit's thermometer. The contact of air is necessary, on which account, the vessels employed should be loosely closed. It will also succeed, though more slowly, in the common heat of a cellar, with little attention. The weakest and worst wines, cyder, and, in England, solutions of farinaceous matter, as wort or infusion of malt, are commonly employed. Milk readily forms vinegar. Sugar and water, in the proportion of little more than one pound to a gallon, make tolerable vinegar: but the more perfect the wine the better will be the vinegar. Vinegar so procured, is separated from the mucilage and other substances mixed with it by distillation in earthen or glass vessels: in this state it is used in medicine under the title of *acetum distillatum*, or *distilled vinegar*. *Common*, or *undistilled vinegar* is employed in several compositions in the new college Pharmacopeia; viz. in the *acetum scillæ*, formerly called *acetum scillitic.* or *vinegar of squills;* in the *oxymel æruginis*, instead of the *mel Ægyptiac.* in the *oxymel scillæ;* and in the *oxymel simplex*. *Distilled vinegar*, or *acetum distillatum*, is employed in the *kali acetatum*, formerly called *sal diuretic.* in the *aqua ammoniæ acetatæ*, or *spiritus Mindereri;* in the *cerussa acetata*, formerly called sacchar. saturn. in the aqua lithargyri acetati, commonly called *extract. saturni*, and in the *oxymel colchi*, or *oxymel of Colchicum*, or the *autumnal saffron*. *Acidum acetosum*, called by M. Fourcroy, *acidum aceticum*, is ordered by the college to be distilled from ærugo or verdigrise; the *acidum acetosum* is directed in the *hydrargyrus acetatus*. The latter *(acidum acetosum)* is found, by experiment, to differ essentially from the *acetum distillatum*, on account of the oxygen, or base of vital air, of the oxyd or calx of copper in the ærugo æris, with which it is combined. Vinegar is much used to season food, and is highly esteemed as an antiseptic, refrigerant, and antiscorbutic. Applied externally to inflammations, it is a powerful resolvent.

Achilleius; i. e. Achillis (tendo.)

Achillis (tendo.) Homer describes this tendon, which was probably thus named by the ancients, from their custom of calling every thing thus that had any extraordinary strength or virtue. Some say it is thus named from its action in conducing to swiftness of pace, the term importing so much. This tendon is formed by the union of those of the soleus and gastrocnemius muscles, which are inserted into the os calcis.

Achor, ἀχὼρ. It is the *Crusta lactea*, or milk scab of authors. In England it is called the *Scald-head*. This kind of sore is full of perforations, which discharge a humour, like ichor, whence the name *achor*. When the perforations are large, resembling the cells of a honeycomb, and the matter discharged is of the consistence of thin honey, it is called *Cerion*. When this scabby sore is on the hairy scalp, it is called *Tinea*, from its perforations being small, like those formed by moths; but when the face only is scabbed, it is called *Crusta lactea*. When the perforations are large, it is called *Favus* by some writers. Dr. Cullen arranges the *Tinea* as a genus in his class *Locales*, and order *Dialyses*. Mr. Bell, in his *Treatise on Ulcers*, makes it a variety only of the *Herpes pustulosus*.

Acid Spirits. Weak vitriolic acid, &c. were so called, but very improperly.

Acid. An acid is a combination of vital air, or oxygene, with a certain elementary basis. Every acid substance possesses a sour taste, changes the colour of turnsole, syrup of violets, &c. red, and mostly effervesces with alkalis. Acids are divided into animal, vegetable and mineral, of each of which there are several.

Acini, small grains that grow in fruits like the grape-stones; whence anatomists have called many glands of a similar formation, or that grow together, *Acini glandulosi*, as those in the liver.

Acini biliosi. The small glands of the liver, which separate the bile from the blood; from *acinus*, a grape-stone.

Aciniformis tunica, the tunica uvea of the eye.

Acinus. It signifies, strictly, a grape, but is applied to many other fruits, or berries, that grow in clusters, as those of elder and ivy; these are distinguished from *baccæ*, a sort of berries that grow single, as those of the olive or laurel. But *acinus*, as now used, is the stone of a grape; hence *Uvæ exacinatæ*, grapes that have stones taken out.

Acme, ἀκμη. In general it signifies that state of any thing wherein it is in the utmost perfection, and is more especially used to denote the height of a distemper; which is divided into four periods by some writers. 1. The *Arche*, the beginning or first attack. 2. *Anabasis*, the growth. 3. The *Acme*, the height. And, 4. *Paracme*, which is the declension of the distemper.

Aconitum, wolf's-bane. A genus of vegetables in the Linnæan system. Of this genus two species have been used in medicine; viz. the *Napellus*, and the *Anthora*. This plant is a native of the mountainous and woody parts of Germany, France and Switzerland, but is cultivated for its beauty in our flower gardens. Every part of it is strongly poisonous. The extract, or inspissated juice, is given in violent rheumatic, scrophulous, and venereal affections. Its virtues are sudorific, diuretic, and subvertiginous. It should be given in small doses, and gradually and cautiously increased.—From gr. 1-6th to grs. vi.

Acor. It is sometimes used to express that sourness in the stomach contracted by indigestion, and from whence flatulencies and acid belching arise.

Açorus, sweet flag, a genus in the Linnæan system of vegetables. It hath but two species. See *Calamus Aromaticus*.

Acorus (false, or yellow water flag), *Iris Pseud-Acorus*. The Linn. root was formerly used in medicine, but it hath not been retained in the present Pharmacopeia.

Acoustica, ἀκουστικα, from ακουειν, *to hear*. Remedies against deafness are thus called.

Acrid. Dr. Grew says, that *acrids* properly belong to compound tastes. They are not simply sour or pungent, nor are they simply hot; but the characteristic of acritude consists in pungency joined with heat.

Acrifolium, any plant with a prickly leaf.

Acrimony, expresses a quality in bodies, by which they corrode, destroy, or dissolve others. The acid acrimony causes the heartburn.

Acromion, from ακρος, *extreme*, and ωμος, *the shoulder*. That part of the spine of the scapula that receives the extremity of the clavicula.

Actual. This word is applied to any thing endued with a property or virtue which acts by an immediate power inherent in it: it is the reverse of potential; thus, a red-hot iron or fire is called an actual cautery, in contradistinction from caustics, which are called potential cauteries. Boiling water is actually hot; brandy, producing heat in the body, is potentially hot, though of itself cold.

Acuitio, to acuate, from *acuo*, *to sharpen;* the sharpening an acid medicine by an addition of something more acid; or, in general, the increasing the force of any medicine, by an addition of something that hath the same sort of operation in a greater degree.

Aculeus, in *Botany*, a prickle, or sort of armature, belonging to the fulcra of plants proceeding from the cortex, as in the rose-bush, bramble, &c.

Acupunctura, acupuncture, bleeding performed by making many small punctures.

Acutenaculum. Heister calls the *Portaguille* by this name: it is a handle for a needle, to make it penetrate easily when stitching a wound.

Acutus Morbus, acute disease. It is any disease which is attended with an increased velocity of the blood, terminates in a few days, and is attended with danger. It is opposed to the chronic disease, which is slow in its progress, and not so generally dangerous.

Adansonia, a genus in the Linnæan system of vegetables: it is also called *Æthiopian sour-gourd*, and *Monkey's-bread*. It hath one species; viz. the *Adansonia Bahobab*. This tree is the largest production of the whole vegetable kingdom. The trunk is not above twelve or fifteen feet high, but from sixty-five to seventy-eight feet round. The lowest branches extend almost horizontally, and as they are about sixty feet in length, their own weight bends their extremities to the ground, and thus form an hemispherical mass of verdure of about one hundred and twenty, or one hundred and thirty feet diameter. The roots extend as far as the branches; that in the middle forms a pivot, which penetrates a great way into the earth; the rest spread near the surface thereof. This tree grows mostly in the west coast of Africa. The bark is called *Labo*. The fruit is of the size of a lemon, of an acid taste; and when dry it is powdered, and sold in Europe under the name of *Terra Sigillata Lemnia.*

Additamentum, additament; a term of chemistry, which signifies any material mixed along with a principal ingredient, to fit it for the designed operation. Thus salts are distilled from bone-ashes, brick-dust, or the like, to prevent their running together, and make them afford their spirits with the greater ease. In anatomy it is the same as *Epiphysis*. Castellus says that the large *Epiphysis* of the ulna, at the elbow, was called *Additamentum Necatum.*

Additamentum Coli, a name of the *Appendicula cæci.*

Adducens, i. e. *Rectus internus oculi Musc.*

Adducens Humeri, i. e. *Pectoralis Musculus.*

Adducent Muscles, from *ad* and *duco*, *to bring to*; are those that bring forward, close or draw together the parts of the body whereto they are annexed.

Adductors. The name of those muscles, which bring forwards or draw together those parts of the body to which they are annexed; from *ad*, to, and *duco*, to draw.

Adductor Brevis Femoris. It arises, tendinous, from the os pubis near its joining with the opposite os pubis below, and behind the *adductor longus femoris.* It is inserted, tendinous and fleshy, into the inner and upper part of the linea aspera, from a little below the trochanter minor, to the beginning of the insertion of the *adductor longus.*

Adductor Femoris Primus, i. e. *Adductor longus femoris.*

Adductor Femoris Quartus, i. e. *Adductor magnus femoris.*

Adductor Femoris Secundus, i. e. *Adductor brevis femoris.*

Adductor Femoris Tertius, i. e. *Adductor magnus femoris.*

Adductor Indicis Pedis. It arises, tendinous and fleshy, by two origins, from the root of the inside of the metatarsal bone of the fore toe, from the outside of the root of the metatarsal bone of the great toe, and from the os cuneiforme internum. It is inserted, tendinous, into the inside of the root of the first joint of the fore toe. Its use is to pull the fore toe inwards from the rest of the small toes.

Adductor Longus Femoris. It arises, by a pretty strong roundish tendon, from the upper and interior part of the os pubis, and ligament of its synchondrosis, on the inner side of the pectinalis. It is inserted, tendinous, near the middle of the posterior part of the linea aspera, being continued for some way down.

Adductor Magnus Femoris. It arises a little lower down than the *adductor brevis femoris*, near the symphysis of the ossa pubis; tendinous and fleshy, from the tuberosity of the os ischium; the fibres run outwards and downwards. It is inserted into almost the whole length of the linea aspera, into a ridge above the internal condyle of the os femoris; and, by a roundish, long tendon, into the upper part of that condyle, a little above which the femoral artery takes a spiral turn towards the ham, passing between this muscle and the bone.

Adductor Medii Digiti Pedis. It arises, tendinous and fleshy, from the roots of the metatarsal bones of the second and third toes. It is inserted, tendinous, into the outside of the root of the first joint of the second toe. Its use is to pull the second toe outwards.

Adductor Metacarpi Minimi Digiti Manus. It arises, fleshy, from the thin edge of the os unciforme, and from that part of the ligament of the wrist next it. It is inserted, tendinous, into the inner side and anterior part of the metacarpal bone of this finger. Its use is to bend and bring the metacarpal bone of this finger towards the rest.

Adductor Minimi Digiti Pedis. It arises, tendinous and fleshy, from the inside of the root of the metatarsal bone of the little toe. It is inserted, tendinous, into the inside of the root of the first joint of the little toe. Its use is to pull the little toe inwards.

Adductor ad Minimum Digitum, i. e. *Adductor pollicis manus.*

Adductor Oculi. It arises from the inferior part of the foramen opticum, between the obliquus superior and depressor, being, from its situation, the shortest. It is inserted opposite to the inner angle. Its use is to turn the eye towards the nose.

Adductor Pollicis, i. e. *Adductor indicis manus.*

Adductor Pollicis Manus. It arises, fleshy, from almost the whole length of the metacarpal bone that sustains the middle finger; from thence its fibres are collected together. It is inserted, tendinous, into the inner part of the root of the first bone of the thumb. Its use is to pull the thumb towards the fingers.

Adductor Pollicis Pedis. It arises, by a long thin tendon, from the os calcis, from the os cuboides, from the os cuneiforme externum, and from the root of the metatarsal bone of the second toe. It is inserted into the external os sesamoideum, and root of the metatarsal bone of the great toe. Its use is to bring this toe nearer to the rest.

Adductor Tertii Digiti Pedis. It arises, tendinous and fleshy, from the roots of the metatarsal bones of the third and little toe. It is inserted, tendinous, into the outside of the root of the first joint of the third toe. Its use is to pull the third toe outwards.

Adenes Canadenses, i.e. potatoes.

Adenography. It is a treatise of the glands, from αδην, *a gland,* and γραφω, *to write.*

Adenoides, from αδην, *a gland,* and ειδος, *a form,* glandiform, or like a gland. This word is also used for the *Prostatæ,* which see.

Adenosus Abscessus, a hard crude tubercle, resembling a gland, difficult to be resolved.

Adeps, fat, sometimes is distinguished from *Pinguedo,* and applied only to the harder fat commonly called suet; but by most writers they are used indifferently.

Adepts. Such are called so as pretend to some extraordinary skill in chemistry, from *adipiscor, to obtain;* but these have too often proved either enthusiasts or impostors: and such Paracelsus, Helmont, and their followers have been thought. The professors of the *Adepta Philosophia* are also called *adepts.*

Adhesion. For the most part, if any parts in the thorax or belly lie in contact, and inflame, they grow together. The lungs frequently adhere to the pleura.

Adiachytos, from α neg. and διαχυω, *to diffuse, scatter,* or *be profuse,* decent in point of dress. Hippocrates thinks the dress of a fop derogatory from the physician; though thereby he hides his ignorance, and obtains the good opinion of his patients.

Adiapneustia, from the privative particle α and διαπνεω, *perspiro;* is a diminution or obstruction of natural perspiration, and that in which the ancients chiefly placed the cause of fevers.

Adiarrhœa, from α priv. and διαρρεω, *to flow out,* or *through,* a total suppression of all the necessary evacuations.

Adipocire, is a term formed of adeps, fat, and cera, wax, and denotes a substance, the nature and origin of which are thus explained. The changes which animal matter undergoes in its progress towards total decomposition, have been, for many obvious reasons, but little attended to. But an opportunity of this kind was offered at Paris in 1786 and 1787, when the old burial ground of the Innòcens was laid out for building upon, in consequence of which, the surface soil, and the animal remains contained therein, were removed. This cemetery having been for ages appropriated to the reception of the dead, in one of the most populous districts in Paris, was eminently well calculated to exhibit the various processes of animal decomposition: another favourable circumstance was, that it contained several of those large pits (fosses communes) in which the bodies of the poor are deposited by hundreds. These pits are cavities 30 feet deep, with an area of 20 feet square, in which the shells containing the bodies are closely packed in rows over each other, without any intermediate earth, and with only a slight superficial covering of soil, not more than a foot thick: each pit contained from 1200 to 1500 bodies, and may be considered as a mass of animal matter of the dimensions above-mentioned. M. M. Fourcroy and Thouret were present at the opening of several of these receptacles; and it is from a memoir by the former of these, that the principal part of this article is composed. The first pit that was examined had been filled and closed up 15 years before: on opening some of the coffins (for the wood was still quite sound, only tinged of a yellow colour) the bodies were found within shrunk, so as to leave a considerable vacant space in the upper part of the coffin, and flattened, as if they had been subject to a strong compression; the linen which covered them adhered firmly, and, upon being removed, presented to view only irregular masses of a soft, ductile, greyish-white matter, apparently intermediate between fat and wax: the bones were enveloped in this, and were found to be very brittle. The bodies thus changed, being but little offensive to the smell, a great number were dug up and minutely examined: in some this alteration had as yet only partially taken place, the remains of muscular fibres being still visible; but where the conversion had been complete, the bones throughout the whole body were found covered with this grey substance, generally soft and ductile, sometimes dry, but always readily separating into porous cavernous fragments, without the slightest trace of muscles, membranes, vessels, tendons, or nerves: the ligaments of the articulations had been in like manner changed; the connexion between the bones was destroyed, and these last had become so yielding, that the grave-diggers, in order to remove the bodies more conveniently, rolled each upon itself from head to heels, without any difficulty. According to the testimony of these men, to whom the facts just mentioned had been long familiar, this conversion of animal matter is never observed in those bodies that are interred singly, but always takes place in the fosses communes: to effect this change, nearly three years are required. The soapy matter of latest formation is soft, very ductile, light, and spungy, and contains water; in 30 or 40 years it becomes much dryer, more brittle, and assumes the appearance of dense laminæ, and where the surrounding earth has been dryer than usual, it is sometimes semitransparent, of a granulated texture, brittle, and bears a considerable resemblance to wax. Animal matter having once passed into this stage of decomposition, appears to resist for a long time any further alteration: some of these pits that had been closed above 40 years, were, upon examination, found to be little else than a solid mass of soapy matter; nor is it yet ascertained how long, in common circumstances, it would continue unchanged, the burial ground of the Innocens being so small in comparison to the population of the district, as to require each pit in 30 or 40 years to be emptied of its contents, in order to receive a new succession of bodies: it appears, however, that the ulterior changes depend in a great measure on the quantity of moisture draining through the mass. From the history of this singular substance, we proceed to an examination of its chemical properties. It was first, however, purified by gently heating in an earthen vessel, till it became of a pasty consistence, and then rubbed through a fine hair sieve, by which means the hair, small bones, and remains of the muscular fibre were separated with tolerable exactness. In this state, being exposed in an earthen vessel to the naked fire, it readily became soft, but did not liquify without considerable difficulty, rather frying as a piece of soap would do, and disengaging at the same time ammoniacal vapours. Four pounds being put into a glass retort, and submitted to slow distillation in a water bath, afforded, in the space of three weeks, eight ounces of a clear watery fluid, with a fœtid odour, turning syrup of violets green, and manifestly containing ammonia in solution; the soapy matter remaining in the retort had acquired a greater consistence, was become less fusible, of a deeper brown colour, and upon cooling, was evidently drier than before, though not admitting of being broken. Eight ounces of soapy matter, white and purified, were mixed with an equal weight of powdered quick-lime; on the addition of a little water, the mass heated, swelled, and disengaged a very strongly ammoniacal vapour, accompanied by a peculiar putrescent smell: a sufficiency of water being then added to bring the whole to the state of an emulsion, it was heated to ebullition, much ammoniacal vapour escaping at the same time; the liquor being thrown on a filter, passed perfectly clear and colourless, and appeared to be only lime-water, with a very small quantity of soap in solution: the matter remaining on the filter, being well washed, was beaten up with water, but showed no tendency to unite with it, subsiding after a time, in the form of a white mass; this, by drying for a few days in the open air, became grey and much reduced in volume: it was then mixed with diluted muriatic acid, which immediately decomposed it, and a number of white clots rose to the surface of the liquor. This last being obtained clear by filtration, yielded crystals of muriat of lime and a slight trace of phosphoric salt; the white clots being washed and dried, and afterwards melted in a water bath, cooled into a dry, combustible, oily matter, brittle, waxy, crystallizable, and perfectly insoluble in water, to which the name of adipocire has been appropriated. From this series of experiments with lime, it appears that the soapy matter is a true ammoniacal soap, with a base of adipocire, to which lime has a stronger affinity than ammonia; but which last composition is again in its turn decomposed by all the acids, leaving the adipocire in a state of purity. Potash and soda produce effects perfectly analogous to those of lime. To the foregoing experiments of Fourcroy, a few facts have since been added by Dr. Gibbes. The receptacle at Oxford for those bodies which have been used by the anatomical professor there for his demonstrations, is a hole dug in the ground to the depth of thirteen or fourteen feet, and a little stream is turned through it, in order to remove all offensive smell: the flesh contained in this was found, on examination, to be quite white, and for the most part changed into the soapy matter above mentioned. From this hint, pieces of lean beef were enclosed in a perforated box, and placed in running water, and at the end of a month were found converted into a mass of fatty matter; this change was observed to take place much sooner and more completely in running than in stagnant water: in order to get rid of the fœtid smell, nitrous acid was had recourse to, which immediately had the desired effect; a waxy smell was perceived, and by melting the matter it was obtained nearly pure; the yellow colour which had been given to it by the nitrous acid, was wholly discharged by the oxymuriatic acid. A similar conversion of muscular fibre takes place by maceration in very diluted nitrous acid. Dr. Gibbes has not mentioned whether the fatty matter produced by running water is pure adipocire, or ammoniacal soap; it appears probable, however, that it is in the former state; where nitrous acid is the menstruum employed, it is obviously impossible that the adipocire should be combined with an alkali.

Adiposæ Ateriæ. They are branches from the phrenic arteries, which are spread on the fat that covers the kidneys.

Adiposa Membrana. The cellular membrane is so called, where it contains a white granulated matter, capable only of being fused by heat. Dr. Hunter says, it is a composition of ductile membranes, connected by a sort of net work. He farther observes, that it is composed of two kinds of cells; viz. the reticular, which communicate with each other, and the adipose, which do not communicate. But those that are reticular are more properly the cellular membrane.

Adiposa Vena, or *Vena renalis.* It is a vein arising from the descending trunk of the cava, which spreads itself on the coat and fat that covers the kidneys.

Adiposi Ductus, called also *Sacculi*, and *Vesiculæ adiposæ*, are passages which convey the fat into the interstices of the muscles, or to the parts between the flesh and the skin; or, they are the bags or ducts containing the fat.

Adipsia, from α neg. and διψα, *thirst*, want of thirst.

Adipsos. So the Greeks called the Egyptian palm-tree, whose fruit, before it is ripe, is said to be the *Myrobalans.* The tree is called *adipsos*, because its fruit quencheth thirst. Theophrastus calls this tree *Balanos. Adipsos* is also a name for liquorice.

Adnata. It is also called *Albuginea;* and is generally confounded with the *Conjunctiva*, which see. The *adnata* is thus formed; five of the muscles which move the eyes, take their origin from the bottom of the orbit, and the sixth arises from the edge of it; they are all inserted by a tendinous expansion into the anterior part of the *Tunica sclerotica;* which expansion gives the whiteness peculiar to the fore part of the eye. It lies betwixt the sclerotica and conjunctiva.

Adolescens, expresses that part of life between the end of childhood and a man's full strength, and is reckoned the most healthful.

Adopter, in *Chemistry*, a large round receiver with two necks diametrically opposite to each other, one of which admits the neck of the retort, and the other is joined to another receiver, in order, in certain distillations, to give more space to the elastic vapours.

Ad pondus omnium, the weight of the whole, signifies that the last prescribed ingredient ought to weigh as much as all the others taken together.

Adstrictio. Costiveness. It either expresses the styptic quality of medicines, or the retention of the natural evacuations by the rigidity of the respective emissaries.

Adstringents, in medicine, are those substances, which possess a power of condensing the animal fibre. To the taste, they impart a sense of dryness, and a remarkable corrugation in the parts on which they immediately act. They are administered to restore diminished tonic power, secretions morbidly augmented, as the alvine secretions, &c. Those in most esteem are *alumen*, *catechu*, *lignum campechense*, *ferrum*, *rosa rubra*, acids, exercise, and cold.

Adstringents. In surgery, adstringents are those substances which procure a constriction of the orifices of ruptured vessels; such are *curpum*, *oleum terebinthinæ*, &c.

Adulteration. It is the debasing medicine with bad ingredients, or putting one thing for another for the sake of greater profit. He who *adulterates* or counterfeits medicines is often not only a robber, but also a murderer.

Adusta, adust, burnt, scorched, or parched; from *aduro*, *to burn*.

Adynamia. Ἀδυναμια, from α priv. and δυναμις, *strength* or *force*, weakness or impotence from illness. Also lassitude, and sometimes it signifies sleepiness. In Dr. Cullen's *Nosology* it is the name of an order in the class of neuroses; and, by *adynamiæ*, he means those diseases which consist in a weakness or loss of motion, in either the vital or natural functions.

Ægilops, *Anchilops*, αιγιλωψ, ἀγχιλωψ, from αιξ, *a goat*, and ωψ, *an eye*, goat's eye; a disease so called because goats are said to be subject to it. It is the fistula lachrymalis just when it begins to discharge pus.

Ægyptia Ulcera. Also called Syrian ulcers. Arteæus describes an *ulcer* of the tonsils and fauces by these names; they are attended with a burning pain; the matter discharged from them infects the whole frame, and the patient is rendered miserable by the offensive smell.

Ægyptiacum. It is an ointment (but improperly so called) consisting only of honey, vinegar, and verdigrise. It hath its name of *Ægyptiacum*, from its being said to be of Egyptian origin. Mesue is its supposed author.

Æolipile, is a round hollow ball, made of iron, brass, copper, &c. and furnished with a neck, in which there is a very slender pipe opening to the ball. Sometimes the neck is made to screw into the ball, that the cavity may the more readily be filled with water. But if there be no screw, fill it with water thus: heat the ball red hot, and then throw it into a vessel of water; the water will run in at the small hole, and fill about two-thirds of the cavity. And if after this the *æolipile* be laid on or before the fire, so that the water and vessel become very much heated, vaporous air will be forced out with very great noise and violence; but it will be by fits, and not with a constant and uniform blast. Perhaps they may be sometimes of use to blow the fire, where a very quick and strong blast is required. And they may serve to scent or perfume a room, by filling them with perfumed instead of common water. They are commonly used in Italy, to cure smoky chimnies, which they do by being hung over the fire, and carrying up the smoke thereof along with the steam that issues out of their orifice.

Æora, from αιωρεω, *to lift up*, *to suspend on high*, gestation. A species of exercise used by the ancients, and of which Aëtius gives the following account: *Gestation*, while it exercises the body and limbs, still they seem to be at rest. Of the motion there are several kinds. First, swinging in a hammock, which at the decline of a fever, is beneficial. Secondly, being carried in a litter, in which the patient either sits or lies along. It is useful when the gout, stone, and such other disorders attend, as do not admit of violent motions. Thirdly, riding in a chariot, which is of service in most chronical disorders; especially before the stronger exercises can be admitted. Fourthly, sailing in a ship or boat. This produces various effects, according to the different agitation of the waters, and in many tedious chronical disorders is efficacious beyond what is observed from the most skilful administration of drugs. These are instances of a passive exercise, and are useful, particularly when active exercise would be improper or impracticable. *Asclepiades* was the first who brought passive exercise into practice, which was used after severe illness, in order to conquer debility, and invigorate the system by gentle means.

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

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

the general tendency of the circulation to the surface thus excited, assisted, perhaps, by the nausea. The tendency to the surface is evinced by the constipation of the bowels, and the rare occurrence of catarrhal affections on shipboard.

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

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

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

Æquilibrium, is when either equal weights at equal distances, or unequal ones at reciprocally proportionable distances from the centre, make the arm of any libra or balance to hang even; so that they equiponderate, and do not outweigh one another: in such a case, we say, the balance is in *æquilibrio*, a common term in mechanics.

Æquinox. It is when the days or nights are of equal length. Aëtius places the vernal equinox on the 23d of March, and the autumnal on the 25th of September; Paulus Ægineta makes the autumnal a day sooner. The modern astronomers generally fix them about the 20th of March, and the 23d of September.

Aër, Αηρ, *Air*, (from the Hebrew term, *aor*, *light*,) called also *gas ventosum*. From a variety of experiments, atmospheric air is proved to consist of a mixture of about seventy-two parts of azotic gas, to twenty-eight of oxygen, or vital air. *Lavoisier* says, of about twenty-seven parts of vital air, and seventy-three azotic. But the proportion of these two gases is subject to variation in the mixture which forms the atmosphere; depending upon local causes. From the decomposition of the atmospheric air, these two gasses are obtained; and sometimes in their simple state, sometimes in a proportion different from what they hold when forming atmospheric air, are used for medicinal purposes. The oxygen, or vital air, may be considered as a stimulant, and invigorator of the system; whilst the azotic gas is a sedative, and hurtful to the constitution, by destroying its irritability. Before the present æra of chemistry, it was the only gaseous substance known; and, indeed, almost all that has been formerly written on the air relates only to its physical properties. The chief of which are: *First*, that it is a fluid of extreme rarefaction, obedient to the smallest motion: the slightest agitation deranges its equilibrium, which is continually endeavouring to restore itself. Though very fluid, it passes through those orifices with difficulty, through which grosser fluids can pass with ease. *Secondly*, it is invisible; it refracts, but does not reflect the rays of light: it is inodorous, through the vehicle of odoriferous particles: it is insipid; and its physical qualities, chiefly, affect us variously. *Thirdly*, the weight of the *air* is not perceived but in large quantities; nor is the comparative weight easily, if at all, to be ascertained, as no two portions are ever of the same weight at different heights in the atmosphere. However, from long and repeated observations, the greatest gravity of the air in Europe is found to be equal, in equilibrio, with thirty inches and half of quicksilver in the barometer, and the least raises it only to twenty-seven and half. The weight of the common *air* about the surface of the earth, at the time of the middle weight of the atmosphere, and in every temperate season, is to that of water as one to 850. *Fourthly*, the elasticity of the air is one of the properties upon which natural philosophers have made the greatest number of experiments, and it has ever been applied with considerable advantage in the arts. *Fifthly*, *air* is necessary to animal existence. This is evident from the experiments made with the air-pump; though not without some exceptions, for toads, vipers, eels, insects of all kinds, and fish, live for a time in the exhausted receiver. They cannot indeed live without oxygen, but they expend it slowly, and separate it more perfectly from the injurious part of the atmosphere. *Sixthly*, the particles of *air* are said to be too small for any microscope to discover, and yet they are supposed to be larger than those of fire, water, oil, and many other fluids, since fire pervades glass; oil, water, &c. will pass through many compact substances, whilst air is resisted by strong paper. This argument is, however, fallacious. *Seventhly*, *air* is a vehicle of sound, of the objects of taste, of effluvia to the nose, as is evident from observations made on the tops of high mountains, where our senses become duller than when we are nearer the plains. *Eighthly*, it is a part in the composition of all bodies. *Ninthly*, it cannot be rendered of itself solid by any known means. *Tenthly*, by contact and cohesion in the parts of bodies it becomes solid and unelastic; but when separated by heat, fermentation, &c. its elasticity returns. Heat rarifies, and cold condenses it.

The physical qualities of the air have occasioned numerous disquisitions. But extensive inquiries, the comparison of the tables of mortality, experience long continued, have allowed us to draw few conclusions which will bear the test of careful examination. In spring, we find inflammatory complaints; in autumn, bilious diseases: in every season, fevers, in the commencement inflammatory, in the conclusion more or less putrid. To be more particular: Continued cold produces that tension of the fibres, that strong and steady action, which we style inflammatory diathesis: high situations, with a pure bracing atmosphere, produce similar effects. These are partly owing to an excess of oxygen, as we shall presently notice; but, in a great measure, to moderate, continued cold. A previous moist, temperate winter, which predisposes to scrophulous complaints, will, at this period, produce the most fatal consequences in hectic cases. The fever will increase, the ulceration proceed with rapidity, and the heat of the ensuing summer close

AE

the scene. Those, however, who are moderately healthy and not peculiarly robust, will find a winter, of no extreme cold, healthy; and the opening spring, expanding the fibres, will give a genial glow and new life to every organ. Summer, of course, may produce its own diseases; but, if we peruse the history of epidemics, we shall, with difficulty, trace any particular bad effects of the heat, till the evenings begin to cool, the fruit to be plenty, and the bile to become a conspicuous cause of disease, from its accumulation and excessive discharges. Winter again recurs, and Dr. Heberden has endeavoured to show, from the bills of mortality, that it is a fatal season. It may be so in general: old people resist cold with difficulty, and the catarrhus suffocativus, asthma, and similar complaints, are often fatal at this period. In our experience, however, it is not the cold, but the early warmth of spring succeeding cold, which is most injurious: the constitution, braced by cold, cannot bear the subsequent relaxation. A long damp summer has had similar effects.

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

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

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

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

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

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

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

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

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

Air, vital; called also *dephlogisticated*, *empyreal air*, and *oxygenous gas*. From a variety of experiments, modern philosophers have proved, that in respiration a portion of *air* is lost; that the first effect produced, is the blood assuming a vermillion colour, by combining with pure air. The second is to establish a real focus of heat in the lungs, maintained and kept up by the *air* of respiration. See *Heat, vital;* and *Respiration.*

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

The *sulphureous*, the *muriatic*, and some other *acids* assume the form of *air:* but as they are neither found in the atmosphere, nor applied to medical purposes, they form no part of the present subject.

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

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

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

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

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

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

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

Aërology, from αηρ, *aër*, and λογος, *sermo*, *a treatise on air*; or that branch of physical science wherein the history and phenomena of gases or permanently elastic fluids are systematically treated of.

Aerostation, the science of gases as applicable to the construction and elevation of balloons. A balloon may be considered as a bubble rising in the atmosphere, just as a bubble ascends in water. These bubbles or balloons are constructed in two ways: 1. Of common atmospherical air, so much rarefied by heat as to rise by its specific levity through the surrounding space of denser atmosphere, until it finds its region of equilibrium above. 2. Of hydrogenous gas, or inflammable air, which is naturally possessed of so small a degree of specific gravity as to mount aloft with the utmost ease. Many curious ærial voyages have been made with these machines, which have tended in some degree to enlarge our knowledge of this branch of physics. In France, where they were invented, there has been established at Meudon an ærostatical school for instructing young men in the use and economy of balloons for military purposes. It was supposed they might be employed successfully in reconnoitering an enemy's camp.

Aerologice, that part of medicine which treats of air, explains its properties and use in the animal economy, and its efficacy in preserving and restoring health.

Aerophobi, from ἀηρ, *air*, and φοβος, *fear*. According to Cœlius Aurelianus, some phrenetic patients are afraid of a lucid, and others of an obscure air; and these he calls *aerophobi*.

Aerophobia, a symptom of the phrenitis; also a name of the *Hydrophobia*.

Ærugo, the rust of any metal, but particularly of copper, which, when reduced to a rust by means of vinegar, is called verdigrise. The College have retained verdigrise in their Pharmacopeia; it enters the oxymel æruginis, a composition standing instead of the mel ægyptiacum.

Æsculus, horse-chesnut. It is a genus in Linnæus's botany. He enumerates two species.

Æstrum Venereum. The venereal orgasm, or the pleasant sensation experienced during coition.

Æstuarium, æstuary, or stoves for conveying heat to all parts of the body at once; a kind of vapour-bath. Amb. Parey calls an instrument thus, which he describes for conveying heat to any particular part; and Palmarius *De Morb. Contag.* gives a contrivance under this name for sweating the whole body. Stoves, for preserving tender exotic plants from inclement seasons, are also so named

Æstuatio, the boiling up, or rather the fermenting of liquors when mixed.

Æstus Volaticus, sudden heat, which soon goes off, but which for a time reddens the face. Vogel and Cullen place this word as synonymous with *Phlogosis*, or external inflammation. Sauvage ranks it as a variety of the erythematous inflammation.

Æther, αιθηρ, a supposed fine, fluid, subtile substance or medium, much rarer than air, and every way diffused in the interstellar spaces. An *æther*, endowed with all the properties an ingenious philosopher could require, might help to explain many phenomena of nature, and has for this purpose been adapted by Sir Isaac Newton, and offered as the immediate cause of gravity.

Æther, a liquor obtained by distillation from a mixture of pure alcohol and concentrated vitriolic acid. Its chief properties are, that it is lighter, more volatile, and more inflammable than the most highly rectified spirit of wine. It dissolves oils and oily matters with great ease and rapidity. If a small quantity of *æther* be added to a solution of gold in aqua regis, and the whole shaken together, the gold separates from the aqua regis, joins the *æther*, and remains dissolved therein. As a medicine it is said to be highly penetrating, discutient, and anodyne in nervous spasms, and such like complaints.

Æthiops Mineralis, æthiops mineral, so called from its colour, which is like αιθιοψ, a *blackmoor*, from αιθω, *to burn*, and ωψ, *the countenance*. It is a preparation made with equal parts of sulphur and quicksilver, and is called, in the new Pharmacopeia, *Hydrargyrus cum Sulphure*.

Æthiops Vegetabilis, vegetable æthiops. It is produced by burning the sea-wrack (Fucus vesiculosus, Lin.) in the open air, by which it is reduced to a black powder. The soap boilers call it *Kelp*.

Æthna, subterraneous, invisible, sulphureous fire, which calcines rocks in the earth. The igneous meteors about burning mountains are called *Ethnici*.

Ætia, αιτια, the cause of a distemper.

Ætiologia, ætiology, from αιτια, *a cause*, and λογος, *a discourse*, a discourse or treatise on the causes of distempers, and their symptoms.

Ætites, eagle-stone, also called *Lapis aquila*, so called, because it is said to be found in an eagle's nest. According to Edwards's *Elements of Fossilogy*, it is of the class of earths; the genus is clay; and it, with the *Geodæ*, may rank under a species which may be named *figured clay*. It is a roundish stone of the pebble kind, from the size of a hazelnut to that of a walnut, with a hollow in it, in which is a smaller stone, loose, and that rattles when shaken; it is generally of a dark russet, or of an ash colour. They are found among gravel in many countries, but the best comes from the East-Indies.

Affection, is applied on many occasions where the name of the distemper is put adjectively, as hypocondrical *affection*, and the like. This term is also sometimes used in physics, much in the same sense as properties, as the *affections* of matter are those properties with which it is naturally endued.

Affinity. Attraction. Elective attraction. A term used by chemists, to denote the continual tendency to bring principles together, which are disunited; and to retain, with more or less energy, those which are already in combination. There are two kinds of affinity or attraction distinguished by chemists. 1. *The affinity of aggregation*, which is the power that causes two homogeneous bodies to tend towards each other, and to cohere after they are united: thus two drops of water unite into one, and form an aggregate, of which each drop is known by the name of an integrant part. 2. *The affinity of composition*. This is that affinity from which new combinations result: thus bodies of different kinds exert a tendency or attraction upon each other, which is more or less strong; and it is by virtue of this force that all the changes of composition and decomposition observed amongst them are effected.

Agalactia. A defect of milk in child-bed; from α, priv. and γαλα, milk.

Agaricus, agaric, or mushroom, a genus in Linnæus's botany; of the order of *Fungi*. He enumerates twenty-eight species.

Agaricus Quercus, agaric of the oak. It is the *Boletus Igniarius* of Linnæus. From its readiness to catch fire it is called touchwood. It grows in the form of an horse's hoof; externally it is of a dusky ash colour, and internally of a dusky red; it is soft and tough. It is said that the best grows on oak trees, but that which is found on other trees is generally as good.

It hath been extolled for preventing hæmorrhages after amputations, but, as a styptic, it does not appear to excel dry lint.

Agate. It is a genus in the order of *Quartz.* It is a quartzose stone, which possesses all the characters of flint; accompanied with an elegant and delicate appearance.

Agave, American aloe, a genus in Linnæus's botany. He enumerates four species. The species called *agave Americana* was first brought into Europe by Cortusus, A. D. 1651.

Age, one life, one hundred years, or a certain stage of life. The ancients reckoned six stages of life, viz. *Pueritia*, childhood, which is the fifth year of our *age; Adolescentia*, youth, reckoned to the eighteenth, and youth properly so called to the twenty-fifth year; *Juventus*, reckoned from the twenty-fifth to the thirty-fifth year; *Virilis ætas*, manhood, from the thirty-fifth to the fiftieth year; *Senectus*, old *age*, from fifty to sixty; *Crepita ætas*, decrepit age, which ends in death.

Agent, is improperly sometimes attributed to menstruums, or such bodies as, in mixture, have the greatest share of motion.

Agheustia, from α priv. and γευομαι, *taste*, want or loss of taste. In Dr. Cullen's *Nosology* it is a genus in the order *Dysæsthesiæ*, and class *Locales.* The causes are fever or palsy. This word sometimes signifies a fast, or fasting.

Ague. Intermitting fever, whether there is a cold fit or not, is of no great moment as to the intentions of cure, that being more accidental than essential hereunto; although indeed the term *ague*, if from *algor*, *coldness*, as some will have it, is applicable only where the cold fit is sensible.

Air. It is generally understood to be that fluid in which we breathe, and which covers the earth to a great height. Beaumé defines it to be an invisible, colourless, insipid, inodorous, weighty, elastic fluid, susceptible of rarefaction and condensation, and affecting none of our senses, unless it be that of the touch.

Aix la Chapelle. The medical water at this place is volatile, sulphureous, and saponaceous, powerfully penetrating and resolvent; it contains a very small portion of iron. Of the three European hot waters of note, viz. that of *Aix la Chapelle*, Bourbon, and Bath, the first is the hottest, most nauseous, and purgative: the Bath is the least possessed of these qualities.

Ajava. So the Portuguese call a seed which is brought from Malabar, and is celebrated in the East-Indies as a remedy in the cholic. When the gout affects the stomach, these seeds are very effectual in dispelling wind, and procuring speedy relief from this painful disorder. Dr. Percival takes notice of these seeds in his *Essays Med. and Exper.* vol. ii.

Al, the Arabian article which signifies *the:* it is applied to a word by way of eminence, as the Greek ο is. The Eastern express the superlative by adding *God* thereto, as *the mountain of God*, for the highest mountains; and it is probable that *Al* relates to the word *Alla*, *God;* so *alchemy* may be *the chemistry of God*, or the most exalted perfection of chemical science.

Ala, a wing. In botany it is the hollow of a stalk which the leaf or pedicle makes therewith, and whence a new offspring usually puts forth. Sometimes it means the little branches, as when we say the stocks or stems are made with many *alæ*, because branches grow from the stock as so many *alæ*, or *wings*.

The *petala* of papilionaceous flowers placed between the vexillum and the carina, are called *alæ*.

It is used to express the foliaceous membranes which run the whole length of the stem, whence it is called *caulis alatus, a winged stem.*

It is used to signify the slender membranaceous parts of some seeds, such as are observed in the fruit of the maple, &c.

Ala Nasi, or *Pinna Nasi*, the cartilages which are joined to the extremities of the bones of the nose, and which form its lower moveable part.

Ala Auris, or *Pinna Auris*. It is the upper part of the external ear.

Alabastrum, alabaster, a species of the genus of *Gypsum* that is of a solid structure: some pieces are transparent, others opake; some white, others yellow.

It takes its name from the name of a town in Egypt, near which it was found. The ancients made great use of it for boxes to contain their precious ointments or perfumes.

Alaris Vena, the inner of the three veins in the bend of the arm.

Alati. Those who have prominent scapulæ are so called.

Alati Processus, the wing-like processes of the *Os Sphenoides*.

Albuginea Tunica. The inner proper coat of the testicle is thus named, from its white and transparent colour. It is a strong, thick, white membrane, smooth on the outward surface, rough, and uneven on the inner: into the upper part of this membrane are inserted the blood vessels, nerves, and lymphatics, which send branches into the testicles. This coat being distended, causes that pain which is felt when the testes are inflamed, or in the *Hernia tumoralis*.

Albuginose Humour. So the aqueous humour of the eye hath been called.

Albugo Oculorum, the white speck on the eyes. The Greeks named it *Leucoma*; the Latins, *Albugo*, *Nebula*, and *Nubecula*; some ancient writers have called it *Pterygium*, *Pennus Oculi*, *Onyx*, *Unguis*, and *Ægides*. It is a variety of Cullen's *Caligo Corneæ*. With us it hath various appellations, as a cicatrice, film, haw, a dragon, pearl, &c. Some distinguish this disorder by *Nubecula* when it is superficial; and *Albugo* when it is deep. Others make the following distinctions, viz. when the speck is of a shining white, and without pain, it is called a cicatrice; when of an opake whiteness, an *albugo*; seated superficially, it hath been called a speck; and more deeply, a dragon; if an abscess was the cause, its contents hardening between the laminæ of the cornea, causes it to project a little, and then it is called a pearl.

Album Alvi Profluvium, the *Mucous Diarrhœa*.

Album (Bals.) i. e. *Balsam Capivi*.

Album Græcum, the white dung of dogs. It was formerly applied as a discutient, to the inside of the throat, in quinsies, being first mixed with honey.

Albumen, *Albumor*, white of an egg.

Alburnum, from *albus*, *white*, the softer and paler part of wood next the bark; artificers call it the *sap*, to distinguish it from the heart, which is deeper coloured and harder. Some call this *Adeps Arborum*.

Alcahest, an Arabic word to express an universal dissolvent, which was pretended to by Paracelsus and Helmont. Some say that Paracelsus first used this word, and that it is derived from the German words *al* and *geest*,

i. e. *all spirit*. Von Helmont borrowed the word, and applied it to his invention which he called the universal dissolvent. If Helmont had an universal dissolvent, what held it?

Alcahest, a name of the liquor of flints.

Alchemy, that branch of chemistry which had for its principal objects the transmutation of all the metals into gold; the panacea, or universal remedy for all diseases; and the alkahest, or universal menstruum. Those who pursued these delusive projects, gradually assumed the form of a sect, under the name of Alchemists, a term made up of the word chemist, and the Arabian article *al*, as a prefix. The alchemists laid it down as a first principle, that all metals are composed of the same ingredients, or that the substances at least which compose gold exist in all metals, and are capable of being obtained from them. The great object of their researches was to convert the baser metals into gold. The substance which produced this property they called *lapis philosophorum*, "the philosophers' stone;" and many of them boasted that they were in possession of that grand instrument. The alchemists were established in the west of Europe as early as the ninth century; but between the eleventh and fifteenth alchemy was in its most flourishing state. The principal alchemists were Albertus Magnus, Roger Bacon, Arnoldus de Villa Nova, Raymond Lully, and the two Isaacs of Holland.

Alcohol. It is an Arabian word, much used in chemistry, signifying an impalpable powder, which the eastern women used as a kind of paint for their faces, or otherwise as an improvement to their complexions. As this powder, being an impalpable one, was called *alcohol*, this name was given to other subtile powders: so the name was applied by chemists to the purely spirituous part of liquors that have undergone the vinous fermentation. It is in all cases the product of the saccharine principle, and is formed by the successive processes of vinous fermentation and distillation. Various kinds of ardent spirits are known in commerce, as brandy, rum, &c.; but they differ in colour, taste, smell, &c. The spirituous part, however, is the same in each, and may be procured in its purest state by a second distillation, which is termed rectification. See *Distillation*, *Fermentation*, and *Rectification*. Alcohol is procured most largely in England from a fermented grain-liquor; but in France and other wine countries, the spirit is obtained from the distillation of wine; hence the term spirit of wine. See *Brandy*. Alcohol is a colourless, transparent liquor, appearing to the eye like pure water. It possesses a peculiar penetrating smell, distinct from the proper odour of the distilled spirit from which it is procured. To the taste it is excessively hot and burning; but without any peculiar flavour. From its lightness, the bubbles which are formed by shaking, subside almost instantaneously, which is one method of judging of its purity. Alcohol may be volatilized by the heat of the hand. It is converted into vapour at the temperature of 55° of Fahrenheit, and it boils at 165°. It has never been frozen by any degree of cold, natural or artificial, and on this account it has been much used in the construction of thermometers. Alcohol mixes with water in all proportions, and during the mixture heat is extricated, which is sensible to the hand. At the same time there is a mutual penetration of the parts, so that the bulk of the two liquors when mixed is less than when separate: consequently the specific gravity of the mixture is greater than the mean specific gravity of the two liquors taken apart. Alcohol is supposed to consist of

Carbon	28.53
Hydrogen	7.87
Water	63.6
	100.00

Its uses are many and important: it is employed as a solvent for those resinous gums which form the basis of numerous varnishes: it is employed also as the basis of artificial cordials and liquors, to which a flavour and additional taste are given by particular admixtures: it serves as a solvent for the more active parts of vegetables, under the form of tinctures. The antiseptic power of alcohol renders it particularly valuable in preserving particular parts of the body as anatomical preparations. The steady and uniform heat which it gives during combustion, makes it a valuable material for burning in lamps.

Alembicus. This word is half Arabic and half Greek. From the Arabic particle *al*, and αμϐιξ, which is again derived from αμϐαινω, for αναϐαινω, *to ascend.* Seneca calls it in the Latin language, *miliarium;* in English it is called *alembic* and *moor's-head.* It is a copper cap tinned in the inside, made like a head; to this the pipe (before worms were contrived) which passes through a tub of cold water, was fixed, to receive the vapour from the vessel containing the matters to be distilled, and to convey it to the receiver. This head is properly the *alembic*, and is called *alembicus rostratus*, i. e. the *beaked alembic*, to distinguish it from *alembicus cæcus*, or *blind alembic*, which is without a canal, as it is to receive dry substances that are sublimed into it. The still-head is properly an *alembic.*

Alepensis, a species of ash-tree which produces manna.

Alexipharmaca, alexipharmics, from ἀλέξω, *to repel* or *drive away*, and φαρμακον, *poison.* These sorts of medicines, though counter-poisons, yet chiefly relate to the cure of malignant fevers; but from theory, *alexipharmics* are what pass through the skin, or what drive the supposed poison through the pores.

Alexipharmaca, ἀλεξιφάρμακα, one of the names by which the Greeks expressed *amulets.*

Alexipyreticum, ἀλεξιπυρετον, *Alexipyretos*, or *Alexipyretum*, from ἀλεξω, *to drive away*, and πυρετος, *fever*, a remedy for a fever.

Alexiteria, ἀλεξιτηρια, alexiterials, from ἄλεξω, and τηρεω, *preservative from contagion.* Hippocrates used the word to express help, or remedies; but latter writers use it to express remedies against the poisonous bites of animals. By Castellus this word is considered as synonymous with Alexipharmaca.

Alga, *Fucus marinus*, sea-oak, sea-wrack, sea-weed. One of the most common species, called *Fucus vesiculosus*, hath been used calcined: it is then called *Æthiops vegetabilis.*

Alga marina, *Zostera marina.* Linnæi. It is gathered on the coasts of Scotland and Ireland, to be burnt to ashes for the making of soap, glass, &c.

Algæ, one of the seven families or tribes in the vegetable kingdom, defined by Linnæus to be such as have their root, leaves, and caudex, or stem, all in one, comprehending sea-weeds, and some other aquatic plants. In Tournefort they constitute the second genus of the second section of class xvii. and are divided into nine species. In the *Systema Naturæ* of Linnæus they constitute the third order in the class *Cryptogamia*, and are divided into *Terrestres* and *Aquaticæ;* the first comprehending eight genera, and the latter four.

Alienatio Mentis, i. e. *Delirium.*

Aliformis (Processus) i. e. *Pterygoïdes Processus*, from πτερυξ, *ala*, *a wing*, and ειδος, *forma*, *the shape.*

Aliformes Musculi, the muscles arising from the pterygoïde bone, and ending in the neck of the lower jaw, and towards the internal seat of the head.

Aliment, nourishment, includes all that is taken in, as meat or drink, from whence nourishment is expected.

Alkali, in chemistry, a word applied to all bodies that possess the following properties: they change vegetable blue colours, as that of an infusion of violets, to green: they have an acrid and peculiar taste: they serve as intermedia between oils and water: they are capable of combining with acids, and of destroying their acidity: they corrode woollen cloth, and, if the solution be sufficiently strong, reduce it to jelly: and they are soluble in water. The alkalies at present known are three; viz. ammonia, potash, and soda; the two last are called *fixed* alkalies, because they require a red heat to volatilize them; the other is denominated *volatile* alkali, because it readily assumes a gaseous form, and is dissipated by a very moderate degree of heat. Barytes, strontian, lime, and magnesia, have been denominated alkalies by Fourcroy; but as they possess the striking character of earths in their fixity, this innovation does not seem entitled to general adoption.

Since writing the above, some discoveries of great importance, on the subject of alkalies, have been made known to the philosophical world by Mr. Davy, Professor of Chemistry at the Royal Institution. We shall in this place give a sketch of the two papers which he has just laid before the Royal Society, referring to some subsequent articles for further particulars. In a former discourse read before this learned body, Mr. Davy, in speaking of the agencies of electricity, suggested the probability that other bodies not then enumerated might be decomposed by the electric fluid. In the course of the summer of 1808, this celebrated philosopher was employed in making a number of experiments with this particular view, and by means of very powerful galvanic troughs, consisting of a hundred pair of plates, six inches square, and one hundred and fifty pair four inches square, he has succeeded in decomposing potash and soda. A more brilliant discovery has not been made since those which have immortalized the names of Priestley and Cavendish. This was effected by placing moistened potash, or soda, on a plate of platina, and exposing it to the galvanic circle. Oxygen was disengaged, and the alkalies reduced to their primitive base, which is found to be a peculiar and highly-inflammable matter, and which assumes the form and appearance of small globules of mercury. These globules are, however, lighter than water, and when potash is used, they are in the proportion of six to ten. At the freezing point they are hard and brittle; and when broken, and examined by a microscope, they present a number of facettes with the appearance of crystallization: at 40° Fahrenheit they are soft, and can scarcely be discriminated but by their gravity from globules of mercury; at 60° they are fluid, and at the small heat of 100° volatile. When exposed to the atmosphere, they rapidly imbibe oxygen, and reassume the alkaline character. In distilled naptha they may be preserved four or five days, but if exposed to the atmosphere, they almost instantly become incrusted with a coat of alkali: the incrustation may be removed, and the reduced globule will remain, either in naptha, or otherwise separated from all contact with oxygen. See *Bitumen*.

One part of the base of alkali and two of mercury, estimated by bulk, form an amalgam, which when applied in the circle of a galvanic battery, producing an intense heat, to iron, silver, gold, or platina, immediately dissolved them, and converted them into oxides, in which process alkali was regenerated. Glass, as well as all other metallic bodies, was also dissolved by the application of this substance: the base of the alkali seizing the oxygen of the manganese and of the minium, potash was regenerated. One of these globules placed on a piece of ice dissolved it, and burnt with a bright flame, giving out an intense heat. Potash was found in the product of the dissolved ice. Nearly the same effects followed, when a globule was thrown into water: in both cases a great quantity of hydrogen was rapidly liberated. When laid on a piece of moistened tumeric paper, the globule seemed instantly to acquire an intense heat; but so rapid was its movement in quest of the moisture, that no part of the paper was burnt, only an intense deep red stain marked the course it followed, and showed a reproduction of alkali. The specific gravity of the base of soda is as seven to ten of water: it is fixed in a temperature of about 150°, and fluid at 180°. Mr. Davy next tried its effects on the phosphates, phosphurets, and many other salts of the first and second degree of oxydizement, all of which it decomposed, seizing their oxygen, and reassuming its alkaline qualities. From many experiments it appears, that 100 parts of potash contain 15 of oxygen and 85 of an inflammable base, and that the same quantity of soda contains 20 of oxygen and 80 base. This ingenious chemist, after a great number of complex experiments, in which he was assisted by Messrs. Pepys and Allen, ascertained that oxygen is also an essential ingredient in ammonia; of which 100 grains appeared to yield 20 of oxygen. Mr. Davy has also found that oxygen is one of the constituent principles of the muriatic and fluoric acids, and likewise of the earths, barytes and strontites. See *Chemistry*, *Potash*, and *Soda*.

Alkali (Sal fixum), *Potash*, the common fixed vegetable alkali, obtained from such burnt vegetables as are not impregnated with sea-salt. This species is called, in the new Pharmacopeia, *Kali*.

Alkali, *(Fossil)*, *Soda*, a genus in the order of *Alkalies*. It readily shoots into crystals of a rhombic form. This alkali is called, in the new Pharmacopeia, *Natron*.

Alkali (Volatile) Ammoniac, a genus in the order of *Alkalies*, of a pungent smell, which wholly sublimes in no great degree of heat; and readily strikes a blue colour, with a salt of copper. *Volatile alkali* is discovered not only in most parts of the clays, but likewise in the sublimations at Solfatara, near Naples. This alkali is called, in the new Pharmacopeia, *Ammonia*.

Alkalies. They are apparently formed by synthesis during the decomposition of organized substances by high heat. Alkalies are of two kinds, *salts* and *earths*.

The salts are of three sorts, potash, soda, and ammoniac. Potash is formed during the combustion of wood, timber, and generally speaking, of upland vegetables. Soda is produced by the incineration of glaswort, sea-weeds, and maratime plants. And ammoniac is evolved during the exposure of many animal and vegetable substances to a distilling heat. Alkaline earths are of four species, lime, magnesia, barytes, and strontian; the two former of which are very plentiful in nature, and the two latter exist in comparatively small quantities. Their final cause in nature is evidently to repress and neutralize that predominating acidity which would otherwise overwhelm the earth; and thereby to produce neutral and middle salts. In a particular manner they are capable of resisting the dangerous progress of the septic acid abounding in pestilential or infectious air, and thereby preventing the mischief which would otherwise ensue. Hence alkalies may be termed the great safeguards of creation; keeping putrefactive and other acidity within proper limit and restraint. Alkaline *salts* are more powerful than the *earths*. They have stronger attractions and greater activity.

Alkaline salts, more especially potash and soda, are the greatest detergents or purifiers which are known. They cleanse garments and every thing else which is contaminated with common nastiness, infection and contagion, and either neutralize them, or carry them clean off. Hence they are employed as the principal and active ingredient in soaps; and are so signally active in the form of lixivia or leys. Without their aid in overcoming and removing personal nuisances, human life would suffer excessively by foulness and infection.

Alkaline salts, too, are the most powerful antiseptics with which we are acquainted. Potash is remarkable for removing tainted and fetid odours, and for keeping animal substances sweet, entire, and free from decay. Soda was employed by the ancient Egyptians to envelope and penetrate the bodies of the dead during the process of embalming. And ammoniac is sufficiently known to possess a like antiseptic quality. Lime, too, in the great strata of the mountains and plains of the earth, evinces its wonderful antiseptic virtue, by preserving within its embrace the remains of animals and vegetables from an older date than any other monuments which exist. Petrifactions of all kinds, as old as the everlasting hills, are powerful and instructive proofs of the antiseptic quality of lime.

Alkalies are admirable remedies in dysentery. Administered by the mouth, they neutralize, in their passage through the alimentary canal, the septic acid which is its exciting cause; and injected in clysters, they allay tenesmus like a charm. In both cases they mitigate pain, allay spasmodic action, and restore and equalize the peristaltic motion. They effectually prevent the fetor and infection of the stools.

They are excellent helps in surgery. Many foul ulcers are very much benefited by their application with the dressings in weak watery solution. Experiments having proved, that, in foul and degenerate ulcers, of the common as well as of the syphylitic, cancerous and scrophulous kinds, the matter secreted on their surfaces degenerates to a venomous acid; the propriety of alkaline dressings will be instantly apparent. These and other properties of alkalies have been treated of in Dr. Mitchill's Essays, published in the several volumes of the Medical Repository of New-York.

Alkalies, in *Natural History*, are an order in the class of salts. They are salts of a peculiar taste, changing the purple juices of vegetables into a green colour. They are farther known by their vehement attraction to acids.

Alkalis. A term given to substances, which possess an acrid, burning, urinous smell; convert syrup of violets to a green colour; render oils miscible with water; and effervesce with certain acids: from *kali*, a plant so called, from which alkali is obtained. See *Barilla.*

Alkanet, *Anchusa tinctoria*, Lin. This root is in common use for the purpose of imparting a deep red colour to oil, wax, and unctuous substances.

Allium. Garlick. *Allium sativum* of Linnæus. It is a native of Sicily; but as it is much used both for culinary and medicinal purposes, it is cultivated in our gardens. Every part of the plant, but more especially the root, has a pungent taste, and a peculiarly offensive smell. The medicinal uses of garlick are various; it is given as an expectorant in pituitous asthmas. Its utility as a diuretic in dropsies is very considerable. It is also esteemed as an antihelmintic; and the decoction of the beards of leeks is of infinite service in calculous and gravelly complaints. The syrup and oxymel of garlick are expunged from our Pharmacopeias, as the swallowing of the root in small pieces is considered the best way of administering it.—From i. to ii. chives.

Allspice, i. e. *Myrtus Pimenta.*

Almond. See *Amygdalus.*

Almonds of the throat, improperly called the *almonds* of the ears. See *Tonsilla.* As they are subject to inflammation, they frequently are the seat of the sorethroat.

Aloes. The deep red or brown and very bitter juice of the *Aloe perfoliata* of Linnæus. Aloes are distinguished into three species—soccotrine aloes, hepatic aloes, and cabaline aloes; these differ only in their respective degrees of purity, the first being the best. They are obtained in the following manner: deep incisions are made, from which the juice flows; this is decanted from its fecula, and thickened by the sun's heat, in which state it is packed in leather bags, under the denomination of *soccotrine aloes.* The juice obtained by pressure from the leaves, after it is purified by standing, and dried, is the *hepatic aloes.* The same leaves, by stronger pressure, afford more juice, which, mixed with the dregs of the two foregoing, constitutes the *cabaline aloes.* The first sort contains a much less quantity of resin than the two last, which are more strongly purgative. Aloes is esteemed the best laxative for women with suppressed catamenia, and is much employed as an antihelmintic. Several preparations of this drug are directed in the London and Edinburgh Pharmacopeias.—Emmenagogue grs. iii. to x. Cathartic ℈ss. to ℈ii.

Alopecia, baldness, or the falling off of the hair, from ἀλώπηξ, *a fox*, because the fox is subject to a distemper that resembles it; or, as some say, because the fox's urine will occasion *baldness.*

Alphus. Vitiligo alba. Morphæa alba. Lepra maculosæ alba. A species of leprosy, in which white spots appear upon the skin. It is produced by a peculiar miasma, which is endemial to Arabia: αλφος, from αλφαινω, to change; because it changes the colour of the skin.

Alterantia, alteratives, or altering medicines, are such as have no immediate sensible operation, but gradually gain upon the constitution, by changing it from a state of distemperature to health. See *Cathartics*.

Althæa, from αλθιω, *to heal*, marsh-mallow. *Althæa officinalis* of Linnæus. The gluten or mucilaginous matter with which this plant abounds, is the medicinal part of the plant; it is commonly employed for its emollient and demulcent qualities, in coughs, hoarseness, and catarrhs. The root had formerly a place in many of the compounds in the Pharmacopeias, but now it is only directed in the form of syrup.

Aludel, a chemical subliming vessel. They are without bottoms, and fitted into one another, as many as there is occasion for; at the bottom is a pot that holds the matter to be sublimed, and at the top there is a head to retain the flowers that rise up.

Alumen, alum; a genus of earthy salt, in the order of earthy neutral salts. It consists of the vitriolic acid, and a clayey earth; it changes the purple juices of vegetables into a red colour. It is of very extensive use in medicine and surgery, as an adstringent. Internally it is given in hæmoptoe, diarrhæa, and dysentery. Externally it is applied as a styptic to bleeding vessels, and to ulcers where there is too copious a secretion of pus.—grs. iv. to xx.

Alumina, or *Alumine*, is a term in M. Fourcroy's Elements of Natural History and Chemistry, for the earth of alum, base of alum, or pure clay.

Aluta Ægyptia, the same as *Aluta*, leather so prepared as to be fit to spread plasters on.

Aluta Montana, a species of leather-stone; it is soft and pliable, and not of a laminated structure.

Alvearium, from *alveare*, *a bee-hive*. The bottom of the concha, or hollow of the external ear; it terminates in the meatus auditorius. It is in this cavity where the ear-wax is principally lodged.

Alveoli, the sockets in the jaws in which the teeth are set. There are usually sixteen of these *alveoli* in each jaw of an adult.

Alveus. Medicinally it is applied to many tubes or canals, through which some fluid flows, particularly to ducts which convey the chyle from the receptacle thereof to the subclavian vein.

Alvus, the abdomen; but in a more limited and strict sense, it expresses rather the condition of the bowels; as when a person is laxative it is called *Alvus liquida*; when costive *Alvus dura*; and when very costive *Alvus adstricta*.

Alyce, αλυκη, *anxiety*, that anxiety which is attendant on fevers.

Alypum, from α priv. and λυπη, *pain*, the herb terrible, a species of *Globularia*.

Amalgama. In *Chemistry* it is a substance produced by mixing mercury with a metal. All metals except iron, will *amalgamate* with quicksilver. Gold *amalgamates* most readily, silver next, lead and tin next, copper with difficulty, and iron scarce at all. To *amalgamate* gold is to reduce it to a paste by uniting it with mercury; with this paste, silver and other metals are gilt.

Amatoria, *vel Amatoria Febris*, the fever of lovers: also the *Chlorosis*. Vogel defines it to be a fever of a few hours continuance, beginning with a great degree of coldness, and arising from eager expectation.

Amatorii, *Musculi*, the *muscles* of the eyes which move them when we are said to be ogling. When the abductor and humilis act together, they give the eyes this oblique motion. These muscles are also called obliquus inferior and superior oculi.

Amaurosis, from αμαυρσω, *obscure, to darken.* It is a decay or loss of sight, when no fault is observed in the eye, except that the pupil is somewhat enlarged and motionless. The Latins call this disorder a *Gutta serena.* Dr. Cullen ranks it as a genus in the class *Locales*, and order *Dysæsthesiæ*, and enumerates the species from the following causes, viz. compression, debility and its causes, spasm, and the application or swallowing of poisons. The sight fails whether the object be near or at a distance; but not from a visible defect in the eye, but from some distemperature of the inner parts, occasioning the representations of flies, dust, &c. floating before the eyes; which appearances are nothing else than the parts of the *Retina* hid and compressed by the blood-vessels being too much stuffed and distended; so that in many of its parts all sense is lost, and therefore no images can be painted upon them, whereby the eyes, as it generally happens, being continually rolling round, many parts of objects falling successively upon them, are obscured. The cure of this depends upon a removal of the stagnations in the extremities of those arteries which run over the bottom of the eye; and whatsoever forces away the matter obstructing them, will also be able to remove the like obstructions in the arteries of any other part of the brain. For what is generally said concerning the optic nerves being obstructed in this case, is ridiculous; for the arteries must first be obstructed, because there is nothing in the nerves which was not before in the arteries; and when a nerve is obstructed it may be taken for incurable.

Ambe, αμβη, *a lip, edge*, or *border*, an instrument used in dislocations of the humerus. Galen explains the word *ambe*, by αφρυωδης επαναστασις, *an eminence like a border*, and says that the whole machine takes that name, because its extremity runs out with an edge like the lip or brim of a pot, towards the interior cavity, which, as well as the edge or border of any thing on the top or extremity, are signified by the word *ambe.*

Amber. A beautiful bituminous substance, of a yellow or brown colour, either transparent or opake, which takes a good polish, and after a slight rubbing, becomes so electric, as to attract straws and small bodies; it was called *electrum* by the ancients, and hence the word electricity. When powdered it emits an agreeable smell. It is dug out of the earth at various depths, and often contains insects in high preservation, a circumstance which proves that it has been liquid. Amber is also found floating on the shores of the Baltic, and is met with in Italy, Sicily, Poland, Sweden, &c. From its colour or opacity it has been variously distinguished; thus white, orange, golden, cloudy amber, &c. An oil is obtained from it, which, as well as its other preparations, is much used in medicine against spasmodic diseases.—The oil, in doses of from gts. v. to xx. The salt from grs. v. to xx.

Amblyopia, from αμβλυς, *dull*, and ωψ, *the eye.* It is an obscurity of sight, without any apparent defect in the organ. In Cullen's synopsis it is placed as synonymous with *Amaurosis*, and with *Dysopia.*

Ambra. See *Amber.*

Ambra cineracia, i. e. *Ambragrisea.*

Ambra-grisea, ambergris; a genus in the class of *inflammables;* it is generally foul and opake; when burning, it yields a peculiar fragrant smell. Some take it to be a vegetable matter; others a mineral; but from some account inserted in the Philos. Transactions, it is most probably an animal matter, and the produce of the spermaceti whale. It is mostly found floating on the surface of the Indian seas, though occasionally on our northern seas. Mr. Atkins relates that it was found in the urine-bladder of that fish. Dr. Schwediar thinks it is its excrements.

Dr. Mitchill also has been informed, by several experienced whale-men of Nantucket, that this is certainly the excrement of the costive whale; in proof of which, the appearances of the beaks of the sæpiœ, or cuttle-fishes, upon which the whales feed, can be plainly discerned in it.

Ambrosia, was a sounding title given to medicines which were pretended of uncommon efficacy for supporting the principles of life, and procuring a kind of immortality; but such terms are now not met with.

Ambulatio, walking. Celsus says, that if moderately used, it strengthens a weak stomach; that it is best if up and down hill, except in great weakness. If the viscera are weak, riding is to be preferred to *walking*. *Walking* preserves, and riding recovers health the best.

Ambusta, burns. Dr. Cullen places these as a variety of *Phlogosis erythema*.

Ambustio, from *amburo*, *burning* or *scalding*.

Amenorrhœa, from α priv. μηνιαιος, *monthly*, and ρεω, *fluo*, a defect or want of the menses. This is Dr. Cullen's generic term for defective or suppressed menses. He places this genus in the class *Locales*, and order *Epischeses*. His species are, 1. *Emansio mensium;* that is, when the menses do not appear so early as is usually expected. 2. *Suppressio mensium*, when, after the menses appearing and continuing as usual for some time, they cease without pregnancy occurring. 3. *Amenorrhœa difficilis, vel Menorrhagia difficilis*, when this flux is too small in quantity, and attended with great pain, &c.

Amentaceous Flowers. In *Botany* they are such as have an aggregate of summits hanging down in form of a rope or of a cat's tail, as the male flowers of mulberry, &c. These are also called *Juli*, and in English *Catkins*.

Amentia, from α priv. and *mens*, *the mind*, foolishness, a defect of imagination, idiotic insanity, a slight degree of madness. Dr. Cullen defines it to be the weakness of the mind in judging, from either not perceiving or not remembering the relations of things. He ranks this disease in the class *Neuroses*, and the order *Vesaniæ*. His species are, 1. *Amentia Cogenita*, natural stupidity, i. e. from the birth. 2. *Amentia Senilis*, dotage or childishness, from the infirmities of age. 3. *Amentia Acquisita*, when from accidental injuries a person becomes stupid or foolish.

Amentum, from αμμα, vinculum, a bond, or thong, or catkin. See *Amentaceous Flowers*.

America, one of the four great divisions of the earth; and until near the close of the 15th century unknown to the Europeans. Its inhabitants, being not intent on foreign voyages, had never crossed the ocean, and knew nothing of the inhabitants of the eastern continent. It has furnished Europe with several articles of food, as the potatoe, and the turkey; and with several medicines, as the guacium, ginseng, ipecacuanha, jalap, and Peruvian bark. Its climate is found favourable to the production of opium, both from the poppy and the lettuce; and physicians in various parts of the country, in New-York and Pennsylvania, gather their cantharides or blistering flies in their own fields. *America* is often used of late to signify the "United States of America." In these there are several valuable schools of medicine, as in New-York, Cambridge, Philadelphia and Baltimore. For some years this region has been remarkable for the discussions and discoveries that have taken place, concerning infectious and pestilential distempers, by which the knowledge of them has been very much enlarged. On these great subjects of human interest and inquiry, Europe is deriving information, and gathering knowledge from the west. For the articles of a remedial kind which this country furnishes, Shoepf's Materia Medica Americana, Barton's Materia Medica, and Coxe's American Dispensatory may be consulted with advantage.

Americanum Bals. i. e. *Balsam. Peruv.*

Americanum Tuberosum, potatoes.

Amethysta Pharmaca, from α priv. and μεθυ, *wine*, medicines which either prevent or take away the inebriating effects of wine.

Amethystus, amethyst. It was so called from a supposition that it prevented drunkenness. It is a precious stone; a specimen of quartzose crystal. *Amethysts* are met with amongst the species of four different genera, in the order of quartz.

Amianthus, amianth; a genus in the order of fibrous stone; its fibres are pliable and soft when separated, and of different colours.

Ammonia, volatile alkali; the salt obtained by distilling the sal ammoniac of the shops with any substance for which the muriatic acid has a stronger attraction. When distilled from deer's horns it is called *spirit of hartshorn*; when from viper's flesh, *volatile salt of vipers*; when from sal ammoniac, *the spirit of sal ammoniac*, &c. Ammoniac is a concrete salt; but usually exists in the shops in a liquid form, wherein it is dissolved in a large quantity of water. Its smell is pungent and refreshing, and therefore is frequently employed for smelling-bottles. When taken into the stomach it is a good, active, and safe stimulus. It has been recommended to neutralize pestilential acidity in the air, and thereby to destroy the exciting cause of fevers. It exhales in great quantity from burning coal, and doubtless has an anti-pestilential operation in cities which consume great quantities of that fuel. Experiments have proved it to be a strong antiseptic, as the other alkalies also are. It is said to be evolved in considerable quantity in some putrefactive processes. When this happens, the occurrence is very happy; for, as septic acid is so often formed in corruption too, the economy of nature may be discerned, which furnishes the antidote together with the poison. It is believed to be a compound of hydrogen, phlogiston, and azote, chemically combined and associated, to a portion of water. See *Potash* and *Soda.*

Ammoniac Salt (common), a neutral salt in the order of *Alkaline neutral salts.* It is composed of the muriatic acid and the volatile alkali; it is volatile in a small degree of heat; its alkali is extricated in pungent vapours on the admixture of quick-lime; its acid is extricated in white fumes, on pouring concentrated vitriolic acid upon it. *Ammoniacal salt* is a general name for such neutral *salts* as have a volatile alkali for their basis. That whose acid is the acid of sea-salt, was called *sal ammo-*

niac, and as the first known, it gave name to all the rest. The name *ammoniac* is derived by Salmasius from one of the Cyrenaic territories, Ammonia; by others, from the temple of Jupiter Ammon in Africa; by others, from the Greek αμμος, *sand*, or αμμωνιακον, *sandy*, the salt being said to have been found plentifully in Ammonia, and near Ammon's temple, in sandy grounds. The *sal ammoniac* of the ancients is commonly supposed to have been a species of *Sal Gem.* The true modern *sal ammoniac* is never found native, at least not in any tolerably pure state. The common *sal ammoniac* is an artificial preparation, which, until very lately, was made only in Egypt. It is now produced in England and other countries. The volatile alkali obtained from this salt is called *Ammonia* in the late edition of the college Pharmacopeia; the crude sal ammoniac, *Ammonia muriata.* The taste of sal ammoniac is penetrating, acrid and urinous. It is exhibited internally in intermittent fevers, amenorrhæa, &c. Externally it acts as a powerful resolvent and antiseptic.—Febrifuge grs. v. to xx. Diuretic, diaphoretic; to ʒ i. In larger doses Emetic.

Ammoniacum (Gum), gum Ammoniac. It is brought from the East-Indies. It is a gummi-resinous juice, composed of little lumps, or tears, of a strong and somewhat ungrateful smell, and nauseous taste, followed by a bitterness. There has, hitherto, been no information had concerning the plant which affords this drug. It is imported from Turkey, and from the East-Indies. Internally, ammoniacum is given in asthmas, and difficulty of expectoration. In large doses it proves purgative. Externally, made into a plaster with acetum scillæ, it produces pustles, filled with tenacious pus, and is a powerful resolvent.—From ℈ss. to ℈ i.

Ammoniacus Vegetabilis (Sal), i. e. *Spiritus Mindereri.* Aqua ammoniæ acetatæ in the late Pharmacopeia.

Amnesia, or *Amnestia*, from α priv. and μνηστις, *memory.* Forgetfulness. Some use this word as synonymous with *Amentia.*

Amnion, or *Amnios.* Martinius thinks it is derived from, or hath its name in allusion to αμνιον, *a vessel*, which the ancients used for the reception of blood in sacrifices. It is the internal membrane which surrounds the fœtus: it is thin and transparent, soft, tough, smooth on its inside, but rough on the outer. Dr. Hunter says that it runs over the internal surface of the placenta, and makes the external covering of the funis umbilicalis, to which it is most firmly united, and that viewed in a microscope, it appears to have blood-vessels, but they are lymphatics.

Amomum. Ginger; a genus in Linnæus's botany. He enumerates four species.

Amor Insanus. The same as *Erotomania.*

Amphemerinos, from αμφι, *about*, and ημερα, *a day*, a quotidian fever.

Amphiarthrosis, a mixt sort of articulation, partaking of *Diarthrosis* and *Synarthrosis*; it resembles the first in being moveable, and the latter in its connection. The pieces which compose it have not a particular cartilage belonging to each of them, as in the diarthrosis, but they are both united to a common cartilage, which being more or less pliable, allows them certain degrees of flexibility, though they cannot slide upon each other; such is the connection of the first rib with the *Sternum*, and of the bodies of the *Vertebræ* with each other.

Amphibius, Amphibius, of αμφι, *ambo*, and βιος, *vita.* Animals are thus called, that live both on land, and in the water: The *amphibious* animals, according to Linnæus, are a class whose heart is furnished with one ventricle and one auricle, in which respiration is in a considerable degree voluntary.

Amphiblestroides, from αμφιβληστρον, *a net*, and ειδος, *form* or *shape*, the retina or net-like coat of the eye. It is a soft, white, and slimy substance, which is thus named, because, if it be thrown into water, it resembles a net. It shoots from the centre or the optic nerve, and consists of the medullary substance of it; and expanding itself over the vitreous humour, is extended as far as the *Ligamentum Ciliare*, or the ligament of the eyelids. If the whole eye was to be considered as a flower growing to the brain by the optic nerve, this tunic would be the flower itself, and the other two, the *Sclerotica* and *Choroides*, be only in the nature of a stem. This seems to be the principal organ of sight, and receives the visible species within the eye, after the same manner as a white wall, or a piece of white paper in a darkened room, receives and represents the visible species which are intromitted through a little hole, so as to form what we now call the *Camera obscura*; by seeing whereof the nature of vision may be prettily explained.

Amphidiarthrosis. So Winslow calls the articulation of the lower jaw, which is partly by a ginglymus, and partly by an arthrodia.

Amphimerina. See *Amphemerinos* for its etymology. Excepting a very few instances, it is an intermitting fever of the quotidian-tertian kind. It is the continued-quotidian of Linnæus and Vogel: others rank it as a remittent.

Amphimerina Catarrhalis. A catarrh from cold.

Amphimerina Anginosa. A symptom[illegible] kind of quinsy, called by Huxham, *Febris anginosa*, by others the mucous quinsy, and the erysipelatous quinsy.

Amphimerina Tussiculosa. A catarrh from cold; also the whooping-cough.

Amphora, αμφορευς, is a measure mentioned by ancient physical writers, containing eight gallons; of oil 72 pounds, of wine 80 pounds, and of honey 180 pounds, as Castellus informs us.

Ampulla, a vessel shaped with a belly, as a bottle or jug. In *Chemistry* all bellied vessels are called *ampullæ*, as boltheads, receivers, cucurbits.

Amputatio, amputation, from *amputo*, *to cut off*. It is the cutting off any limb, or part of the body.

Amputatio Vocis. A loss of speech.

Amputatura. A wound from the entire separation of a part from the body.

Amuletum. An Amulet. *Amulets* and charms are so nearly allied, that they may be considered as being the same. They are formed of any materials that fancy suggests. They seem to have been artfully introduced, to impose a belief in those not in the secret, that those who were exercising them were in particular favour with some superior being. This gave the people a venerable idea of the practitioner, and so the vulgar were more easily prevailed on to submit implicitly to them; and as the mind affects the body, so in some cases the persuasion of the patient might contribute to a cure.

Amygdala. Almonds. The kernels of the fruit of the almond-tree *Amygdalus communis* of Linnæus, a native of Barbary. The same tree produces either bitter or sweet almonds. Sweet almonds are more in use as food than medicine. They afford on expression, a great proportion of oil, which, from being more agreeable to the palate than the other oils, is preferred for internal use, to soften and relax the solids, in tickling coughs, hoarseness, costiveness, nephritic pains, &c. Externally it is used in tensions and rigidities of particular parts. An emulsion of sweet almonds possesses the emolient qualities of the oil.

Amygdalæ, Almonds. The fruit so called See *Amygdalus*. Also the glands called *Tonsillæ*. See *Almonds of the throat*.

Amygdalia. So Hippocrates calls the tonsils.

Amygdalatum. The almond emulsion.

Amygdalus Persica. Peach-bearing almond-tree. A species of *Amygdalus*.

Amygdalus, Almond; a genus in Linnæus's botany. He includes the peach-tree in this genus; and enumerates four species. The college hath retained the amygdala amara and dulcis.

Amyla, αμυλον. Any sort of chemical fæcula.

Amylum, αμυλον. Starch, from α priv. and μυλη, *a mill*, because it is made of corn without a mill, or without grinding. It is the fæcula of wheat, but deprived of its salt and oil. It is made from all kinds of wheat, from potatoes, &c. It was invented in the Isle of Chios, and is valued by its lightness and smoothness. Starch is frequently employed in glysters against diarrhœas. Externally, surgeons employ it as an absorbent in erysipelas.

Ana. See *A*.

Anæsthesia, αναισθησια, from α priv. and αισθανομαι, *sentio*. Loss of feeling by the touch, or loss of perception. Dr. Cullen ranks this genus of diseases in the class *Locales*, and the order *Dysæsthesiæ*.

Analepsis, αναληψις, from αναλαμβανω, *to recover and regain vigour after sickness*. Hence *Analeptica*.

Analeptica. Analeptics. Its derivation is the same with *Analepsis*. They are such things as restore, particularly such also as exhilarate the spirits. Besides the nutritious quality of restoratives that are analeptic, they have a sweet, fragrant, subtile, oleous principle, which immediately affects the nerves, and gives a kind of friendly motion to the fluids.

Analogia, αναλογια, from αναλογιζομαι, *to compare*, or liken one thing with another.

Analogism, αναλογισμος, is judging of diseases by similar appearances, or discovering a thing unknown, by its similitude with something already known; and this way of reduction was called by the ancient writers, *Medicina Rationalis predogmatica*, in opposition to the empirica, which was conducted by appearances only, without theory.

Analysis, αναλυσις, from αναλυω, *to resolve*. *Analysis*, in chemistry, is the separation of any substance into its constituent parts, with a view of ascertaining their nature, relative proportion, and mode of union. An instance of this kind is to be had in the decomposition of water, by which it is found that the constituent parts are hydrogen and oxygen, in the proportion of fifteen parts of the former and eighty-five parts of the latter. As every operation in chemistry is attended with a disunion of parts, the formation of new compounds is almost an invariable consequence: hence the business of analysis is intimately connected with the whole of chemical science, and can be only thoroughly understood by one that is well versed in every branch of chemistry. On so an extensive a subject it is in vain to attempt laying down precise rules for the mode of operation generally. We may, however, observe that a compound once formed, perpetually acquires the powers of an element, in being able to unite, undecomposed, with other bodies simple or compounded, in various proportions; and thus to produce new substances in which the constituent parts often retain their original affinities, and in analysis again separate into their elementary substances. We may refer to nitrate of ammonia, which is a salt composed of nitric acid, ammonia, and water, each of which is itself a compound, but in this particular combination it acts as an elementary body: thus, nitric acid consists of azote and oxygen: ammonia, of azote and hydrogen: and water, as we have seen, of oxygen and hydrogen: so that in truth there are only azote, hydrogen, and oxygen, that enter into the combination of nitrate of ammonia; but in their simple state they cannot be made to form the salt: it is requisite that the acid, the alkali, and the water, should be first formed, in order to get the neutral salt.

The business of chemical analysis is to resolve a body into its constituent parts; but the first question is to determine, in every instance of analysis, whether the resolution should proceed to entire separation into real elements, or only into those compounds which act as elements, as in the case referred to, whether the nitrate of ammonia should be resolved into azote, hydrogen, and oxygen; or whether it should not first be reduced into nitric acid, ammonia, and water. The former mode is best calculated for research, the latter for utility; but a mixture of the two methods is commonly adopted, where the proportion and nature of the compound produced has already been fully ascertained by previous experiment. The most rigid proof of the accuracy of analysis, is to be able to produce the same compound by uniting the identical parts which we have given as its constituents. This can rarely be performed in a manner perfectly satisfactory; but it frequently happens that a substance may be reproduced that resembles the one analysed, by employing similar constituents, if not the identical substances. This proof even is almost totally wanting in the analysis of organized bodies, whether vegetable or animal, especially when reduced to their ultimate elements, and generally when only separated into their immediate constituents. The agents made use of in analysis, are heat, the electric and galvanic fluids, if they are two fluids, and the application of re-agents or substances, which indicate the parts of the body to be examined. *Analysis* is also a term sometimes used in *Anatomy*, to express the demonstration of the parts of the human body when separated by dissection.

Ananas. The egg-shaped pine-apple. See *Bromelia.*

Anaphrodisia, from α priv. and αφροδισια, *venery.* Impotence with respect to venereal commerce. Dr. Cullen makes this a genus of disease, in the class *Locales*, and order *Dysorexiæ.*

Anasarca, αναςαρκα, from ανα, *through*, and σαρξ, *flesh*, or *in the flesh.* A species of dropsy from a serous humour, spread between the skin and flesh; or rather a general accumulation of lymph in the cellular system. Dr. Cullen ranks this genus of disease in the class *Cachexiæ*, and the order *Intumescentiæ.* He enumerates the following species, viz. 1. *Anasarca serosa*, as when the due discharge of serum is suppressed, &c. 2. *Anasarca oppilata*, as when the blood-vessels are considerably pressed, which happens to many pregnant women, &c. 3. *Anasarca* *exanthematica;* this happens after ulcers, various eruptive disorders, and particularly after the *Erysipelas.* 4. *Anasarca analmia*, happens when the blood is rendered extremely poor from considerable losses of it. 5. *Anasarca debilium*, as when feebleness is induced by long illness, &c. M. M. Drastic cathartics; crystals of tartar; prepared or acetated kali; squills; cantharides; genista; Bacher's pills; tobacco; belladonna; cinchona; iron; friction.

Anastomosis, αναστομωσις, from ανα, *through*, and ςομα, *the mouth.* To relax, or open the mouths of the vessels. This sometimes expresses such an aperture of the mouths of the vessels as lets out their contents; but more commonly a union between the arteries and veins, where the former open into the latter; or where an artery ceases any longer to be such, and begins to be a vein.

Anatomia, ανατομη, from ανα, *through*, and τεμνω, *to cut*, or *dissect.* It is that dissection of bodies which is necessary to lay open all the parts to view.

Anchusa, Alkanet. A genus in Linnæus's botany. He enumerates eight species.

Anchylops. It is the *Fistula lachrymalis*, in its beginning inflamed state.

Ancon, αγκων, i. e. *Olecranon.*

Anconæus Musculus, from αγκων, *the elbow.* It arises, tendinous, from the posterior part of the external condyle of the *Os humeri;* it soon grows fleshy, and is continued from the third head of the *Triceps.* It is inserted, fleshy and thin, into a ridge on the outer and posterior edge of the *ulna*, being continued some way below the *Olecranon*, and covered with a tendinous membrane. Its use is to assist in extending the fore-arm.

Anconæus Externus, ⎫ i. e. *Triceps*
——— *Internus*, ⎬ *Extensor*
——— *Major*, ⎭ *Cubiti.*
——— *Minor*, i. e. *Anconæus.*

Anconoid Process. A process of the cubit; from αγκων, the elbow, and ειδος, shape.

Andranatome, from ανηρ, *a man*, and τεμνω, *to cut*, the dissection of a human body, especially a male.

Andria, from ανηρ, *a man*, an hermaphrodite.

Androgyni, ανδρογυνοι, from ανηρ, a *man*, and γυνη, *a woman*, effeminate men, and hermaphrodites. Plants are also named androgynous, whose flowers have both male and female organs within the same calyx, or corolla.

Andromeda; a genus in Linnæus's botany. He enumerates sixteen species.

Anemometer, an instrument that measures the strength of the wind.

Anethum. Common dill. *Anethum graveolens* of Linnæus. This plant is a native of Spain, but cultivated in several parts of England. The seeds of dill are directed for use by the London and Edinburgh Pharmacopeias; they have a moderately warm, pungent taste, and an aromatic, but sickly smell. There is an essential oil, and a distilled water, prepared from them, which are given, the former from 2 to 6 drops, the latter from ʒi. to ℥i. in flatulent colics and dyspepsia. They are also said to promote the secretion of milk.

Aneurisma, ανευρυσμα, an aneurism, from ανευρυνω, *to dilate much;* and that from αν, *asunder*, and ευρυς, *broad.* The *aneurism* is a tumour, caused by the dilatation or rupture of the coats of an artery. Arteries only are the seat of this disorder: and any artery, in any part of the body, may be thus affected, as any vein may be the seat of a varix. Dr. Cullen ranks this genus of disease in the class *Lo-*

cales, and the order *Tumores*. Dr. Hunter divides *aneurisms* into four kinds, viz. the true, the false, the mixed, and the varicose. The true is formed by the dilatation of an artery; the false is formed by a rupture or wound in the coats of the artery; the mixed is formed partly by a wound or rupture in the artery, and partly by a dilatation of the rest; the varicose is when there is an anastomosis or an immediate communication between the artery and the vein of the part where the patient hath been let blood, in consequence of the artery being wounded through the vein, so that blood passes immediately from the trunk of the artery into the trunk of the vein, and so back to the heart. Mr. Bell, in his *System of Surgery*, divides the *aneurism* into the encysted, and the diffused. The encysted includes all those instances in which the coats of the artery being only dilated, the blood is confined in its proper coat: of this kind he reckons the varicose *aneurism*. The diffused includes all those in which, from an aperture in the artery, the blood is spread about in the cellular membrane, out of its proper course.

Aneurisma Præcordium, aneurism of the aorta near the heart, or in the heart.

Aneurisma Varicosum, the varicose aneurism. See *Aneurisma.*

Aneurisma Venosum, i. e. *Aneurisma Varicosum.*

Angelica; a genus in Linnæus's botany. He enumerates five species. The college have directed the root, stem, leaf, and seed, of the *Angelica Archangelica*, Lin. the seed enters the spiritus anisi compositus.

Angiglossi, stammerers.

Angina, συναγχη, et κυναγχη, from αγχειν, *strangulare, to strangle*, is such an inflammation of the jaws, or throat, as renders swallowing and breathing very difficult and troublesome. Hippocrates defines this a tumour, either internal or external, that interrupts respiration; and Galen, a straightness of the jaws that renders breathing and swallowing difficult, proceeding from inflammation: but the moderns have given distinct names to the different kinds of this disorder; as *Synanche*, when the inner parts are inflamed, or *Cynanche*, expressing an inflammation of the internal muscles of the throat, causing the patient to thrust out the tongue, and to pant like a dog out of breath; and a *Parasynache*, when the external muscles are so tumefied as to straiten the passages within. But it hath been justly observed, that too nice a distinction of names often darkens the true knowledge of things. The more general and useful distinction of the *angina* is into that of the inflammatory and malignant kind; this last is commonly called the putrid sore throat, and requires a treatment very different from the former. Bleeding, and other evacuations, generally prove prejudicial. Diaphoretics, the milder cardiacs, and such medicines as resist putrefaction, the bark, &c. are found to be most serviceable. Dr. Cullen's generic name for *angina* is *Cynanche*, which he places in the class *Pyrexiæ*, and order *Phlegmasiæ;* and distinguishes five species, viz. 1. *Cynanche Tonsillaris;* when the inflammation begins in the tonsils, and affects only the mucous membrane of the fauces. 2. *Cynanche Maligna;* when the fever is of the low kind, and ulcers are formed in the fauces. 3. *Cynanche Trachealis*, when the trachea is affected so as to constitute the disease called the croup. 4. *Cynanche Pharyngæa;* when the pharynx is principally affected. 5. *Cynanche Parotidæa;* when the external parotid and maxillary glands are so affected as to form the disease called the *Mumps*.

Angina Aquosa, an instance of *Anasarca*.

Angina Convulsiva, a species of *Angina*.

Angina Externa, i. e. *Cynanche, vel Angina Parotidæa*, or mumps. See *Angina*.

Angina Gargrenos, i. e. *Angina vel Cynanche Maligna*. See *Angina*.

Angina Interna, i. e. *Cynanche Trachealis*, or the croup. See *Angina*.

Angina Latens Difficilis, i. e. *Cynanche Trachealis*, or the croup. See *Angina*.

Angina Membranacea, i. e. *Cynanche Trachealis*, or the croup. See *Angina*.

Angina Mucosa, i. e. *Amphimerina Angenosa*.

Angina Oedematosa, an instance of *Anasarca*.

Angina Perniciosa, i. e. *Cynanche Trachealis*, or the croup. See *Angina*.

Angina Polyposa, i. e. *Cynanche Trachealis*, or the croup. See *Angina*

Angina Suffocativa, i. e. *Cynanche Maligna*. See *Angina*.

Angina Ulcerosa, putrid sore throat, or *Cynanche Maligna*. See *Angina*.

Angiologia, angiology, from αγγειον, *a vessel*, and λογος, *a word*, a treatise describing, &c. the arteries, veins, lymphatics, and other vessels of the human body.

Angiospermos, and σπερμα, *a seed*, an epithet for such plants as have their seed or fruit enclosed in membranes.

Angiospermia, from αγγος, *a vessel*, the second order in the class *Didynamia* of Linnæus; it consists of those plants of that class whose seeds are inclosed in a pericarpium.

Angle of Incidence, is that angle made by the line of direction of any body at the point of contact with the body whereto it is directed; and is measured from a perpendicular to the plane, or surface, at the point where the two bodies are supposed to meet. In like manner,

Angle of Reflection, is that angle made by the line of direction of the reflected body at the point of contact, where in flies off.

Anglicus Sudor, is now commonly used to express an epidemical colliquative fever, since it was so in England in Henry VIIth's reign, and elegantly described by Lord Bacon, in his history of those times. Sennertus largely treats of this subject, *De Febr*. lib. iv. cap. 15. But there are many conjectures about its causes, that are merely ridiculous. Dr. Cullen places it as a sort of *Typhus*, in his *Nosology*.

Angonæus, i. e. *Anconæus*.

Angone. In Vogel's genera of diseases, it is an acute choaking or suffocation, without inflammation. According to some it is a nervous quinsy.

Angor, αγωνια, is defined a shrinking inwards in the native heat of the body, or its retiring to the centre, upon which follows a pain and palpitation of the heart, attended with sadness. It is esteemed a very bad symptom when it happens in the beginning of acute fevers.

Angos, αγγος, a vessel, a receptacle of humours.

Angularis Arteria, i. e. *Arteria Maxillaris Externa*.

Angularis Musculus, i. e. *Levator Scapulæ*.

Angulus Acutus Tibiæ, the spine of the tibia, or the shin.

Angustia, anxiety, restlessness in distempers; also a narrowness in the vessels.

Angusturæ Cortex, a bark first imported into England from the West-Indies in the year 1788. Its name is said to be taken from Angustura in South-America. It is probably of South-American growth. Its external appearance varies considerably. When good, its outer surface is more or less wrinkled, with a greyish white covering, below which it is brown with a yellow cast: the inner surface is of a dull brownish-yellow colour. It breaks short and resinous. Its smell is unpleasant: the taste is intensely bitter, and slightly aromatic, somewhat like that of bitter almonds, very lasting, leaving a sense of heat and pungency in the throat. When powdered, it resembles the powder of Indian rhubarb. Of its natural history there is as yet no satisfactory account. On being infused in rectified spirit of wine, it gives out pure resin, and an acrid oily matter; the bark being afterwards tried with water, yields a much larger quantity of dry gummy extract. This bark hath been given internally, and applied externally. The powder of the bark hath been given in the quantity of ℈ss. or gr. xv. for a dose, every three, four, or six hours, according to circumstances. The infusion is made with ℥ss. of the bark to lb. i. of boiling water, and the decoction made with ℥ss. of the bark, and lb. iss. of water boiled away to lb. i. of these from ℥i. or ʒx. are a dose. It hath been given in dysenteries, diarrhœas, intermittents, putrid fevers, &c. and in tincture made with ℥ i. of angustura, ℥ij. of cinnamon, ℈i. of saffron, and ℥xviij. of brandy, digested together without heat six days. See Experiments and Observations on the Angustura bark, by Aug. Everard Brande.

Anhelatio, panting, a shortness or difficulty of breathing, or a difficult and small but quick respiration, which happens to persons in health, after strong exercise. In fevers, dropsies, asthmas, &c. there is always an *Anhelitus*.

Anima Mundi, the soul of the world, an ubiquitarian principle, supposed by Plato to do the same feats as Des Cartes's æther, pervading and influencing all parts and all places.

Animal. Every body endowed with life, and the power of spontaneous motion, is called an *animal*.

Animalcula, a diminutive of the word animal; that is, they are such little creatures as require to be viewed through glasses, to discern them distinctly.

Animal Functions, are defined by the learned Boerhaave, those which, when performed, the human mind conceives such ideas from them as are annexed to the respective corporeal actions; or such wherein the will exerts itself to produce them, or is moved by them when produced: thus the touch, taste, smell, sight, hearing, perception, the imagination, memory, judgment, reasoning passions of the mind, and voluntary motions, are animal functions.

Animal Heat. Heat is essentially necessary to life. That of a man in health is from about 94° to 100° of Fahrenheit. It appears to depend upon the absorption of oxygen in the lungs.

Animal Spirits. See *Nervous Fluid*.

Animation, a term used to express the first sure signs of life in an animal. It is also used by the hermetic philosophers to express a certain state of perfection whereto a body is brought by some particular process; at which time it becomes capable of effecting some extraordinary change, or of producing, or affording some uncommon phenomenon.

Animi and *Anamæ Deliquium*. Fainting. See *Syncope*.

Animus, is distinguished from

Anima, as the former expresses the faculty of reasoning, and the latter the being in which that faculty resides.

Aniscalptor, from *anus*, the breach, and *scalpto*, to scratch. So called because it is in use when the office is performed. It is the *Latissimus Dorsi*.

Anisum, *Anise*. It is the *Pimpinella anisum* of Linnæus. The college have retained this seed in their dispensatory; it enters the spiritus anisi compositus: its essential oil enters the tinctura opii camphorata, formerly called Elix. Paregoric.

Anisum Herbariis, *Anesum*, *Common Anise*. Hoffman calls the seeds *Solamen Intestinorum*, by way of eminence, for their service in complaints of the bowels.

Annihilation. It is the reduction of matter into nothing. See *Corruption*.

Annona, custard apple-tree. A genus in Linnæus's botany. He enumerates nine species.

Annotatio, the very beginning of a febrile paroxysm, called also the attack of the paroxysm. There is another *annotatio* or *Episemasia*, which is proper to hectic fevers happening an hour or two after eating: in this there is no shivering with cold, as in the other sort.

Annuens Musculus, i. e. *Rectus Capitis Internus Minor*.

Annularis, the ring-finger. The one between the little and middle finger.

Annularis Cartilago, from *annulus*, *a ring*. A name of the *Cricoid Cartilage*.

Annularis Digitus, the ring-finger, or that next the little-one.

Annularis Vena, the vein betwixt the ring and little-finger.

Annularis Processus. Annular process, is a protuberance made by the meeting of the processes of the *Medulla Oblongata*, under the sides thereof.

Ano, ανω, is used for *upwards*, in opposition to κατω, *downwards*, and is often joined by Hippocrates to κοιλια, *Venter*, to signify the mouth of the stomach, or *Oesophagus*. It is also applied to things which work upwards, as vomits.

Anodyna, ανωδυνα, from α priv. and ωδυνη, *pain*. Anodynes are medicines that ease pain, and procure sleep. They are divided into three sorts, viz.

1. *Paregorics*, παρηγορικα, or such as assuage pain.

2. *Hypnotics*, υπνωτικα, or such as relieve by procuring sleep.

3. *Narcotics*, ναρκωτικα, or such as ease the patient by stupifying him.

Anodyna, ανωδυνια. When used to express a disease, it signifies a loss of feeling, and is synonymous with *Anæsthesia*.

Anomalia, ανωμαλια, inequality, signifies any thing that is irregular, and variously applied. Some use it for the accession of a fever, which is attended with a great uncertainty of symptoms. Galen applies it to the disorders of menstrual obstructions; and Marcus Aurelius Severinus, who wrote a whole *Treatise of Abscesses*, to tumors, either unequal in shape, or containing matter of different kinds and consistences.

Anomphalos, from α priv. and ομφαλος, *a navel*; without a navel; and is applicable only to our first parents, as they were created without want of nourishment that way; for which reason, as Paulus Ammianus says, they are so distinguished in paintings and drawings.

Anonymos, from α priv. and ονομα, *a name*, nameless.

Anorexia, ανορεξια, anorexy, from α priv. and ορεξις, *appetite*. A want of appetite, without loathing of food. The Greeks call such as take no food *Anorecti* and *Asiti*; but those who have an aversion to food they call *Apositoi*. Dr. Cullen ranks this genus of disease in the class *Locales* and order *Dysorexiæ ;* he thinks it is generally symptomatic; yet he notices two species, viz. the *anorexia humoralis*, and the *anorexia atonica.*

Anosmia, ανοσμια, a diminution or loss of smelling. Dr. Cullen arranges this genus of disease in the class *Locales* and order *Dysæsthesiæ*, and enumerates two species, viz. *anosmia organica*, and *anosmia atonica.*

Antacida, anti-acids. Dodælus, in his *Encyclopedia*, thus calls all those things which destroy acidity. The remedies which possess this power, are *magnesia alba*, *kali tartarizatum*, *sapo*, *creta*, *oculi cancrorum*, and most of the alkalis.

Antagonista, antagonists, from αντι, *against*, and αγωνιζω, *to strive.* One acting in opposition to another. The word is applied to muscles which counteract each other.

Antalgicus, from αντι, *against*, and αλγος, *pain.* Such remedies as ease pain.

Antalkalines. Medicines which possess the power of neutralizing alkalines. To this class belong all acids.

Antaphrodisiacos, *Antaphrodisiac*, from αντι, *against*, and Αφροδιτη, *Venus.* It is a term given by Wedelius to medicines which extinguish venereal desires. Others use it in the same sense as anti-venereal.

Antaphroditaca, i. e. *Antaphrodisiacos.*

Antelix, or *Antihelix*, ανθελιξ. It is that part of the ear which is opposite to the *helix.*

Antemetica, from αντι, *against*, and εμετικος, *vomiting*, a name given by Willis to medicines which allay vomitings.

Anterior auris. This muscle rises thin and membranous near the posterior part of the *Zygoma ;* is inserted into a small eminence on the back of the helix, opposite to the concha. Its use is to draw this eminence a little forwards and upwards.

Anterior Mallei, i. e. *Laxator Tympani.*

Anthelmia, worm-grass, i. e. *Spigelia marilandica.*

Anthelmintica, anthelmintics, from αντι, *against*, and ἑλμινς, *a worm*, remedies against worms Those in the highest esteem are, *calomelas*, *stannum*, *sulphur*, *oleum lini*, *sabina*, *santonicum*, *scammonium*, *jalapa*, *aloe*, and *gamboga.*

Anthemis, camomile, a genus in Linnæus's botany. He enumerates eighteen species. This genus gives us the officinal camomile, called by Linné *Anthemis Nobilis ;* the college, in their new Pharmacopeia, have directed the use of the single-flowered in preference to the double-flowered, on account of the virtues principally residing in the yellow central flowers, and not in the white circular florets. An extract extractum chamœmeli is directed ; the flowers enter the decoctum pro enemate, and the decoctum pro fomento ; the former supplies the place of the decoct. commun. pro clystere ; the latter, that of the fotus communis.

Anthera, ανθηρα, from ανθος, *a flower.* In the Linnæan system, it is that part of the stamen which contains within it the *Pollen*, and, when come to maturity, discharges the same.

Anthracia, *Anthrax*, ανθρακιη, ανθραξ, which strictly signifies a live coal, and figuratively a scab or blotch that is made by a corrosive humour, that, as it were, burns the skin, and occasions sharp prickling pains ; for which reason, some, as Serenus, call such an eruption *Carbo*, and others *Ignis Persicus.*

Anthropology, from ανθρωπος, *a man*, and λεγω, *to speak*, is any discourse or treatise of which man is the subject: as,

Anthropos, a man, or a woman, or a husband; ανθρωπος, according to some, quasi ανα τρωπων ωπα, *because he directs his countenance upwards;* according to others, τα ανα, θεωρων, *one that contemplates on things above.*

Anti, against. There are various terms compounded with this, as, *Anti-asthmatics*, *Anti-hysterics*, &c. which signify medicines against the asthma, hysterics, &c.

Anticardium, from αντι, *against*, and καρδια, *the heart.* It is that part commonly called the *Scrobiculus cordis*, or pit of the stomach.

Anticrouon, το αντικρουον, id quod repellit, the great repelling power or principle in nature, sometimes called *heat*, as when it warms or burns the skin of a sentient being; sometimes called *fire*, as when it glows or shines so as to strike the eye with considerable force; and sometimes called *igneous fluid*, as when it passes from body to body, enlarging and dilating all their particles in its passage. It is by virtue of anticrouon or the repeller, that the particles of matter are kept from actual or mathematical contact. The term was proposed as an amendment to the nomenclature by Dr. Mitchill in 1801, with the design of expressing, in more logical terms, the phenomena of heat or caloric, and with a further view of facilitating the comprehension of Boscovich's elegant Theory of Matter.

Anticus, that which lies in the fore-part.

Antidotus, αντιδοτος, an antidote, from αντι, *against*, and διδωμι, *to give*, a medicine given to expel the mischiefs of another, as of poison.

Antihecticum, the name of a medicine invented by Poterus, called also *Antimonium diaphoreticum joviale.*

Antihelix, a protuberance of the ear; situated before the helix.

Antilobium, αντιλοβιον, from αντι, *against*, and λοβος, *the bottom of the ear.* It is the *Tragus*, or that part of the ear which is opposite the lobe.

Antiloimica, from αντι, *against*, and λοιμος, *the plague*, remedies against the plague.

Antilyssus, from αντι, *against*, and λυσσα, *the madness caused by the bite of a mad dog.* It is the name of any medicine for the cure of this sort of madness.

Antimony, a genus in the class of metals. It is sometimes found in a particular ore, but most frequently mixed with other metals. Mr. Beaumé describes it as a mineral composed of nearly equal parts of sulphur and regulus. It is seldom that this combination is made artificially, as nature furnishes it abundantly. This mineral is the ore of regulus of *antimony*. It is of a grey slate-colour, approaching to that of lead. It is disposed in long, shining, brittle needles The native metal is of a white or silver colour.

The *Regulus* of *antimony* is the metallic part of *antimony*. It is a semi-metal of a brilliant white, like that of silver. It hath the opacity, weight, and fusibility of metals; but as all other semi-metals, it wants ductility, malleability, and fixity. The college have retained antimony in their Pharmacopeia: Antimonium Præparatum is described among the simple preparations: Antimonium Calcinatum is directed, formerly called Calx Antimonii: Antimonium Muriatum, formerly called Causticum Antimoniale: Antimonium Tartarisatum, formerly called Tartarum Emeticum, or Emetic Tartar: Antimonium Vitrificatum: Pulvis Antimonialis. This latter medicine is intended to supply the place of James's powder. Sulphur Antimonii Præcipitatum: Vinum Antimonii Tartarisati.

Antipathia, αντιπαθεια, antipathy, from αντι, *against*, and παθος, *affection.* It expresses any opposite properties or affections in matter. It is opposite to sympathy; or it is an aversion to particular objects.

Antiphlogistica, such remedies as tend to weaken the system, by diminishing the living power.

Antiphthisica, from αντι, *against*, and φθισις, *a consumption*, remedies against a consumption.

Antiscorbutics. Those medicines which cure the scurvy; from αντι, against, and *scorbutus*, the scurvy. To this class belong oxygen gas, acids, vegetables, bark, &c.

Antiseptica, antiseptics, from αντι, *against*, and σηπω, *to putrify*, such medicines, &c. as resist putrefaction.

Antiseptics. Antiseptics may be divided into two classes: 1. Those things which prevent the putrefaction of inanimate substances: 2. Such as obviate the putrid tendency in living bodies.

Of the former class of bodies alkaline salts rank among the foremost; for solutions of pot-ash, soda, ammoniac, and lime, have a strong antiseptic operation. The muriate of soda (sea-salt), and various other neutral salts, have also exceeding great antiseptic qualities. So has alkohol and spirit of turpentine. Oil, too, particularly the more concrete forms of it, as tallow and lard, is possessed of a large share of antiseptic power. To these may be added certain astringent substances, as the leaves of myrtle, the bark of oak, and other similar productions employed in tanning leather. And under this head may be reckoned several of the acids, particularly those of sea-salt and sulphur.

To the latter head of antiseptics belong all those bodies which are capable of preserving and prolonging the vital condition of the animal solid when threatened with speedy decay. Perhaps the most common, powerful, and necessary of these is oxygen, as taken into the body both by respiration and lacteal absorption. It certainly has a most noble effect in acute and chronic scurvy, and in many other states of the body bordering on or constituting malignant and putrid fevers; for here there seems to be an approximation to death for want of oxygen; and on the acquisition of a due portion of this, the nerves, muscles, &c. take on their due consistency and tone, and grow healthy again. Acids have long been celebrated in medicine as antiseptics. As remedies they appear to owe their antiseptic virtues chiefly to the oxygen they contain; thus renewing and invigorating the living solids, and redeeming them from septic dissolution. In this sense acids are frequently the best of antiseptics in relation to the living body; whereas this is far from being the case in respect to dead substances. Where there is debility in the muscles, torpor in the nerves, or inability in both to perform their appropriate functions, wine is a good antiseptic, by keeping up the living energy. Peruvian bark belongs to the same class of remedies, for a similar reason; it stimulates moderately, and keeps up the powers of life. The same applies to other tonics and astringents. Alkohol, and even opium itself, may be called, in certain cases, powerful antiseptics, by allaying pain, imparting temporary vigour, and gaining a truce with the agents hostile to health and life. In short, whatever can withstand the rapid tendency to dissolution in each of these ways, is *quoad corpus vivum*, as far as the living body is concerned, an antiseptic.

Antispasmoides, from αντι, *against*, and σπασμος, *a convulsion*, a remedy against convulsions. A kind of *Anodynes*.

Antithenar, from αντι, *against*, and θεναρ, *the palm of the hand.* Dr. Hunter and others apply this to the *Adductor Pollicis Pedis*, which see. Some apply it to a muscle that draws the thumb to the fingers. It rises from the bone of the *metacarpus* that sustains the fore-finger, and is inserted into the first bone of the thumb.

Antitragicus. See *Antitragus.*

Antitragus, αντιτραγος, from αντι, *against*, τραγος, *the thick part of the antihelix.* One of the proper muscles of the ear. It arises from the internal part of the cartilage that supports the *antitragus*, and, running upwards, is inserted into the tip of the *antitragus*, as far as the inferior part of the antihelix, where there is a fissure in the cartilage. It acts only on the cartilage of the ear.

Antizeumics, i. e. preventers of fermentation in general.

Antizymics, i. e. *Antiputrescents.*

Antrum Highmorianum. All the body of the upper jaw-bone is hollow, and its cavity is thus named.

Anus, a contraction of the word *annulus*, *a ring.* In *Anatomy* it is the lowest part of the intestinum rectum, commonly called the fundament. A small hole in the third ventricle of the brain, which leads into the fourth ventricle of the cerebellum, is also so called.

Anxietas, restlessness.

Aorta, αορτη, *a vessel.* It is the great artery which rises out of the left ventricle of the heart; from this it goes out in a direct course, nearly over against the fourth vertebra of the back. Its course is direct with respect to the heart; but with respect to all the rest of the body, it ascends obliquely from the left to the right, and from before, backward. Soon after this, it bends obliquely from the right hand to the left, and, from before, backward, reaching as high as the second vertebra of the back; from whence it runs down again in the same direction, forming an oblique arch. The middle of this arch is almost opposite to the right side or edge of the superior portion of the sternum, between the cartilaginous extremities or sternal articulations of the first two ribs. From thence the *aorta* descends in a direct course along the anterior part of the vertebræ, all the way to the os sacrum, lying a little toward the left hand; and there it terminates in two subordinate or collateral trunks, called *Arteriæ iliacæ.* The *aorta* is generally divided into the *ascendens* and *descendens*, though both are but one and the same trunk. It is termed *ascendens*, from the part where it leaves the heart to the extremity of the great curvature or arch. The remaining part of this trunk, from the arch to the os sacrum or bifurcation already mentioned, is named *descendens.* The *aorta descendens* is farther divided into the superior and inferior portions; the first taking in all that lies above the diaphragm; the other, all that lies between the diaphragm and the bifurcation. The great trunk of the *aorta* sends off several branches in its course. The larger branches that go immediately from the trunk of the *aorta* are, the two arteriæ subclaviæ; two carotides, one cæliaca, one mesenterica superior, two renales, formerly termed emulgents, one mesenterica inferior, and two iliacæ. The smaller branches are, the arteriæ coronariæ cordis, the bronchiales, œsophagææ, intercostales, diaphragmaticæ inferiores, spermaticæ, lumbares, and sacræ.

Apepsia, απεψια, from α priv. and πεπτω, *to digest*, indigestion.

Apepton, απεπτον, crude or undigested.

Aperiens, aperient, from *aperio*, *to open*, the same as deobstruent.

Aperiens Palpebram Rectus, i. e. *Levator Palpebræ superioris.*

Apertor Oculi, i. e. *Levator Palpebræ superioris.*

Apetalus, from the primitive particle α, and πεταλον, *a leaf.* Tournefort names his fifteenth class of vegetables *Apetali*. *Apetalous* flowers are without petals. They have no other covering on the parts of generation but the calyx.

Apex, in the Linnæan system, is the extremity in which the leaf terminates, to which various epithets are given, according to its figure. For example, leaves are called truncate, when they end in a transverse line; obtuse, when they terminate, as it were, in the segment of a circle; acute, when they terminate in an acute angle, &c. See *Apices*.

Aphæresis, αφαιρεσις, from αφαιρεω, *to take away*. In *Surgery* it signifies the amputation of whole members or parts become diseased.

Aphilanthropia, from α neg. and φιλανθρωπια, *the love of mankind*. So Wedelius calls the first approaches of melancholy, when persons begin to dislike company and conversation.

Aphonia, αφωνια, a name of the *Catalepsis*, and for the palsy of the tongue.

Aphonia, αφωνια, from α priv. and φωνη, *a voice*, one who hath lost his voice. Dr. Cullen ranks this genus of disease in the class *Locales*, and order *Dyscinesiæ;* and notices three species. 1. *Aphonia gutturalis*, when the gullet is affected by a tumour in the fauces or the glottis. 2. *Aphonia trachealis*, when the trachea is compressed or morbidly contracted. 3. *Aphonia atonica*, when the nerves of the larynx are wounded or paralytic.

Aphorismus, αφορισμος, from αφοριζω, *to separate* or *distinguish*, a short sentence, briefly expressing the properties of a thing; or which serves as a maxim, or principle, to guide a man to any knowledge, especially in philosophy and physic.

Aphrodisia, αφροδισια, from αφροδιτη, *Venus*, venereal commerce. Some express by this word the age of puberty, or the venereal age.

Aphrodisiacum, a medicine that excites desire to venery.

Aphrodisiasmus, αφροδισιασμος, i. e. *Aphrodisia.*

Aphrodisius Morbus, i. e. *Lues venerea.*

Aphthæ, αφθαι, the thrush, a disorder which frequently appears in infants in their mouths, as on their tongues, gums, &c. It discovers itself in the form of white specks, chiefly on the tongue and the back part of the palate. Dr. Cullen ranks it as a genus of disease in the class *Pyrexia*, and order *Exanthemata.*

Apices, the same as the *Antheræ* of Linnæus, are by Ray and Tournefort defined those little knobs that grow on the top of the stamina in the middle of a flower. They are of various colours. By the microscope they have been discovered to be, as it were, a sort of *Capsulæ seminales*, or *seed-vessels*, containing in them small globular, and often oval particles, of various colours, and exquisitely formed. In the herb *Robert* these *apices* are of a deep purple colour: they are exactly spherical, and afford a very pleasant prospect in the glass. The dust of these apices, falling down into the flower, fecundates and ripens the seed.

Apium, parsley, a genus in Linnæus's botany. He enumerates two species.

Apium Macedonicum, i. e. *Bubon Macedonicum* of Linnæus.

Apium Sativum, celery.

Apnæa, απνοια, a defect of respiration, such as happens in a cold, an apoplexy, &c.

Apocenoses, ἀποκενωσις, partial fluxes without fever attending. In Dr. Cullen's *Nosology*, it is the name of an order in the class *Locales*.

Aponeurosis, ἀπονευρωσις, of ἀπο, *from*, and νευρον, *a nerve*, any nervous (or, as it is now called, tendinous) expansion; the tendon, or tail of a muscle, called by Hippocrates τειvων, *a tendon*, or *cord*. These expansions of tendons, called *aponeuroses*, or *fasciæ*, grow thinner and thinner, till they are lost in the cellular membrane. Instances of these occur in the thigh, as the *Fascia Lata*, the legs, feet, &c.

Apophlegmatismus, ἀποφλεγματισμος, of ἀπο, *from*, and φλεγμα, *phlegm*, a medicine which, by holding it in the mouth, promotes a discharge of phlegm, such as pellitory root, horse-radish, &c. When solid, it is called *Masticatorium*.

Apophthem, and *Apothegm*, ἀποφθεγμα, *a maxim*, *axiom*, or *standing rule*.

Apophyas, ἀποφυας, of ἀπο, *from*, and φυω, *to grow*, an appendix. Any thing that grows to, or proceeds from another.

Apophysis, ἀποφυσις, from ἀποφυω, *to produce*, or from ἀπο and φυω, *to grow*, an appendix. Any thing that grows to, or proceeds from another, as branches of trees, &c. In anatomy it signifies the projection of a bone.

Apophysis Gracilis, the *apophysis* of the neck of the malleus in the ear.

Apoplecta, a name for the internal jugular vein, which ascends by the side of the *Aspera arteria*.

Apoplectica, medicines against the *Apoplexy*. Vogel says it is a continued fever coming on upon an apoplexy.

Apoplecticæ. Thus Bartholine calls the internal jugular veins, from an opinion of their being particularly concerned in the disease called *Apoplexy*.

Apoplexy, ἀποπληξια, from ἀποπλησσω, *to strike*, *astonish*, *knock down*, or *smite suddenly*, because persons are suddenly attacked with this disease. In it there is an almost instantaneous deprivation of all sensation, and of all voluntary motion. Some define it a sleepiness with insensibility and snoring. In Dr. Cullen's *Nosology* it is a genus of disease in the class *Neuroses*, and order *Comata:* he says, it is that disease in which the whole of the external and internal senses, and the whole of the voluntary motions, are in some degree abolished; while respiration, and the action of the heart, continue to be performed. To the definition of *apoplexy*, he adds, that the abolition of the powers of sense and motion is in *some degree* only; meaning by this to imply, that under the title of *apoplexy* are comprehended those diseases which, as differing from it in degree only, cannot, with a view either to pathology or practice, be properly distinguished from it. Such are the diseases named *Carus*, *Cataphora*, *Coma*, and *Lethargus*. For the understanding of which, it is necessary to premise, that if by any means a nerve is tied and compressed, the part to which that nerve is directed loses its sense and motion; that if any nerve is cut, there distils out a liquor; that motion is performed from the impulse of the nervous fluid, by the force of the arterial blood through the nerves into the muscular fibres; and that sensation is from hence; that objects compress or strike upon the extremities of the nerves by their motion, and drive back the nervous fluid towards the brain. An *apoplexy*, therefore, is produced by any cause which hinders such undulation of all the nerves, except those which are destined to move the heart and breast. But the cause of the motion of the heart and thorax remaining, or, of the pulse and respiration, when the other parts are deprived of their motion, is because in every motion which is performed by muscles having antagonists, a quantity of nervous fluid must be derived into the contracting muscle, not only equal to that which is derived at the same time into the opposite muscle, but also greater; for otherwise the part to be moved would remain in an equilibrium, without motion; and, therefore, more of the nervous fluid must pass into a muscle that has an antagonist than into that which has none. But the heart is a muscle that has no antagonist, and, consequently, it requires a less quantity of nervous fluid to continue its motion than other muscles destined for the motion of the limbs: therefore, if the cause hindering the undulations of all the nerves is such, that no juice could flow through the nerves, the heart itself would cease from motion, and death ensue. But, if the cause be not so powerful as to take away all the motion of the fluid through the nerves, but, so far only resists their dilatation, that, only a very little fluid can pass through them, not sufficient to inflate those muscles which have antagonists; then, those muscles only will be contracted, which require the least quantity of spirits, and such is the heart. Dr. Cullen also says, that the proximate cause of *apoplexy* may be, in general, whatever interrupts the motion of the nervous power from the brain to the muscles of voluntary motion; or, in so far as sense is affected, whatever interrupts the motion of the nervous power from the sentient extremities of the nerves to the brain. Such an interruption of the motions of the nervous power may be occasioned either by some compression of the origin of the nerves, or by something destroying the mobility of the nervous power.

Apostema, αποστημα, from αφιστημι, *to separate*, the same as *Abscessus*, which see; or from απο, *from*, and ιστημι, *to stand*.

Apotheca, αποθηκη, from αποτιθημι, *to lay aside*, or *reposit*, formerly signified a wine-cellar, but now a shop where medicines are sold: hence

Apothecarius. An apothecary, from απο, *cum*, *with*, and τιθημι, *pono*, *to put*, is so called from his employ being to prepare and keep in readiness the various articles in the *Materia Medica*, and to compound them for the physician's use. In every European country except Great-Britain, the *apothecary* is the same as in England we name the *druggist* and *chymist*.—The word *apotheca* sometimes signifies a gally-pot.

Apozema, αποζεμα, from αποζεω, *a boil*, a decoction.

Apozymos, αποζυμος, from ζυμη, *a ferment*, fermented.

Apparatus, from *apparo*, *to prepare*, or *to provide*, is used variously, as a disposition of instruments, and of all other things, into a readiness, by a surgeon, for any operation; often mentioned by Scultetus in this sense: and, in mechanics, or experimental philosophy, it signifies the fitness of the instruments to perform certain things with. But in general it stands for all that previous knowledge of materials, or other things requisite to the study or practice of any art or science. The word is applied also to chemistry.

Appareil. This word is from the French. It is intended to express the first efforts of any organ or gland, by which it is put in action, either by a spontaneous inflammation, or an increased degree of sensibility. The erection of the penis is the *appareil* of the venereal organs, previous to the excretion of the seminal fluids.

Appendices Coli Adiposæ. Along the great arch of the colon, and its two last incurvations, are a kind of fringes thus named. See *Appendices Epiploïcæ.*

Appendices Epiploïcæ. The fatty *appendices* of the colon and rectum have always appeared to be a kind of small omenta or *appendices epiploïcæ.* They are situated at different distances along these intestines, being particular elongations of their common external coat. They are of the same structure with the great omentum; and there is a cellular substance contained in their duplicature, more or less filled with fat, according as the subject is fat or lean.

Appendicula Cæci, i. e. *Appendicula Vermiformis.*

Appendicula Vermiformis. It is thus named from the supposed resemblance to an earth-worm; when it is touched it hath some contortions, like those of a worm. It is on one side of the bottom of the *Cæcum*, and about three fingers breadth long, but slender. Its common diameter is about a quarter of an inch. By one extremity it opens into the bottom of the cæcum; the other extremity is closed. Its structure is like that of the intestines in general; its external coat is folliculous, like that of the duodenum, and is reticular also. Its use is not known.

Appetitus, appetite, in a philosophical sense, is any natural inclination, but, more strictly and physically, a craving of food to satisfy hunger and thirst. The *Appetitus caninus*, called also *Pica*, and *Phagedæna*, by Galen; and by Deckers, in his *Notes upon Berbette*, κυνορεξια, is a distempered or insatiable craving for food, differing from the *Bulimia*, which see.

Appetitus Caninus, i. e. *Bulimia*, or rather an insatiable craving for food, with vomiting after eating.

Apyrexia, απυρεξια, apyrexy, from α priv. and πυρ, *fire*, or from πυριασσω, *to be feverish.* It is the intermission of feverish heat.

Aqua Vitæ, eau de vie, water of life; a cant and familiar phrase for brandy or spirit of wine.

Aqua, *Water*, which see.

Aquæ Medicinales, medicinal waters; also called mineral waters.

Aquæ Sulphureæ, sulphureous waters, or hot baths, as the waters at Aix la Chapelle, Bath, &c.

Aqua Fortis, i. e. *Nitrous Acid.*

Arabic Gum. This gum exudes, in a liquid state, from the bark of the trunk of the *Mimosa nilotica* of Linnæus, in a similar manner to the gum which is found upon the cherry-trees in this country. That of a pale yellowish colour is most esteemed. Gum arabic is neither soluble in spirit nor in oil, but in twice its quantity of water it dissolves into a mucilaginous fluid, of the consistence of a thick syrup, and in this state answers many useful pharmaceutical purposes, by rendering oily, resinous, and pinguious substances miscible with water. The glutinous quality of gum arabic renders it preferable to other gums and mucilages, as a demulcent in coughs, hoarsenesses, and other catarrhal affections. It is also very generally employed in ardor urinæ, diarrhœas, and calculous complaints—℈i to ʒij.

Arac, commonly called *Rack*, spirituous liquor produced from rice.

Arachnoides, αραχνοειδης, from αραχνη, *a spider*, and ειδος, *form.* The external lamina of the pia mater is thus named, from its resemblance to a cobweb. Also a name of the tunic of the crystalline humour of the eye. Celsus says that Herophilus named the coat thus which immediately invests the vitreous humour.

Arbor Dianæ. If a small piece of amalgam of mercury and silver be put into a solution of mercury, and silver mixed and diluted in water, there springs, some time after, from the amalgam, a little silver shrub, which is not always of the same form. This vegetation is a mixed crystallization of silver and mercury, which appear with their metallic lustre.

Arbor Vitæ. On each side of the fourth ventricle in the brain, the medullary substance of the *Cerebellum* forms a trunk which expands itself in form of laminæ through the cortical strata. These ramifications are thus named.

Arbutus, strawberry-tree; a genus in Linnæus's botany. He enumerates nine species.

Arcæi (Bals. vel Linim. vel Ung.) i. e. The *balsam* or *ointment* of *Gum Elemi.*

Arcanum, a secret, or a medicine whose preparation or efficacy is kept from the world, to enhance its value. With the chemists it is a thing secret, and incorporeal; it can only be known by experience, for it is the virtue of every thing, which operates a thousand times more than the thing itself.

Archæus, from αρχαιος, signifying *ancient*, as applied in medicine, denotes the ancient practice, concerning which, in his time, Hippocrates wrote a whole treatise. And some times it is used in that natural state which preceded any disease. This, by some likewise, is used for

Archeus, a term much used by Helmont to express an internal efficient cause of all things; which seems no other than the *Anima Mundi* of his predecessors; and as he applies it to particular animated beings, it differs not from the δυναμις, or *Vis Plastica* of the old philosophers.

Arche, αρχη. The first attack of a disease, its first stage, that time of the disorder in which the patient first takes to his bed, or in which help might be effectual.

Archiater, αρχιατρος, from αρχη, *principium, chief*, and ιατρος, *medicus, a physician;* signifies chief physician, such as those to princes, according to the explanations of Hieron. Mercurialis; but Hoffman applies it rather to the head or president of a college or community of physicians. Some likewise use it in the same sense as *Archæus.*

Arcuatus Morbus, the jaundice.

Ardens Febris, from *ardeo, to burn.* The ardent fever. It is when fever attends an excess of *Crassamentum* in the blood; or where there is an inflammatory *Diathesis*, without any particular or local inflammation.

Ardor, a very intense acute heat raised in our bodies.

Ardor Capitis, the *Cephalitis Siriasis* of Sauvage. A kind of delirium from inflammation of the brain.

Ardor Stomachi, i. e. *Ardor Ventriculi.*

Ardor Urinæ, a scalding of the urine. See *Dysury.*

Ardor Ventriculi. It is a heat in the stomach, and expresses it improperly, though generally called the heart-burn.

Area, signifies the internal capacity of any given boundary or limit, of what figure or shape soever. It is a term also used by miners for a certain compass of ore allotted for digging; and some physical writers use it for a species of the *Alopecia*, which see.

Areca, the Indian or Malabar nut.

Arecæ Indicæ, an ordinary kind of nutmegs.

Arena, sand or gravel in the kidneys. In *Fossilogy* sands are a genus of *Saxum;* they are saxum composed of *granules*, which are loose and cohere not together, and formed neither of comminuted nor decompounded fossil bodies.

Arena Litoralis, sea-sand.

Arena Maris, sea-sand.

Arenarium Saxum, rough freestone.

Arenatio. It is the casting of hot sand on the bodies of patients.

Arentes, a sort of cupping glasses used by the ancients.

Areola. It is the circle which surrounds the nipple on the breast; in virgins it is little and red; in pregnant women it is larger and more brown.

Aretænoides, from αρυω, *to draw*, ανοιγω, *to open*, and ειδος, *form*; a cartilage; and also a muscle of the wind-pipe bears this name.

Argentum. See *Silver.*

Argentum Vivum. See *Mercury.*

Argilla, *Clay*, which see.

Argyrus, αργυρος, silver. It seems to be derived from αργος, *white*, or *clear*.

Arida Medicamenta, dry medicines.

Arista. In *Botany* it is that sharp-pointed needle, which stands out from the tusk or covering of the grain of corn or grass, and is called the awn, or beard.

Aristolochia, birthwort, a genus in Linnæus's botany. He enumerates twenty-one species. Of this genus the *Aristolochia Serpentaria*, or Virginian snake-root, hath been chiefly used in medicine.

Aristolochia, such medicines as promote the flux of the *Lochia*.

Arma, arms, weapons: one of the seven kinds of *Fulcra* of plants, according to Linnæus, intended by nature to secure them against external injury; its species are, *Aculei*, *Furcæ*, *Spinæ*, *Stimuli*.

Armena Bolus, Armenian bole.

Arnica, a genus in Linnæus's botany. He enumerates eight species. The species recommended by the Edinburgh Dispensatory is the *Arnica Montana* of Linnæus. The flowers of this plant are very generally employed on the continent. Of the advantages derived from their use in paralytic and other affections, depending upon a want of nervous energy, there are several proofs; and their extraordinary virtues, as a febrifuge and antiseptic, have been highly extolled. Much caution is necessary in regulating the dose, as it is a medicine very apt to produce vomiting and much uneasiness of the stomach.—From ʒj. to ℥ss. of the flowers infused in a pint of boiling water may be given in the course of a day.

Arnotto. See *Bixa.*

Aroma, αρωμα. It seems to be compounded of αρ and αρι, an intensive particle, and οζω, *to smell any thing fragrant or odorous.* Sometimes it is taken for myrrh.

Aromatica, spicy.

Aromatics, from αρωμα, signifying *a sweet flavour*, is now given to all medicines of a grateful spicy scent: though anciently it was a term given to myrrh only, and since, by way of pre-eminence, saffron hath by some been called *Aroma Philosophorum.*—Those bodies are properly called *aromatics* which have a fragrant or pungent taste or smell.

Aromatica Nux, the nutmeg.

Aromaticum Lignum, i. e. *Canella Alba.*

Aromaticum Rosatum, rose-spice. An aromatic powder, formerly kept in the shops, in which roses were part of the composition.

Aromaticus Cortex, i. e. *Canella Alba.*

Arquatus Morbus, the jaundice.

Arquebusade, a French word that implies, *it is good for gunshot wounds.* It is the name of a water which is also called *Aqua Vulneraria*, *Aqua Catapultarum*, and *Aqua Sclopetaria.*

Arrangement; the distribution of the facts relating to a subject in regular or systematic order, as individuals under species, species under genera, genera under orders, and these latter under classes, or more general propositions. The sexual system of vegetables by Linnæus is a beautiful example of arrangement. The systems of mineralogy by Crondstedt and by Kirwan are fine instances of the arrangement of fossils. The work of Fabricius on insects is a handsome piece of zoological arrangement. And the table of the chemical nomenclature by the French academicians, though not free from great faults, was nevertheless a noble specimen of analysis, method and arrangement. See these several works.

Arseniates, are arsenical salts, or compounds of the arsenical acid with the alkalis, earths, and metals. M. Fourcroy enumerates twenty-three different species in his Elements of Natural History and Chymistry.

Arsenic, or *White Arsenic,* a semi-transparent crystalline concrete of a very singular nature, contained, in greater or less quantity, in the ores of most metallic bodies, particularly in those of tin and bismuth, and in the mineral called cobalt, from which last most of the *arsenic* brought to us is extracted, in Saxony, by a kind of sublimation. It is a most violent poison; the remedies against which, as against most other poisons, are milk and oily liquors, immediately and liberally drank. According to Mr. Edwards's arrangement of fossils, *arsenic* is a genus in the class of metals. Mr. Beaumé says the *arsenic* in the shops is the calx of a semi-metal; it is in a white, crystalline, brilliant, transparent mass, but soon becoming opake, yet without losing its whiteness. It hath some properties in common with salts.

Arsenic Earth, a genus in the order of *Cryptometalline earths.*

Art. It is variously defined. As applied to medicine, it includes all that is to be done in the practice of its several branches; whereas those principles or rules which direct that practice, are more properly called theory or science.

Artery, αρτηρια, as some imagine, from αηρ, *aer, the air,* and τηρεω, *servo, to keep:* for the ancients had a notion of their enclosing a great deal of air. There are indeed three ducts in the body to which this name is applied, viz. the *Aspera Arteria,* the *Arteria Pulmonaris,* and *Vena Arteriosa;* which see. But all the vessels that convey the blood from the heart, more properly are hereby included, and which it is of that consequence to be well acquainted with as deserves a particular description here.

An *Artery* is a conical canal conveying the blood from the heart to all parts of the body. Each *artery* is composed of three coats; of which the first seems to be a thread of fine blood-vessels, and nerves, for the nourishing the coats of the artery. The second is made up of circular, or rather spiral fibres, of which there are more or fewer strata, according to the bigness of the artery. These fibres have a strong elasticity, by which they contract themselves with some force, when the power by which they have been stretched out ceases. The third and inmost coat is a fine, dense, transparent membrane, keeping the blood within its canal, which otherwise, upon the dilatation of an *artery,* would easily separate the spiral fibres from one another. As the *arteries* grow smaller, these coats grow thinner; and the coats of the veins seem only to be continuations of the capillary *arteries.*

The pulse is thus accounted for: When the left ventricle of the heart contracts, and throws its blood into the great *artery*, the blood in the *artery* is not only thrust forward towards the extremities, but the channel of the *artery* is likewise dilated; because fluids, when they are pressed, press again to all sides, and their pressure is always perpendicular to the sides of the containing vessels; but, the coats of the *artery* by any small impetus may be distended; therefore, upon the contraction of the heart, the blood from the left ventricle will not only press the blood in the *artery* forwards, but, both together will distend the sides of the *artery*. When the impetus of the blood against the sides of the *artery* ceases, that is, when the left ventricle ceases to contract, then the spiral fibres of the *artery*, by their natural elasticity, return again to their former state, and contract the channel of the *artery*, till it is again dilated by the systole of the heart. This diastole or dilatation of the *artery* is called its pulse; and the time the spiral fibres are returning to their natural state, is the distance between two pulses. This pulse is in all the *arteries* of the body at the same time: for while the blood is thrust out of the heart into the *artery*, the *artery* being full, the blood must move in all the *arteries* at the same time; and because the *arteries* are conical, and the blood moves from the basis of the cone to the apex, therefore the blood must strike against the sides of the vessels, and, consequently, every point of the *artery* must be dilated at the same time that the blood is thrown out of the left ventricle of the heart; and, as soon as the elasticity of the spiral fibres can overcome the impetus of the blood, the *arteries* are again contracted. Thus two causes operating alternately, the heart, and fibres of the *arteries* keep the blood in a continual motion.

The chief distribution of the *arteries* is into the *Aorta ascendens*, and the *Aorta descendens;* from which they are branched into all the several parts of the body after the following manner. The *Aorta* coming from the left ventricle of the heart, sends out two branches called *Coronaria* to the heart, before it pierces the *Pericardium;* but, after it hath pierced it, it ascends a little, and then it crooks forward, and forms the *Aorta descendens*. From the upper side of this crook it sends out three branches, two on the left side, which are one *Subclavian*, and one *Carotid;* and one on the right side, which is the right *Subclavian*, from which immediately arises the right *Carotid*. The *Arteriæ Subclaviæ* on each side send out the *Mediastina*, the *Mammaria*, the *Cervicalis*, or *Vertebralis*, and a branch which goes to the muscles of the neck, of the breast, and to the *Glandula Thyroides*. After the *Subclavia* has passed through the *Musculus Scalenus*, it is called *Axillaris*. The *Arteriæ Carotides*, as they ascend on each side the *Trachæa Arteria*, give some small branches thereunto, to the *Larynx*, to the *Glandula Thyroides*, and then they send out each four considerable branches. The first goes to the tongue, to the muscles of the *Os Hyoides*, and to the *Pharynx*. The second divides into two branches, of which the first loses itself in the muscles *Mylohyoides* and *Digastrici;* and the second goes along the basis of the lower jaw, and is lost in the muscles of the lips. The third branch divides at the angle of the lower jaw into two branches; one enters into the lower jaw, and the other makes the *Arteria temporalis*. The fourth branch goes to the muscles on the hind part of the neck, and to the skin of the hind head. The *Carotid* then passes through the canal in the *Os Petrosum*, gives some branches to the *Dura Mater*, joins with the *Cervicalis*, sends out branches to the *Glandula Pituitaria*, *Rete mirabile*, *Plexus Choroides ;* then runs through all the circumvolutions of the *Cerebrum* and *Cerebellum*, and loses its capillary branches in their *carotidal* substance. The *Axillary* having pierced the *Scalenum*, gives some little branches to the nearest muscles; it sends out the *Thoraica superior* and *inferior*, the *Scapularis*, and then gives a branch which passes under the head of the *Humerus* into the *Musculus longus* and *brevis* of the arm. The trunk of the *Axillaris* goes down the inside of the arm, giving branches by the way to the muscles that lie upon the *Humerus*. Above the elbow it sends out a branch which is spread upon the internal *Condyle* of the *Humerus*. At the bending of the elbow this same trunk divides into two branches, the one external, and the other internal: the external runs along the *Radius ;* it casts out a branch which goes to the *Supinator*, and ascends to the *Brachialis internus ;* in the rest of its course down to the wrists, it gives branches to the *Longus*, *Rotundus*, and benders of the fingers, wrist, and thumb. Being come to the wrist, it sends out a branch which goes to the beginning of the *Thenar*, then it passes under the tendon of the *Flexor Pollicis :* it gives a branch to the external part of the hand, and passing under the tendons of the muscles, its branches run along each side of the thumb and fore-finger. The internal branch goes down along the *Cubitus* to the wrist, and is distributed in like manner to each side of the middle-finger and little-finger.

The *Aorta descendens* sends out first the *Bronchialis*, which accompanies all the branches of the *Bronchia ;* as it descends along the *Vertebræ* of the *Thorax*, it sends out on each side the intercostal arteries to the *Diaphragm ;* it gives the *Phrenica ;* and the *Cœliaca* is the first it sends out when it enters the *Abdomen*. The *Cœliaca* divides into two branches, the one on the right, and the other on the left, of which the first gives the *Gastrica dextra*, which goes to the stomach, the *Cystica* to the gall-bladder, the *Epiplois dextra* to the *Omentum*, the *Intestinalis* to the gut *Duodenum*, and to a part of the *Jejunum*, the *Gastro-Epiplois* to the stomach, to the *Omentum*, and some branches to the liver, which enters the *Capsula communis*, to accompany the branches of the *Vena Portæ*. The left branches of the *Cœliaca* give the *Gastrica dextra*, which is also spread on the stomach, the *Epiplois sinistra* to the *Omentum*, and the *Splenica* to the substance of the spleen: then the *Aorta descendens* sends out the *Mesenterica superior*, the *Renales Glandulæ*, or fat about the reins, the *Emulgents* to the reins or kidneys, the *Spermaticæ* to the testicles, the *Lumbaris interior* to the muscles of the loins, the *Mesenterica inferior*, which, with the *superior*, is distributed through the mesentery, and which accompanies all the branches of the *Venæ Meseraicæ*. When the *Aorta* is come to the *Os sacrum*, it divides into two great branches; and from the angle they make, springs out a small *artery* called *Sacra*, because it spreads from the *Os sacrum*. The iliac *arteries* divide again into the external and internal *Iliac*. From the internal *Iliac* arises the *Hypogastrica*, which is distributed to the bladder, to the *Rectum*, to the outer and inner side of the *Matrix*, *Vagina*, *Vesiculæ seminales*, *Prostatæ* and *Penis*, *Os sacrum*, and all the parts contained in the *Pelvis* or bason: and then it gives two considerable branches which pass out of the lower belly; the first goes under the *Pyriformis*, and is distributed to the muscles called *Glutæi*: the second, which is lower than the first, gives also two branches pretty big, of which the first goes to the *Obturatores*, the second pierces the cavity of the *Abdomen*, under the *Pyriformis*, and loses itself by several branches in the *Glutæus major*. As soon as the external *Iliac* leaves the cavity of the *Abdomen*, it sends out the *Epigastrica*, which runs up the inside of the *Musculus rectus*, and a little below that, the *Pudenda*, which goes to the privities: then it is called *Cruralis*, and sends out three considerable branches: the first is called *Muscula*, which gives several branches: the first passes between the muscles called *Iliacus* and *Pectineus*, and loses itself in the third head of the *Triceps* in the *semi-membranosus*, or *semi-nervosus*, in the beginning of the *Biceps*; in the *Quadrigemini*, and in the cavity of the greater *Trochanter*. The second, third, and fourth, go to several parts of the *Triceps*, and *Gracilis posterior*; then the trunk of the *Muscula* goes under the first of the *Triceps*, and divides into three branches more. The first having passed the third of the *Triceps*, is lost in the *Semi-membranosus*. The second passes under the *Femur* to the *Vastus externus*. The third goes a little lower, casts branches to the tendon of the third of the *Triceps*: it loses itself at the end of the *Semi-nervosus*, and at the end of the great head of the *Biceps*. The second considerable branch of the trunk of the *Crural* goes to the external part of the thigh, passes under the *Sartorius*, under the *Gracilis rectus*: it casts some branches to the end of the *Iliacus*, to the beginning of the *Gracilis rectus*, to the *Vastus externus*, *Cruralis*, *Membranosus*, and fore-part of the *Glutæus minor*. The third rises almost from the same part of the *Crural*, and loses itself in the middle of the *Gracilis rectus*, *Cruralis*, and *Vastus externus*. The *Crural* having sent out these three branches, gives several more to the *Sartorius*, the *Gracilis posterior*, but the greatest goes to the *Vastus externus*. As the *Crural* descends it sinks deeper in the hinder part of the thigh, passing through the tendons of the *Triceps*: being come to the ham, the first branch it sends out is spread on the hinder part of the thigh-bone, and it goes to the little head of the *Biceps*; then it casts out several other branches, which lose themselves in the fat, and in the extremities of the muscles behind the *Femur*. Under the ham it sends out two *Poplitæi*, which go round the knee; the one on the inside, the other on the outside. It casts out a little lower several other branches, of which some go to the beginning of the *Gemini*, of the *Soleus*, *Plantaris*, and *Poplitæus*, and the rest surround the *Tibia* on all sides. Then it divides into two branches, of which the first passes through the membrane which joins the *Tibia* and *Fibula* together, upon which it continues its way, giving branches to the *Tibialis externus*, and to the *Extensores Digitorum*. The second branch divides into two more, external and internal: the external, after it hath given branches to the *Soleus*, to the *Peronæus posterior*, and to the *Flexor Pollicis*, pierces the membrane between the *Tibia* and *Perone*, and rises upon the external ancle, to spread itself upon the upper part of the foot. The internal, as it descends, gives branches to the *Soleus*, to the *Flexores Digitorum*, to the *Tibialis posterior*; then it passes by the cavity of the *Fibula*, where it divides into two branches, of which one passes under the *Thenar* to the great toe, the other passes between the *Musculus brevis* and the *Hypothenar*, and is distributed into the other toes.

And this is the order and distribution of the principal *arteries* in the body, each of which are subdivided into others, and these again into others, till at last the whole body is overspread with most minute capillary *arteries*, concerning which there are two things necessary to remark: first, that the branches which go off at any small distance from the trunk of an *artery*, unite their canals into one trunk again, whose branches likewise communicate with one another, and with others, as before. By this means, when any small *artery* is obstructed, the blood is brought by the communicating branches below the obstruction, which must otherwise have been deprived of their nourishment. These inosculations are every where apparent, but chiefly in the *Uterus*, *Mesentery*, and brain: it is the same thing with the veins. Secondly, that the sum of the orifices of the branches of any *artery* is greater than the orifices from the trunk from which they came, upon which account the velocity of the blood is greatly diminished, as it removes farther from the heart. The proportions the primary branches bear to one another, and the *Aorta* to the *Cava* and pulmonary *artery*, are as follow:

The *Aorta*	100000
Right subclavian artery	20101.9
Left *Carotid*	10016
Left axillary	14456.7
Bronchial artery	434.2
Twenty-four intercostals, each 434.2 . .	10420.8
Cœliac	4830.3
Mesenteric	7307.8
Right emulgent	4639
Left emulgent	4639
Inferior Mesenteric	3015
Six Lumbals, each 434.2	2605.2
Left iliac	9739.8
Right iliac	10535
Sum of all the branches	102740.7
The pulmonary artery	139291.8
The ascending cava	92373
The descending cava	92373

To the action of the *arteries* in the human body are owing the circulation of the blood, its heat, red colour, fluidity, assimilation of the seed, the conversion of fixed salts into such as are volatile, and the performance of all the secretions. To show all these particulars in their full extent, would be to give a curious and useful history of the *arteries:* and they may readily enough be drawn from the nature and structure of those wonderful canals, with the help of our present philosophy and chymistry.

Arteria Venosa, the pulmonary vein.

Arteriosus Ductus, also called,

Canalis Arteriosus. This, in the fœtus, arises from the extremity of the *Arteria pulmonaris* just where it is going to give off the two branches, and opens by its other end into the beginning of the descending *Aorta*, just below the great curvature.

Arteriotomy, αρτηριοτομια, from αρτηρια, *an artery*, and τημνω, *seco*, *to cut*, is letting blood by the arteries in some extraordinary cases; but the hazard makes it very rarely practised.

Arthritica, i. e. *Arthritis*.

Arthritis, αρθριτισ, from αρθρον, *articulus*, *a joint.* Any distemper is properly enough thus called that affects the joints, but the gout most particularly; and this hath different names, as it falls upon different parts, amongst some authors more nice in words than things; as *Podagra* when in the feet, *Chiragra* when in the hands, and so of other parts. Dr. Cullen in his *Nosology*, gives the name of *Podagra* to the gout. He places it as a genus of disease in his class of *Pyrexiæ*, and order of *Phlegmasiæ*. He distinguishes its species as follows, viz. 1. *Podagra Regularis.* 2. *Podagra Atonica.* 3. *Podagra Retrograda;* and, 4. *Podagra Aberrans.* M. M. In the first species, cordials; occasional laxatives and opiates; soft flannel on the part inflamed. In the second, corroborants, with occasional laxatives and emetics. In the third, aromatics, with wine or alcohol; asafœtida; volatile alkali; camphor; opium and blisters. In the fourth, the same as in idiopathic inflammation of the part affected.

Arthrocace, an ulcer in the cavity of a bone, with caries. Dr. Cullen makes it a synonym with *Spina ventosa*, which see.

Arthrodia, αρθρωδια, from αρθρον, *a joint.* It is when a round head is received into a shallow cavity, and admits of motion on all sides.

Arthrodynia, the chronical rheumatism.

Arthron, a joint.

Arthropuosis, from αρθρον, *articulus*, and πυον, *pus.* This word is variously used by different writers: sometimes it means an inflammation in a joint; and then *Phlegmone articuli* has the same signification. Sometimes it is used for an abscess in the joint. Others again express by it what is understood by the different terms, *Lumbago Psoadica*, *Lumbago Apostematosa*, *Lumbago ab Arthrocace*, *Ischias ex Abscessu*, and *Morbus Coxarius*, *Psoas abscess*, *Hip-joint abscess*, &c.

Articularis Morbus. When the gout rises from the toes to the ancles and knees, and they swell and inflame, it is thus named.

Articularis Arteria. It arises from the lower and fore-part of the axillaris, and runs backward between the head of the os humeri and teres major, surrounding the articulation till it reaches the posterior part of the deltoides, to which it was distributed.

Articularis Vena. Under the head of the os humeri, the basilica vena sends off this branch. It passes almost transversely round the neck of that bone, from within backwards, and from behind outwards, and runs upon the scapula, where it communicates with the venæ scapulares externæ.

Articulations. This is peculiar to the bones, and distinguished into three sorts, 1. *Diarthrosis.* 2. *Synchondrosis;* and, 3. *Synarthrosis.* Of the first there are two sorts, the *Enarthrosis*, or *Arthrodia*, and *Ginglymus.* The first is when a round head of a bone is received into a round cavity of another, such as the articulation of the *Femur* with the *Ischium;* and this is called the ball and socket.

The property of this joining is, that the parts may move equally to any side. The *Ginglymus* is described under that word, which see. The second, *Synchondrosis*, is when the extremities of two bones are joined to one another by means of an intervening cartilage. Thus the bodies of the *Vertebræ*, and the extremities of the ribs and *Sternum*, are joined together; where, though the motion of all is manifest, yet that of any two is hardly discernable. The third, *Synarthrosis*, is also of two sorts, the *Sutura* and *Gomphosis*. The *Sutura* is when two bones are mutually indented with one another: the teeth by which they are indented are of various figures, sometimes like the teeth of a saw; sometimes broad at their extremities, and narrow at their base; sometimes the sides of the teeth are likewise indented, as frequently in the *Sutura Lambdoidalis*. This sort of *articulation* is called dovetailing, and is used by joiners in drawers, &c. All the bones of the *Cranium* and upper jaw, as also the *Epiphyses* of the bones, are joined by this *articulation*. *Gomphosis* is when one bone is joined to another, as a pin or nail is in a piece of wood; and the teeth only are articulated this way in their sockets. To these may be added a third kind of *Synarthrosis*, very different from any of the former, which is, when a bone has a long and narrow channel, which receives the edge or process of another bone; and thus the *Vomer* is joined to the *Os Sphenoides* and *Septum Narium*: this is called ploughing. These comprehend all the different *articulations* of bones in a human body, and what other authors mention is to no purpose. The extremities of all the bones which are articulated to one another with a manifest motion, are bound together by membranous ligaments, which rise from the conjunction of the *Epiphyses* with the bones, and passing over the *articulation*, are inserted at the same place in the other bone. Thus they form a bag, which embraces all that part of the extremities of the bones which play upon one another; and in this bag is contained a mucilage for the easier motion of the joint. This is separated by glands which lie in fat on the inside of the ligaments. Those articulated by the *Ginglymus* have the ligaments much stronger than they are either behind or before, that the protuberances may be kept to play in their cavities, and to prevent the bones from slipping out of joint.

Artocarpus, bread-fruit, a genus in Linnæus's botany. He hath but one species.

Arum, cuckow-pint, or wake-robin, a genus in Linnæus's botany. In this genus he includes the *Arisarum*, or friar's-cowl, and *Dracunculus*, or dragons. Of species he enumerates twenty-six. The college have directed a conserve to be made of the recent root, Conserva Ari.

Arytæno-Epiglottici. They are small, fleshy fasciculi, each of which is fixed by one end in the head of one of the arytænoid cartilages, and the other in the nearest edge of the epiglottis.

Arytænoides, from αρυταινα, *a funnel*, and ειδος, *shape;* the *Arytænoid*, or ewer-like cartilage. An epithet of two cartilages, which, together with others, constitute the head of the larynx.

Arytænoideus Major, i. e. *Arytænoidæus Transversus*.

Arytænoideus Minor, i. e. *Arytænoideus Obliquus*.

Arytænoideus Obliquus. This muscle arises from the base of one arytænoid cartilage, and crossing its fellow, is inserted near the tip of the other arytænoid cartilage.

When both act they pull the arytænoid cartilage towards each other.

Arytænoideus Transversus. This muscle arises from the side of one arytænoid cartilage, from near its articulation with the cricoid, to near its tip. The fibres run straight across, and are inserted in the same manner, into the other arytænoid cartilage. Its use is to shut the rima glottidis, by bringing these two cartilages, with the ligaments, nearer one another.

Asafœtida. Gum asafœtida. The plant which affords this gum-resin is the *Ferula asafœtida* of Linnæus, which grows plentifully on mountains in the provinces of Chorasan and Laar in Persia. The process of obtaining it is as follows: the earth is cleared away from the top of the roots of the oldest plants; the leaves and stalks are then twisted away, and made into a covering, to screen the root from the sun; in this state the root is left for forty days, when the covering is removed, and the top of the root cut off transversely; it is then screened again from the sun for forty-eight hours, when the juice it exudes is scraped off, and exposed to the sun to harden. A second transverse section of the root is made, and the exudation suffered to continue for forty-eight hours, and then scraped off. In this manner it is eight times repeatedly collected in a period of six weeks. The juice thus obtained has a bitter, acrid, pungent taste, and is well known by its peculiar nauseous smell, the strength of which is the surest test of its goodness. It is highly esteemed as an antihysteric, nervine, and stimulating remedy, and is much used in hysteria, hypochondriasis, dyspepsia, &c.—℈ss. to ℥i.

Asarum, asarabacca, a genus in Linnæus's botany. He enumerates three species. The college have retained the root of the Asarum Europæum Lin. it enters the Pulvis Asari Compositus, formerly called Pulv. Sternutator.

Asbestos, or *Asbestus*, ασβεστος, a genus in the order of fibrous stones; its fibres are hard, rigid, and brittle, when separated; and are not easily divisible as those of the *Amianthus*.

Ascarides, from ασκεω, *to move*, a sort of worms so called from their continual troublesome motion, which causes itching. They are very small, white, and have sharp-pointed heads. They are generally lodged in the rectum; but sometimes are also higher up, even in the stomach.

Ascites, ασκιτης, from ασκος, *a bottle.* It is the dropsy of the belly. Dr. Cullen ranks this genus of disease in the class *Cachexiæ*, and order *Intumescentiæ.* He enumerates two species. 1. *Ascites abdominalis;* as when the tumour of the belly is equal, and with evident fluctuation. 2. *Ascites saccatus*, as when the ovaries, &c. are the seat of the disease; in which cases the tumour is not equally extended in all parts of the belly, and the fluctuation is not so evident.

Ascites Sanguineo-Uterinus, i. e. *Hydrometra.*

Ascites Uterinus, i. e. *Hydrometra.*

Asciticus, one who labours under an *ascites.*

Ash (Poison.) See *Vernix.*

Ash-tree. See *Fraxinus.*

Asiti, or *Asitia*, ασιτια, those who take no food for want of appetite.

Aspalathus, a name of the *Lignum Rhodium.*

Asparagus, asparagus, a genus in Linnæus's botany. He enumerates thirteen species.

Aspasia, a medicine formerly used to constringe the vagina; it consisted of wool moistened with an infusion of galls.

Aspera Arteria. It is called *Aspera*, from the inequality made by the cartilages of it: it is called also *Trachea*. It is a canal situated in the fore-part of the neck, before the *Oesophagus*, whose upper end is called *Larynx*; from whence it descends to the fourth vertebra of the back, where it divides and enters the lungs. This canal is made of annular cartilages, which are at small and equal distances from one another. These cartilages grow smaller and smaller as they approach the lungs; and those of the *Bronchi* are so close to one another, that, in expiration, the second enters within the first, and the third within the second, and the following always enters the preceding. Betwixt the *Larynx* and the lungs these cartilages make not complete rings; but their hinder part, which is contiguous to the *Oesophagus*, is membranous, that they may the better contract and dilate, and give way to the food as it passes down the gullet. But the cartilages of the *Bronchi* are completely annular; yet their capillary branches have no cartilages, but, instead of them, small circular ligaments, which are at pretty large distances from one another. The use of the cartilage is to keep the passage for the air open; but in the capillary *Bronchi* they would hinder the subsiding of the vesicles. These cartilages are tied together by two membranes, external and internal: the external is composed of circular fibres, and covers the whole *Trachea* externally: the internal is of an exquisite sense, and covers the cartilages internally; it is composed of three distinct membranes; the first is woven of two orders of fibres; those of the first order are longitudinal, for shortening the *Trachea*; they make the cartilages approach and enter one another: the other order is of circular fibres, for contracting the cartilages. When these two orders of fibres act, they help, with the external membrane, in expiration, in coughing, and in altering the tone of the voice. The second membrane is altogether glandular, and the excretory vessels of these glands open in the cavity of the *Trachea*: they separate a liquor for moistening the cavity, and for defending it from the acrimony of the air. The third and last is a net of veins, nerves and arteries; the veins and branches of the *Vena Cava*; the nerves of the *Recurrent*; and the arteries, sprigs of the *Carotides*.

Asperifolius, of *asper*, *rough*, and *folium*, *a leaf*, an epithet for such plants as are rough-leaved, having their leaves placed alternately, or without any certain order on their stalks.

Aspersio, a sprinkling. Medicines administered this way were called by the Greeks *Sympasmata*, and by the Latins *Aspergines*.

Asphyxia, ασφυξια, from α priv. and σφυξις, *a pulse*, and from σφυζω, *to leap*, or *beat like an artery*; a privation of the pulse. Though this cannot be absolutely the case whilst a person lives, yet to our perception it may. It happens from a long failure of vital and animal power; as from drowning, mephitism, &c. Most instances of *asphyxy* are varieties of *Apoplexy*; the rest are instances of *Syncope*.

Asphyxia a Carbone, i. e. *Apoplexia Venenata*.

Asphyxia Congelatorum, i. e. *Apoplexia Venenata*.

Asphyxia Flatulenta. When this complaint can be distinguished by its external symptoms, Dr. Cullen ranks it in the genus *Apoplexy*.

Asphyxia Foricariorum, i. e. *Apoplexia Venenata*.

Asphyxia a Fumis, i. e. *Asphyxia Venenata*.

Asphyxia Immersorum, i. e. *Apoplexia Suffocata.*

Asphyxia a Mephitide, i. e. *Apoplexia Venenata.*

Asphyxia a Musto, i. e. *Apoplexia Venenata.*

Asphyxia a Pathemate, i. e. *Apoplexia Mentalis.*

Asphyxia Sideratorum, i. e. *Apoplexia Venenata.*

Asphyxia Spinalis, i. e. *Apoplexia Sanguinea.*

Asphyxia Suspensorum, i. e. *Apoplexia Suffocata.*

Assimilo, to assimilate, from *ad* and *similis*, *to make like to*. *Assimilation* commonly expresses the union of aliments to the body, in nourishment; but in a more general sense signifies the reduction of any one body to the nature of another. In animal œconomy, it is that process by which the different ingredients of the blood are made parts of the various organs of the body. Over the nature of assimilation, says Dr. Thomson, the thickest darkness hangs, there is no key to explain it, nothing to lead us to the knowledge of the instruments employed. Facts, however, put the existence of the process beyond the reach of doubt. The healing of every fractured bone, and of every wound of the body, is a proof of its existence, and an instance of its action. Every organ employed in assimilation has a peculiar office, and it always performs this office whenever it has materials to act upon, even when the performance of it is contrary to the interest of the animal. Thus the stomach always converts the food into chyme, even when the food is of such a nature that the process of digestion is retarded rather than promoted by the change. If warm milk be taken into the stomach, it is decomposed by that organ, and converted into chyme, yet the milk was more nearly assimilated to the animal before the action of the stomach, than after it. The same thing occurs when we eat animal food. If a substance be introduced into an organ employed in assimilation, that has already undergone the change which that organ is fitted to produce, it is not acted upon by that organ, but passes on unaltered to the next assimilating organ. Thus it is the office of the intestines to convert chyme into chyle; and whenever chyme is introduced into the intestines, they perform their office, and produce the usual change; but if chyle itself be introduced, it is absorbed by the lacteals without alteration. Again, the business of the blood-vessels, as assimilating organs, is to convert chyle into blood; chyle therefore cannot be introduced into the arteries without undergoing that change; but blood may be introduced from another animal without any injury, and consequently without undergoing any change. Though the different assimilating organs have the power of changing certain substances into others, and of throwing out the useless ingredients, yet this power is not absolute, even when the substances on which they act are proper for undergoing the change which the organs produce. The stomach converts food into chyme, and the intestines change chyme into chyle; and the substances that have not been converted into chyle are thrown out of the body. If there should be present in the stomach and intestines any substance which, though incapable of undergoing these changes, at least by the action of the stomach and intestines, yet has a strong affinity either for the whole chyme and chyle, or for some particular part of it; and no affinity for the substances which are thrown out, that substance passes with the chyle, and in many cases continues to remain chemically combined with the substance to which it is united in the stomach, even after the substance has been completely assimilated, and made a part of the body of the animal. Thus there is an affinity between the colouring matter of madder and phosphate of lime; and when madder is taken into the stomach, it combines with the phosphate of lime of the food, passes with it through the lacteals and blood vessels, and is deposited with it in the bones. In the same way musk, indigo, &c. when taken into the stomach make their way into many of the secretions. These facts prove that assimilation is a chemical process; that all the changes are produced according to the laws of chemistry; and Dr. Thomson adds, that we can derange the regularity of the process by introducing substances whose mutual affinities are too strong for the organs to overcome.

Association; a word lately introduced into medical writings, instead of the old term "sympathy." It means the train of sensations or actions, whether healthy or morbid, which constitute the more complicated phenomena or functions of life. The term is borrowed from the metaphysicians, who write much and familiarly concerning the "association of ideas" in the mind. By this is meant the order and succession of ideas, or their connection and dependency one upon another. Thus the idea of a shepherd may be associated with that of his flock, and these with the ideas of rich pastures and variegated country prospects; with these may be associated the delineations of natural scenes in landscape, painting, and picturesque beauty; and with these again may be associated the ideas of sheep-shearing, and of wool, and of the whole manufacture, trade and consumption of woollen goods, and the like. In somewhat the same manner there seems to be an "association of bodily motions;" the actions of our complicated living machine being performed in certain trains, or in a certain order and succession: as when, for instance, bad news is brought to a man in the midst of a meal which he has begun with a good appetite, the unpleasant impression is no sooner made on the part of the brain which is the proper seat of perception, than, by the process of association, the vigour of the stomach is diminished, the appetite for food impaired or destroyed, and the power of digestion in a great degree overcome: in consequence of an association with the stomach, the muscles of the jaws and throat are relaxed, the hands let fall their instruments of eating, and a considerable degree of weakness pervades the whole frame: in consequence of which associations the motions of the heart become more feeble, the blood flows more tardily, and so on: whence it appears that the brain is associated with the stomach, the stomach with the heart, and the remotest parts of the body with them all.—The knowledge of the laws of associated motions in the animal body is of great consequence to the physiologist and physician. They form clues to the right understanding of many obscure and perplexing cases of practice. Indeed, in the nosological arrangement of Dr. Darwin, *diseases of association* constitute one of the four great classes of human maladies. For the particulars of this the reader is referred to the second part of that great and valuable work the *Zoonomia.*

Assodes, an ardent kind of tertian fever, attended with great inquietudes, nauseas, vomitings, thirst, and raving: the outward parts are moderately warm, but inwardly there is great heat.

Astacus Fluviatilis, the crevis or cray-fish. These are found in rivers—are of the same general nature as crabs and lobsters. They afford the concretes called crabs-eyes.

Asthenia, ασθενεια, extreme debility. This debility may be of two kinds, according to the Brunonian doctrine: 1. *Asthenia directa*, or direct debility, which arises from a subtraction of natural or needful stimuli, as in cold, hunger, thirst, and darkness, where the exciting powers of heat, food, drink, and light, are withdrawn. 2. *Asthenia indirecta*, or indirect debility, which is produced by an over-action or excessive operation of stimuli, exuding in lassitude, torpor, and inability to perform the functions of health; as in drunkenness from ardent spirits, languor from too much opium, strokes of lightning and other powerful electrical shocks, violent heat and strokes of the sun, excessive application and exertion of body and mind, and the like; whereby the excitability is benumbed, and the powers of the body considerably overcome. See Brown's Elements of Medicine.

Asthma, ασθμα, from αω, *to breathe*; or rather from ασθμαζω, *anhelo, to breathe with difficulty*; a chronic, laborious, wheezing respiration. Galen says that the Greeks give this name to a quick respiration, such as happens to people who run, &c. The word is now applied to a disorder, the chief symptom of which is a difficult or a short breathing, or a laborious wheezing respiration, with a sense of straightness in the breast. Dr. Cullen ranks the *Asthma* in his class of *Neuroses*, and order *Spasmi*. He distinguishes three species, viz. 1. *Asthma Spontaneum*; when there is no manifest cause, or any other disease attending. 2. *Asthma Exanthematicum*; as when some acrid humour is repelled from the surface of the body. 3. *Asthma Plethoricum*; when any accustomed evacuation of blood ceases, or when, from any other cause, the vessels are too full.

Asthma Catarrhale, i. e. *Dyspnœa Catarrhalis.*

Asthma a Gibbo, i. e. *Dyspnœa Thoracica.*

Asthma Infantum Spasmodicum, i. e. *Cynanche Trachealis* of Cullen. Also called *Suffocatio Stridula.*

Asthma Metallicum, i. e. *Dyspanæ Extrinseca.*

Asthma Nocturnum, i. e. *Incubus.*

Asthma Pituitosum, i. e. *Dyspnœa Catarrhalis.*

Asthma Pneumodes, i. e. *Dyspnœa Catarrhalis.*

Asthma Pneumonicum, i. e. *Dyspnœa Catarrhalis.*

Asthma Pulverulentorum, i. e. *Dyspnœa Extrinseca.*

Astragalus, the first bone of the foot; so named from its being used in ancient sports, or something of that shape called cockal, in like manner with our dice, and going by the same name. It is the upper bone of the foot; the Tibia rests upon it: its upper and under sides are covered with cartilage, and, on its under side, it articulates with the os calcis: the fore-part of this bone is cartilaginous, and there it articulates with the os scaphoides.

Astricta. When applied to the belly, it signifies costiveness.

Astrictoria, astringents.

Astringentia, astringents. Substances that coagulate the animal solids are called *astringents*; of those that are used medicinally, some rank those only as *astringents* that are taken by the mouth, calling those styptics that are only applied externally.

Ataxia, αταξια, ataxy, from α priv. and τασσω, *to order*; some particular irregularity or disorder. This word is used frequently by the ancients, and sometimes by the moderns, to express an irregularity in a disease or a distemper out of the common course of symptoms.

Athanasia, αθανασια, from α priv. and θανατος, *death*, immortality. It is a name of several ancient compositions; as antidotes, collyriums, &c. Also of the herb tansy, because when stuffed up the nostrils of a dead corpse, it is said to prevent putrefaction.

Atheroma, from αθηρωμα, *pulse*, *pap*, or a kind of *poultice*. It is a kind of tumour, thus named from its contents, which resemble a poultice. It is a species of wen. It is colourless, without pain, of an irregular shape, not easily pressed with the finger, and, when pressed, does not easily rise again; in which it differs from the *Meliceris*.

Athletes, from αθλεω, *to contend*, a wrestler; also one who is robust, or of a vigorous constitution.

Atlas, ατλας, from ταλαω, *to sustain*, or the name of the first vertebra of the neck. So called, because it sustains the head, as *Atlas* was supposed to sustain the earth.

Atmosphere. The atmosphere is composed of whatever substances are capable of being turned to vapours or gases by the heat to which the surface of the earth is exposed: and hence it happens that its lower portions are remarkably impregnated with terrestrial exhalations, forming a medley of various sorts of air and other matters. As all land animals, and among others, human beings, are surrounded by these atmospherical fluids incessantly from the moment of their birth during the whole course of their lives, it will be evident that a thorough acquaintance with it is very important. It is the vehicle of caloric as applied to our bodies, and we experience through it the vicissitudes of *hot* and *cold*. It is the menstruum of that immense body of water which, descending in rains, snows, and dews, supplies the rivers and fountains of our globe; we therefore experience moisture and dryness through its mediation. The atmosphere is also the great field of action for the electrical fluid, one of the most remarkable agents in creation. About one fourth of it consists of oxygenous air, which ministers to the wants of breathing animals, and renews the vital properties of the blood in their lungs. The other three fourths are septous, or azotic, or phlogisticated air, not *chemically* combined with the former, but forming a mixture, where the two airs float freely through and among the particles of each other without combination. The upper parts of the atmosphere abound sometimes with inflammable air, extricated from bodies on the earth's surface, and mounting thither by reason of its small specific gravity; and this, set on fire by an electrical spark, causes fiery meteors, and balls, and streams of light. That portion of the atmosphere in which men live, becomes frequently much contaminated by exhalations from putrefying substances. Near the bodies of corrupting animals (as of dead horses and whales for example), the volatile septic acid gas proceeding from them has oftentimes poisoned persons who have lived or only passed near them. The atmospheres of cities, as of New-York, Boston, Providence, New-London, and Philadelphia, have been repeatedly found so much contaminated by corrupting animal provisions, by full and overflowing privy pits, by the abominable masses of rottenness with which the new grounds near the rivers have been made, and the like, that, in the last ten years of the 18th century, they suffered great mortality, and were almost deserted by their inhabitants. The atmosphere in and around a house in the country has been known to be rendered unhealthy and deleterious by a nasty duck-pond or mud-hole near the door, by putrid cabbages in the cellar, and by dung of swine, poultry and human creatures accumulated on all sides. The atmosphere of ships, between decks, is generally very impure: pestilential air, or infection, is produced there from human excretions, from corrupting provisions, and from decaying cargoes, in great quantity; and then the inbred poison, and the distempers which the poison produces, are preposterously said to be imported from foreign countries. Corrupting substances can make an atmosphere locally unhealthy any where. Volcanic effluvia, and vapours issuing from the internal parts of the earth, in consequence of subterranean fire, alter singularly the constitution and qualities of the atmosphere; causing, as Mr. Holm relates, in the neighbourhood of Mount Hecla, in Iceland, pestilential rain and sickly vapours, and giving countenance to the opinion that eruptions of unwholesome steams and fumes from the earth are a frequent exciting cause of endemic and epidemic distempers. For the details on this curious subject the reader is requested to consult Mr. Webster's *History of Pestilence.*

Atmosphere is that invisible elastic fluid which surrounds the earth to an unknown height, and encloses it on all sides. This fluid is essential to the existence of all animal and vegetable life, and even to the constitution of all kinds of matter whatever, without which they would not be what they are: for by it we literally may be said to live, move, and have our being: by insinuating itself into all the pores of bodies, it becomes the great spring of almost all the mutations to which the chemist and philosopher are witnesses in the changes of bodies. Without the atmosphere no animal could exist; vegetation would cease, and there would be neither rain nor refreshing dews to moisten the face of the ground; and though the sun and stars might be seen as bright specks, yet there would be little enjoyment of light, could we ourselves exist without it. Nature indeed, and the constitutions and principles of matter, would be totally changed if this fluid were wanting.

The mechanical force of the atmosphere is of great importance in the affairs of men, who employ it in the motion of their ships, in turning their mills, and in a thousand other ways connected with the arts of life. It was not till the time of Lord Bacon, who taught his countrymen how to investigate natural phenomena, that the atmosphere began to be investigated with any degree of precision. Galileo introduced the study by pointing out its weight; a subject that was soon after investigated more completely by Torricelli and others. Its density and elasticity were ascertained by Mr. Boyle and the academicians at Florence. Mariotte measured its dilatibility; Hooke, Newton, Boyle, and Derham, showed its relation to light, to sound, and to electricity. Sir I. Newton explained the effect produced upon it by moisture, from which Halley attempted to explain the changes in its weight indicated by the barometer.

The atmosphere, we have said, envelops the whole surface of the earth, and if they were both at rest, then the figure of the atmosphere would be globular, because all the parts of the surface of a fluid in a state of rest must be equally removed from its centre. But as the earth and the surrounding parts of the atmosphere revolve uniformly together about their axis, the different parts of both have a centrifugal force, the tendency of which is more considerable, and that of the centripetal less, as the parts are more remote from the axis, and hence the figure of the atmosphere must become an oblate spheroid, since the parts that correspond to the equator are farther removed from the axis than the parts which correspond to the poles. The figure of the atmosphere must also, on another account, represent a flattened spheroid, namely, because the sun strikes more directly the air which encompasses the equator, and is comprehended between the two tropics, than that which pertains to the polar regions: hence it follows, that the mass of air, or part of the atmosphere adjoining to the poles, being less heated, cannot expand so much nor reach so high. Nevertheless, as the same force which contributes to elevate the air diminishes its gravity and pressure on the surface of the earth, higher columns of it about the equatorial parts, other circumstances being the same, may not be heavier than those about the poles. Mr. Kirwan observes, that in the natural state of the atmosphere, that is, when the barometer would, every where at the level of the sea, stand at 30 inches, the weight of the atmosphere at the surface of the sea must be equal all over the globe; and in order to produce this equality, as the weight proceeds from its density and height, it must be lowest where the density is greatest, and highest where the density is least, that is, highest at the equator, and lowest at the poles, with the intermediate gradations. On this and other accounts, in the highest regions of the atmosphere, the denser equatorial air not being supported by the collateral tropical columns, gradually flows over and rolls down to the north and south; these superior tides have been supposed to consist of hydrogen gas, inasmuch as it is much lighter than any other, and is generated in great plenty between the tropics; it is also supposed to furnish the matter of the aurora borealis and australis.

With regard to the weight and pressure of the atmosphere, it is evident that the whole mass, in common with all other matter, must be endowed with weight and pressure: and it is found by undeniable experiments, that the pressure of the atmosphere sustains a column of quicksilver in the tube of a barometer of about 30 inches in height; it accordingly follows, that the whole pressure of the atmosphere is equal to the weight of a column of quicksilver of an equal base, and 30 inches in height, or the weight of the atmosphere on every square inch of surface is equal to 15 pounds. It has moreover been found, that the pressure of the atmosphere balances, in the case of pumps, &c. a column of water $34\frac{1}{2}$ feet high; and the cubical foot of water weighing just 1000 ounces, or $62\frac{1}{2}$ pounds, $34\frac{1}{2}$ multiplied by $62\frac{1}{2}$, or 2158*lb.* will be the weight of a column of water, or of the atmosphere on the base of a square foot; and consequently the 144th part of this, or 15*lb.* is the weight of the atmosphere on a square inch. From these data, Mr. Cotes computed the pressure of the atmosphere on the whole surface of the earth to be equivalent to that of a globe of lead, 60 miles in diameter. Dr. Vince and others have given the weight at 7767029797563429 tons. This weight is however variable; it sometimes being much greater than at others. If the surface of a man, for instance, be equal to 14½ square feet, the pressure upon him, when the atmosphere is in its lightest state, is equal to 13½ tons, and when in the heaviest, it is about 14 tons and one third; the difference of which is about 2464*lb*. It is surprizing that such weights should be able to be borne without crushing the human frame: this indeed must be the case, if all the parts of our body were not endowed with some elastic spring, whether of air or other fluid, sufficient to counterbalance the weight of the atmosphere. Whatever this spring is, it is certain that it is just able to counteract the weight of the atmosphere, and no more; of course it must alter in its force as the density of the atmosphere varies: for if any considerable pressure be superadded to that of the air, as by going into deep water, it is always severely felt; and if, on the other hand, the pressure of the atmosphere be taken off from any part of the human body, by means of the apparatus belonging to the air pump, the inconvenience is immediately perceived.

The difference in the weight of the atmosphere is very considerable, as has been observed, from the natural changes in the state of the air. These changes take place chiefly in countries at a distance from the equator. In Great-Britain, for instance, the barometer varies from 28. 4 to 30. 7. On the increase of this natural weight, the weather is commonly clear and fine, and we feel ourselves alert and active; but when the weight of the air diminishes, the weather is often bad, and we feel listlessness and inactivity. Hence invalids suffer in their health from very sudden changes in the atmosphere. In our observations on the barometer, we have known the mercury to vary a full inch, or even something more, in the course of a few hours. Such changes, however, are by no means frequent. Ascending to the tops of mountains, where the pressure of the air is very much diminished, the inconvenience is rarely felt, on account of the gradual change; but when a person ascends in a balloon with great rapidity, he feels, we are told by Garnerin and other aeronauts, a difficulty of breathing, and many unpleasant sensations. So also, on the condensation of the air, we feel little or no alteration in ourselves, except when the variations are sudden in the state of the atmosphere, or by those who descend to great depths in a diving-bell.

It is not easy to assign the true reason for the changes that happen in the gravity of the atmosphere in the same place. One cause is, undoubtedly, the heat of the sun; for where this is uniform, the changes are small and regular. Thus, between the tropics the barometer constantly sinks about half an inch every day, and rises to its former station in the night. But in the temperate zones, the altitude of the mercury is subject to much more considerable variations, as we have seen with respect to what is observable in our own country.

As to the alteration of heat and cold, Dr. Darwin infers, that there is good reason to conclude that in all circumstances where air is mechanically expanded, it becomes capable of attracting the fluid matter of heat from other bodies in contact with it. Now, as the vast region of air which surrounds our globe is perpetually moving along its surface, climbing up the sides of mountains, and descending into the valleys; as it passes along it must be perpetually varying the degree of heat according to the elevation of the country it traverses: for, in rising to the summits of mountains, it becomes expanded, having so much of the pressure of the superincumbent atmosphere taken away; and when thus expanded, it attracts or absorbs heat from the mountains in contiguity with it; and, when it descends into the valleys and is compressed into less compass, it again gives out the heat it has acquired to the bodies it comes in contact with. The same thing must happen in the higher regions of the atmosphere, which are regions of perpetual frost, as has lately been discovered by the aerial navigators. When large districts of air, from the lower parts of the atmosphere, are raised two or three miles high, they become so much expanded by the great diminution of the pressure over them, and thence become so cold, that hail or snow is produced by the precipitation of the vapour: and as there is, in these high regions of the atmosphere, nothing else for the expanded air to acquire heat from after it has parted with its vapour, the same degree of cold continues till the air, on descending to the earth, acquires its former state of condensation and of warmth. The Andes, almost under the line, rests its base on burning sands: about its middle height is a most pleasant and temperate climate covering an extensive plain, on which is built the city of Quito; while its forehead is encircled with eternal snow, perhaps coeval with the mountain. Yet, according to the accounts of Don Ulloa, these three discordant climates seldom encroach much on each other's territories. The hot winds below, if they ascend, become cooled by their expansion; and hence they cannot affect the snow upon the summit; and the cold winds that sweep the summit, become condensed as they descend and of temperate warmth before they reach the fertile plains of Quito.

Various attempts have been made to ascertain the height to which the atmosphere is extended all round the earth. These commenced soon after it was discovered by means of the Torricellian tube, that air is endued with weight and pressure. And had not the air an elastic power, but were it every where of the same density, from the surface of the earth to the extreme limit of the atmosphere, like water, which is equally dense at all depths, it would be a very easy matter to determine its height from its density and the column of mercury which it would counterbalance in the barometer tube: for, it having been observed that the weight of the atmosphere is equivalent to a column of 30 inches, or $2\frac{1}{2}$ feet of quicksilver, and the density of the former to that of the latter, as 1 to 11040; therefore the height of the uniform atmosphere would be 11040 times $2\frac{1}{2}$ feet, that is, 27600 feet, or little more than 5 miles and a quarter. But the air, by its elastic quality, expands and contracts; and it being found by repeated experiments in most nations of Europe, that the spaces it occupies, when compressed by different weights, are reciprocally proportioned to those weights themselves; or, that the more the air is pressed, so much the less space it takes up; it follows that the air in the upper regions of the atmosphere must grow continually more and more rare, as it ascends higher; and indeed that, according to that law, it must necessarily be extended to an indefinite height. Now, if we suppose the height of the whole divided into innumerable equal parts; the quantity of each part will be as its density; and the weight of the whole incumbent atmosphere being also as its density; it follows, that the weight of the incumbent air is every where as the quantity contained in the subjacent part; which causes a difference between the weights of each two contiguous parts of air. But, by a theorem in arithmetic, when a magnitude is continually diminished by the like part of itself, and the remainders the same, these will be a series of continued quantities decreasing in geometrical progression: therefore, if, according to the supposition, the altitude of the air, by the addition of new parts into which it is divided, do continually increase in arithmetical progression, its density will be diminished, or, which is the same thing, its gravity decreased, in continued geometrical proportion. And hence, again, it appears that, according to the hypothesis of the density being always proportional to the compressing force, the height of the atmosphere must necessarily be extended indefinitely. And, farther, as an arithmetical series adapted to a geometrical one, is analogous to the logarithms of the said geometrical one; it follows therefore that the altitudes are proportional to the logarithms of the densities, or weights of air; and that any height taken from the earth's surface, which is the difference of two altitudes to the top of the atmosphere, is proportional to the difference of the logarithms of the two densities there, or to the logarithm of the ratio of those densities, or their corresponding compressing forces, as measured by the two heights of the barometer there.

It is now easy, from the foregoing property, and two or three experiments, or barometrical observations, made at known altitudes, to deduce a general rule to determine the absolute height answering to any density, or the density answering to any given altitude above the earth. And accordingly calculations were made upon this plan by many philosophers, particularly by the French; but it having been found that the barometrical observations did not correspond with the altitudes as measured in a geometrical manner, it was suspected that the upper parts of the atmospherical regions were not subject to the same laws with the lower ones, in regard to the density and elasticity. And, indeed, when it is considered that the atmosphere is a heterogeneous mass of particles of all sorts of matter, some elastic, and others not, it is not improbable but this may be the case, at least in the regions very high in the atmosphere, which it is likely may more copiously abound with the electrical fluid. Be this however as it may, it has been discovered that the law above given, holds very well for all such altitudes as are within our reach, or as far as to the tops of the highest mountains on the earth, when a correction is made for the difference of the heat or temperature of the air only, as was fully evinced by M. De Luc, in a long series of observations, in which he determined the altitudes of hills both by the barometer, and by geometrical measurement, from which he deduced a practical rule to allow for the difference of temperature. Similar rules have also been deduced from accurate experiments, by Sir George Shuckburgh, and General Roy, both concurring to show, that such a rule for the altitudes and densities holds true for all heights that are accessible to us, when the elasticity of the air is corrected on account of its density: and the result of their experiments showed, that the difference of the logarithms of the heights of the mercury in the barometer, at two stations, when multiplied by 10000, is equal to the altitude in English fathoms, of the one place above the other; that is, when the temperature of the air is about 31 or 32 degrees of Fahrenheit's thermometer; and a certain quantity more or less, according as the actual temperature is different from that degree.

But it may be shown, that the same rule may be deduced independent of such a train of experiments as those referred to, merely by the density of the air at the surface of the earth. Thus, let D denote the density of the air at one place, and d the density at the other; both measured by the column of mercury in the barometrical tube: then the difference of altitude between the two places, will be proportional to the log. of D — the log. of d, or to the log. of $\frac{D}{d}$. But as this formula expresses only the relation between different altitudes, and not the absolute quantity of them, assume some indeterminate, but constant quantity h, which multiplying the expression log. $\frac{D}{d}$, may be equal to the real difference of altitude a, that is, $a = h \times \log.$ of $\frac{D}{d}$. Then, to determine the value of the general quantity h, let us take a case in which we know the altitude a that corresponds to a known density d; as for instance, taking $a =$ 1 foot, or 1 inch, or some such small altitude: then because the density D may be measured by the pressure of the whole atmosphere, or the uniform column of 27600 feet, when the temperature is 55°; therefore 27600 feet will denote the density D at the lower place, and 27599 the less density d at 1 foot above it; consequently $1 = h \times \log.$ of $\frac{27600}{27599}$, which by the nature of logarithms, is nearly $= h \times \frac{.43429448}{27600}$ or $\frac{1}{63551}$ nearly; and hence we find $h = 63551$ feet; which gives us this formula for any altitude a in general, *viz.* $a = 63551 \times \log.$ of $\frac{D}{d}$, or $a = 63551 \times \log.$ of $\frac{M}{m}$ feet, or $10592 \times \log.$ of $\frac{M}{m}$ fathoms; where M denotes the column of mercury in the tube at the lower place, and m that at the upper. This formula is adapted to the mean temperature of the air 55°: but it has been found, by the experiments of Sir George Shuckburgh and General Roy, that for every degree of the thermometer, different from 55°, the altitude a will vary by its 435th part; hence, if we would change the factor h from 10592 to 10000, because the difference 592 is the 18th part of the whole factor 10592, and because 18 is the 24th part of 435; therefore the change of temperature, answering to the change of the factor h, is 24°, which reduces the 55° to 31°. So that, $a = 10000 \times \log.$ of $\frac{M}{m}$ fathoms, is the easiest expression for the altitude, and answers to the temperature of 31°, or very nearly the freezing point: and for every degree above that, the result must be increased by so many times its 435th part, and diminished when below it.

From this theorem it follows, that at the height of 3 $\frac{1}{2}$ miles, the density of the atmosphere is nearly 2 times rarer than it is at the surface of the earth; at the height of 7 miles, 4 times rarer; and so on, according to the following table:

Height in miles.	Number of times rarer.
$3\frac{1}{2}$	2
7	4
14	16
21	64
28	256
35	1024
42	4096
49	16384
56	65536
63	262144
70	1048576

And, by pursuing the calculations in this table, it might be easily shown, that a cubic inch of the air we breathe would be so much rarefied at the height of 500 miles, that it would fill a sphere equal in diameter to the orbit of Saturn.

It has been observed above, that the atmosphere has a refractive power, by which the rays of light are bent from the right lined direction, as in the case of the twilight; and many other experiments manifest the same virtue, which is the cause of many phenomena. Alhazen, the Arabian, who lived about the year 1100, it seems was more inquisitive into the nature of refraction than former writers. But neither Alhazen, nor his follower Vitello, knew any thing of its just quantity, which was not known, to any tolerable degree of exactness, till Tycho Brahe, with great diligence, settled it. But neither did Tycho nor Kepler discover in what manner the rays of light were refracted by the atmosphere. Tycho thought the refraction was chiefly caused by dense vapours, very near the earth's surface: while Kepler placed the cause wholly at the top of the atmosphere, which he thought was uniformly dense; and thence he determined its altitude to be little more than that of the highest mountains. But the true constitution of the density of the atmosphere, deduced afterwards from the Torricellian experiment, afforded a juster idea of these refractions, especially after it was found, that the refractive power of the air is proportional to its density. By this variation in the density and refractive power of the air, a ray of light, in passing through the atmosphere, is continually refracted at every point, and thereby made to describe a curve, and not a straight line, as it would have done were there no atmosphere, or were its density uniform.

The atmosphere, or air, has also a reflective power; and this power is the means by which objects are enlightened so uniformly on all sides. The want of this power would occasion a strange alteration in the appearance of things; the shadows of which would be so very dark, and their sides enlightened by the sun so very bright, that probably we could see no more of them than their bright halves; so that for a view of the other halves, we must turn them half round, or if immoveable, must wait till the sun could come round upon them. Such a pellucid unreflective atmosphere would indeed have been very commodious for astronomical observations on the course of the sun and planets among the fixed stars, visible by day as well as by night; but then such a sudden transition from darkness to light, and from light to darkness, immediately upon the rising and setting of the sun, without any twilight, and even upon turning to or from the sun at noon day, would have been very inconvenient and offensive to our eyes. However, though the atmosphere be greatly assistant in the illumination of objects, yet it must also be observed that it stops a great deal of light.

The knowledge of the component parts of the atmosphere is among the discoveries of the moderns. The opinions of the earlier chemists were too vague to merit any particular notice. Boyle however, and his contemporaries, put it beyond doubt that the atmosphere contained two distinct substances, viz. an elastic fluid, distinguished by the name of air, and water in the state of vapour. Besides these two bodies, it was supposed that the atmosphere contained a great variety of other substances, which were continually mixing with it from the earth, and which often altered its properties, and rendered it noxious or fatal. Since the discovery of carbonic acid gas by Dr. Black, it has been ascertained that this elastic fluid always constitutes a part of the atmosphere. The constituent parts of the atmosphere are, according to Mr. Murray,

	By measure.	By weight.
Nitrogen gas	77.5	75.55
Oxygen gas	21.0	23.32
Aqueous vapour	1.42	1.03
Carbonic acid gas	.08	.10
	100.00	100.00

It has been imagined that a portion of hydrogen may exist in the atmospheric air. But in the usual analysis of it oxygen is abstracted, and the residual air is found to be nitrogen. The nitrogen is probably not perfectly pure, and it is possible a small portion of hydrogen is mixed with it, which, from the quantity being very trifling, is difficult to be detected.

The properties of atmospheric air appear to be merely the aggregated properties of the gases of which it consists. It is invisible, inodorous, insipid, compressible, and permanently elastic. It supports combustion, and as it does so from the oxygen it contains, the combustion is less rapid and vivid, and continues for a shorter time. By the same agency it supports animal life; a portion of its oxygen is consumed in respiration, and from some experiments of Mr. Davy, there appears to be a consumption of a very small portion of its nitrogen. Atmospheric air is very sparingly absorbed by water; and the absorption is unequal, more of the oxygen being combined with the water than of the nitrogen. It is difficult, even by long boiling, to expel from water the whole of the oxygen which it holds dissolved; and, if exposed again to the atmosphere, it very quickly imbibes it.

Atmospheric air is an important agent in many of the operations of nature. Besides serving as the vehicle of the distribution of water, it is, by its mobility, the great agent by which temperature is in some measure equalized, or at least its extremes moderated. Animals, as we have seen, are dependent on it for life. It is essential to respiration; in the more perfect animals its deprivation cannot be sustained for a few moments; and even in the less perfect, the abstraction of it is followed, though not so immediately, by death. Its agency depends chiefly on its oxygen, a quantity of which is spent in every inspiration in producing chemical changes in the blood. A part of its nitrogen also is consumed, while a portion of carbonic acid gas is formed and expired. Vegetable life is also in part dependent on it; it conveys water, and perhaps carbonic acid gas, and other principles, to the leaves of plants, and is thus subservient to their nutrition and growth.

Atmospheric Air. In 100 parts of atmospheric air there are 72 of azote, 27 of oxygen, and 1 of carbonic acid.

Atomus, ατομος, an atom, from α priv. and τεμνω, *to cut* or *divide*; that is, which cannot be farther divided. Asclepiades taught that *atoms* were the primordia of all things, and that they were not perceptible to our senses, but only to our understanding; that they had no qualities, for the qualities of bodies which they compose depend on the order, figure, number, &c. of many *atoms* joined together; and this last circumstance he proves by observing, that a lump of silver is white, but if filed down it is black; and horns of goats are black when whole, but white if filed down. Galen says that Asclepiades, adhering to the opinions of Democritus and Epicurus, with regard to the principles of bodies, had only changed the former names of things, calling *atoms* molecules, and a vacuum pores.—N. B. Molecules were divisible, but *atoms* not.

Atonia, ατονια, from α priv. and τεινω, *to stretch*, atony; defect of muscular power; relaxation, laxity, debility, or distemperature. It is generally synonymous with palsy.

Atrabilarious Humour, may very well be understood of the thick part of the blood deprived of its due proportion of serum, or finer and more volatile parts, whereby it is rendered gross, black, unctuous, and earthy. The same may not improperly be called by the name of *Succus Melancholicus*, which we meet with in some authors. See *Atra Bilis*.

Atrabilariæ (Capsulæ), i. e. *Renes Succenturiati*.

Atra Bilis, black bile, or melancholy. According to the ancients, it hath a two-fold origin. 1. From the grosser parts of the blood; and this they called the melancholy humour. 2. From yellow bile being highly concocted. Dr. Percival, in his *Essays Med. and Exp.* suggests, that it is the gall rendered acrid, by stagnation in the gall-bladder, and rendered viscid by the absorption of its fluid parts.

Atropa, dwale, or deadly nightshade, a genus in Linnæus's botany. He enumerates six species.

Atrophy, ατροφια, from α priv. and τρεφω, *to nourish*; a falling away of the flesh. Some say that in an *atrophy*, the fat only is wasted. Others describe it as a mere collapsion of the cellular, vascular, and muscular systems, with universal weakness, from too great wastings, or too small recruits, of chyle, blood, lymph, &c. throughout the whole habit; without ulceration, or organical destruction of the solid vessels and viscera. A *Phthisis*, or consumption of the lungs, they say, is from obstruction; an *atrophy* from inanition. Dr. Cullen defines it to be a wasting, with extreme debility, but without the hectic fever. He ranks this disease in the class of *Cachexiæ*, and order *Marcores*; and enumerates four species.

Attenuation, is making a body or fluid thinner than it was before.

Attenuantia, from *attenuo*, *to make thin*, attenuating medicines. These act on the solids and fluids. Such as operate on the fluids by immediate contact are but few, and indeed only such as are watery, and they act only by the water in them. Viscid humours, alkaline, and other salts, are dissolved by water. Most of, or all the other *attenuants*, act on the solids by increasing their tone, and thereby enabling them to *attenuate* the too thick fluids.

Attollens Auriculæ Superior, a muscle which rises from the corrugator supercilii by a thin fascia.

Attollens Nares, a muscle that arises from the ends of the two upper bones of the nose, and is inserted into the upper part of the *Alæ*, pulling the nose upwards when contracted.

Attollens Oculi, i. e. *Musculus Superior*, and *Rectus Superior Oculi*: It is also called *Superbus*, which signifies proud, because it lies upon the upper part of the globe, and pulls up the eye, which gives an air of haughtiness.

Attonitus Morbus, a name of the *Apoplexy*, and of the *Epilepsy*.

Attonitus Stupor, i. e. *Apoplexy*.

Attraction, a general term, used to denote the power or principle by which bodies mutually tend towards each other, without regarding the cause or action that may be the means of producing the effect.

The philosopher Anaxagoras, who lived about 500 years before the Christian æra, is generally considered as the first who noticed this principle, as subsisting between the heavenly bodies and the earth, which he considered as the centre of their motions. The doctrines of Epicurus and of Democritus are founded on the same opinion.

Nicholas Copernicus appears to have been one of the first among the moderns, who had just notions of this doctrine.

After him, Kepler brought it still nearer perfection; having determined that bodies tended to the centres of the larger round bodies, of which they formed a part, and the smaller celestial bodies to the great ones nearest to them, instead of to the centre of the universe: he also accounted for the general motion of the tides on the same principle, by the attraction of the moon; and expressly calls it *virtus tractoria quæ in luna est;* besides this, he refuted the old doctrine of the schools, "that some bodies were naturally light, and for that reason ascended, while others were by their nature heavy, and so fell to the ground;" declaring that no bodies whatsoever are absolutely light, but only relatively so, and that all matter is subject to the law of gravitation.

Dr. Gilbert, a physician at London, was the first in England who adopted the doctrine of attraction; in the year 1600, he published a work entitled, "De Magnete Magneticisque Corporibus;" which contains a number of curious things; but he did not sufficiently distinguish between attraction and magnetism.

The next after him was Lord Bacon, who, though not a convert to the Copernician system, yet acknowledged an attractive power in matter.

In France also, we find Ferinat and Roberval, mathematicians of great eminence, maintaining the same opinion. The latter, in particular, made it the fundamental principle of his system of physical astronomy, which he published in 1644, under the title of "Arist. Samii de Mundi Systema."

Dr. Hooke, however, was the person who conceived the most just and clear notions of the doctrine of gravitation, of any before Newton; in his work called "An Attempt to prove the Motion of the Earth:" 1674. He observes that the hypothesis on which he explains the system of the world, is in many respects different from all others; and that it is founded on the following principles: 1. That all the heavenly bodies have not only an attraction or gravitation towards their own centres, but that they mutually attract each other within the sphere of their activity. 2. That all bodies which have a simple or direct motion, continue to move in a right line, if some force operating without incessantly does not constrain them to describe a circle, an ellipse, or some other more complicated curve. 3. That attraction is so much the more powerful, as the attracting bodies are nearer to each other.

But the precise determination of the laws and limits of the doctrine of attraction, was reserved for the genius of Newton: in the year 1666, he first began to turn his attention to this subject, when, to avoid the plague, he had retired from London into the country; but, on account of the incorrectness of the measures of the terrestrial meridian, made before this period, he was unable to bring his calculations on the subject to perfection at first.

Some years afterwards his attention was again called to attraction, by a letter of Dr. Hooke's; and Picard, having about this time measured a degree of the earth, in France, with great exactness, he employed this measure in his calculations, instead of the one he had before used, and found, by that means, that the moon is retained in her orbit by the sole power of gravity, supposed to be reciprocally proportional to the squares of the distances.

According to this law, he also found, that the line described by bodies in their descent is an ellipse, of which the centre of the earth occupies one of the foci; and considering afterwards, that the orbits of the planets are in like manner ellipses, having the centre of the sun in one of their foci, he had the satisfaction to perceive, that the solution which he had undertaken only from curiosity, was applicable to some of the most sublime objects in nature. These discoveries gave birth to his celebrated work, which has justly immortalized his name, entitled "Philosophicæ Naturalis Principia Mathematica."

In generalising these researches, he showed that a projectile may describe any conic section whatsoever, by virtue of a force directed towards its focus, and acting in proportion to the reciprocal squares of the distances. He also developed the various properties of motion in these kinds of curves, and determined the necessary conditions, so that the section should be a circle, an ellipse, or an hyperbola, which depend only upon the velocity and primitive position of the body, assigning in each case the conic section which the body would describe.

He also applied these researches to the motion of the satellites and comets, showing that the former move round their primaries, and the latter round the sun, according to the same law; and he pointed out the means of determining by observation the elements of these ellipses.

He also discovered the gravitation of the satellites towards the sun, as well as towards the planets; and that the sun gravitates towards the planets and satellites, as well as that these gravitate towards each other: and afterwards extending, by analogy, this property to all bodies, he established the principle, that every molecule of matter attracts every body in proportion to its mass, and reciprocally as the square of the distance from the body attracted.

Having ascertained this principle, he from it determined, that the attractive force of a body on a point placed without it is the same as if the whole mass were united at the centre. He also proved that the rotation of the earth upon its axis must occasion a flattening of it about the poles; which has since been verified by actual measurement: and determined the law of the variation of the degrees in different latitudes, upon the supposition that the matter of the earth was homogeneous.

But with the exception of what concerns the elliptical motions of the planets and comets, and the attractions of the heavenly bodies, these discoveries were not wholly completed by Newton. His theory of the figures of the planets is limited by the supposition of their homogeneity; and his solution of the problem of the precession of the equinoxes is defective in several respects. He has perfectly established the principle which he had discovered; but left the complete developement of its consequences to the geometers that should succeed him.

The profound analysis also, of which he was the inventor, had not been sufficiently perfected, to enable him to give complete solutions to all the difficult problems which arise, in considering the theory of the system of the world; so that he was oftentimes obliged to give only imperfect sketches or approximations, and leave them to be verified by a more rigorous calculation.

Attraction may be divided, with respect to the law it observes, into two kinds: 1. That which extends to sensible distances; such is the attraction of gravity, of which we have been treating, which is found in all bodies, and the attraction of magnetism and of electricity found in some particular bodies: 2. That which extends to very small, or insensible distances.

The attractions belonging to the first class must be as numerous as there are bodies situated at sensible distances. It has been proved that their intensity varies with the mass and the distance of the attracting bodies; it increases with the mass of those bodies, but diminishes as the distance between them increases. The rate of variation has been demonstrated to be inversely as the square of the distance in all cases of attraction belonging to the first class.

The nature of the attraction of gravity has been already discussed. It is, as far as the experience of man can extend, universal in all matter. The attractions of magnetism and of electricity are partial, being confined to certain sets of bodies, while the rest of matter is destitute of them; for it is well known that all bodies are not electric, and that scarcely any bodies are magnetic, except iron, cobalt, nickel, and chromium; and there is good reason to suspect that the magnetism of the three latter substances is caused by their containing some iron united to them.

The intensity of these three attractions increases as the mass of the attracting bodies, and diminishes as the square of the distance.

The first extends to the greatest distance at which bodies are known to be separated from each other. How far electricity extends has not been ascertained; but magnetism extends at least so far as the semi-diameter of the earth. All bodies possess gravity; but it has been supposed that the other two attractions are confined to two or three subtile fluids, which constitute a part of all those bodies that exhibit the attractions of magnetism or of electricity.

If we compare the different bodies acted on by gravitation, we shall find that the absolute force of their gravitation is in all cases the same, provided their distances from each other, and their mass be the same; but this is by no means the case with electrical and magnetic bodies: in them the forces by which they are attracted towards each other, called electricity and magnetism, are exceedingly various, even when the mass and the distance are the same. Sometimes these forces disappear almost entirely; at other times they are exceedingly intense.

Gravity, therefore, is a force inherent in bodies; electricity and magnetism not so; a circumstance which renders the opinion of their depending on peculiar fluids extremely probable. If we compare the absolute force of these three powers with each other, it would appear that the intensity of the two last, every thing else being equal, is greater than that of the first; but their relative intensity cannot be compared, and is therefore unknown. Hence it follows, that these different attractions, though they follow the same laws of variation, are not the same in kind.

The attractions between bodies at insensible distances, have been distinguished by the name of affinity, while the term attraction has been more commonly confined to cases of sensible distance.

Affinity may be considered as operating on homogeneous or heterogeneous substances. Homogeneous affinity urges substances of the same nature together, as iron to iron, soda to soda. Heterogeneous affinity draws substances of different nature into union, as acid and alkalis.

Homogeneous affinity is usually denominated cohesion, and sometimes adhesion, when the surfaces of bodies are only referred to; it is nearly universal; as far as is known, caloric and light alone are destitute of it.

Heterogeneous affinity is the cause of the formation of compound substances; thus muriatic acid unites with soda, and forms sea-salt; and sea-salt in saturated solution is united into masses by homogeneous affinity. Heterogeneous affinity is universal as far as is known; that is to say, there is no substance which is not attracted by some other substance. It is generally taken for granted, that every substance has more or less affinity for all others, though it is certainly assuming more than even analogy can warrant, and is a point which we have no means of ascertaining.

Affinity, like sensible attraction, varies with the mass and the distance of the attracting bodies. That cohesion varies with the mass cannot indeed be ascertained, because we have no means of varying the mass without at the same time altering the distance. But in cases of the adhesion of the surfaces of homogeneous bodies, which is undoubtedly an instance of homogeneous affinity, it has been demonstrated that the force of adhesion increases with the surface, which in some respect is the same as with the mass.

That heterogeneous affinity increases with the mass has been observed long ago in particular instances, and has been lately demonstrated by Berthollet to take place in every case. Thus a given portion of water is retained more obstinately by a large quantity of sulphuric acid, than by a small quantity. Oxygen is more easily abstracted from oxides which are oxydised to a maximum, than from those which are oxyded to a minimum. Lime only takes off the greatest part of the carbonic acid from potash, which still retains a portion of it; and sulphuric acid does not totally displace phosphoric acid from the lime united to it in phosphate of lime, a part of it remains undisturbed. In these and many other cases, a small portion of one substance is retained by a given quantity of another more strongly than a large portion; and Berthollet has shown, that in all cases a large quantity of one substance is capable of abstracting a portion of another from a small portion of a third, how weak soever the affinity between the first and second is, and how strong soever that between the second and third.

That the force of affinity increases as the distance diminishes, and the contrary, is obvious; for it becomes insensible, whenever the distance is sensible, and, on the other hand, it becomes exceedingly great, when the distance is exceedingly diminished. But the particular rate which this variation follows is still unknown; some have supposed the rate to be the same as that of sensible attraction, and that its intensity varies inversely, as the square of the distance; no sufficient argument has ever been advanced, to prove this law to be incompatible with the phenomena of affinity; but, on the other hand, no proof has ever appeared in support of this opinion.

Affinity agrees with sensible attraction in every determinable point: like sensible attraction, it increases with the mass, and diminishes as the distance augments; consequently it is just to conclude, that attraction, whether it be sensible or insensible, is, in all cases, the same kind of force, and regulated precisely by the same general laws.

The forces of affinity, though the same in kind, and possessing the same rate of variation with regard to distances, and also in respect to the mass, are vastly more numerous than those of sensible attraction; for, instead of three, they amount to as many as there are heterogeneous bodies. But even when the distance and the mass are the same, as far as can be judged, the affinity of two bodies for a third is not the same. Thus barytes has a stronger affinity for sulphuric acid than potash has; for, on equal portions of them being mixed with a small quantity of the acid, the barytes seizes a much larger proportion of the acid than the potash does. The difference of intensity extends to all substances, for there are scarcely any two bodies whose particles have precisely the same affinity for a third, and scarcely any two bodies whose component parts adhere together with exactly the same force.

Because these affinities do not vary in common circumstances, like magnetism and electricity, but are always the same when other circumstances are equal, it has been argued that they do not, like them, depend on peculiar fluids, the quantity of which may vary; but that they are permanent forces, inherent in every part of the attracting bodies.

But after the extraordinary discoveries that have been lately made of the powerful effects which electricity, as excited by the galvanic apparatus, has in chemical attractions; and when the great force of the affinity of the bases of potash and of soda to oxygen have been overcome by it, we must hesitate at least in continuing the above opinion; if we do not totally reject it, to adopt its reverse, and consider electric fire in future as the great agent of elective affinities. There is no reason why electric fire may not be subject to the same laws of attraction as other substances, and why it may not remain united to bodies in a latent or inactive state, as well as caloric; we have already shown, that the mass of any substance has a powerful effect on its degree of affinity; many of the effects of electric fire on affinity might be explained by this increased power of it when acting in a mass, or at farthest by supposing, that its power increased with its mass in a greater ratio than that of other substances.

It has been judiciously remarked, by a respectable chemical writer, that the variation of intensity, which forms so remarkable a distinction between affinity and gravitation, may be only apparent, and not real, and may only arise from the much nearer approach which the parts of one substance may be capable of, to those of a second, than to those of a third; and that thus it may be that barytes attracts sulphuric acid with greater intensity than potash, because the particles of barytes, when they act upon the acid, are at a smaller distance from it than the particles of the potash; to which we shall add, that it is possible that the degree of insensible distance to which the parts of substances can approach, depends on the quantity of latent electric fire combined with them, or in other words, on the degree of their relative attractions to electric fire.

This conjecture of the agency of electric fire, in elective attractions, has, at least, the advantage of the atomic theory, which has been advanced to account for the same phenomena, that it relates to matters which we know really exist, and which are not beyond the bounds of hope, indeterminable by experiment. With all due deference to the respectable characters who have used the atomic theory as an universal explainer, we beg leave to remind its admirers, that it is totally inconsistent with the laws of sound philosophy, to assume a fact as the basis of argument, which itself has never had the shadow of proof to support it, and which in its nature is incapable of experiment. It is idle, in the present respectable state of science, to talk any more of atoms: as well may we again revive the dreams of the ancients, about the materia subtilis; or those of Des Cartes, relative to vortices, as to reason of the shape, form, nature, and properties of atoms, which, from their very definition, are merely visionary, and which, the moment we conceive them as having shape, lose their essential quality of indivisibility; if the existence of atoms cannot be disproved, that is no argument in favour of their existence, in the way usually supposed; and the atomic theory has only this property in common with every other which lies beyond the reach of our senses.

Judicial astrology, magic, and many other chimeras, cannot be disproved; but, at least since the great law of truth has been adopted for philosophy, that no argument was to be admitted in it that was not demonstrable by experiment, or by proof equally satisfactory, mankind has ceased to be led astray by them.

It is now high time either to banish the atomic theory into the same regions of oblivion as the others above mentioned, or to prove the existence of the atoms on which it is founded: but as this is in its nature an impossibility, it is to be hoped that the time is not far distant, when philosophers will cease to confound imaginary beings with real existences, and when all that has been written of atoms, will be in no more esteem than the voluminous treatises de Pygmeis et Salamandris, which are to be found among the folios of some of our great academical libraries.

It is true, that the atomic theory accounts plausibly for many things we otherwise must be content to own are as yet beyond our knowledge; this may be a convenience to those who wish to impose on the ignorant; but all true lovers of science will despise so paltry a resource, especially when so much is now known, that we need no longer blush to own those points which are still involved in obscurity, and show the boundaries on the map of science between the regions of knowledge, and the terra incognita of visionary theory.

In the above respect of account-ing for matters unknown, the ideal system of Bishop Berkley is equally powerful as, if not superior to, the atomic theory, and has the advantage over it, of turning our thoughts incessantly to the Almighty Author of all things; for which reason, if we must have recourse to improved theories, Berkley's very much deserve the preference.

As to the more minute nature of bodies, we know that all mineral substances are resolvable into small laminæ or spicula, of determinate shapes, which by their multifarious combinations produce the variously formed chrystals, which all mineral bodies may be resolved into by art, which most may be made to exhibit by skilful dissection, and which so many show naturally. Vegetable substances are resolvable into small fibres, as are likewise animal substances for the most part: and from the laws of sound philosophy, we must consider the laminæ or spicula, which form the basis of crystallization, as the primary parts of mineral bodies, and fibres as those of organized bodies, until something further can be proved on the subject. These primary parts of bodies adhere together, it is most probable, by the attraction of cohesion, (as do also their combinations into crystals and other forms), modified in some degree by that attraction caused by electric fire.

The attraction which takes place among substances in solution is not so easily comprehended; as we know nothing as yet of the exact state in which a substance, capable of solidity, exists, when dissolved in a fluid. In our present state of knowledge, we can only consider it as a fluid itself, capable of reassuming a solid form in certain circumstances.

The attraction which takes place between bodies in a state of vapour, is similar to that in a fluid state; their precise and minute state in that condition is unknown; but the combinations which ensue from the attractions of many in both states, are familiar to all chemists, and from them have proceeded many of the most useful substances which we possess. It is very fortunate for us, however, that if the knowledge of the minute and primary state of bodies is, as it were, concealed from our view by an impenetrable veil, it is not of any very great importance to us; as the effects which bodies produce on each other can be known to us without it, and it is this latter species of knowledge that affords us the dominion over nature, supplies our wants, and forms the basis of worldly happiness.

The characteristic marks of affinity may be reduced to the three following.

1. It acts only at insensible distances, and of course affects only the minute parts of bodies.

2. This force is always the same in the same substances; but is different in different substances.

3. This difference is considerably modified by the mass. Thus, though A has a greater affinity for C than B has, if the mass of B be considerably increased, while that of A remains unchanged, B becomes capable of taking a part of C from A.

Auditoria Arteria Interna. It goes off from each side of the *Arteria basilaris* to the organ of hearing, accompanying the auditory nerve, having first furnished several small twigs to the *Membrana Arachnoides.*

Auditorius Meatus, the passage that conveys the air to the auditory nerve.

Auditorius Nervus. The seventh pair of nerves are called *auditory* *nerves*, so are the *Sympathetici Minores*.

Aura, any airy exhalations, spirit, or vapour; particularly such as arise from mephitic caves.

Aura Epileptica, a sensation in epileptic patients, as of a blast of cold air ascending from the lower parts towards the heart and head.

Aura Vitalis. So Helmont calls the vital heat.

Aurantium, the orange tree, a species of *Citrus*. The college hath directed Citrus Aurantium, Lin. its leaf, flower, juice of the fruit, and outer rind are ordered: the juice enters the Succus Cochleariæ Compositus, formerly called Succ. Scorbutic: a conserve is directed to be made with the peel, Conserva Corticis Exterioris Aurantii Hispalensis: and a syrup, Syrupus Corticis Aurantii: the dried peel is used in the Tinctura Corticis Peruviani Composita: Tinctura Gentianæ Compos.

Auricula, the external part of the ear, which is divided into the upper part called pinna, and the lower soft part called the lobus.

Auriculæ Cordis. At the basis of the heart are observed two muscular bags, which are called its *auricles*; they are joined to the ventricles, into which they have openings. The right *auricle* receives the blood from the vena cava ascendens and descendens, then transmits it to the right ventricle; the left *auricula* receives the blood from the lungs, and sends it into the left ventricle.

Auricula Infima, the lobe of the ear.

Auricularis Digitus. The little finger is called the ear-finger, because with it we are most apt to rub or pick the inner ear.

Auricularius, belonging to the ear; also an ear-doctor.

Auricularum Septum, the division or partition betwixt the auricles of the heart.

Auriga, a name of the fourth lobe of the liver. Also a sort of bandage for the sides, described by Galen.

Auripigmentum, yellow orpiment.

Auripigmentum, i. e. *Realgar*.

Auris, the ear.

Auriscalpium, from *auris*, *an ear*, and *scalpo*, *to scratch*, an instrument to pick and cleanse the ears from wax, &c.

Aurium Sordes, the ear-wax.

Aurum. See *Gold*.

Aurum Fulminans, a preparation made by dissolving gold in *Aqua-regia*, and precipitating it with salt of tartar; whence a very small quantity of it becomes capable, by a moderate heat, of giving a report like that of a pistol. It is also said to be a good medicine for lowering a salivation, or where too much mercury has been used.

Aurum Potabile. If it would be of any service in medicine, it were very easy, by means of chemistry, to reduce the body of gold into a liquor, that might be taken internally, with the utmost safety.

Austere, is a rough astringent taste, arising, according to Scribonius Largus, from an union of earthy and tartareous particles; and according to the Cartesian philosophy, from obtuse-angled figures. Sylvius takes a great deal of pains to show how these generate the stone; and likewise how they do service in particular cases.

Automaton, αυτοματον, expresses properly a machine that hath the power of motion within itself, and which stands in need of no foreign assistance.

Autopsy, αυτοψια, from αυτη, *ipsa*, *one's self*, and οψις, *visus*, *sight*; signifies the same as ocular demonstration; seeing a thing one's self.

Avellana, the hazel-nut.

Avena, oats, a genus in Linnæus's botany. He enumerates twenty-one species. The college hath directed the seed of Avena Sativa, Lin. or Common Oat.

Avoir du Pois. This in the French language, signifies *to have weight*, because the pound so called, contains sixteen ounces, and hath more weight by some ounces than that which is called *Troy weight*, which contains twelve ounces.

Axilla, the cavity under the upper part of the arm, called the arm-pit.

Axillary Artery. The subclavian *artery* having left the thorax immediately above the first rib, in the interstice between the portions of the scalenus muscle, there receives the name *axillary*, because it passes under the axilla.

Axillaris Nervus, the axillary nerve; also called the articular nerve. It arises from the last two cervical pairs; it runs in the hollow of the axilla, behind the head of the os humeri, between the musculus teres major and minor, and turns from within outwards and backwards, round the neck of the bone, and runs to the deltoid muscle.

Axillaris Vena, the axillary vein. It is the continuation of the subclavian vein, in its passage out of the thorax to the opposite side of the axilla.

Axiom, a self-evident proposition; so it neither requires nor admits of demonstration.

Axis, that round which any thing revolves, or is supposed to revolve. It also expresses that quiescent right line of a vessel, which is always equi-distant from the sides.

Axis. In *Botany* it is a taper column placed in the centre of some flowers or katkins, about which the other parts are disposed.

Axis, the name of the second vertebra (according to some, of the first, and to others the third) of the neck, reckoning from the head downwards. This second vertebra hath a tooth which goes into the first vertebra, and this tooth is by some called the *axis*, by others the *axle*.

Axis Arteriæ Cœliacæ, i. e. *Cœliaca Arteria.*

Axungia, hog's-lard, so called from its use of *unguenda*, *anointing*, *axem*, *the axle*, of a chariot or such like.

Axungia de Mumia, marrow.

Axungia Vitrea, sandiver, or salt of glass. It separates from glass whilst it is making; it is acrid and biting. It has been used to clean the teeth.

Azalea, American wild honeysuckle, a genus in Linnæus's botany. He enumerates six species.

Azedarach, the bread-tree, a species of *Melia.*

Azote, or *Azotic Gas*, exists in a large proportion in the atmosphere; is so named from its fatal effect on the lives of animals, which, as well as combustion, it quickly destroys and extinguishes. Dr. Priestley called this elastic fluid phlogisticated air. See M. Fourcroy's Elements of Natural History and Chemistry.

Azote, from α priv. and ζωη, *vita*, *life*, is a name in the French chemical nomenclature for the basis of atmospherical mephitis, or phlogisticated air. This term is applied because the air which azote chiefly assisted to compose possesses no vital properties, and was, in some of its modifications, directly noxious. The term was allowed, by the academicians who proposed it, to be faulty and exceptionable. It was too vague and indefinite; including all the radicals of the gases except that of oxygenous gas, which is the only one that is not properly azotic or unvital. It has by some been very improperly called *Nitrogene* and

Alkaligen. A proposal has also been made to call it *Septon*, or "the corrupter," from its disposition to disorganize and break down the structure of all organized bodies into which it enters. See *Septon.*

Azoth, the same as *Azoch.* Paracelsus also signifies by it the universal remedy prepared of the sun, moon, and mercury. *Azoth* is also taken for the liquor of sublimed mercury, or quicksilver, mixed with vitriol and salt, and so sublimed, which is also called *Aqua Permanens*, *Crystalli Philosophorum*, and *Luna Physica.*—*Azoth* is a name for brass. It sometimes signifies the mercury of any metallic body.

Azotic Gas, azote, or septon, united to as much caloric as to be rendered volatile, or turned to an aëriform fluid. This is the air which constitutes about three-fourths of the atmosphere, the other fourth being oxygenous gas. Between these two gases there is no chemical union, in the ordinary state of things; the mixture being merely such an one as exists between oil and water shaken together, where the particles indeed of the one fluid are interspersed with those of the other, but still not united with them. The great use of azotic gas seems to be, to temper the excessive stimulant properties of oxygenous air, and thereby lessen the injurious consequences that would result from an atmosphere of this air alone. It is supposed to minister largely to the nourishment of plants, and some late experiments have led to a similar belief in respect to animals. It combines readily with water, which it elevates from the surface of the earth above the summits of the highest mountains, and lets it fall in the form of rain, giving rise to showers, steady rains, hail, snow, sleet, fog, mist, dew, and hoar-frost. This easy association of azotic air with water had led some experimenters into a persuasion that the whole of any given quantity of water is convertible to azotic air; and, consequently, that, *vice versa*, azotic air is capable of being changed to water. The later experiments of Dr. Priestley lead to this conclusion, though they are not conformable to the other and more fashionable opinion, that water is resolvable into hydrogenous and oxygenous airs. See *Septous Gas.*

Azure Blue. Zaffre mixed with fixed alkaline salt, and brought into fusion by an intense heat, is changed into a glass of a very deep blue colour. This is powdered, then sold under the name of *azure blue*, *azure enamel blue*, &c.

Azygos, a name of the *Os Sphenoides.*

Azygos, ἀζυγος, from α priv. and ζυγος, *a pair*, without a fellow. The musculus *azygos* of Morgagni rises tendinous from the junction of the ossa palati, and runs down the palatum molle to the middle of the uvula, serving to elevate it.

Azygos Processus. See *Sphenoides (os.)*

Azygos Vena, a vein so called, because it hath no fellow. It is also called *Vena sine pari* and *jugo.* The *azygos* is a considerable branch of the *Cava.* It descends through the right side of the cavity of the *Thorax*, and at its arrival at the eighth or ninth vertebra, it begins to keep the middle, and sends forth on each side intercostal branches to the interstices of the eight lower ribs, and there is divided into two branches, of which the larger descends to the left, betwixt the processes of the diaphragm, and is inserted, sometimes into the cava above or below the emulgent, but oftener into the emulgent itself. The other, which goes down on the right, enters the cava commonly a little below the emulgent, but is very seldom joined to the emulgent itself.

Azymos, αζυμος, from α priv. and ζυμη, *ferment*, unfermented bread, as sea-biscuit, which, as Galen says, is not very wholesome, except where the digestive powers are too strong.

B

BACCA, a berry, in *Botany*, is a fleshy or pulpy pericarpium without valve, the seeds within which have no other covering or cell, as in the gooseberry, &c.

Baccæ, are small roundish fruit that grow scattered upon trees and shrubs, and in that are distinguished from *Acina*, which are berries hanging in clusters.

Balanus, the glans or nut of the yard.

Balaustium, the double flowered wild pomegranate-tree. It is the *Punica granatum*, *varietas plena major*, Linnæus. Properly *balaustium* is the cup of the flower of this tree.

Ballstown-Springs, mineral waters in the State of New-York, about fifteen miles north of the Mohawk River, at Schenectady. They contain as much carbonic acid as they can dissolve, and the overplus rises through to the surface in large bubbles. This air, when collected in vessels, is found to extinguish flame, to render lime-water turbid, and to be capable of being poured from one vessel into another like a liquid, as Dr. Mitchill experienced. It soon escapes in the open atmosphere. Bread can be made light and spongy with this aërated water without the aid of yeast; for, on mixing it with flour into dough, and putting it quickly into a baking-pan, the carbonic acid is extricated by the heat, and made to puff up the mass very beautifully. Beside carbonic acid, the Ballstown waters contain a small quantity of iron, the yellow oxyd of which is deposited upon the stones over which they run. They contain also a large quantity of neutral salts. Persons on first tasting them have rather a disrelish for them, but on drinking a few times grow very fond of them. The waters are agreeably stimulant to the stomach, and powerfully diuretic; they possess also a moderately purgative quality. Many valetudinarians resort to them for the benefit of their health; and the place has also become a fashionable resort for well persons who wish to pass a few weeks agreeably during the hot season. See Dr. Seaman's Dissertation on these waters.

Balneum, from βαλλω, *to cast away*, and ανια, grief. This word properly signifies the *hot bath* only; and under this head we shall consider only the general and partial warm baths, referring for *cold bathing* to the article *Bathing*.

Warm bathing gives a softness and flexibility to the skin and muscles; and from some rarefaction of the blood, or from its determination to the surface, increases the bulk. It seems to increase all the secretions, as it certainly does those of the skin; nor after the sweat excited by bathing is the perspiration diminished, though the increase of any evacuation, in general, occasions a temporary suppression afterwards: the pulse becomes fuller and quicker; the face flushed; the respiration laborious. A moderate stay in the bath increases the spirits as well as the activity, and improves the general health: continuing in it too long induces languor and debility.

We do not recollect any direct experiments on this subject but those in a Thesis by Dr. Parr, which have been generally copied in every subsequent publication. He tried the effects of warm bathing at 96°, 98°, 100°, 102°, 104°, and 106°, of Fahrenheit. At 96°, the general effects above mentioned were observed; the pulse, if at first slightly quickened, was soon natural; the respiration, in the earliest period a little more rapid, soon became free and easy, and but little change was produced in the heat of the body.

At 98° the pulse was slightly increased in quickness, and did not subside; but the heat appeared to remain stationary. There was no sweat, though a free copious perspiration: the urine was not increased; and, after some time, the pulse became slower than before the bathing. The cuticle was observed to be slightly corrugated.

At 100° the pulse was increased from 60° to 72°; the respiration much affected; the face red and swollen, and a copious sweat broke out: the cuticle appeared more corrugated. The heat was raised two degrees; and, after about ten minutes, faintness came on. The perspiration was free and copious; and, after a short time, every disagreeable symptom vanished; the pulse sinking a little below its natural standard.

At 102° the pulse was soon raised from 68° to 100°, and, in ten minutes, the sweat on the face was copious, the vessels turgid, the skin not corrugated, and the heat of the body raised from 98° to 102°. A beating noise was heard in the head; and, in half an hour, giddiness came on. When laid between blankets, the sweat was copious and free, the pulse soon became natural, and the quantity of urine was not increased.

At 104° all these appearances were still more striking and more rapid: a vertigo coming on, at the end of about twenty minutes, put a stop to the experiment. At 106° the effects came on still more quickly and more violent. The faintness and sickness supervened more early; the sweat was more copious, but the frequency of the pulse did not subside even after twenty-five minutes. From these experiments, seemingly made with care and attention, we perceive that little is to be dreaded from the stimulating effects of the hot bath under about 102°; and that, probably, under 94° it has no peculiar or appropriate power. As the limits of the cold bath we shall find to be about 84°, the temperature, in the interval, has the effects of neither. Above 102° the warm bath determines powerfully to all the extreme vessels, particularly to the head and breast; and at this temperature it must be used with caution, when the contents of either are disordered. The balance between the urine and the skin is nearly even at about 98°. Dr. Cullen supposed the effects of the warm bath to arise wholly from the relaxation of the skin, and, of course, the diminished pressure of that peripherical band which confines the fluids. Though correct to a certain extent, this view is too simple to explain all the benefit derived from the remedy. It will undoubtedly account for the determination to the skin, and, joined with the stimulus of the heat, to the evacuations occasioned by warm bathing. When we reflect however that the sub cutaneous nerves, as closely connected with the skin as the vessels, are subject to this relaxing warmth, we must suppose some of the benefit to be derived from this source also. In higher degrees, the stimulus we shall find to be very advantageous. The state of the extreme vessels is soon communicated to other organs; and as these in every part of the body sympathise with the vessels of the surface, a considerable relaxation must be thus obtained. In a certain degree their increased action gives a tone to the nerves; and we may therefore suppose that their relaxation produces an opposite state. In this way the effects on the nerves may be explained without supposing any immediate effect of the bath on the nervous system; and we thus see how moderate heat may relax, and a higher temperature give a tone to the nerves.

Two other opinions must be noticed. One of these is the general language of relaxing contracted ligaments, as if from the external action of warm water, the subjacent parts were macerated like the skin. There is not the slightest evidence of the fluid penetrating beyond the surface; indeed the oily fluid below the skin must prevent it; and, from what has been said, its immediate contact will appear to be unnecessary in the explanation of the effects of bathing.

Dr. Stevenson has attributed all the effects of warm bathing to a rarefaction of the blood; and this idea is supported by all the appearances of external fullness. The language is echoed in every medical work without careful examination. In fact, the blood is one of the least expansile fluids by heat which has ever been tried. Sauvages enclosed it in a thermometrical tube, and found that at 212° it did not expand $\frac{1}{100}$ part. Haller exposed it to a still greater heat with the same result. Indeed, the expansility of fluids follows no given law. Æther and quicksilver are nearly equal in this respect; at least, as we were informed by Dr. Black, who had tried the experiment, the difference was very inconsiderable.

In the cure of diseases, therefore, the beneficial effects of warm bathing are to be expected from its relaxing power; the increase of the circulation in the extreme vessels; with the perspiration excited, and its general stimulus. In *melancholy*, its effects as a relaxant are most conspicuous; and in some spasmodic diseases without inflammation, particularly *tetanus*, it has been useful. In *ileus* it has been highly commended; but we have suspected that it hastens the progress of mortification, and are convinced that its free use has had injurious effects. Dr. Heberden however, in the Medical Transactions, mentions the case of a woman who went into the bath nine times in one day, while labouring under an ileus in consequence of a hernia. In the *spasmodic asthma* of children it has been employed with success. In the *croup* also it has been commended, but scarcely any benefit has been derived from its employment.

Modern theory supposes a spasm on the extreme vessels to prevail in case of FEVERS; and warm bathing must, of course, be a remedy of importance. We are not prepared to discuss the question of the cause of fevers, but may remark, that the circulation during the paroxysm is not carried on in the smaller branches of the sanguiferous system. In *intermittents* it has consequently prevented the return of a fit; and in *continued fevers* it is often highly useful. In the beginning of continued fevers it is, however, less advantageous than in their decline; and in this state the bath must be supplied by the pediluvium, or, more commonly, by warm fomentations to the legs and thighs. In *inflammatory fever* it is less useful; yet at 98°, where the action of the heart and arteries is scarcely, if at all, increased, it may safely be employed; and Dr. Whytt, on the fourth day of this fever, has used it with advantage. In the latter period of *typhus*, when the low delirium occurs, it has been freely employed, and at least with some alleviation of the symptoms, if not with more decisive advantages; and should even inflammation have taken place in the brain, as it is of a less active kind, no injury is likely to result. Dr. Whytt supposes that fomentations are less useful than pediluvia; but in the low state to which the patient is usually reduced before the bath is employed, the former only are admissible. It will be remarked, that in vapour greater heat can be borne than in water; and, consequently, when the fomentation is properly employed, the heat of the flannels is seldom less than 120° of Fahrenheit.

Of the *exanthemata*, the only disease in which bathing has been employed, is the *small-pox*. In Upper Hungary, Fischer has described it as the domestic remedy for this disease; and, in an epidemic small-pox of considerable virulence, by imitating this practice, he was very successful. Dr. Stack, in his Thesis published at Leyden, has shown that variolous fevers threatening a copious eruption, were mitigated by warm bathing, and the disease proceeded mildly and safely. When the eruptions are repelled also, it has been very useful. The heat of the bath should be carefully regulated, and should certainly not exceed 100°.

In *hæmorrhages* and *phlegmasiæ* the use of bathing is equivocal; yet, with caution, it has been employed in the latter successfully.

In *amænorrhæa* from cold it has been useful; and such is the popular prejudice in favour of pediluvium, that it is too indiscriminately used. It is chiefly adapted to the strong and robust, where the suppression has been owing to a violent occasional cause. In the pain from *stone* in the *ureters*, or the *gall ducts*, from its relaxing power, it is a valuable remedy.

From its power of determining to the surface, it is useful where any acrimony is to be discharged, or any unequal balance of the circulation is to be removed. In the former view we find it employed in *cutaneous diseases* and *syphilis*; in the latter, in *chronic catarrhs* and *diarrhæas*. In the first it chiefly assists the effects of mercury, and in the latter only supplies the advantages of a milder climate. In *hydrophobia* it has been employed, though with no very particular success. The ancient physicians used it in their complicated form, but concluded with immersing the patient into the piscina, the cold bath.

As a stimulus, the warm bath has been found very useful; and in the diseases for which it is most successfully employed, the heat must be raised very high, far beyond that used in the experiments described. To this high degree of heat the peculiar virtues of the Bath waters are to be attributed, rather than to their impregnation. They are assisted also by the percussion in pumping on an affected part; a mode of application which greatly adds also to the tonic power of the cold bath.

In cases of *hæmiphlegia* there have been many doubts respecting the use of the warm bath. These chiefly arise from the disease being often occasioned by effusion on the brain, which the necessary stimulus might increase; and many instances have been adduced of its producing in such cases a fatal apoplexy. Undoubtedly, where marks of a determination to the head are strong; where the patient has not passed the meridian of life; or where the vessels have been stimulated by a continued excess of wine and spirituous liquors; warm bathing is a precarious remedy. In palsies in general, however, it may perhaps be allowed; and, as we have said, in amaurosis: so we shall find in hæmiphlegia, that the effusion having once taken place, the disease is continued in consequence of the injury which the nervous system has received from the compression. We may then disregard the cause, except in the younger and more inflammatory constitutions just described. It should, however, be managed with caution: a drain from the head should be established by a perpetual blister, and the bowels freely emptied previous to its employment.

There is little management required in the use of the balneum in *chronic rheumatism*. It is a disease nearly allied to palsy, as the vessels, from the previous distension, are rendered paralytic, and contract spasmodically on fluids, probably in too large a proportion. The warm bath is particularly useful, and often alone will cure the disease. In that species of it confined to the hip joint, *sciatica*, bathing and pumping on the part affected, is a very valuable remedy.

In the hip joint also, the relaxation of the ligament often occasions or endangers dislocation. It is the *morbus coxarius* of Dr. Haen; the *arthropnosis* of other authors. If it has not yet advanced to a suppuration, the Bath waters have certainly relieved a large proportion of those who have applied for their assistance; nor need we despair of imitating their effects by employing an equal temperature, and pouring it from a height. It would not require any great ingenuity to contrive a hand pump fixed in a reservoir, which is continually filling from cocks conveying boiling and cold water. The size of the aperture, or the number of cocks conveying cold water, might easily regulate the heat. A common garden engine might be readily converted to this purpose.

Contracted limbs are greatly benefited by warm pumping, and gradually moving the limb during the relaxation obtained. Dr. Blegborough, in these local diseases, has contrived a receptacle for the part from which the air is exhausted while the vapour is applied; but this seems unnecessary. If the vapour is confined, all the benefit will be obtained without previous exhaustion; or, in reality, the vapour itself, by rarefying the air, will exhaust the vessel sufficiently.

The warm bath, if the temperature is too high, will certainly be injurious to the plethoric, or those disposed to any accumulations in particular parts, unless they are such as the bath may dissipate. In the weak, the relaxed, and the irritable, it is hurtful; and hence the indiscriminate use of pediluvium in chlorosis and amænorrhœa has been highly injurious. In both views it is injurious in hectic fevers, and in schirrosities of the liver. Hoffman thinks it hurtful in asthma; and it will be seemingly so from its effect on the respiration. Dr. Falconer differs from him in this respect; and on trial, in convulsive asthma, it has not seemed particularly injurious, though so much benefit was not derived from it as to induce a repetition. Those subject to hæmorrhage should be cautious in its use; and, in general, danger may attend its employment after any agitation of mind or body, which greatly quickens the circulation. The Romans used it in the time of the emperors after a full meal: the practice is reprobated by Juvenal and Horace, rather as a luxurious than a dangerous indulgence.

After the bathing, sweating between flannels is generally enjoined; but if we wish to employ it as a stimulus, a copious perspiration should not be too freely indulged. The contracted vessels should be excited to action, but their powers should not be exhausted.

Fomentations and embrocations are partial warm baths, and supposed to derive some virtue from their impregnations; but in general the heat and moisture, when the latter are used warm, are the most beneficial agents.

Warm baths, *impregnated with different medicinal substances*, are said to derive, from these, peculiar advantages. We know of no instance in which the waters of Bath have been imitated for external use. Those of Harrowgate have been prepared by adding sulphurated kali to water, in the proportion of two ounces to a sufficient quantity of fluid for a bath. They are chiefly used in cutaneous complaints, but we have had no experience of their efficacy.

An impregnation of warm water, though not an artificial one. is employed in *warm sea-water*. This bath is supposed to be a more active stimulant than common water, and to be more useful, not only in palsy, but from the absorption of its salts in scrophulous complaints. We have reason to think that its powers are considerable; and it may be used at a low temperature in constitutions that cannot bear the shock of cold immersion, and in weak habits as a good preparative for sea-bathing. The greater weight and pressure of salt-water has been supposed to render it more useful as a bath than fresh. It certainly is so; though, during the short immersion, we cannot easily perceive how any advantage can arise from its weight. In pumping, or pouring from a height, the momentum is certainly greater, and the advantages are proportionally increased.

Near smelting huts it is not uncommon to impregnate baths with the scoriæ of iron, and sometimes with the mixed slag of copper, cobalt, &c. The slags and scoriæ are immersed in water while hot, or heated again for the purpose; and the baths thus prepared are supposed to be peculiarly useful as tonics. With a similar view, it has sometimes been a practice of boiling alum and quick-lime together for a bath.

Scheutzer describes the pepper-water of the Alps, which was formerly highly esteemed as a bath. It breaks out in a place almost inaccessible with great impetuosity in the spring, and continues till near October. The water, however, according to this author, contains no particular mineral.

The vapour bath conveys heat less speedily than water, but a greater heat can be borne, and for a longer period. This, in reality, was the warm bath of the Romans, as it is of the Swedes, Russians, and the native Americans; and it is probably more efficacious, both as a relaxant and a stimulant. It is certain, that water in a vesicular state is more powerful in its hygrometical affinity than when fluid; and Saussure, when he fixed the extreme point of moisture in his hygrometers in water, found that the index, in a fog, passed beyond it. This was our meaning when we remarked that man could live in air *beyond* the point of extreme humidity.

A bath of a different kind is that of *warm sand or earth*. The former is used by sailors in scurvy; the latter, we believe, has only been employed by quacks. We remember attending some experiments of this kind. A glowing heat was felt in the parts surrounded by the earth, but we remarked no peculiar change in the countenance that would lead us to suppose it a powerful remedy, and certainly no disease was relieved by it. The complaints to which it is apparently best adapted are cutaneous. See Edinb. Med. Comment. Decad. 2d. vol. x. p. 153; also among the ancients, Hippocrates, Celsus, Cœlius, Aurelianus, Aretæus, and Trallian; and among the moderns, Sir John Floyer, Dr. Wainwright on Bathing, and particularly Hoffman.

Balneum is a word much used by chemists, and generally signifies a vessel of water, in which another is placed that requires a less heat than the naked fire: but their *Balneum Mariæ* is a mistake for *Balneum Maris*, which signifies only a sea or water-bath. A sand-heat is also sometimes called *Balneum Siccum*, or *Cinereum*. But what comes more properly under this term in medicine, are *baths* which are made so by art or nature, to wash the patient in. The artificial *baths* have, by the ancients, been in great esteem, and contrived for many purposes, especially in complaints to be relieved by revulsion; as in inveterate head-achs, by opening the pores of the feet; and also, in cutaneous cases they were much in esteem. But the modern practice has greatest recourse to the natural *baths*. The cold *baths* are only the most convenient springs or reservatories of cold water to wash in. They have been long banished out of medicine by a monkish philosophy and chemistry; for the ancients had them in great esteem; and, by good luck, some improvements in physical reasoning, from the assistances of geometry and mechanics, have brought them into tolerable countenance again; and the present age can produce us abundance of noble cures performed by them.

Balneum Arenæ, Balneum Siccum. The *Sand-Bath.*

Over the mouth of a common wind furnace place one end of an iron plate with a ledge round it, and under this plate the canal must run, by which the furnace communicates with its chimney; the plate must then be filled with sand or other dry matter for placing the medicines to be digested in. The heat from the fire will be different in different parts of the plate; and thus, as more or less warmth is required, different situations are chosen.

The vessel containing the matter to be heated hath its bottom and sides totally covered with the sand, and there it is continued until the digestion is completed.

Ashes may be used in this bath when a lesser heat is wanted, sand for a greater, and iron filing for the greatest.

Balneum Mariæ, vel *Maris*. The *Sea-water Bath;* which admits of greater heat than boiling water, though sometimes it implies this only. In this bath, water supplies the place of sand; and when a greater heat than that of boiling water is not required, this method of digestion is preferable to that by the sand-bath, because the heat cannot exceed at any time that which is required.

Balneum Siccum. See *Balneum Arenæ.*

Balneum Vaporis. A Vapour Bath. This is properly when the vessel containing the matter to be digested is exposed only to the steam that arises from boiling water.

Balsams. Balsams are fluid, odorous, combustible substances, that communicate a sweet taste to water, and contain concrete acids, which may be obtained by sublimation or decoction. Chemists are not agreed as to the difference between balsams and resins.

Balsam of Copaiba. A yellow resinous juice, of a moderately agreeable smell, and a bitterish biting taste, that remains a long time in the mouth. It is obtained from the *Copaifera officinalis* of Linnæus, by making deep incisions near the base of its trunk. The juice flows so freely as to afford twelve pounds in about three hours. Balsam of Copaiba, like most other balsams, is nearly allied to the turpentines, with which it is always mixed in the shops. It was formerly thought to be a very efficacious remedy. It determines very powerfully to the kidneys, and impregnates the urine with its qualities. It is given principally in gonorrhœas, phthisis pulmonalis, fluor albus, and in nephritic complaints.—Gts. x. to lx.

Balsam of Gilead. Balsamum de Mecca. Opobalsamum. Balsamum verum. This resinous juice, obtained by making incisions into the bark of the *amyris gileadensis* of Linnæus, is of a light yellow colour, of a bitter, acrid, adstringent taste, and of a very strong smell, resembling that of lemons. The chief mark of its goodness is said to be founded on this, that when dropped on water, it spreads itself all over the surface, forming a thin pellicle, tough enough to be taken up upon the point of a pin, and at the same time impregnating the water with its smell and flavour. Its virtues are similar to those of the Canada and Copaiba balsams.

Balsam of Peru. Balsamum peruvianum. The tree which produces this resinous fluid is described by the younger Linnæus by the name of *Myroxylon peruiferum.* Two species of this balsam are imported into this country—the common or black, and the white. The first, which is chiefly used, is about the consistence of a syrup, of a dark, opake, reddish brown colour, inclining to black, and of an agreeable aromatic smell, and a very hot pungent taste. The white balsam, called also white storax, is brought over in gourd-shells, and is of a pale yellow colour, thick and tenacious, becoming, by age, solid and brittle. They are esteemed as warm nervine medicines, and are sometimes used by surgeons in certain conditions of wounds and ulcers.—Gts. iv. to xv.

Balsam of Tolu. This juice, which is considered as a true balsam by modern chemists, is of a reddish, yellow, transparent colour; in consistence thick and tenacious; by age it becomes so hard and brittle, that it may be rubbed into a powder between the finger and thumb. Its smell is extremely fragrant, somewhat resembling that of citrons: its taste is warm and sweetish: on being chewed it adheres to the teeth. Thrown into the fire it immediately liquefies, takes flame, and disperses an agreeable odour. The tree which affords this balsam, from incisions of its bark, is the *Toluifera balsamum* of Linnæus, which grows in South-America, between Carthagena and Honduras. Tolu balsam possesses corroborant, stomachic, and nervine qualities. It has been chiefly used as a pectoral, and is directed in the Pharmacopeias in the *syrupus tolutanus*, *tinctura tolutana*, and *syrupus balsamicus.*—Gts. v. to ℈i.

Balsamics. A term generally

applied to substances of a smooth and oily consistence, which possess emolient, sweet, and generally aromatic qualities.

Balsamum Canadense. One of the purest turpentines procured from the *pinus balsamea* of Linnæus, and imported from Canada. For its properties, &c. see *Turpentines.*—Gts. x. to xl. or more.

Bangue, an Indian plant whose stalk resembles that of hemp. Its seeds and leaves are heating, and strangely affect the imagination.

Barba, a beard. In *Botany* a species of pubescence covering the surface of plants.

Barbadoes Oil, a variety of the black species of *Petroleum.* It is opake and thick, like treacle.

Barbary-bush. See *Berberis.*

Bardana, burdock.

Bardana Major, clôtburr, or great burdock. *Arctium lappa* of Linnæus. A plant which grows about waste grounds, and in hedges. The Pharmacopeia directs the root for medicinal use: it has no smell, but tastes sweetish, and mixed, as it were, with a slight bitterness and roughness. It does not appear to possess those qualities which have been attributed to it; yet, as a diuretic and pectoral, in form of decoction, it has some claim to our attention.—ʒ i.

Bardana Minor, lesser burdock, or louse-burr.

Barilla. Soda. Natron. The plant from which this mineral alkali is principally procured, is the *Salsola kali* of Linnæus, which is cultivated on the coast of the Mediterranean. The plants, about the time the seeds become ripe, are pulled up by the roots, and exposed in a suitable dry place, where their seeds are collected; this being done, the plants are tied up in bundles, and burned in an oven constructed for the purpose, where the ashes are continually stirred, while hot. The saline matter falls to the bottom, and, on becoming cold, forms a hard solid mass, which is afterwards broken into pieces of a convenient size for exportation.

This alkaline salt has been supposed to be a decomposition of the sea-salt of the kali-plant, by fire, during its incineration. This, however, is a mistake; for the quantity of alkali is very far greater than the amount of sea-salt which could be extracted by any process before burning. If the plant be not completely burned, or if it be rotten, very little barilla is obtained. Barilla, however, always contains a portion of sea-salt, either naturally or intentionally mingled with it. Hence it appears that the alkali is the creature of the fire, produced by synthesis in the act of burning these maratime plants, as pot-ash is during the combustion of oak, beech, and other upland vegetables. Barilla is the commercial name for this article, and in the shops of apothecaries it is known by the term of soda, or sal sodæ. It is a precious article of the materia medica. It is mild, and possesses but little causticity, and therefore may be prescribed with great safety, even to delicate constitutions and tender infants. Dissolved in water, soda or barilla is an excellent cleanser of the mouth from febrile, syphilitic and ulcerous sordes. It is even the most pleasant mouth-wash and preserver of the teeth for persons in health; destroying the septic acid, and all other acidity about the teeth, without inflaming or in the least injuring the gums or other parts of the mouth. It renders the teeth smooth, and destroys the fœtor of the breath. Taken into the stomach, soda is an admirable remedy for the heart-burn and pain and uneasiness caused by acids there. In the dysentery, it is one of the best of all medicines; for if administered in the early stages of the disease, its beneficial effects are soon perceptible. It neutralizes the septic acidity of the fæces, relaxes the spasms of the guts, heals up the ulcerations, if there be any, and acts as a gentle purgative. If tenesmus is violent, it may be given most advantageously in clysters, and in this way it almost immediately gives relief. Another advantage of prescribing soda in dysentery is, that the offensiveness of the stools is almost wholly destroyed by it, and their infectious quality entirely prevented and overcome. Those foul and intolerable evacuations which render a dysenteric patient so horribly offensive, and oftentimes considerably dangerous to the attendants, are unknown to the alkaline mode of practice. In the diarrhœa infantum barilla is also a safe and pleasant remedy, very neat and easy to be administered. A weak solution of it in water is a good wash for eruptions upon the skin, and for foul blotches and unsightly spots. See *Bile*, *Nitre*, and *Soda*.

Barley. See *Hordeum*.

Barometer, from βαρος, *a weight*, and μετρον, *a measure;* frequently called *Torricellian Tube*, from Torricelli, its inventor. It is an instrument for measuring the weight or pressure of the atmosphere; and by that means the variations in the state of the air, foretelling the changes in the weather, and measuring heights or depths, &c. About the beginning of the 17th century, when the doctrine of a plenum was in vogue, it was a common opinion among philosophers, that the ascent of water in pumps was owing to what they called nature's abhorrence of a vacuum; and that thus fluids might be raised by suction to any height whatever. But an accident having discovered that water could not be raised in a pump unless the sucker reached to within 33 feet of the water in the well, it was conjectured by Galileo, who flourished about that time, that there might be some other cause of the ascent of water in pumps, or at least that this abhorrence was limited to the finite height of 33 feet. Being unable to satisfy himself on this head, he recommended the consideration of the difficulty to Torricelli, who had been his disciple. After some time Torricelli, fell upon the suspicion, that the pressure of the atmosphere was the cause of the ascent of water in pumps; that a column of water 33 feet high was a just counterpoise to a column of air of the same base, and which extended up to the top of the atmosphere; and that this was the true reason why the water did not follow the sucker any farther. And this suspicion was soon after confirmed by various experiments. See *Atmosphere*.

It was some time, however, before it was known that the pressure of the air was various at different times in the same place. This could not, however, remain long unknown, as the frequent measuring of the column of mercury must soon show its variations in altitude; and experience and observation would presently show that those variations in the mercurial column were always succeeded by certain changes in the weather, as to rain, wind, frosts, &c.: hence this instrument soon came into use as the means of foretelling the changes of the weather, and on this account it obtained the name of the weather-glass, as it did that of barometer from its being the measure of the weight or pressure of the air. We may now proceed to take a view of its various forms and uses.

are well known. The whole body is contracted; the bulbs of the hair are conspicuous; and the skin, resembling that of a newly plucked goose, has been styled cutis anserina. The debility and tremor are considerable; a sense of weight is felt in the head; the respiration is quick and laborious. These appearances are followed by a very different series. A glow soon returns to the surface; the weight in the head is almost instantaneously relieved, and every function appears to be carried on with increased activity. If a person stays for a longer period in the cold bath, the glow will be slighter and soon disappear, while every previous symptom of debility will return and continue.

Few experiments have been made on the effect of the pulse after cold bathing. Dr. Stock has, in the trials he made, found in general the pulse quicker and weaker after immersion; in a few instances only, slower. The writer of this article has found similar results; but the pulse, felt at a more distant period than that mentioned by Dr. Stock, has been usually more slow and full. In a slight feverish complaint, the quickness of the pulse was greatly mitigated. Other authors have found the pulse much slower, but this was the consequence of partial cold only.

If the immersions are at due intervals repeated, and the stay in the bath be not improperly continued, the general health and spirits are greatly improved; the different necessary evacuations properly carried on and supported; and the body and mind appear to act with increased vigour.

The explanation of these phenomena is not difficult. The cold, by its sedative power, represses the circulation in the extreme vessels, and the fluids are accumulated in the larger arteries and veins. Whether the distension excites the action of the former; whether in consequence of repressed irritability it is afterwards restored with greater vigour; or whether the vires medicatrices *re-act* to conquer debility; we must not now inquire: but in every such circumstance, from one of these causes, the circulation is again restored with additional activity. The repetition of cold bathing produces tonic effects, which we are inclined to attribute to the frequent exertion of this re-acting power.

According to the management of this remedy, we may therefore secure very different and opposite effects. A sudden change in the determination of the blood and nervous power, assisting its re-action, will produce a very different effect from the *continued*, and this again from the *repeated*, application; a distinction necessary to be attended to, in considering the different diseases in which the application of cold water has been considered as a remedy.

From the sudden changes in the determination of the blood it has been employed in many diseases, and particularly to prevent or remove the paroxysms of an *intermittent*. In the attack of this disease, there is a similar change of determination to that which has been described from the effects of the cold bath; and it is relieved by a similar exertion of the constitution. The cold bath therefore may be supposed to excite that exertion, and to render the subsequent relief more permanent and effectual; or, if the determination to the skin from the bathing has come on, the fit may be wholly prevented. The plan certainly has succeeded, and it is mentioned by Senac to have been useful even after the cold fit has appeared. (De reconditá Febrium Natura, p. 218.)

If *continued fevers* are only intermittents whose paroxysms run into each other, so that the earlier stages are less observable, we may see some foundation for its use in these also. Remittents are confessedly of the same nature as intermittents; and in the Breslaw fever (the *trytæophya Wratislaviensis* of Sauvages), De Hahn used the application of cold water with success. It brought on a glow of warmth; and, in the language of the ancient physician, *inde novi motus initium*. In some other cases of *typhus* it has been employed, seemingly with success; but in some late trials, at a period of the disease when the powers of nature were unable to excite these new motions, it was unsuccessful, and even dangerous. Dr. Currie's practice of cold ablutions we shall soon consider.

In *ileus* the practice of dashing cold water against the legs and thighs of a patient standing on a cold floor has certainly succeeded. It is mentioned by Brassavolus as the practice of Savanarola, and is recommended by Hoffman (iv. 349). The latest author who seems to have employed it successfully is Dr. Stevenson (Edinburgh Medical Essays, vi. 895). We remember having tried it with little advantage. If sudden immersion in cold water has prevented threatening paroxysms of hysteria and epilepsy, it must be referred to altered determination.

The debility occasioned by continuing long in the cold bath, has occasioned its employment in many instances, where the excitement of both the nervous and sanguiferous systems was morbidly increased. In cases of phrensy it has been employed with success; but the most striking instance of this kind is in Dr. Willis's work, De Anima Brutorum, p. 264. The most frequent cases in which its advantages have been conspicuous, occurred from phrenitic patients escaping their confinement and running spontaneously to a river or pond. Applications of cold water to the head are frequently employed; but the more general influence of cold must produce a more powerful effect. There may appear to be some danger from rupture of the over-distended vessels of the brain, but no such accident seems ever to have occurred.

In *scarlatina* Dr. Currie has lately shown the advantages of cold ablutions, and the necessity of continuing them steadily to obviate the violent heat which attends the paroxysms of this complaint; and he has been successfully followed with equal spirit and perseverance by Dr. Gregory. As the object is to abate heat, it is only used in this complaint when the heat is very violent, and continued until it is mitigated. In *small-pox*, accident has also shown its utility; and in the whimsical compilation of Dr. Baynard there are numerous instances of this kind. It has in this complaint also been continued till the extreme heat is repressed, and on returning to bed a gentle perspiration has come on; some of the pustules have filled, and the greater number in the skin have disappeared. Since the general progress of vaccination we shall probably have little occasion for this remedy, either communicated by air or water.

In *hæmorrhages*, cold bathing, or more frequently, cold applications, have been employed with the same views; nor, excepting in hæmorrhoids and hæmoptyses, has it been neglected: in the former, as a supposed critical discharge; and in the latter, from apprehension of accumulating the blood in the lungs. Cold drinks have, however, in hæmoptyses supplied their place; and it is doubtful whether the American practice of giving a solution of common salt may not derive part of its advantages from the cold of the water, which common salt however will not increase. The utility of nitre in all hæmorrhages, is certainly increased by the cold it imparts to water during its solution. Hippocrates remarks, that the cold should be applied "non *supra* ipsas partes, sed *circa* ipsas, unde profluit." The hæmorrhage most certainly relieved by cold is mænorrhagia, and particularly that of pregnant or puerperal women. It may be safely and advantageously carried to a very considerable extent.

In more *general fevers*, cold in every form is useful. In those of our own climate, cool air and cool drinks are perhaps sufficient. In those of warmer regions, however, the cold must be more actively exhibited. It is chiefly confined to such fevers as have considerable internal heat without topical affections; and whether with Hippocrates we give water ὡς ψυχρότατον; with Lommius and Avicenna apply cold water or snow to the extremities; with Celsus apply vine-leaves dipped in water to the pit of the stomach; the principle is the same. Paulus Ægineta recommends bathing; and in later periods it has been employed by Doctor Stevenson. But the most striking and satisfactory case is that of Sir J. Chardin in the Gombron fever of the remittent kind, related by himself, in which the coldest drinks, and the application of cold water externally, was of the greatest service. The Neapolitan physicians, following the ancients, according to the plans detailed by Lommius, give the coldest drinks; and if faint sweats come on, the water is if possible rendered still colder with snow and ice; for Cyrillus adds, that "a person who sweats while under this course, is in danger of losing his life by faintness." If cold drinks do not produce this effect, "the patient is uncovered, exposed to cold air, and continually fanned; and some have gone so far as to sprinkle snow powdered on the skin." The *plague* is attended with great internal heat, and cold applications have been found useful. Dr. Baynard has detailed many rambling stories of this kind, and we apprehend that they have been of service in our late experience of this disease in Egypt. Dr. Rush used cold applications with advantage in the yellow-fever.

In *mania*, cold bathing seems to have attracted the attention of Van Helmont, in consequence of an accident which happened to a carpenter at Antwerp, and he afterwards employed it designedly. The patient was immersed so long as was necessary to repeat, distinctly, the psalm "Miserere;" and though he would be often taken up apparently lifeless, Van Helmont adds, that he might be recovered; "since people do not die from being under water so soon as is imagined." It is however more to the purpose to remark, that this remedy is spoken of with respect by Boerhaave, and countenanced by Van Swieten.

The *repeated* action of cold bathing affords numerous opportunities of relieving some of the most troublesome and obstinate diseases to which the human frame is subject. Every complaint arising from debility in its varied forms and numerous consequences often yields to this remedy, when every other has proved ineffectual. *Palsy*, so often benefited by the stimulus of the warm bath, is greatly relieved by the tonic power of the cold; nor is the danger of its being improperly applied so great. It must not be used early in the complaint if the case is hemiphlegia, nor until every symptom of congestion is removed. The partial palsies will not require even this precaution; but the cold is more useful if the water is poured from a height, or thrown from a pump, on the part affected.

Chronic rheumatism we have said is a paralytic affection of overdistended vessels, and cold bathing is a singularly useful remedy. Sir John Floyer thinks it more beneficial if the patient is afterwards put between blankets to sweat. In the intervals of *gout*, if the patient is perfectly free from the disease, it is of service in restoring flexibility to the stiffened limbs, giving strength, and perhaps protracting, with safety, the return of the paroxysm. In stiffness of the joints from old *strains*, or any cause, it is useful; and the sea bathing has been supposed particularly so in *white swellings* of the knee. In other forms of *scrophula*, bathing and drinking salt water alternately are very serviceable.

In the *hæmorrhages* without fever, called by pathologists *passive*, and in the *mucous discharges from relaxation*, the tonic power of the cold bath is useful. In those little fevers, connected with debility, or owing to excess, it relieves; though it is doubtful whether it be from its tonic power, or in the language of Petron, from its exciting new motions. In *clorosis*, though it does not produce any very rapid benefit, it is often of the greatest service to the general health, and ultimately brings on the expected evacuation.

When *poisons* or *infectious miasmata* have been communicated to the animal body, we often find that they lie dormant, till some exciting and generally debilitating cause gives them activity. This renders cold bathing of use during the progress of an epidemic, and it is a valuable part of the prophylaxis. Bathing has been supposed also to prevent hydrophobia; but as few of the animals supposed to be mad are really so, and of those really bitten by mad animals, few are infected, the advantages from bathing are equivocal. If we look into the old authors, we shall find that bathing was employed with considerable severity, and with every circumstance that could agitate the mind and fix the attention. Tulpius, one of the chief advocates for the utility of this remedy, considers the mode of administration to be a very important part of the process; and it may have been so, for modern practitioners have not found it very successful. When narcotic poisons have been swallowed, and tremors, &c. have been produced, cold bathing has been very beneficial. Baccius mentions its efficacy against the poison of the juice of the mandrake. The Indians are recovered from the stupefaction occasioned by the datura, by moistening the soles of their feet with cold water; dogs stupified by the carbonic acid air of the Grotto del Cani, are recovered by being thrown into the neighbouring lake; and sailors recover their intoxicated comrades by a dip in the sea.

The spasmodic and convulsive diseases are relieved by the tonic powers of the cold bath. In chorea, though often used, it is less successful, and in tetanus there is seldom time for the proper action of this remedy, though it has been employed with advantage.

Sir John Floyer has remarked, that cold bathing is injurious in palsies when the patient is plethoric and feverish. It probably is so whenever any partial plethora or local obstructions exist in any of the more important viscera. Jaundice may perhaps be an exception to this opinion. In the passage of a stone through the gall duct it seems to have been of service; but it was probably in cases where the liver was otherwise sound. In some of the western islands, a patient in the jaundice is laid on his belly, and a pail of cold water unexpectedly thrown on his back (Smith's Curiosities of common Water). It is injurious also when the stomach is full, or when the patient has been previously weakened. A ruptured blood-vessel, or an incurable obstruction, may be the result of the former error; and in the latter case the constitution may not have sufficient power to restore the determination to the surface. When the body is heated it is also dangerous to bathe, though the young and strong transgress this rule with impunity.

Bathing *in the Sea* is on the whole preferable, as the heat is more uniform. It is, we think, also, perhaps from the agitation of the water, more refreshing. Other causes of preference have been assigned: one is, the greater pressure of the water impregnated with salt; the other, the stimulus of the salt left on the skin. Each may have some effect, and the latter ground of preference is assuredly more certain than the former. We cannot easily conceive how the momentary increase of pressure can have any considerable effect, except by the increase of momentum; and the stay in the sea is too short to expect much advantage from this source. The river water, heated from the vicinity of the shore, is less active than the sea water, whose heat is uniform in summer, and more so in winter; and the sea water, warmed from 75° to 82°, may be an useful bath for invalids, preparatory to immersion in the sea. In these baths of a higher temperature the patient should stay a longer time than in the sea or fresh water. It is an observation of Galen, that a more temperate bath is not less useful than a cold one, if the stay be protracted in it.

The shower bath, a modern invention, in which the water falls through numerous apertures on the body, is a remedy much less pleasing, but probably more useful than the sea or river bath. The cold is greatly increased from the momentum; and, as the water is usually taken from wells, its heat is uniform, about 51° in this climate, the mean of the earth. In winter the river water is much cooler, but generally superior in heat to that of the air. Bathing, therefore, through the winter is not a practice so severe as may be supposed, except when it is necessary to break the ice. Even then, however, the water below is higher than the freezing point, as its latent heat cannot escape, and the temperature of the air is often far below it.

The time of bathing should be as soon in the spring as settled weather can be obtained; and, from the long prevalence of easterly winds on the eastern coasts, the southern seem preferable at that time. The most advantageous part of the day is the morning, before breakfast; but, when the weather is not warm, and the patient is much debilitated, it may be proper to begin in the forenoon, after a light and early breakfast. The usual mode of immersion, first plunging the head, is undoubtedly preferable; but if the whole body is *very soon* immersed, this precision is of little importance. The stay in the bath is of more consequence: many come out after the first immersion, and indeed this is the most common, and often the most advantageous method. It sometimes happens, however, that the glow is so violent, as to leave in the subsequent part of the day a chilliness; and in such circumstances we have advised a second dipping, which, repressing the too violent determination to the surface, has rendered it more equable and permanent. If any debility arises from staying too long, some *warm* wine and water, *warm* tea, or any similar fluid, drank frequently while the patient is laid between blankets, will relieve it.

It has been supposed that where the fluids are too much attenuated, bathing will be injurious. We have already said that we have scarcely any evidence of this taking place. We know from frequent experience that no such effect is produced by sea water; and if any of the neutral salt were absorbed independent of the fluid, it might produce the effect. Seamen, however, fishermen, and the sea bathers, who are constantly immersed in salt-water, never experience any inconvenience from this cause.

One other form of cold bath has been employed, viz. the *cold air bath*. This consists only in exposing the body for a few minutes to the cold air, partly secured by a loose dressing-gown. With prudent precautions this practice may be useful, and even salutary. The effects to be expected must depend on the heat of the atmosphere, and the temperature of the body when exposed to it. *Sponging* the whole body *with cold water* is of the greatest consequence, particularly in cases of chronic debility, where the cold bath cannot be obtained, or is from circumstances inadmissible.

Bathonia Aqua, Bath water. It is the hottest of the waters in England that are called *Sulphureous*. Most hot waters (that are naturally so) contain a ferrugineous and a sulphureous part, though always but a small proportion of them. The sulphureous principle is in a volatile state, and the iron in *Bath water* is not one quarter of a grain in a gallon. Of acidulous gas there are about twelve ounces in a gallon; of earthy matters near half an ounce; and of sea-salt about a dram. The heat of this water raises Fahrenheit's thermometer from about 100 to 114, and, perhaps, to this circumstance it is owing that much of its usefulness depends.

Bay-tree, *Laurus*.

Bdellium, the name of a gummy resinous juice, produced by a tree in the East-Indies, of which we have no satisfactory account. It is brought into Europe both from the East-Indies and Arabia. It is one of the weakest of the deobstruent kind.

Bear's-foot, a species of *Helleborus*.

Becabunga, brook-lime, a species of *Veronica*. The college have retained this plant in their Pharmacopeia; it enters the Succus Cochleariæ Compositus, formerly called Succi Scorbutici.

Bechica, βηχικα, from βηξ, *a cough*, or from βηττω, *to cough*, any medicine designed to relieve a *cough*. It is of the same import as the word *pectoral*.

Beef, the flesh of common neat cattle slaughtered for the food of man. It enters largely into human diet, both in its fresh and salted condition, especially among the Anglo-Americans and British. It is one of the great articles of export from the middle and northern States of America. Large quantities of it in barrels are annually brought to the Atlantic seaports from the interior parts of the country, pickled or packed with sea-salt. The history of beef is very curious in a medical as well as a dietetic and commercial point of view. Some facts which have been carefully noted in New-York, the great deposit of this commodity, are remarkably instructive. In the year 1798, an uncommonly large quantity of beef was in the city. A dulness of sale kept a more than common quantity at home. The law regulating the salting of it was at that time vague and dubious, both as to the quantity and quality of the salt. Liverpool salt, of which large importations have been made to New-York, had been used to cure it; and this, improper as it was, was put into the barrels very sparingly. The season was excessively hot. The beef corrupted; and being stored in cellars and warehouses in some of the central and busy parts of the city, emitted disagreeable effluvia. The proprietors and consignees, finding the beef was tainted and spoiling, began in the heat of the season, to overhale and repack it. In doing this, the putrid pickle was thrown in great parcels into the streets; and the exhalations from the meat in the cellars, and the stinking brine in the gutters, were horribly offensive. A pestilential disease broke out in the immediate vicinity of these effluvia, and destroyed the lives of many citizens, particularly of those who lived to leeward of their sources.

It was remarked by the persons engaged in examining and re-pickling these barrels of beef, that when the meat was beginning to corrupt, it became slimy or slippery to the touch, and always emitted a *sour* odour. The Inspector General of provisions, and almost every one of his assistants, amounting to between thirty and forty men, were uniformly sensible of this *acid* flavour. But not only were they sensible of this *sourness* in the gaseous emanation from the beef, but the putrid pickle in which it was soaking, was likewise *sour to the taste*. Nor was the noxious effect of this acid vapour confined to the city. Much of this corrupting beef was carried out of town, and there examined. One of the sworn Inspectors reported to the Health-office, that, in examining a parcel of beef belonging to one merchant only, and that on the healthy shore of Long-Island, six of his men were taken sick. Of the Inspector General's men, almost all were poisoned by the effluvia in different degrees.

Of the *pork* then in the city, a far less quantity corrupted, and of that which did spoil, very little either of offensiveness or noxiousness was remarked.

The observations made coincided perfectly with Dr. Mitchill's reasoning in his argument in favour of tallow-chandlers and soap-makers of New-York, in 1797. See his discussion before the Legislature. *Beef* corrupts much sooner than *pork;* because the former consists principally of *lean*, and the latter of *fat*. Of the different parts of beef, the fat putrifies much less easily than the lean; and of the pork, its lean, though small in quantity, spoils much more readily than its fat. Upon the whole, it was ascertained that the fat was remarkably more *slow to putrefy*, and when it did corrupt, it afforded *no pestilential air*.

The mischievous product, then, comes from the *lean part* of animal flesh, whether beef or pork. And as lean differs from fat chiefly in being charged with septon or azote, it is plain this septon must be at the bottom of the destructive work. The product being sour, the septon must be oxygenated;

and thence it is inferred, that the oxygen associated with it, constitutes septic acid. And this septic acid existing sometimes in a liquid, and sometimes in an aërial form, gives rise to dysenteries, yellow and malignant fevers, as their principal exciting cause.

Such are the facts relating to the decay of *lean* and *fat* meats. They lead to important conclusions, more favourable to the discernment of Bramha, who forbade beef to be eaten, than to that lawgiver who would not allow pork to be used as an article of diet. Whatever may have been remarked in the eastern parts of the world concerning the flesh of the swine, the experience of the west has amply and unquestionably shown it to be the most wholesome kind of animal food. Beef, on the contrary, being exceedingly prone to corrupt and turn to poison in the casks where it is pickled, indulges its natural propensity in the stomach and intestines of those who feed largely upon it, both in its salted and unsalted condition. This is so much the case, that wherever a *beef-ration* enters into the diet of seamen, farmers and soldiers, dysenteries and malignant distempers are very apt to make their appearance. The same remarks apply to *other kinds of lean meat*, as that of the camel, the sheep and the horse, particularly that which is badly salted and that which is quite fresh. The like observation is true of fish and fowl, the *lean parts* of which, abounding in septon, are more likely to be converted to septic or pestilential poison, than articles of food consisting principally of *oil* and *fat*. See these words respectively.—A consequence of this proneness of beef and other lean meat to turn to pestilence and venom is, that the contents of the intestines of the persons who feed largely on them, may become infectious *within* their bodies, as in dysentery, and immediately *after their discharge* may poison the air of a room, as the beef might have done if it had putrified without having been eaten. The alvine evacuations of such beef-eaters consist of a great proportion of decayed or rotten beef; and if they do not abound with septic acid *before* their expulsion, they commonly turn to it a short time *after*, rendering the pit or sink into which they are thrown, abominably nauseous, and poisonous beyond any other species of excrement: for remedy of which evils, alkalies are the natural and efficacious applications, by virtue of their extraordinary and antiseptic power. Weak solutions of mild soda and pot-ash taken into the stomach, and injected into the rectum, will neutralize the corroding acid in the alimentary canal, and destroy the fœtor and poison of the stools. A little ley poured into the bed-pan will have a similar operation there, and effectually guard nurses and attendants against infection. And the same applications will overcome similar effluvia in a jakes or privy, or any where else.

Belladonna. Deadly night-shade. *Atropa belladonna* of Linnæus. This plant has been long known as a strong poison of the narcotic kind, and the berries have furnished us with many instances of their fatal effects, particularly upon children that have been tempted to eat them. The leaves were first used externally, to discuss schirrhous and cancerous tumours, and from the good effects attending their use, physicians were induced to employ them internally for the same disorders; and there are a considerable number of well authenticated facts, which prove them a very serviceable and important remedy. The dose, at first, should be small, and gradually and cautiously increased. Five grains are considered a powerful dose, and apt to produce dimness of sight, vertigo, &c.

Ben. The oily acorn, oily nut, or ben-nut.

Benzoats, (Benzoas, tis, s. m.) Salts formed by the union of the benzoic acid with certain bases; thus *benzoat of alumine*, *ammoniac*, *antimony*, &c.

Benzoinum, Benzoë, Benjamin tree. A species of *Styrax*. The college have retained this resin in their Pharmacopeia; it enters the Tinctura Benzoës Composita, formerly called Bals. Traumatic; its flowers enter the Tinctura Opii Camphorata, formerly called Elix. Pareg. This substance is classed, by modern chemists, amongst the balsams. There are two kinds of benzoin: *benzoe amygdaloides*, which is formed of white tears, resembling almonds, united together by a brown matter; and *common benzoin*, which is brown and without tears. The tree that affords this balsam is the *Styrax benzoin*, according to the London Philosophical Transactions; from which it is obtained by incisions. The benzoin of the shops is usually in very large brittle masses. When chewed, it imparts very little taste, except that it impresses on the palate a slight sweetness; its smell, especially when rubbed or heated, is extremely fragrant and agreeable. It has rarely been used medicinally in a simple state, but its preparations are much esteemed against inveterate coughs, asthmas, and phthysical complaints. The acid of benzoin is employed in the *tinctura opii camphorata*, and a tincture is directed to be made of the balsam—grs. v. to ʒss.

Berberis, Barberry, or *Pipperidge Bush.* A genus in Linnæus's botany. He enumerates four species.

Bergamote, or *Bergamot*, a species of *Citron*, produced at first casually, by an Italian's grafting a citron on the stock of a *Bergamot* pear-tree; whence the fruit produced by this union participated both of the citron-tree and the pear-tree. The essence of *Bergamot* is also called *Essentia de Cedra.*

Biceps Musculus, from *bis* and *caput*, a double-headed muscle.

Biceps Cruris, i. e. *Biceps Flexor Cubiti.*

Biceps Cruris, i. e. *Biceps Flexor Cruris.*

Biceps Externus, i. e. *Triceps Extensor Cubiti.*

Biceps Flexor Cruris. It arises by two distinct heads; the first, called *Longus*, arises, in common with the semitendinosus, from the upper and posterior part of the tuberosity of the os ischium. The second, called *Brevis*, arises from the linea aspera, a little below the termination of the glutæus maximus, by a fleshy acute beginning, which soon grows broader as it descends to join with the first head, a little above the external condyle of the os femoris. It is inserted by a strong tendon into the upper part of the head of the fibula. Its use is to bend the leg. This muscle forms what is called the outer ham-string; and between it and the inner, the nervus popliteus, arteria and vena poplitea, are situated.

Biceps Flexor Cubiti, also called *Biceps Humeri*, and *Biceps Flexor.* It arises by two heads. The first and outermost, called *Longus*, begins tendinous from the upper edge of the glenoid cavity of the scapula, passes over the head of the os humeri within the joint, and, in its descent without the joint, is enclosed in a groove near the head of the os humeri, by a membranous ligament that proceeds from the capsular ligament and adjacent tendons. The second or innermost head, called *Brevis*, arises, tendinous and fleshy, from the coracoid process of the scapula, in common with the coraco-brachialis muscle. A little below the middle of the fore-part of the os humeri these heads unite. It is inserted by a strong roundish tendon into the tubercle on the upper end of the radius internally. Its use is to turn the hand supine, and to bend the fore-arm. At the bending of the elbow, where it begins to grow tendinous, it sends off an aponeurosis, which covers all the muscles on the inside of the fore-arm, and joins with another tendinous membrane, which is sent off from the triceps extensor cubiti, and covers all the muscles on the outside of the fore-arm, and a number of the fibres, from opposite sides, decussate each other. It serves to strengthen the muscles, by keeping them from swelling too much outwardly, when in action, and a number of their fleshy fibres take their origin from it.

Bicuspides. See *Molares.*

Biennial. Herbs are said to be *biennial* when their roots continue two years.

Bifurcated, is said by anatomists of such vessels and parts as divide into two branches.

Bigaster, a name given to muscles that have two bellies.

Bignonia, trumpet-flower. A genus in Linnæus's botany. He enumerates twenty-one species.

Biliaria Arteria, the biliary artery. When the hepatic artery hath advanced as far as the vesicula fellis, it gives out the *biliaria*, which accompanies the two cystic branches in the gall-bladder, and then is lost in the great lobe of the liver.

Biliary Ducts. The very vascular *glomeruli*, or *acini biliosi*, which compose almost the whole substance of the liver, terminate in very small canals, called *biliary ducts*, which at length form one trunk, the *ductus hepaticus*. Their use is to convey the bile, secreted by the liver, into the hepatic duct.

Bile. A bitter yellowish fluid, of a smell somewhat like musk, secreted in the glandular substance of the liver, and conveyed by the biliary ducts, through the ductus hepaticus, into the ductus communis choledochus, from whence it is, in part, carried into the intestinum duodenum. The other part regurgitates through the cystic duct into the vesica fellis, or gall-bladder. Thus there are two kinds of bile; the one, which flows from the liver into the duodenum, is termed *hepatic bile;* this is thin, inodorous, and slightly bitter: the other, which regurgitates from the hepatic duct into the gall-bladder, and there becomes thicker and more acrid, is called *cystic bile*. Bile is a fluid of considerable importance in the animal economy; it extricates the chyle from the chyme, excites the peristaltic motion of the intestines, and prevents the abundance of mucus and acidity in the primæ viæ. Next to the semen, it is the most extraordinary secretion in the animal body, as it consists of a quantity of soda or barilla dissolved in a watery menstruum, together with a portion of a bitter material. It has, therefore, been called by Dr. Mitchill the "bitter of soda." See his letter in the 2d volume of the Medical Repository. It has been stated under the article "Alkalies," that they were the most powerful of known antiseptics, for inanimate substances. And the Creator, foreseeing that the food of animals would be liable to detention, acidity, and corruption sometimes in the stomach and intestines, has provided an alkaline spring in the neighbourhood of the bowels, which, from its situation in the liver, should furnish an adequate supply of this wholesome and antiseptic liquor to prevent the bad consequences of putrifying and sour aliment. From its peculiar constitution, the bile or gall is little prone to corruption. It may, accordingly, be kept for years in the gall-bladder of an animal after death, without spoiling. For the secretion of so important, so antiseptic, and so health-preserving a liquid, the constitution is endowed with a large viscus, the liver; whose function it is to prepare a due quantity of bile for the purpose of keeping the contents of the alimentary canal from running too rapidly into sourness and putrefaction.

When bile meets with an acid, it turns from a yellowish colour to a *green*. The greenness, therefore, of the bile when discharged by vomiting or by stool, is a sure indication that it has done its duty by neutralizing, as far as possible, the offending acid. When the duodenum abounds with acidity, the irritation which it causes near the orifice of the ductus communis choledochus, provokes an increased secretion, and a more abundant flow of the gall to remove or overcome the offending cause; after the same manner that snuff applied to the nostrils promotes a flow of mucus, dust in the eyes excites a gush of tears, and tobacco in the mouth augments the secretion of spittle. The bile then is not the cause of the diseases in which it plentifully appears; but it is the friend and ally of the constitution in getting the better of noxious, septic, or other acidity, by which it is assailed.

There is scarcely any thing more worthy of admiration in the human frame, than the provision of this alkaline, antiseptic and salutary liquid in the midst of the viscera, where, in its appropriate gland, it is prepared copiously, and whence it issues as from a never-failing fountain. When the bile is deficient in quantity or quality, the alimentary canal at first, and the whole constitution afterwards, become disordered. On the other hand, when it flows freely, and the noxious or peccant cause is seated high in the alimentary canal, the bile, by a kind and wholesome provision, sometimes regurgitates in the intestine, and ascends to the stomach itself, relieving it from oppression and danger. The good done by the refluent gall in such cases, has led to the prescription of it when dried and moulded into pills as a remedy. And it is related that a dose of fresh gall is a good preventive of indigestion, and the ill consequences of gluttony and excessive eating.

From these considerations, the reason is evident wherefore the bile is admitted into the intestines so far from their termination at the anus; to wit, that it may visit and regulate their whole tract downwards as it descends, and may also occasionally exert its corrective and neutralizing influence in the stomach, whenever, by a small incision of the peristaltic motion, its presence is required there. Of all the fluids of the animal body, the bile is the least disposed to undergo spontaneous changes. Its alkaline quality enables it to resist the tendency to fermentation and putrefaction in a most remarkable manner; for while blood, urine, milk, lymph, saliva, &c. by exposure to the air, change very rapidly, and grow corrupt, the bile parts with its watery part, grows thick, hardens, and remains, after long keeping, as sweet and good as ever. See *Soda*, *Barilla*, and *Nitre*.

Bilious. A term very generally made use of to express diseases which arise from too copious a secretion of bile.

Bilious Diseases, morbid states of body, in which there is an excretion of much bile. Hence bilious fevers, bilious dysenteries and diarrhœas, and bilious colics, are very frequently talked of. If the excretion of bile in considerable quantity during these disorders had served to give them a name merely, there would not have been much harm in it. But the case has been far otherwise: for by a most improper and unjust interpretation, the bile, which comes with all its powers to succour the endangered constitution, has been generally deemed the cause itself of the very mischiefs that its composition and nature enable it to prevent. Hence, we find this precious and wholesome fluid spoken of in the most opprobrious terms. Notwithstanding its grand antiseptic qualities, it has been called a corrupt and acrimonious humour. Though its anti-febrile and anti-pestilential virtues are eminently great, physicians have most unwisely termed it the worst secretion that ever pestered the constitution. They denounce it as the author of half the bodily evils which mortals endure; and some have wondered for what purpose such a troublesome fluid, so apt to degenerate into acrimony and poison, was placed within the body.

Such have been the ravings and delusions of mankind concerning the use and functions of the bile. And under such impressions they have said, that a heated, exalted, or acrimonious bile was the exciting cause of the fevers, dysenteries, colics, and other maladies, in which a considerable quantity of gall appeared. And the epithet "bilious" is as familiarly applied to these classes of diseases, to designate their exciting cause, as if it really and truly had some agency in the business; whereas, nothing in the whole circle of vulgar or of learned absurdity is more remote from the truth. It is in consequence of this fundamental error, and of the prejudice growing out of it, that every body, patients as well as doctors, speak of bilious diseases with the utmost familiarity, as well known and perfectly comprehended; and that "bilious pills," and "anti-bilious pills," advertised by the year in our newspapers, perpetually insult the eye and understanding.

The real exciting cause of those disorders called "bilious," being generally a hostile, stimulant, and pestilential acid in the primæ viæ, the bile sallies forth to meet the enemy, and to save the constitution. But this saver of the individual body, like the Great Saviour of the world, has been opposed, reviled, scourged, spit upon, and crucified by the high-priests, pharisees, and rabble of the medical tribes. It is to be hoped, that its true character and virtues will not be kept out of sight much longer.

Bismuthum, bismuth. The ores of *bismuth* very much resemble those of lead. They are, like them, disposed in facets, but have a yellowish cast. Ores of *bismuth* are frequently found mixed with cobalt. *Bismuth* is a semi-metal, of a bright, pale, lead-colour; and when broke, it appears of a silver white. It is of a flakey contexture. Its earthy part affords as good a blue as that from cobalt. It melts rather sooner than lead, but later than tin.

Bistorta, bistort. *Polygonum bistorta* of Linnæus. A native of Britain. Every part of the plant manifests a degree of stipticity to the taste, and the root is esteemed to be one of the most powerful of the vegetable adstringents.

Bittern. When the brine is evaporated for obtaining salt for the table, and all the table salt is collected from it, there remains at last a large quantity of liquor which refuses to yield any crystals. These liquors are very bitter, and are called by chemists *Mother-Waters;* but that now spoken of is called *bittern* in the salt-works. The *bittern*, or mother-water of sea-salt, contains a great quantity of sea-salt, with an earthy basis, and a little Glauber's salt.

Bitumens. Bitumens are combustible, solid, soft, or fluid substances, whose smell is strong, acrid, or aromatic. They are found either in the internal part of the earth, or exuding through the clefts of rocks, or floating on the surface of waters. Like oils they burn with a rapid flame. Natural historians have divided them into several genera; but modern chemists arrange them according to their chemical properties, and are only acquainted with six species, which are very distinct from each other; these are, amber, asphaltos, jet, pit-coal, ambergris, and petroleum.

Biventer, from *bis*, *twice*, and *venter*, *a belly*. A muscle is so called that is divided into two bellies. See *Digastricus.*

Biventer Cervicis, i. e. *Complexus.*

Biventer Maxillæ Inferioris, i. e. *Digastricus.*

Bladder. This is situated between the duplicature of the peritonæum, and the lower part of the abdomen, between the os sacrum, and the os pubis, above the straight gut in men, and on the neck of the womb in women. It is tied to the navel by the urachus degenerated into a ligament, its sides to the umbilical arteries, and its neck to the intestinum rectum of women. It is composed of three coats: the first is a covering of the peritonæum; the second is composed of muscular fibres, which run irregularly several ways; and the third, which is full of wrinkles for facilitating its dilatation, is both glandulous and nervous. Its glands separate a viscous and slimy matter, which defends it from the acrimony of the salts in the urine. Around its neck there goes a small muscle, called sphincter vesicæ, which contracts the orifice of the *bladder*, that the urine may not run out but when it thrusts open the passage, by the contraction of the second coat of the *bladder*, which is therefore called *Detrusor Urinæ.* The blood-vessels of the bladder are branches of the *Hypogastrics.* Its nerves come from the *Intercostals.* Its use is to be a reservatory of the urine, that it may not incessantly run from us, as it is separated in the kidneys.

Bladder in the throat. So the *Cynanche Trachealis* is called in New-England.

Blende, a species of the ore of *Zinc;* it is always glaring; it is mineralized by sulphur, and often contains iron.

Blennorrhœa. *Gonorrhœa mucosa.* A gleet. An increased discharge of mucus from the urethra of men, arising from weakness; from βλεννα, *mucus*, and ρεω, *to flow.* M. M. Astringent injections; cinchona; olibanum; alum; sulphuric acid; balsam of copaiba; cold bath.

Blennorrhagia. The name *Gonorrhœa* implies a discharge of semen, which never takes place in the complaint to which at present it is applied; and for which, if a Greek name is to be retained, Dr. Swediar proposes to call it *Blennorrhagia*, from βλεννα, *mucus*, and ρεω, *to flow*, i. e. *Mucifluxus (activus);* and thus, to distinguish both from real gonorrhœas, and from gleets, to which latter he proposes to give the name *Blennorrhœa Mucifluxus (passivus)*, i. e. without phlogistic symptoms.

Blennorrhagia balani. Dr. Swediar proposes this name as more properly expressive of the disorder called *Gonorrhœa spuria*, which see. The disorder is an active discharge from the part.

Blepharophthalmia. An inflammation of the eye-lid. M. M. Calamine cerate or equal parts of weak citron ointment and lard; a blister on the neck.

Blepharoptosis. A prolapse, or falling down of the upper eye-lid, so as to cover the cornea; from βλεφαρον, *an eye-lid*, and πτωσις, from πιπτω, *to fall.*

Blisters, when applied to the skin, first produce a tingling heat, a redness, and afterwards the cuticle is elevated, and a portion of fluid, resembling the serum of the blood, is enclosed, as in a bladder. When this is evacuated, a redness continues, the serum gradually thickens, at last becomes a whitish curdly substance, under which the new skin is again formed, or assumes a truly purulent appearance, and the blistered part contracts until the whole wound is healed.

From this very simple and confined operation, it is not, *a priori*, probable that extensive benefit should be produced. The first effects are pain and irritation; and it was once supposed that blisters were only useful by their stimulant power. The evacuation followed; and others then thought that from this source only they were beneficial, and that their first effects were injurious. They were then antispasmodics from some unknown influence; they coagulated or thinned the blood, according to the fancy of the pathologist; but the manner in which they really operate is still uncertain, notwithstanding the labours of Tralles in his closely printed quarto, entitled, Usus Vesicantium.

The first effect of blisters is undoubtedly stimulant; yet this stimulus is local, and seldom communicated to the whole system. In irritable skins, however, when the pain is considerable, when restlessness and want of sleep are the consequence, they are certainly for a time injurious from their stimulant power, but in general they relieve more pain than they give; they lessen previous irritation or uneasiness, and dispose to sleep. These are their effects in fevers and inflammations, where we might chiefly dread their stimulant power. It may be asked if they are never used as stimulants? Undoubtedly, but chiefly as local ones, and where we come near the affected nerve; and, indeed, from the moment of their application, they must be considered as such, though the external stimulus, relieving the internal, renders the former an object of little comparative importance. The great difficulty arises from considering the benefits derived from so small an external inflammation, when the internal, which it relieves, is so extensive and violent. Various have been the modes of resolving the question, and numerous the discussions which the various solutions have occasioned. The effects are undoubtedly disproportioned to the cause, but it is probable that the smallest relief given to the internal over-distended vessels, gives nature an opportunity of exerting her powers, and the turgid arteries of propelling more effectually their contents.

The stimulus of a blister seems also of service in lessening the excessive action of the nervous power. We well know that the tone and the sensibility of the nerves, and the consequent irritability of the muscles which they supply, are intimately connected with the state of the circulation in their extremities. We can easily see therefore the means by which this excessive action may be mitigated. In some peculiar circumstances, however, we have thought that diseases more purely nervous have been relieved by this remedy, and have suspected that there may be a balance between the excitement of the internal and external nervous power, as there more evidently is of the circulation. We need not enlarge on the subject, but leave this hint to suggest future inquiry. We may, however, add, that if blisters ever act as antispasmodics, it must be from this or a similar effect.

The discharge, in many instances, gives a greater permanence to the benefits derived from blisters, and in some cases seems to be the chief source of their advantages, particularly in dropsies, in humoral asthmas, the more decidedly serous apoplexies, and a few other diseases. It is continued however with some difficulty, as in many constitutions the blister rapidly heals, whatever be the application. The sabine ointment now generally supplies the place of the blister ointment, which is inconvenient by its effects on the neck of the bladder.

Though, as we have said, the inflammation is confined and slight, and the discharge inconsiderable, yet it probably has more effect on the constitution than we might suspect from the absolute quantity; for in many constitutions the continued discharge from blisters produces considerable debility; in some they can scarcely be borne for even the period of two or three days. We might attribute this to the quality of the discharge; but M. Margueron, who has analysed it (Annales de Chimie, vol. xiv.), found that it very nearly resembled the serum of the blood, containing only a little less of the albuminous portion. It is seemingly darker coloured from the tinge of the plaster, whose peculiar smell it retains. He found it the same when the blister was applied in putrid fevers, as when the person was in health.

Blisters have on many constitutions a cordial and exhilarating effect, generally on those of full habits, and probably of languid circulation, by relieving the over-distended vessels. A gentleman once highly distinguished at the bar, and of brilliant convivial powers, always applied a blister when he wished to shine in either sphere, and the effect was produced as soon as the warmth in the part began. We have heard also many, who even felt the pain of blisters acutely, declare, that the relief of the languor they previously experienced, counterbalanced all their sufferings.

In our enumeration of the diseases benefited by blisters, we shall be guided by their effects, and shall consider them as altering the determination of the fluids from parts overloaded; influencing the determination of the nervous power; as stimulants, evacuants, and cordials.

In *fevers*, we generally find the equilibrium of the circulation greatly disturbed; and, in general, the two organs which chiefly suffer from over-distension, are the brain and the liver. We have a more ready access to the latter by more easy remedies. The distension of the vessels of the brain is chiefly relieved by blisters. In some *inflammatory fevers* the load in the head is considerable; and in cases not truly phrenetic, the delirium is of that wild and violent kind which approaches very nearly to phrenzy. When bleeding is admissible, it must be premised; and, in other cases, the stomach and bowels must be freely emptied. Blisters will then greatly relieve, but they should be applied very near the head, and in general immediately below the hair, on the back part of the head. Near the head we have still the temples, as well as the parts behind the ears, for a succession of blisters, if necessary; since the first effects of this remedy are those most beneficial, and it is unnecessary to continue the discharge from one part more than thirty-six or forty-eight hours. We must still, however, look forward to the possibility of a continued determination; and should the fever not terminate in fourteen or sixteen days, shave the vertex, that cold applications may be employed, or any accidental scratch be healed, before it be necessary to apply a blister to that part. These frequent repetitions of blisters are, however, seldom necessary.

In the *typhus*, there is also a determination to the head, though less violent, and with inflammation less active. In these our chief reliance is on blisters, for bleeding is improper, and active purging sometimes inadmissible. The inexperienced practitioner has been alarmed by the debilitating powers of this remedy; but these are observed in very few constitutions, nor have we ever found them permanently injurious in fevers of this kind. In the worst kind of asthenic fevers they are less proper; and in highly putrid fevers, they have been considered as rather injurious than useful.

The greatest advantages of blisters are experienced in *inflammations*. In *phrenetic cases* their administration does not greatly differ from that we have described, when speaking of inflammatory fevers. In *sore throats* we have mentioned them as highly useful, and they should extend from behind the ear under the lower jaw to the trachea. In every inflammation of the face they should be applied in the same way, and are highly useful. The tic doloreux, in Dr. Fothergill's language the dolor faciei crucians, is an exception to this rule, and indeed can scarcely be called an inflammation. In *inflammatory affections of the chest*, blisters are our chief dependance; and in every disease of this kind, except perhaps the putrid pneumonia, they are of service: in this however they are certainly not injurious, and, as we have said, they are not so in angina maligna. We spoke with less confidence of their effects in highly putrid fevers, as these have not very often occurred to us. In inflammatory *coughs* they are useful; and in many of these, especially if not attended with expectoration, they seem to be more beneficial when applied to the bone of the neck, than to any part of the chest. In general, however, if there is any *fixed pain* in any part, to it they must be directed. In *croup* we have said they are used, but, like most other remedies, with little advantage: and in *hooping-cough* they rather guard against any inflammatory accumulation in the chest, than shorten or materially mitigate the disease.

In *inflammation of the abdomen* they are highly useful, with the exception only of those of the bladder; but even in the latter, when the inflammation is confined to its neck, a short application of a blister to the perinæum has been of service. In all *local pains* of the abdomen blisters will relieve, and we think they even facilitate the passage of a gall-stone through the duct. They are certainly useful in preventing inflammation of that part from the distension. In *gastrodynia*, whatever be the cause, they seem to relieve.

In all *inflammations of the joints*

blisters are useful; even the paroxysms of *gout* they shorten and mitigate, though we have had reason to fear with disadvantage to the constitution. The *white swelling* is a peculiar disorder, which we cannot at present enlarge on. It consists however in its commencement of a rigidity of the ligaments, and in its progress of deep seated inflammation. In the early state, there is perhaps no more certain remedy than blisters repeatedly applied; their first action seems to be the most useful. Modern practitioners have substituted the stimulus of emetic tartar in these and some other swellings, particularly the bronchocele, it is said with success. In our hands, however, it has appeared less useful; and the peculiar deep irritable little sores which it occasions, soon prevent the use of this and every other external application.

In the *exanthemata* we find blisters chiefly useful in *small-pox* and *measles*. In the former, when the head and breast are greatly loaded previous to the eruption, they are often useful, and occasion a more mild and distinct kind. When repelled, also, they assist in their reproduction, and often prevent the inconveniences which arise from their disappearance. In measles they are more useful, on account of the violent catarrhal inflammation, which often becomes pneumonic.

Active hæmorrhages are greatly relieved by blisters. The *sanguine effusions* in the brain producing *apoplexies*, require their immediate application without waiting for the effect of evacuations. *Bleedings from the nose and the lungs* are equally relieved by them. It has not been usual to apply them in discharges of blood from the bowels, chiefly perhaps because these are seldom of the active kind; and as it is not easy to ascertain the part particularly affected, with accuracy. *Discharges of blood from the kidneys and bladder* also are not relieved by blisters. In *diarrhœas* from the measles they are supposed serviceable; and indeed this must be considered as an inflammatory complaint. In *dysentery* they are said to relieve pain, but are seldom employed.

Blisters are employed also to alter the determination of the nervous power. This is certainly a vague indication; but they are useful in *spasmodic pains of the intestines* when there is no inflammation; they relieve the paroxysms of angina pectoris, of spasmodic asthma, as well as epilepsies not connected with local plethora and extravasation; they remove pains in the stomach, arising wholly from the irregular action of that organ; and coughs that are nervous and independent of inflammation. These are certainly facts, though the mode of their operation may be doubted.

Though the stimulus of blisters be transitory and local, yet they are certainly useful as stimulants. On the back part of the neck they stimulate the nerves sent to the throat, and relieve aphonia, and deglutition impeded from palsy. On the internal humerus they relieve paralytic affections of the hands and fingers; on the internal part of the thigh they are equally useful in weakness of the legs. They are certainly employed as stimulants in palsy and apoplexy, yet their power as such is doubtful. It is too much the custom to accumulate stimulants and evacuants in these emergencies till we know not to what the relief is to be attributed, and unfortunately to what our failure is owing, for the little remaining excitability is often thus destroyed. A gentle breath will re-illumine the flame, which a violent wind will irrecoverably extinguish. In asphyxy, in carus, in catalepsy, and in hysteric affections, which for a time apparently destroy life, they have been employed as stimulants; yet we doubt if with any good effect, except in the species *simulatæ*.

As evacuants we have already mentioned the good effects of blisters in anasarca, in humoral asthma, and in serous apoplexies; nor does our recollection at present supply any other disease to which from this power they are applied. In tumours, and collections of a doubtful nature, setons and issues are preferred. Where the fluid to be discharged lies deeply imbedded, the two last are more useful.

We have mentioned the foundation of their employment as cordials. This rests, as we have seen, on a loose equivocal foundation; nor do we find them used by practitioners with this view, except in some cases of low nervous fever, in which their utility may perhaps be explained more satisfactorily by their power of altering the determination.

The inconveniences arising from cantharides have induced physicians to employ other stimulants with a view of exciting blisters. The flour of mustard, garlic, arum root, emetic tartar, and the vitriolic acid, have been used for this purpose. They produce, however, a very inadequate discharge. The only substance which may probably with advantage be substituted, is the inner bark of the daphne mesereum or laureola. The small branches are cut into portions of the required length, and macerated in warm water or vinegar till the bark can be loosened. This must be applied to the part previously rubbed with vinegar.

Blood. A red homogeneous fluid, of a saltish taste, and somewhat urinous smell, and glutinous consistence, which circulates in the cavities of the heart, arteries, and veins. The quantity is estimated to be about 28 pounds in an adult: of this, four parts are contained in the veins, and a fifth in the arteries. The colour of the blood is red; in the arteries it is of a florid hue; in the veins darker; except only the pulmonary veins, in which it is of a lighter cast. Physiology demonstrates, that it acquires this florid colour in passing through the lungs, from the oxygen it absorbs. The blood is the most important fluid of our body. Some physicians and anatomists have considered it as alive, and have formed many ingenious hypotheses in support of its vitality. The temperature of this fluid is of considerable importance, and appears to depend upon the circulation and respiration. The blood of man, quadrupeds, and birds, is hotter than the medium they inhabit; hence they are termed animals of warm blood: whilst in fishes and reptiles, animals with cold blood, it is nearly of the temperature of the medium they inhabit. The microscope discovers that the blood contains a great number of red globules, which are seen floating about in a yellowish fluid, the serum. The blood also possesses remarkable physical properties; while hot, and in motion, it remains constantly fluid and red; when it cools, and is at rest, it takes the form of a fluid mass, which gradually and spontaneously separates into two parts; the one, which is red and floating, becomes of a darker colour, remains concrete, and is called the *cruor*, *crassamentum*, or *cake;* the other, which occupies the lower part of the vessel, is of a yellow greenish colour, and adhesive, and is called the *serum*, or *lymph*. The importance of this general fluid is very considerable; it distends the cavities of the heart and blood-vessels, and prevents them from collapsing; it stimulates to contraction the cavities of the heart and vessels, by which means the circulation of the blood is performed; it generates within itself animal heat, which it propagates throughout the body; it nourishes the whole body: and, lastly, it is that source from which every secretion of the body is separated.

Blood-letting. Under this term is comprehended every artificial discharge of blood made with a view to cure or prevent a disease. Blood-letting is divided into general and topical. As examples of the former, *venæsection* and *arteriatomy* may be mentioned; and of the latter, the application of *leeches*, *cupping-glasses*, and *scarification*.

Boerhaavian System. Few physicians enjoyed for so long a period, such unbounded, such unalloyed, reputation as Boerhaave. He was represented, as equally amiable in private life, and respectable in science: he first gave chemistry a philosophical systematic form, and reduced medicine to a science at least plausible, neat, and perspicuous. At his era, the chemical reveries of Van Helmont were yielding to the more abstract sciences; and from unreal fancies, the change to the necessity of demonstration was so rapid, as to leave scarcely the vestige of an intermediate step. Calm, penetrating, and reflecting, Boerhaave could distinguish between the visionary theorist and the attentive observer; and, equally judicious, could appreciate the merits of each. We have no reason to think that he expected to be the founder of a sect; yet he proceeded with the caution of a veteran, and culled from each the flower which was to adorn his own parterre. Though Paracelsus had burnt the writings of Hippocrates and Galen in solemn state, yet they were not forgotten; and the wise observations of the Grecian sages formed the ground-work of his system. The Galenic doctrine of humours he assimilated with wonderful address to his chemical doctrines, and gave them a specific character, founded on their chemical relations. The mechanical philosophy, then attracting universal attention, added to the fabric: the vessels were cones or cylinders; the fluids, consisting of various particles, adapted only to given apertures, were at times forcibly impelled and impacted in vessels to which they were not fitted, and consequently produced numerous complaints.

The whole of this doctrine was combined with so much precision, with such scientific skill, as highly to prepossess even the experienced observer. Each found his own opinions placed in a respectable view, illustrated by language elegant and perspicuous, and supported by collateral doctrines, which in another situation he would have rejected. The Galenist could not object to the elegant illustration of the various humours; the chemist saw, with surprise, that the works which his master had burnt, illustrated his favourite system; and the mechanical philosopher, probably, never suspected the very extensive application of doctrines which he had cherished exclusively for their own sake. In fact, Boerhaave's system was a selected one: and he has, of course, been styled an *Eclectic.*

We have engaged in this short comprehensive view, partly to account for the enthusiasm with which this system was received; for it must not be concealed, that in treating of the properties and functions of a living body, he overlooked the principle of life, and the laws of a living organized machine. He seems to have seen his error, and in his later works he speaks, but still in the language of a sectary, of the 'inertia liquidi nervosi.' The first decisive step in opposition to this mechanical pathology was taken by his own nephew, and this heresy is followed, apparently with some reluctance, by Gaubius, the pupil of Boerhaave.

Yet though we have spoken thus freely of his doctrines, we mean neither to depreciate the man nor his talents. He was far above the common race of mortals; and, with Newton almost alone, might be shown by angels as imitating their superior powers, and emulating their brighter intellectual acquisitions.

Those who have contemplated the state of medicine previous to his time, will see order rise from confusion, precision from vague analogy; in a word, science from doubtful unconnected facts.

The practitioners of the Boerhaavian school have, in general, been distinguished for patient attention and acute observation. They have not perhaps extended the bounds of medicine, but been contented to imitate *their* master, and *his* preceptors, Hippocrates and his successors. This was perhaps an error, and it resulted from the unbounded admiration they felt for Boerhaave. It was a very advantageous trait of Dr. Cullen's character, that he wished to raise his pupils into critics on himself.

Body. The body is divided by anatomists into head, trunk, and extremities. The trunk, or body, is subdivided into the neck, thorax, abdomen, and pelvis.

Boletus, spunk. A genus of the fungusses in Linnæus's botany. He enumerates twenty-one species. A species of this genus, viz. the *igniarius*, Linn. Agaricus pedis equini facie, Tournefort, hath been used as a styptic applied after amputations.

Bolt-head, is a bellied glass that rises up with a long cylindrical neck, much slenderer than the body, being nearly of the same make with a glass egg.

Bolus, bole. A genus of earth. It readily falls down into a loose mass in water; having a degree of ductility when not pervaded with too much water; smooth and rather unctuous to the touch. *Boles*, which fertilize land, are called *Marles*. The college have retained the Bolus Gallicus in their Pharmacopeia.

Bolus, βωλος, a bole or bolus. *Boluses* differ not from electaries, only in that they are made in single doses, and are therefore more proper where it is necessary to be exact, and where drugs are used that soon perish. The quantity of each is a morsel, or mouthful, (i. e. as much as can be conveniently swallowed at once); whence their name *Bucella*.

Bombiates, are salts formed by the union of the Bombic Acid with alkaline, earthy, or metallic bases.

Bombic Acid. Acid of the silk worm. Silk-worms contain, especially when in a state of chrysalis, an acid liquor in a reservoir placed near the anus. It is obtained by expressing their juice in a cloth, and precipitating the mucilage by spirit of wine, and likewise by infusing the chrysalides in that liquor. This acid is very penetrating, of a yellow amber colour, but its nature and combinations are not yet well known.

Bones. Bones are hard, dry, and insensible parts of the body, of a whitish colour, and composed of a spongy, compact, or reticular substance. They vary very much in their appearances, some being long and hollow, others flat and compact, &c. The greater number of bones have several processes and cavities, which are distinguished from their figure, situation, use, &c. thus *cristæ*, *spines*, *tuberosities*, *acetabulum*, *foramen*, &c. The uses of these organs are various, and are to be found in the account of each bone; it is, therefore, only necessary to observe, in this place, that they give shape to the body, contain and defend the vital viscera, and afford an attachment to all the muscles.

A TABLE OF ALL THE BONES.

				No.
Bones of the HEAD.	Bones of the *cranium*, or *skull*.		Frontal	1
			Parietal	2
			Occipital	1
			Temporal	2
			Ethmoid	1
			Sphænoid	1
	Bones of the *face*.		Superior maxillary	2
			Jugal	2
			Nasal	2
			Lachrymal	2
			Palatine	2
			Inferior spongy	2
			Vomer	1
			Inferior maxillary	1
	Dentes, or *teeth*.		Incisores	8
			Cuspidati	4
			Molares	20
	Bone of the *tongue*.		Hyoides os	1
	Bones of the *ear*, within the temporal bones.		Malleus	2
			Incus	2
			Stapes	2
			Orbiculare os	2
Bones of the TRUNK.	The *spine*.	Vertebræ.	Cervical	7
			Dorsal	12
			Lumbar	5
		Sacrum		1
		Coccygis os		1
	The *thorax*.		Sternum	1
			Ribs	24
	The *pelvis*.		Innominata ossa	2

				No.
Bones of the Upper Extremities.	The *shoulder.*		Clavicle - -	2
			Scapula - -	2
	The *arm.*		Humeri os -	2
	The *fore arm.*		Ulna - -	2
			Radius - -	2
	The *hand.*	*Carpus,* or *wrist.*	Naviculare os	2
			Lunare os -	2
			Cuneiforme os	2
			Orbiculare os	2
			Trapezium os	2
			Trapezoides os	2
			Magnum os	2
			Unciforme os	2
		Metacarpus - - - -		10
		Phalanges - - - -		28
Bones of the Lower Ext.	The *thigh.*		Femur - - -	2
	The *leg.*		Patella - -	2
			Tibia - -	2
			Fibula - -	2
	The *foot.*	*Tarsus,* or *instep.*	Calcaneus -	2
			Astragalus -	2
			Cuboides os	2
			Naviculare os	2
			Cuneiformia ossa	6
		Metatarsus - - - -		10
		Phalanges - - - -		28
Sesamoid bones of the thumb and great toe, occasionally found - - - -				8
			Total	248

Bononiensis (Lapis), the Bononian stone, or *Bononian Phosphorus.* It is a small, grey, soft, glossy, fibrous, sulphureous stone, about the size of a walnut. When broken, a kind of crystal, or starry talc, is found therein. This stone is met with in the neighbourhood of Bologna, or Bononia, in Italy; and when duly prepared, makes a species of phosphorus. When this phosphorus is held to the light, it retains it for six or eight hours after. As a medicine, this stone is said to be caustic and emetic.

Borates (Boras, tis, s. m.) Salts formed by an union of the boracic acid with different bases; thus *borat of alumine, borat of ammoniac,* &c.

Borax. A neutral salt, formed by the combination of the acid, improperly called sedative salt, with the marine alkali. It is dug out of the earth, in the kingdom of Thibet, in the East-Indies. It is also said to be formed or produced by certain artificial processes. There are several kinds of borax, but that used in medicine is called Dutch or purified borax; it has a very regular form; its crystals are six-sided prisms, two of the sides being commonly larger than the others; its crystallization, however, varies: the taste is styptic, and acts strongly on the fibres of the tongue. It is generally employed in solution, to detach mucus, &c. from the mouth in putrid fevers. The salts formed by the union of the acid of borax with different bases, are called borates.—Grs. v. to xl.

Borborygmus. The rumbling noise occasioned by the flatus in the intestines; βοςβοςυγμος, from βοςβοςυζω, to make a noise.

Botany, βοτανη, *a herb*, or *grass*, from βοσκω, *to feed*. Βοτανη is that grass which is perfect, but not quite fit to be mowed. *Botany* is that part of natural science, which includes every thing respecting vegetables, as their division into classes, orders, genera, species; external figure, internal properties, and their application to their purposes.

Bougie. A term applied by surgeons to a long, slender instrument, that is introduced through the urethra into the bladder. Bougies made of the elastic gum are preferable to those made of wax. The caustic bougie differs from the ordinary one in having a thin roll of caustic in its middle, which destroys the stricture, or any part of the urethra it comes in contact with, and is consequently a hazardous application. Those made of catgut are very seldom used, but are deserving of the attention of the surgeon.

Brachialis Internus. A muscle of the fore arm situated in the fore part of the os humeri. Its use is to bend the fore arm, and to prevent the capsular ligament of the joint from being pinched.

Brachial Artery. The continuation of the axillary artery, situated between the axilla and the bend of the arm; in its course it gives off many lateral vessels, and about the bend of the arm divides into the cubital and radial arteries.

Brachio-Cubitale Ligamentum. The expansion of the lateral ligament (see *Lateralia Ligamenta*), which is fixed in the inner condyle of the os humeri, runs over the capsula, to which it closely adheres, and is inserted like radii on the side of the great sigmoide cavity of the ulna; it is covered on the inside by several tendons, which adhere closely to it, and seem to strengthen it.

Brachio-Radiale Ligamentum. The expansion of the lateral ligament (see *Lateralia Ligamenta*), which runs over the external condyle of the os humeri, is inserted round the coronary ligament, from thence all the way down to the neck of the radius, and also in the neighbouring parts of the ulna. Through all this passage it covers the capsular ligament, and is covered by several tendons adhering closely to both.

Brachium. Βςαχιον. The arm, or that part of the upper extremity that lies between the shoulder and elbow joint.

Bractea, in *Botany*, a floral leaf, ranged by Linnæus among the fulcra, props, or supporters of plants.

Bradypepsia, βραδυπεψια, weak concoction of food; or when digestion in the stomach is performed slowly and with difficulty.

Brain. See *Cerebrum* and *Cerebellum*.

Branchus, βραγχος, a defluxion of humours upon the fauces. It is a species of *Catarrh*, which Cœlius Aurelianus calls *Raucitas*.

Brandy. A colourless, slightly opake, and milky fluid, of a hot and penetrating taste, and a strong and agreeable smell, when first distilled from the wine. It consists of water, ardent spirit, and a small portion of oil, which renders it milky at first, and after a certain time colours it yellow. It is the fluid from which rectified or ardent spirit is obtained. The utility of brandy is very considerable, but from its pleasant taste and exhilarating property it is too often taken to excess. It gives energy to the animal functions;

is a powerful tonic, cordial, stomachic, and antispasmodic; and its utility with camphire, in gangrenous affections, is very great.

Branks, a name in Scotland for the *Cynanche Parotidæa*, or *Mumps*.

Brass. Copper, melted with zinc, loses its red, and acquires a yellow colour, without losing much of its ductility; and is thus named.

Brassica, cabbage. A genus in Linnæus's botany. He enumerates fourteen species.

Brassica Italica, broccoli.

Brassica Sabellica, borecole, or Scotch kale.

Brassica Sylvestris, sea colewort or cabbage.

Breasts. Mammæ. Two soft hemispherical bodies, composed of common integuments, adipose substance, and lacteal glands and vessels, and adhering to the anterior lateral regions of the thorax of females. On the middle of each breast is a projecting portion termed the *papilla* or *nipple*, in which the excretory ducts of the glands terminate, and around which is a coloured orb or disc, called the *areola*. The use of the breasts is to suckle new-born infants.

Bromelia, pine-apple. A genus in Linnæus's botany. He includes in this genus the *Ananas*, the pine-apple, and the pinguin, or *Karatas*, the wild pine-apple. He enumerates seven species.

Bromatology. A discourse or treatise on food; from βρομα, food, and λογος, a discourse.

Bronchia, βρογχια. The aspera arteria descends from the fauces down the throat, growing narrower as it approaches to the lungs; and a little before it approaches to them, it divides into two branches, called the *Bronchia*. These ramifications are divided into numberless others, which are distributed through the substance of the lungs, and terminate in small vesicles, like clusters, which adhere to these small bronchial ramifications, constituting the chief part of the lungs. The use of the *Bronchia* is for the conveyance of air into, and out from the lungs, and for the discharge of such other matter as is ready to be carried out of the body this way.

Bronchial Arteries. They sometimes go from the fore-side of the superior descending aorta, sometimes from the first intercostal, and sometimes from the arteries of the œsophagus. Sometimes they arise separately from each side, to go to each lobe of the lungs; and sometimes, by a small common trunk, which afterwards separates towards the right and left hand, at the bifurcation of the aspera arteria, and accompanies the ramifications of the bronchia. The *bronchial artery*, on the left side, often comes from the aorta, while the other arises from the superior intercostal on the same side; which variety is owing to the situation of the aorta.

Bronchiales Glandulæ. At the angle of the first ramification of the trachea arteria, we find on both the fore and back sides certain soft, roundish, glandular bodies, of a bluish or blackish colour, and of a texture partly like that of the thymus, and partly like that of the thyroid gland. There are many similar glands at the origin of each ramification of the bronchia.

Bronchialis Glandula, i. e. *Thyroidæa Glandula.*

Bronchocele, βρογχοκηλη, from βρογχος, *the wind-pipe*, and κηλη, *a tumour*. Its seat is the thyroid gland, which lies just below the larynx, round the trachea. The tumour appears in the fore part of the neck, between the skin and the wind-pipe. In this consists that disfiguration of the fore part of the neck and throat, called in Switzerland, *cretinage*, or *goitre*;

in which, besides an enormous enlargement of the thyroid gland, the individual frequently has an impaired understanding, and oftentimes is an ideot. The goitre has been observed too in several parts of America, both among the aborigines and the whites, and a particular account of both may be found in Dr. Barton's pamphlet on the subject.

Bronchotomy, from βρογχος, *the wind-pipe*, and τεμνω, *to cut*. It is a division made between the rings of the wind-pipe. It is also called *Tracheotomy*.

Brunneri Glandulæ. They are lodged under the villous coat of the intestines, closely adjoining to the nervous. They are more numerous in the small intestines, and smaller also than in the larger. They are also called *Peyer's Glands*.

Brunonian System. The history of Dr. Brown would not be of importance in this place, were it not necessary to explain some parts of his doctrines. Originally a teacher of Latin, he attended the medical classes by the permission of the different professors; and, as the tutor of his sons in that language, was first connected with Dr. Cullen, to whom he became an useful assistant, and of whose doctrine he was a warm admirer. His great object for a future maintenance, was to repeat Dr. Cullen's lectures in London after his death. Some disagreement turned him to a virulent antagonist, and from hence arose the *Brunonian doctrine*.

We mean not by this to prejudge or disparage the system; it must rest on its own merits: but to explain that decided opposition, and the virulent language employed when speaking of the Cullenian doctrines. We suspect, however, that it may explain the source of some of his own opinions, without giving him the credit of a very brilliant genius; for, in possession of a system with the arguments in its support, it is not very difficult to say that any part is '*false*,' and to wrest the arguments to the opposite opinion. If, however, his system be well founded, it proves his genius to be pre-eminent, for little was gained by study. We recollect but one author quoted, which is Triller; and from the manner of the quotation, we should suspect that he was not intimately acquainted with him. The opinions and practice of different authors he could not have been ignorant of, from the lectures he attended; yet it is singular that his practice is so little discriminated, that he seems scarcely to have visited the sick bed, or attended to the distinguishing symptoms which influence the practical physician in the minuter variations of his conduct.

Dr. Brown, however, started as a self-appointed lecturer, and the avowed opponent of the Cullenian system. His doctrine, even more simple than that of the methodists, admitted only of the strictum and laxum, the sthenic and asthenic states, without allowing the union of both. Simplicity is attractive to youth; it is falsely called 'the seal of truth;' and to escape from professorial dogmas, added to the seduction. It is at least certain, that after some months of hesitation, Dr. Brown was greatly followed, and his doctrines were echoed in the "Medical Society," where the Cullenian system had gained a complete victory over the Boerhaavian; and, by the aid of the numerous pupils of that school, was disseminated through Europe, Asia, and America. It was eagerly caught at on all sides; but, by a strange perversion, in escaping from the humoral pathology, many professed Brunonians adopted doctrines essentially distinct from those of Brown, supposing that if they were not Boerhaavians, they were of his sect.

Dr. Brown seemed to consider man not as a being compounded of an organized system, to which the principle of life was superadded, but as a machine, to which a certain series of actions and effects is allotted by means of an excitability, differing in degree, but generally, though on the whole imperceptibly, exhausting. In fact, it is a flame kept alive by excitements, such as heat, food, passions, &c. which, however, destroy by degrees the pabulum, or, in his language, the excitability. As the machine is merely passive, and the flame kept up by blowing, it cannot be depressed except by an intermission of the blast. It may, however, be exhausted by blowing too violently; or the pabulum, not exhausted by the constant blast, may burn with greater fury on its recommencement. We mean merely to facilitate the reader's conception by our metaphor, not to render the subject ludicrous.

Life, therefore, is 'a forced state;' every thing stimulates; some substances too violently, others not sufficiently; and we thus have two kinds of debility, indirect and direct. In the former case, the strongest stimuli are necessary; in the second, the slightest destroy, in consequence of too great irritability. In the jail fever, for instance, we must give the strongest stimulants; to the man long pent up in darkness, with scanty food, the light must be moderate, the aliment of the mildest kind, and stimuli of every sort most sparingly administered; as the flame, long repressed, would be roused by the slightest excitement.

Such is the basis of Dr. Brown's system; and for one part of it, accumulated excitability, he deserves the greatest credit. It is a law of the animal economy so general, that the attention to it directs the practitioner in various ways; nor should he, on any occasion, lose sight of its consequence, that too frequent and violent excitements are destructive. It had been well if Dr. Brown had kept it more often in view, particularly in his arrangement of diseases. There is, however, another law of the system connected with this, which has been less adverted to, viz. that excitability long repressed, is, with difficulty, if at all, to be roused by stimulants. Constitutions of this kind are ruined from inactivity; they rust, as we have said, on their hinges, and the Brunonian will not refuse this addition to his system, since it is so connected with his principle, that life is a forced state.

This principle, however, we cannot admit. Life is superadded to organized matter; for organization itself will no more produce it, than the most skilful union of wheels will produce a time-piece without its spring. This leads to a fundamental objection to the Brunonian system; that, by giving man in the beginning a determined proportion of excitability, he has no where provided for its renewal, when exhausted. It accumulates from want of exhaustion, but from what source? For, let only an atom be taken from a mountain, and in no way restored, the mountain must in that proportion be diminished, and cannot regain its former bulk. Boerhaave and Cullen felt the difficulty. Boerhaave supplied it by secretion; Cullen, more indistinctly, made it the consequence of collapse, alluding, by some remote analogy, to the electrical fluid. Brown cut the knot, and, like Jack in the tale, would be 'as unlike the rogue Peter as possible;' *so that there must be no collapse.* Brown himself speaks of 'recruiting' the excitability; and his followers, when urged by the difficulty, have either evaded it, or explained in a way not very consistent with the general principle.

Again: Dr. Brown speaks of indirect and direct debility, of the two states of exhausted and accumulated irritability. The jail fever is allowed to be an instance of the former, and the person, secluded from light and air, of the latter. Yet, did Dr. Brown never see (we believe he never did) in the jail fever, inordinate stimuli fatal by their excess? Did he never see phlegmonic inflammation sometimes supervene? To the angina maligna too, a very similar disease, the inflammatory angina sometimes succeeds from too violent and long-continued stimuli. How, however, in the jail fever, one of his own instances, is the excitability exhausted by excess of stimuli? Every previous cause, every concomitant circumstance has a tendency totally different. In this and the other instance of indirect debility, we see only the powers of life gradually exhausting, in a certain degree to be roused with augmented violence by stimuli; but, after a certain period, incapable of any excitement: while even the effects of stimuli, though apparently for a time successful, often contribute to destroy the remaining portion of excitability. The difference of the two cases consists in this only, that the excitability in the latter is only accumulated; but in the former, by the debilitating power of the fever, added to that from the confinement, in a great measure destroyed, or at least so far diminished, as to be very generally irrecoverable.

A striking instance of accumulated excitability occurred in that singularly intrepid exertion of captain Bligh, when he crossed the Pacific in a small boat, with a very inconsiderable stock of provisions. On reaching Timor, one of his crew died of an inflammatory fever. Had these men after their voyage been thrown into a loathsome prison, or an infected hospital, would they have escaped? We know they would not, for similar instances have occurred; yet in these we might in vain look for the stimuli by which the excitability had been exhausted.

A consequence of this doctrine must be, that every medicine stimulates; and the difference between what are styled stimulants and sedatives is, that the latter are not sufficiently stimulating. This, however, must soon become a verbal controversy. The oxygen of the atmosphere stimulates the lungs, and hence the whole system; but if the oxygen is deficient, the stimulus is abstracted, and the machine no longer urged on. Yet this is not the only stimulus; if we abstract oxygen, we may supply an additional stimulus by warmth: abstract warmth also, and the passions may supply its place. Without all these exciting powers, we need not despair; we have brandy, laudanum, and æther. It is sufficient to state this reasoning, which, on Brunonian principles, is fair, to show its fallacy. Azote and hydrocarbonate, when breathed without dilution, immediately kill. Is this from deficient or excessive stimulus? If from the former, it differs in no degree from a sedative: if from excessive stimulus exhausting excitability, we can only say that the existence of the previous stimulus is gratuitous; and we have long since learnt, that, *quod verbo dicitur, verbo negare sat est.* If no stimulus appears, we cannot place sufficient confidence in any assertion to believe that it exists.

But these are harmless speculations. When we find them applied to practice, humanity shudders at the dangerous tendency of many of these doctrines. If we can trust reports, their application has been very extensively injurious. As the trammels of a system are every where conspicuous, so diseases are supposed to be either sthenic or asthenic. Those arranged under the former class are, *peripneumonia*, *phrenitis*, *variola*, *rubeola*, *erysipelas*, *rheumatism*, *cynanche tonsillaris*, *catarrhus*, *synocha*, *scarlatina*, *mania*, *pervigilium*, and *obesitas*. The *asthenic* diseases are, *macies*, *inquietudo*, *eruptio scabiosa*, *diabetes lenior*, *rachitis*, *menstruorum cessatio suppressio & retentio*, *mænorrhœa*, *epistaxis*, *hæmorrhois*, *sitis vomitus & indigestio cum affinibus alimentarii canalis morbis*, *pueriles affectus* scil. *vermes & tabes*, *dysenteria & cholera*, *scorbutus*, *hysteria levior*, *rheumatalgia*, *tussis asthenica*, *pertussis*, *cystirrhœa*, *podagra validiorum & imbeciliorum*, *asthma*, *spasma*, *anasarca*, *colicodynia*, *dyspepsodynia*, *hysteria gravior*, *hypochondriasis*, *hydrops*, *epilepsia*, *paralysis*, *apoplexia*, *trismus*, *tetanus*, *intermittentes*, *dysenteria & colica gravior*, *synochas*, *typhus simplex*, *cynanche gangrenosa*, *variola confluens*, *typhus*, *pestilens & pestis*. The *local diseases* follow, among which we see, with some surprise, the *internal inflammations of the abdomen*, *abortion*, and *difficult births*. *Deep wounds*, *suppuration*, *pustula*, *anthrax*, *bubo*, *gangrene*, *sphacelus*, *scrophulous tumours* and *schirrus*, may with more propriety be considered as local diseases, yet these often require general methods of treatment.

The cure is as simple as the arrangement. Bleeding, low diet, and purging, cure the sthenic diseases; stimuli, of different kinds and degrees, the asthenic. Is it surprising then that this system should have its admirers? The labour of study is at once abridged. The works of Galen and his followers may be again burnt in solemn state; and the degree of strength or debility registered on a scale, may be at once attacked by the appropriate weapon. Sad is the history which must follow. The victims of the yellow fever in the West-Indies were often laid low after full doses of Madeira, bark, and laudanum. We have *seen* the hectics raised into a destructive flame by similar means; and the typhus fever aggravated by equally undistinguishing management.

We cannot pursue the list minutely, but shall take an instance or two from each class. Peripneumony is a sthenic disease, and is attacked, as usual, by bleeding and purging. If this plan be followed, the fever is mitigated, but the affection of the breast remains the same. For this, the only salutary discharge is the expectoration, which should be conducted with care. Of this discharge Dr. Brown takes no notice; and, unfortunately, active purging will not only supersede, but prevent it: and we have no hesitation in saying, that few patients treated in this way would survive. We might notice also scarlatina and erysipelas. Either, treated by active bleeding and purging, would soon prove fatal. Once more: obesity is a disease to be cured by bleeding and purging. In fact, there is no state of the system in which these evacuations are borne with so little advantage. The truly inflammatory habit is the strong, thin, firm, muscular highlander, or the English mountaineer. The opposite state is the irritable, hysteric female, generally plump, but weak, and soon sunk by discharges.

In the second class we see the asthenic cough, by which Dr. Brown means consumption; and apoplexy. In each case we must use active stimulants. In the latter we have said they must *soon* be employed, but not without previously lessening the quantity of fluids in the head, clearing the bowels with the most active laxatives, and establishing some drain to prevent the secondary accumulation. Of these precautions not a word is said, and without them the physician will not be very successful.

Of the fatal consequence of the stimulating plan in consumption, we have unfortunately had too many instances. With the best management the picture is gloomy; with the methods proposed it is deeply darkened. If there is any more stiking feature than another in this complaint, it is increased irritability of the arterial system, and a larger proportion of oxygen in the fluids, with its accompanying irritation. Every meal of an animal nature increases the heat, the smallest quantity of wine or spirits raises it to a greater degree; and when again cooled, the patient sinks with languor and debility. Yet this is the disease treated with all the warmth of Brunonian stimulus! We are free to own that the lowering system has been carried too far; and that while we were guarding against fever, we neglected properly supporting the strength.

Of the gout we shall not again speak. Undoubtedly the system may be brought too low; and Dr. Brown, we suspect, would raise his arthritics too high. He himself suffered severely when he changed his free plan of living to a more abstemious one; but his case is not to be brought as an example, till *his* plan and its long continuance are more particularly known. We knew it; and in these more rational days, till we find similar plans have been adopted by our patients, we shall not recommend those in the work now before us, his own Latin edition, published in 1784.

Scurvy also is to be treated by stimulants; and these without the usual remedies, it is said by this author, will succeed. Uniform experience has decided differently; and lemon-juice *without* stimulants is, even at sea, found to be an effectual remedy. In the hooping-cough, stimulants are also essential in Dr. Brown's opinion. Change of air is nonsense (fabula), and vomiting, death. It is somewhat surprising that, in opposition to this dogma, hooping-cough is seldom fatal, though these useless or dangerous remedies are employed, and with those recommended—but we have not heard of any one who has so far sinned against common sense as to employ them.

We have enlarged on this system and its application, because, as we have said, it is seductive from its simplicity, and the little labour required either in its study or its management. We have not dwelt on the minute investigation really required to adapt the stimulus to the state of direct or indirect debility in a given case; for, though we know that every disease varies in this respect, yet no provision is made for it in the system: the name and the class are only necessary. We observe, indeed, that Dr. Brown, in one or two instances, orders the stimulus to be somewhat less than that of the disease; but he no where points out the symptoms which discriminate its degree.

It is not wholly the neglect of

distinguishing the degree of debility either indirect or direct, and, of course, the proportion of stimulus to be employed, that renders the application of this system difficult or dangerous, but the very imperfect distinction of diseases. The descriptions are often the most meagre and imperfect; the diagnosis is seldom attended to. These, in fact, would require what the author never possessed, practical knowledge. The distinction also of different circumstances of a disease, which would require very different and often opposite treatment, is neglected; and when we find in the same class, to be treated with the same remedies, menstruorum, suppressio, and mænorrhœa, we shall begin to suspect that an attachment to system has precluded the observation of the operations of nature. When we see in the opposite classes, pervigilium and inquietudo, phrenitis and epistaxis, colica gravior and enteritis; in the same chapter the podragra imbeciliorum and validiorum, treated in the same manner, we cannot greatly rely on the judgment or practical knowledge of the author.

Bryony. White bryony. *Bryonia alba* of Linnæus. A very common plant in woods and hedges. The root has a very nauseous biting taste, and disagreeable smell; and is employed in hydropical cases as a diuretic or drastic purge, which qualities depend upon the dose that is administered.

Bubo, from βουϐων, *the groin.* It is a tumid gland which is inflamed, or tends to suppuration; but it is generally understood only of those glands which are in the arm-pits, or the groins.

Bubonocele, βȣβωνοκηλη, from βουϐων, *the groin*, and κηλη, *a tumour.* It is also called *Hernia Inguinalis*, or rupture of the groin; and is when the intestines force the integuments through the ring of the external oblique muscle of the belly, or, according to Dr. Friend, through the cavity in the thigh, between the pectineus and the sartorius; though this latter is called *Hernia femoralis*, or *Hernia cruralis.*

Bucca, the cheek. The cheeks are the sides of the face; they reach from the eyes and temples between the nose and the ears. The upper prominent parts of the cheeks are called *Malæ.*

Buccales Glandulæ. All the insides of the cheeks near the mouth are full of small glandulous bodies called by this name. They open by small holes or orifices through the inner membrane of the mouth.

Buccinator Musculus, the trumpeter's muscle. It is thus named because of its use in forcing the breath to sound the trumpet. It arises, tendinous and fleshy, from the lower jaw, as far back as the last dens moralis, and fore part of the root of the coronoid process; fleshy from the upper jaw, between the last dens moralis, and pterygoid process of the sphenoid bone, from the extremity of which it arises tendinous, being continued between both jaws to the constrictor pharyngis superior, with which it joins; from thence proceeding with straight fibres, and adhering close to the membrane that lines the mouth, is inserted into the angle of the mouth, within the orbicularis oris. Its use is to draw the angle of the mouth backwards and outwards, and to contract its cavity, by pressing the cheek inwards, by which the food is thrust between the teeth.

Bulimia, βȣλιμια, bulimy, from βȣς, an *ox*, and λιμος, *hunger*, a ravenous appetite; or rather, when the same inclination to eat exists as in the canine appetite, without the power; and after the patient does eat he faints. It mostly arises from worms, rachitis, or from acids. M. M. Fat meats; oils; wine; brandy; tobacco; opium; emetics; anthelmintics; antacids; aromatics; cinchonia; iron.

Bullæ. Pustules on any part of the body, the size of a nutmeg.

Burgundy Pitch. The juice of the *Pinus abies* of Linnæus boiled in water, and strained through a linen cloth. It is chiefly imported from Saxony, is of a solid consistence, yet somewhat soft, of a reddish brown colour, and not disagreeable smell. It is entirely confined to external use as a stimulant, in form of a plaster.

Bursalogy. The doctrine of the bursæ mucosæ; from βυρσα, *a bag*, and λογος, *a discourse*.

Bursæ Mucosæ. Mucous bags, composed of proper membranes, containing a kind of mucus fat, formed by the exhaling arteries of the internal coat. They are of different sizes and firmness, and are connected by the cellular membrane with articular cavities, tendons, ligaments, or the periosteum. They are divided into *vaginal*, which are long and cover a tendon; and *vesicular*, which are round. The use of the bursæ mucosæ is to secrete, and contain a substance to lubricate tendons, muscles, and bones, in order to render their motion easy.

Bursalis Musculus, so called from its resemblance to *bursa*, a *purse*. It is the muscle which Bartholine calls *Marsuhialis*, and Innes calls the *Obturator Internus*, which see.

Butter. A concrete and soft substance, of a yellow colour, approaching more or less to that of gold, and of a mild agreeable taste. It melts by a gentle heat, and becomes solid by cooling. Fresh butter is mild, temperate, and relaxing, but it readily becomes sour, and in general agrees with few stomachs. Rancid butter is one of the most unwholesome and indigestible of all foods.

Buxton Water. This is the second in its degree of heat among those of Great-Britain. The water of St. Anne's well contains a trifling portion of calcareous earth, fossil alkali, and sea-salt; of all not much more than twenty grains in a gallon. It contains so much fixed air as to be rather lighter than pure common water. It seems to be most efficacious in cool weather.

C

CACHEXIA, καχεξια, from κακος, *ill* or *bad*, and εξις, *a habit*, a bad habit of body. Dr. Cullen defines it to be a depravity of the constitution of the whole, or of a great part of the body, without any febrile or nervous disease as the primary one.

Cachexia Icterica, the jaundice.

Cachexia Uterina, i. e. *Fluor Albus*.

Cacochylia, indigestion, or depraved chylification.

Cacochymia, κακοχυμια, from κακος, *ill*, and χυμος, *humour*, a depraved state of the humours.

Cacoethes, κακοηθης, from κακον, *ill*. and ηθος, a word which, when applied to diseases, signifies a *quality*, or a *disposition*. Hippocrates applied this word to malignant and difficult distempers. Galen, and some others, express by it an incurable ulcer, that is rendered so through the acrimony of the humours flowing to it. Linnæus and Vogel use this term much in the same sense with Galen, and describe the ulcer as superficial, spreading, weeping, and with callous edges.

Cacophonia, κακοφωνια, a depravity of the voice. Vogel defines it to be a disagreeable sharp kind of voice. Cullen uses this word as synonymous with *Paraphonia.*

Cacotrophia, κακοτροφια, from κακος, *ill*, and τροφη, *nutriment*, any sort of vicious nutrition in general.

Cactus, melon thistle. A genus in Linnæus's botany. He adds to this genus, the *Cereus* or *Torch Thistle*, and *Opuntia* or *Indian Fig.* He enumerates twenty-four species.

Caducus Morbus, the epilepsy.

Cæcitas, i. e. *Amaurosis.*

Cæcum Intestinum, the blind gut, so called from its being perforated at one end only. It is about three fingers breadth long. Winslow observes that its diameter is more than double that of the small intestines. By its open end it is connected with the beginning of the colon, to which it seems to be an appendage. Whatever goes into it and returns, passes both ways by the same orifice.

Cæsarea Sectio, the Cæsarean section or operation. It is the operation whereby the fœtus is extracted from the uterus through the teguments of the belly. It is called thus from Julius Cæsar, who was brought into the world this way. Some say it was one Cæso who was the first that was thus taken from the mother's womb, and from whom the operation is named.

Cæsares, children who are brought into the world by the Cæsarean operation.

Cajeputi Oleum. It is thought to be obtained from the grains of paradise. It is recommended as a nervous medicine. The dose is four or five drops.

Calamine Stone. The yellow, red, brown, and green coloured, are the four species of *Zinc Stone ;* a variety of the yellow species of *Zinc Flos*, is also a calamine stone; it is like wax, transparent, or glossy; of a solid structure and compact.

Calamint. A name of several species of *Melissa.*

Calamus Aromaticus. Sweet flag, or acorns. *Acorus calamus* of Linnæus. The root of this plant has been long employed medicinally. It has a moderately strong aromatic smell, and a warm, pungent, bitterish taste; and in doses of grs. v. to ℈i. is deemed useful as a warm stomachic. Powdered, and mixed with some absorbent, it forms a useful and pleasant dentifrice.

Calamus Scriptorius. The fourth ventricle in the brain terminates backward like the point of a writing pen; hence the under end of it is thus named.

Calcaneus, also called *Os Calcis*, the heel-bone. It is the largest bone in the foot; it lies under the astragalus. Behind, it hath a large protuberance, which forms the heel, and into which the Tendo Achillis is inserted.

Calcareous Earth, a genus of *Earth* which effervesceth with acids; earth which burns to a calx or quick-lime. This property distinguishes the lime-stones from the magnesias, which, though exposed to the hottest fire, will not burn to lime. Calcareous earth is very abundant in nature, and exists in the following forms: Being soluble in water, and miscible with acids, it exists in great abundance in the ocean, in the form of a transparent solution. This collection of waters may therefore be considered the vast repository of calcareous earth.

1. It enters largely into the coverings or habitations of the invisible worms which construct the calcareous masses called corals, corallines, madrepores, brain-stones, sea-fans, and the like, in the bottom of the sea. 2. In like manner it composes a great part of the

testaceous animals called shell-fishes, such as oysters, clams, muscles, conchs, whelks, perriwinkles, scollops, and all similar creatures, whose relics are so numerous and bulky on the shores. 3. The cataphractous coats or coverings of crustaceous insects are composed also of calcareous earth, as the coats of crabs and lobsters, the scales of sturgeons and cuttle fishes; as also the shells of eggs. 4. The teeth and bones of men, quadrupeds, birds and fishes, consist of a large quantity of calcareous earth, which enters into them as a constituent part of the healthy fabric. Thus the bodies of animals are the machines which collect calcareous earth from its dispersed state in the waters of the ocean, and in fresh waters, a greater part of which contain some portion of it in solution.

The calcareous earth so gathered together by the living functions of animals both of the water and land, does not crumble to atoms immediately on their death, but oftentimes remains in a very compact and durable form for ages afterwards, accumulating continually into immense strata or layers. Undergoing friction by the agitation of the waves, these animal relics become worn down in some degree, and in process of time harden into stones and rocks. These frequently contain portions of shells, bones, corals, or other organized animal relics, plainly distinguishable, which prove, beyond a doubt, from what they were formed originally.

There is no doubt entertained that in this manner reefs and islands have been formed in the sea; and the shelly materials of Bermudas and Barbadoes, and the reefs surrounding Otaheite and other trophical islands in the Pacific Ocean, are plain proofs of the fact. The remains of animals thus bedded in stone are called *petrifactions*, *incrustations*, and *impressions*, according to their respective degrees of approximation to their primitive structure. In some of these strata, the shells and bones are very perfect, and allow a good judgment to be formed of their genera and species. In other cases, as in Monte Bolca, near Verona in Italy, *animal mummies* have been found in complete preservation in the midst of calcareous rocks. From these particulars, it appears, that calcareous earth is a great antiseptic, for it preserves the remains of animals longer from corruption and decay, than all the fine injections, and balsams, and spices, that embalmers of the dead have ever contrived. When the bodies of the dead are placed in catacombs, or vaults of calcareous earth, they are preserved longer from putrefaction than in any other way.

Such being the preserving and antiseptic property of calcareous earth, we can explain wherefore animal bodies have been so liberally supplied with it. A safeguard was thus afforded to their bodies against the hostile acids by which they were surrounded and annoyed. And after the death of the individuals to whom these collections of calcareous earth belonged, and by whom they were made, they have descended as a precious and invaluable inheritance to the generations who have succeeded them. From this brief history, it can be readily understood why calcareous earth, which was more recently gathered together than any other of the species of earth, should occupy the highest regions or upper strata of the globe, while the clay, flint, and magnesian minerals, being of older date and existence, lay below. The great calcareous strata being thus but of comparatively recent formation, and placed last, must be found uppermost in the work of stratification. They accordingly occupy the superior ranges in the mineralogical structure of the world.

Calcareous earth dissolves in water; and on analyzing most of the waters which gush out of the hills, there is found to be a small admixture of this material. It serves to alkalize, in some degree, the water, and thus to render it healthy. If it is deposited after having undergone solution in water, which frequently happens, it forms the stony masses called *stalactites*, *stalagmites*, *drop-stones*, *watricles*, and *incrustations* and *concretions* of various sorts. In the midst of these modern productions, organic remains of vegetables and animals have been frequently found in a state of excellent soundness and preservation; showing the antiseptic power of calcareous earth.

When calcareous earth is combined with carbonic acid, it is called, if very beautiful, *marble;* if compact and unhandsome, *limestone;* if granulated and easily worked, *freestone;* and if white and friable, *chalk*. When combined with sulphuric acid, it forms, if compact and fair, *alabaster;* if more rough, *gypsum;* and in other forms, *zelenites* and *talck*. When united with spathic acid, it constitutes the beautiful family of *fluors*, and *fluoric* and *cubical* spars. When combined with muriatic acid, it constitutes the deliquescent, and part of the bitter portion of ocean water. With the acid of putrefaction, or septic acid, it forms a compound which is an admirable manure, and very remarkable for its quality of promoting the growth of plants: and if pot-ash be mingled with this septite of calcareous earth, it attracts the septic acid, and forms salt-petre. See *Lime*.

Calcination. A term given by chemists to that process by which minerals, when exposed to a certain degree of heat, are deprived of their water; stones converted into lime; and metals into calces. A metal never becomes calcined, but when in contact with air; the more extensive this contact, the larger is the quantity of metal which becomes calcined; and Lavoisier has proved, that a given quantity of air can only serve for the calcination of a given quantity of metal. The metal thus calcined is termed a metallic calx.

Calculus, the stones which form in the cysts and bladders for containing secreted fluids. They are of two kinds. 1. Such as are formed in the *urinary* bladder. They are believed to consist chiefly of a peculiar acid, called the *lithic*, or, latterly, the *uric* acid in a crystalline form, united with a portion of mucus, blood, or whatever else happens to come in contact with the crystallizing surface. Though an acid, it has a weaker attraction for alkalies than even the carbonic; therefore, as alkalies cannot be taken into the stomach, or injected into the bladder, in their caustic state, but in extremely small quantities, and very much diluted, but must be administered in the form of carbonates, or in connection with carbonic acid, they are rendered thereby incapable of dissolving or bringing away the calculus. 2. Such as are formed in the gall-bladder. These are of a resinous and inflammable nature, and when sticking in the ducts of the liver, are a frequent cause of icterus or jaundice.

Calefacientia, such stimulants as excite a degree of warmth in the parts to which they are applied.

Calendula, marigold. A genus in Linnæus's botany. He enumerates nine species.

Calenture, is a distemper peculiar to sailors, wherein they imagine the sea to be green fields, and will throw themselves into it if not restrained. Bonetus gives an account of it in *Med. Sept.* as also does Dr. Stubbs in the *Philosophical Transactions.*

Caligo. A disease of the eye, known by diminished or destroyed sight; and by the interposition of a dark body between the object and the retina. It is arranged by Cullen in the class *locales*, and order *dysæsthesiæ.* The species of caligo are distinguished according to the situation of the interposed body; thus *caligo lentis*, *caligo corneæ*, *caligo pupillæ*, *caligo humorum*, and *caligo palpebrarum.* M. M. In the first species, mercury; couching or extraction of the lens. 2d. Escharotics, or cutting off the film when external; mercurials and cooling purgatives when in the substance of the cornea. 3d. Incision of the iris. 4th. Incision of the cornea. 5th. Destroying the adhesion with a probe or scalpel.

Calix. See *Calyx* and *Perianthium.*

Callosity, and *Callus*, is a kind of swelling without pain, like that of the skin by hard labour, and therefore, when wounds, and the edges of ulcers grow so, they are said to be *callous.*

Calomel, is a name commonly given to *Mercurius Dulcis;* but it seems at first to have more properly belonged to the *Æthiops Mineral*, from μελας, *niger*, *black*, and καλλος, *pulcher*, *fair;* but some will have it given to *Mercurius Dulcis*, from the authority of a whimsical chemist who employed a black in his elaboratory, with a regard to the same etymology, signifying both white and black, the medicine answering to the one, and the operator to the other. If the *Mercurius Dulcis* is ground with volatile spirit, it becomes black, and perhaps is the true calomel.

Caloric, principle of heat, fixed heat, or latent heat. Disputes have been entertained whether caloric was itself a substance or material being, or whether it was but a modification of other substances. Hence arose two doctrines concerning it: 1. The *mechanical* doctrine of fire, or caloric, which taught that it consisted in a subtile, intense, and vibratory motion among the intestine particles of bodies, as the heat excited by the friction of a wheel against its axletree, of the mill-stones upon the grain crushed between them, of an iron rod hammered upon an anvil, of an iron cannon suffering the operation of boring under water, &c. where much caloric is evolved by mere agitation or percussion, without derivation ab extra, or communication from any heated substance. 2. The *chemical* doctrine of fire, affirming that it is a most attenuated and penetrating fluid, travelling through all space and nature, insinuating itself into the pores and interstices of every species of bodies, producing repulsion and enlargement of volume wherever it goes. No attempts hitherto made have been able to prove its ponderosity or materiality. It cannot be weighed in the balance. Its addition augments not sensibly the gravity of bodies; nor does its subtraction lessen their weight. In many cases, too, there is an impossibility of explaining whence the caloric present in certain bodies is derived. These considerations have led some of the most discerning of modern philosophers to doubt, or even to deny the materiality of caloric; and some of them profess to believe it is a nonentity. To these, caloric must appear only a *repelling power*, inherent in the atoms of matter, and susceptible of increase and diminution. And in this sense, which is probably the true one, caloric, or anticrouon, is but the counterpart of attraction. Between these *attractive* and *repelling* powers all the particles of matter seem to be poized or held in equilibrio. Now, if the *attractive* power is not a *materia per se*, why need it be contended that the *repulsive* power is a peculiar and independent thing? See *Anticrouon*. Count Rumford's Essays contain a body of excellent instruction on this subject.

Calva, } The cranium, the
Calvaria, } upper part of the head, which grows bald first; also, the bird called a coot.

Calvities, baldness on the sinciput.

Calx, the same as *Calcaneus;* which see. It is also a term in *Chemistry* for any thing that is rendered reducible to powder, by burning; the word signifying *lime*, which is so made.

Calx preparata, i. e. *Calx lota.*

Calx viva, quick-lime. Calx, or lime, is retained in the college Pharmacopeia; and is employed in the Aqua Kali Puri, formerly called Lixiv. Saponarium; in the Kali Purum, or Caustic fixt Vegetable Alkali; in the Calx cum Kali, Puro, formerly called Causticum Commune Fortius; in the Aqua Ammonia Puræ, or Spirit. Sal Ammoniac: cum Calce. in the Linimentum Ammoniæ Fortius, and Linimentum Camphoræ.

Calycanthus, Carolinian allspice. A genus in Linnæus's botany. He enumerates two species.

Calypter, from καλυπτω, *to hide*, a carnous excrescence covering the hemorrhoidal vein.

Calyptra. In *Botany* it is the thin involucrum, or cover of some seeds. Also a thin cup which covers the antheræ of some of the mosses.

Calyx. In *Botany*, a general term expressing the cup of a flower, or that part of a plant which surrounds and supports the other parts of the flower. They are various in their structure, and, on that account, distinguished by several names, as *Perianthium*, *Involucrum*, *Amentum*, *Spatha*, *Gluma*, &c. which see.

Camara, the fornix of the brain; also the vaulted part of the auricle leading to the external foramen; also the name of a species of *Lantana.*

Cambogia, a genus in Linnæus's botany. There is but one species, viz. the *Cambogia Gutta.*

Camomile. See *Anthemis.*

Campaniform, } from *campana*,
Campanulous, } *a bell*, such plants as have flowers that are shaped like a bell.

Campeachy Wood, *Lignum Campechense.* See *Hæmatoxylum.*

Camphora. Camphor or Camphire. The tree from which this substance is obtained is the *Laurus camphora* of Linnæus, indigenous to Japan, where it grows abundantly. The camphor is found to lodge every where in the interstices of the fibres of the wood, pith, and knots of the tree. The crude camphor, exported from Japan, appears in small greyish pieces, and is intermixed with various extraneous matters; in this state it is received by the Dutch, and purified by a second sublimation; it is then formed into loaves, in which state it is sent to England. Pure camphor is white, pellucid, somewhat unctuous to the touch; of a bitterish, aromatic, acrid taste, yet accompanied with a sense of coolness; of a fragrant smell, and approaching to that of rosemary, but much stronger. It is totally volatile and inflammable, soluble in vinous spirits, oils, and the mineral acids; not in water, fixed nor volatile alkaline liquors, nor in acids of the vegetable kingdom. The use of this important medicine, in different diseases, is very considerable. It has been much employed, with great advantage, in fevers of all kinds, particularly in nervous fevers attended with delirium and much watchfulness. The experienced WERIHOFF has witnessed its utility in several inflammatory diseases, and speaks highly in favour of its refrigerant qualities. The benefit derived from its use in putrid fevers, where bark and acids are contra-indicated, is remarkable. In spasmodic and convulsive affections, it is also of much service, and even in epilepsy. In chronic diseases this medicine is likewise employed; and against rheumatism, arthritis, and mania, we have several accounts of its efficacy. Nor is it less efficacious when applied externally in certain diseases; it dissipates inflammatory tumours in a short time, and its antiseptic quality, in resisting and curing gangrene, is very considerable. There are several other properties peculiar to this medicine, which, it is lamented, must be passed over; one, however, must not be omitted, viz. the power it possesses of obviating the strangury that is produced by cantharides, when sprinkled over a blister. The preparations of camphor are *spiritus camphoratus, oleum camphoratum*, *linimentum camphoræ*, *tinctura opii camphorata*, and the *mistura camphorata*.—Grs. iii. to ʒss.

Camphorates (Camphoris, atis, s. m.) Salts formed by the union of the camphoric acid with different bases; thus *comphorat of alumine*, *camphorat of ammoniac*, &c.

Camphoric Acid. If nitric acid be distilled several times (six or eight) from camphor, a crystalized salt is obtained, called the acid of camphor, and which reddens syrup of violets and the tincture of turnsole. Its taste is bitter, and it differs from oxalic acid, in not precipitating lime from the muriatic acid. The union of this acid with different bases forms what is called a *camphorat*.

Canalis Arteriosus. Canalis Botalli. A blood-vessel peculiar to the fœtus, disappearing after birth; through which the blood passes from the pulmonary artery into the aorta.

Canales Semicirculares. The three semicircular canals are placed in the posterior part of the labyrinth of the ear, and open by five orifices into the vestibulum. See *Ear*.

Canalis Venosus. A canal peculiar to the fœtus, disappearing after birth, that conveys the maternal blood from the *portæ* of the liver to the ascending *vena cava*.

Cancelli. Lattice-work, generally applied to the reticular substance in bones.

Cancer, the crab. The shell-fish so called. The college have retained the Chelæ Cancrorum in their Pharmacopeia: their preparation is described among the more simple preparations: they are employed in the Pulvis e Chelis Cancrorum Compositus; Pulvis Contrayervæ Compositus; Trochisci e Creta, formerly called Tabell. Cardialg. and Conf. Aromatica, instead of the Conf. Card.

Cancer. Carcinoma. A painful, hard, indolent tumour of a glandular part, which terminates in the foulest ulcer. Those tumours were so called by the ancients, that exhibited large blue veins, like crab's claws; from *cancer* a crab.—M. M. Excision. When that is not permitted, arsenic; a carrot poultice; cicuta, belladonna or stramonium.

Canella Alba. Laurel-leaved canella. *Canella alba* of Linnæus. The tree, which produces the bark so called, is a native of the West-Indies. It is brought into Europe in long quills, somewhat thicker than cinnamon: their taste is moderately warm, aromatic, and bitterish; and of an agreeable smell, somewhat resembling that of cloves. Canella alba has been supposed to possess a considerable share of medicinal power, and is said to be a useful medicine in scurvy and some other complaints. It is now merely considered as a useful and cheap aromatic, and is chiefly employed for the purpose of correcting, and rendering less disagreeable, the more powerful and nauseous drugs: it is therefore an ingredient in the *pulvis aloeticus* of the London Pharmacopeia, and in the *tinctura amara*, *vinum amarum*, *vinum rhæi*, &c. of the Edinburgh.—℈i to ʒii.

Canine Appetite. It is an inordinate hunger, to the degree of a disease, so that the person becomes as voracious as dogs; whence the name.

Canine Teeth. The four cuspidati or eye-teeth are so called from their resemblance to those of the dog. See *Teeth*.

Canities, greyness of the hair, or grey-headed.

Canker. Eroding ulcers, formed without a previous tumour, and seated in the gums, are thus named.

Cannula. A tube adapted to a sharp instrument, with which it is thrust into a cavity or tumour, containing a fluid; the perforation being made, the sharp instrument is withdrawn, and the cannula left, in order that the fluid may pass through it.

Cantharides. Spanish flies. *Meloë vesicatorius* of Linnæus. The importance of these flies, by their stimulant, corrosive, and epispastic qualities, in the practice of physic and surgery, is very considerable; indeed, so much so, as to induce many to consider them as the most powerful medicine in the materia medica. When applied on the skin, in the form of a plaster, it soon raises a blister full of serous matter, and thus relieves inflammatory diseases, as phrenitis, pleuritis, hepatitis, phlegmon, bubo, myositis, arthritis, &c. The tincture of these flies is also of great utility in several cutaneous diseases, rheumatic affections, sciatic pains, &c. but ought to be used with much caution. In New-York and Pennsylvania several species of blistering flies have within a few years been discovered. They are so plentiful on certain plants, especially the common potatoe (solanum tuberosum), that country physicians can easily collect enough for their own use in their fields and gardens. If pains were taken to catch them in their proper season, the necessity of importing the cantharides of the shops from foreign parts might be wholly dispensed with. See Chapman's and Woodhouse's communications in the 2d and 3d volumes of the Medical Repository.

Canthus, κανθος. An angle of the eye, or the corner of the eye. The greater *canthus* is next the nose; the lesser *canthus* lies towards the temples.

Caochouch. } This elastic gum
Caoutchouc. } is the produce of the *Jatropha elastica* of Linnæus.

Capillary Vessels, are the small ramifications of the arteries; so called from *capillus*, *a little hair*.

Capillares Vermiculi, those small worms in infants which some call *Crines*, *Crinedones*, and *Dracunculi*.

Capillatio, a capillary fracture of the cranium.

Capillitium, i. e. *Capillamentum*; also the *Trichiasis*, and the hairy scalp.

Capillorum Defluvium, i. e. *Alopecia*.

Capillus, the hair of the head; also hair in general. The hairs are hollow, as appears from the *Plica Polonica.*

Capital Lees, are the strong ones used by soap-makers; which are also used to make the lapis infernalis with.

Capsicum, Guinea, or Indian pepper. A genus in Linnæus's botany. He enumerates five species. From a species of this genus we obtain Cayenne pepper.

Capsulare Ligamentum, the capsular ligament; also called the *Mucilaginous Ligaments*, as they contain many glands to separate the synovia. Every articulating bone is furnished with a *capsular ligament*, which is composed of two layers; the external is the stronger, and is made of the periosteum; the inner is thin and uniform. The use of this *ligament* is, 1st. to connect the bones, which is performed by the other lamella; 2dly, to confine the synovia, which is the office of the inner layer.

Caput. The head, cranium, or skull, is situated above the trunk, upon the cervical vertebræ. For its bones, see *Bones.* Upon the hairy part is observed the *vertex* or crown, *sinciput* or forepart, *occiput* or hinder part, and the temples. The parts distinguished on the face are well known, as the forehead, nose, eyes, &c. The arteries of the head are branches of the carotids; and the veins empty themselves into the jugulars.

Caput Gallinaginis, a woodcock's, snipe's, or cock's-head; is a kind of *Caruncle*, a spongy border, at the extremities, or apertures of the vesiculæ seminales, to prevent the impetus of the seed from being sufficient there to dilate the orifices of the vasa deferentia, except when assisted by the compression of the surrounding parts in copulation.

Caraways. See *Carum.*

Carbone. Elementary charcoal is perhaps found no where in creation in a pure and unmingled state; and difficult indeed, if not impossible, to procure so by art. But although it is so rare to be met with by itself, it exists abundantly in combination with other things. It enters largely into the constitution of vegetable and animal bodies. In many plants there is so much carbone, that after the water, hydrogen and essential oils are consumed or expelled, there is enough carbone left to retain the shape of the branch or trunk, and to exhibit its annual circles. This is called *charcoal;* and when this part of vegetables is wholly burned, it turns, by combination with oxygen and caloric, to *carbonic oxyd*, *carbonic acid*, and *carbonic acid gas.* Large quantities of carbonic acid gas are produced during respiration, fermentation, inflammation, and corruption of organized bodies. Its specific gravity is very great; it being the heaviest of the aëriform fluids; therefore it is to be met with in mines, caverns, wells, vaults, and holes where one or more of the beforementioned processes is going on, or into which it subsides by its great weight. As it frequently destroyed the lives of animals in such places, it has been called *choak-damp.* It is frequently found above ground also in the lower stratum of atmosphere; on analyzing which, there is discovered to be, besides oxygenous and septous gases, a small portion of carbonic acid air.

Carbonic acid is thus an abundant production; and unless there were some means provided for its diminution and destruction, the atmosphere would be overcharged by it, and grow uninhabitable. These means are two: 1. The combination of vast quantities of it with lime, magnesia, and alkaline salts, into the compounds called carbonates; and, 2. The decomposition of carbonic acid, and the severing of it into its elements by the living economy of plants. When plants feed upon carbonic acid they retain the carbone in their own bodies, and expel the oxygen in a form fit for animal respiration through their leaves.

Carbone thus becomes an ingredient in the vegetable economy, and on the decay of this class of beings, great quantities of it are strewed over the earth's surface, and contribute to form black mould, grassy sward, peat and turf, as well as a large portion of manures. In all these, carbone is a predominating material. Hence may it be comprehended how vegetables acquire the carbone which they possess in such large quantities.

Animals feed upon vegetables, and thence derive the carbone with which their bodies are replenished: and this is distributed in such a manner, that, with phlogiston or hydrogen, it forms their *oil* and *fat*, and with phlogiston and septon it constitutes their *lean* and *brawn*. Carbone perseveres in its connection with these ingredients as long as the life of animals lasts, and for an indefinite time longer, and then mingles with the black mould of the soil, or turns to carbonic acid gas. The blood, as well as the muscles, nerves, fat, &c. contains a great deal of carbone.

In the interior parts of the superficial strata of the earth, and often in company with calcareous free-stone, carbone is found mineralized. Like calcareous earth and lime-stone, it belongs to the *secondary* class of fossils. Accordingly, coal is never found among the *primitive* materials of the globe; and, therefore, where whinstone, granite, slate, micaceous rock, and shorl abound, strata of coal are not to be expected. But, on the other hand, as the experienced professor John Walker observes, where free-stone, lime-stone, rock and slate-marle, and iron-stone, and more especially *dogger*, *blaes*, and *shiver* abound, it is almost certain that coal accompanies them.

Coal is a combustible substance, but in its pure state exhibits no flame or blaze whatever; and this forms an obvious and distinctive character between it and phlogiston or hydrogen, whose criterion it is to burn with flame in all cases. Another distinction between the two is, that carbone with oxygen forms carbonic acid; while phlogiston with oxygen affords water. Whenever coal burns with flame it is a pure token of the presence of phlogiston, which escaping in the form of inflammable air, burns as it flies off. See *Phlogiston*.

Carbonates, are salts formed by the union of carbonic acid with different alkaline, earthy, and metallic bases: there are twenty-four species enumerated in M. Fourcroy's Elements of Natural History and Chemistry.

Carbuncle. This is sometimes used in the same sense as *Anthrax* which see; but is more generally taken for that particular boil which appears in pestilential fevers, and is a red hard swelling with great pain, and a burning heat. From its similitude to the colour of fire likewise, this term strictly signifying a live coal, is sometimes given to a precious stone of the ruby kind.

Carbure of Iron, implies plumbago in M. Fourcroy's Elements of Natural History and Chemistry.

Carcinoma, } καρκινωμα, from καρ-
Carcinos, } κινος, *cancer*, and νεμω, *depasco*, *to feed upon*, is a particular ulcer, called commonly a *Cancer*, which is very difficult to

cure. A disorder likewise in the horny coat of the eye is thus called by some writers.

Cardamine. Common lady's smock, or cuckoo flower. *Cardamine pratensis* of Linnæus. It is the flower of this plant, which is a native of England, that has a place in the materia medica, upon the authority of Sir George Baker, who has published five cases, two of chorea sancti Viti, one of spasmodic asthma, an hemiplegia, and a case of spasmodic affections of the lower limbs, wherein the flores cardamines were successfully used. —℈i. to ʒi.

Cardamomum Minus. Officinal cardamom. *Amomum repens, seu le cardamome de la côte de Malabar,* of Sonnerat. The seeds of this plant are imported in their capsules or husks, by which they are preserved, for they soon lose a part of their flavour when freed from this covering. On being chewed, they impart a glowing aromatic warmth, and grateful pungency; they are supposed gently to stimulate the stomach, and prove cordial, carminative, and antispasmodic, but without that irritation and heat which many of the other spicy aromatics are apt to produce. Simple and compound spirituous tinctures are prepared from them, and they are ordered as a spicy ingredient in many of the officinal compositions. —Grs. iij. to ℈ss.

Cardamomum Majus, greater cardamom, the *Amomum Grana Paradisi* of Linnæus.

Cardia, καρδια. So the Greeks called the heart. But now this word is used for the left orifice of the stomach, which was supposed by some anatomists to have an extraordinary consent therewith. And hence, things which are supposed to influence the heart immediately, as cordials, are called *Cardiacs.*

Cardiaca. In *Pharmacy* it signifies cordials.

Cardiaca Arteria, i. e. *Coronaria Cordis Arteria.*

Cardialgia, the heart-burn, from καρδια, *the heart,* or rather, *the left orifice of the stomach,* and αλγεω, *to be pained;* so more properly pain or uneasiness about the upper orifice of the stomach. It is an instance of *Dyspepsia.* This disorder is called *Soda,* or spurious *Cardialgia;* and pain in the stomach, or the true *Cardialgia.* In the spurious kind the pain is not so great, nor does the strength fail, nor is there any tossing or remarkable inquietude. In the true, there is pain in the stomach, or about its orifices, but generally felt about the part called the pit of the stomach; it is attended with great anxiety, difficulty of breathing, want of strength, inquietude, retching to vomit, coldness, and trembling of the extremities. Sometimes the uneasy sensation extends the whole length of the œsophagus, with a pressure or constriction, and usually attacks by fits. The general means of relief are alkalies, absorbent earths, and whatever improves the power of digestion.

Carditis. Inflammation of the heart; from καρδια, the heart. It is a genus of disease arranged by Cullen in the class *pyrexiæ,* and order *phlegmasiæ.* It is known by pyrexia; pain in the region of the stomach; great anxiety; difficulty of breathing; cough; irregular pulse; palpitation, and fainting.—M. M. Same as in pneumonia.

Carduus Benedictus. Blessed or holy thistle. *Centaurea benedicta* of Linnæus. This exotic plant obtained the name of benedictus, from its being supposed to possess extraordinary medicinal virtues. In loss of appetite, where the stomach was injured by irregularities, its good effects have been frequently experienced. —℈i. to ʒi.

Carica. The fig. The plant which affords this fruit is the *Ficus carica.* Fresh figs are, when completely ripe, soft, succulent, and easily digested, unless eaten in immoderate quantities, when they are apt to occasion flatulency, pain of the bowels, and diarrhæa. The dried fruit, which is sold in our shops, is pleasanter to the taste, and more wholesome and nutritive. They are directed in the *decoctum hordei compositum*, and in the *electuarium lenitivum.* Applied externally, they promote the suppuration of tumours; hence they have a place in maturating cataplasms; and are very convenient to apply to the gums, and, when boiled with milk, to the throat.

Caries, expresses the rottenness of a bone; whence

Carious is said of a foul bone, or one inclined to rottenness.

Carmin, carmine. It is a preparation from cochineal. It is used chiefly for miniature paintings.

Carminative. A term applied to those substances, which allay pain, and dispel flatulencies of the primæ viæ. The word is derived from *carmen*, a verse, or charm; because practitioners in ancient times ascribed their operations to a charm or enchantment.

Caros. Καρος. Insensibility and sleepiness, with easy respiration. It rises on a coma, and is a slight degree of *Apoplexy*, in which you get some broken incoherent answers from the patient; when called he scarce opens his eye; yet if he be pricked, he hath feeling enough to manifest his sense of it.

Carotids. Two considerable arteries that proceed, one on each side of the cervical vertebræ, to the head, and which supply it with blood. The right carotid does not arise immediately from the arch of the aorta, but is given off from the arteria innominata. The left arises from the arch of the aorta. Each carotid is divided into external and internal, or that portion without, and that within the cranium. The external gives off eight branches to the neck and face, viz. *anteriorly*, the superior thyroideal, the sublingual, the inferior maxillary, the external maxillary; *posteriorly*, the internal maxillary, the occipital, the external auditory, and the temporal. The internal carotid or cerebral artery, gives off four branches within the cavity of the cranium; the anterior cerebral, the posterior, the central artery of the optic nerve, and the internal orbital.

Carpobalsam. The fruit of the balsam tree, *Amyris gileadensis* of Linnæus; from καρπος, *fruit*, and βαλσαμον, *balsam.* Now in disuse.

Carpus. Καρπος, the wrist, or carpus. See *Bones.*

Carthamus, bastard saffron, or saf-flower. A genus in Linnæus's botany. He enumerates ten species.

Carthusianus Pulvis, i. e. *Kermes Mineral.*

Cartilage. A white, elastic, glistening substance, growing to bones, and commonly called *gristle.* Cartilages are divided by anatomists into obducent, which cover the moveable articulations of bones; inter-articular, which are situated between the articulations, and uniting cartilages, which unite one bone with another. Their use is to lubricate the articulations of bones, and to connect some bones by an immoveable connection.

Cartilago Ensiformis, and also called *Xiphoides*, from ξιφος, *ensis, a sword*, and ειδος, *forma, shape*; is the tip or extremity of the sternum, which is broad at its upper end, and narrower towards the extremity, where it is sometimes a little forked, and bends downwards, so as to hurt the stomach, and cause vomiting. See *Sternum.*

Cartilago innominata, so called by Galen, is the same as the moderns call *Annularis*, or *Cricoïdes;* which is the second cartilage of the larynx, and, according to Bartholine, is the basis of all the other.

Cartilago Scutiformis, so called from its resemblance to a helmet in shape; is that *cartilage* whose prominence is discernible, externally, in the throat, and by some called *Pomum Adami*, from a conceit of its being left as a mark of the divine wrath upon Adam's transgression.

Carum, caraways. A genus in Linnæus's botany. He hath one species.

Caruncula, a caruncle. This word is a diminutive from *caro*, *flesh;* it is either preternatural, as those little excrescences in the urinary passages, in venereal cases especially; or natural, as the

Carunculæ Myrtiformes, from their resemblance of myrtle-berries, so called; as also *Glandulæ Myrtiformes*. They are made by the rupture of the hymen in the first copulation, which contracting in several places, forms those *caruncles* or glands.

Carunculæ Lachrymales, *Puncta Lachrymalia*, and *Glandulæ Lachrymales:* all concur in the same offices, and will hardly admit of a separate description; thus distinguished from *lachrymæ*, *tears*. On the back-side of the adnata tunica of the eye, upon the upper part of the globe is the *glandula lachrymalis*, pretty large, divided into several lobes, each of which sends out an excretory channel, which opens in the fore side of this membrane, where it covers the upper lid. This gland separates the matter of the tears, which, by the continual motion of this lid, moisten the cornea, which otherwise would dry and wrinkle by the continual action of the external air. The edge of the eye-lid being of an equal convexity with the ball of the eye, which they touch, as the tears fall off from the cornea, they are stopt by the edge of the under eye-lid, along which they run till they fall into two small holes in the great canthus, one in each lid. These holes are called *Puncta Lachrymalia:* and these lead to a small membranous bag, which is situated in this corner, upon the os lachrymale; from the bottom of which goes a small pipe, which pierces this bone into the nose, and opens under the upper lamina of the os spongiosum. It moistens the inner membrane of the nostrils by the humour of the *lachrymal glands*, which runs from off the globe into them. Sometimes the acrimony of this humour causeth sneezing, which may be hindered by pressing the angle of the eye to stop its flowing. Now, between these two puncta there is a *caruncle* which serves to keep them open when the eyes are shut, and this by some is ignorantly called the *Glandula Lachrymalis.*

Carunculæ Papillares, are those little protuberances on the inside of the pelvis of the kidneys, made by the extremities of the tubes, which bring the serum from the glands in the exterior parts to the pelvis.

Caruon. Common caraway. *Carum cauri* of Linnæus. Caraway seeds are well known to have a pleasant spicy smell, and a warm aromatic taste, and on this account, are used for various economical purposes. They are esteemed to be carminative, cordial, and stomachic, and recommended in dyspepsia, flatulencies, and other symptoms attending hysterical and hypochondriacal disorders. An essential oil and distilled water are directed to be prepared from them by the London college.—℈ss. ʒ ss. Oil of gt. i. to iii.

Carus, insensibility and sleepiness, with quiet respiration. It sometimes signifies a loss of sense and voluntary motion, respiration remaining uninjured: the same authors call the disease an *Apoplexy*, if to this is added an oppressed respiration to a considerable degree, or so as to snort or snore. Sometimes it signifies a profound sleep, but without fever.

Carus a frigore, i. e. *Apoplexia Sanguinea.*

Carus a hydrocephalo, i. e. *Apoplexia Serosa.*

Carus ab Insolatione, i. e. *Ictus Solaris.*

Carus Spontaneus, i. e. *Apoplexia Sanguinea.*

Caryophyllum Aromaticum. The clove. The tree which affords this spice is the *Caryophullus aromaticus* of Linnæus, and grows in the East-Indies, the Moluccas, &c. The clove is the unexpanded flower, or rather the calyx; it has a strong, agreeable smell, and a bitterish, hot, not very pungent, taste. The oil of cloves, commonly met with in the shops and received from the Dutch, is highly acrimonious, and sophisticated. Clove is accounted the hottest and most acrid of the aromatics, and by acting as a powerful stimulant to the muscular fibres, may, in some cases of atonic gout, paralysis, &c. supersede most others of the aromatic class; and the foreign oil, by its great acrimony, is also well adapted for several external purposes: it is directed by several Pharmacopeias, and the clove itself enters several officinal preparations.—Grs. v. to ℈i.

Caryophyllum Rubrum. Clove pink. This fragrant plant, *Dianthus Caryophyllus* of Linnæus, grows wild in several parts of England; but the flowers, which are pharmaceutically employed, are usually produced in gardens: they have a pleasant aromatic smell, somewhat allied to that of clove spice; their taste is bitterish and subadstringent. These flowers were formerly in extensive use, but are now merely employed in form of syrup, as a useful and pleasant vehicle for other medicines.

Caryophyllus. See *Caryophyllum aromaticum;* also a species of *Dianthus.* The college have retained the flower of the Dianthus Caryophyllus, Lin. in their Pharmacopeia; a syrup, Syrupus Caryophylli rubri, is directed.

Caryophyllus aromaticus Americanus, the Jamaica pepper-tree.

Cascarillæ Cortex. Elutheria seu Eluteria. The tree that affords this bark is the *Clutia eluteria seu cascarilla.* Cascarilla comes to us in quills, covered on the outside with a rough, whitish matter, and brownish on the inner side, exhibiting when broken, a smooth, close, blackish brown surface. It has a lightly agreeable smell, and a moderately bitter taste, accompanied with a considerable aromatic warmth. It is a very excellent tonic, adstringent, and stomachic, and is deserving of a more general use than it has hitherto met with.

Cassada. It grows in the warmer parts of the western world. Its root is the part used: it is poisonous, and called *Yuca:* when it is prepared into flour it is called *Cassavi.* Though the root is a strong poison, it is prepared into wholesome bread; for by boiling all the poisonous quality is dissipated.

Cassava, the *Jatropha*, and several of its species, particularly the *Manihot.*

Cassia, cassia, or senna. A genus in Linnæus's botany. He includes in this genus the *Senna*, and enumerates thirty-eight species.

Cassia, cassia, or wild cinnamon. A species of *Laurus.*

Cassia Canella, i. e. *Cassia Lignea.*

Cassia Caryophyllata. It is the bark of the Jamaica pepper-tree.

Cassia Cinnamomea, true cinnamon-tree.

Cassia Fistularis. Purging Cassia. This tree, *Cassia fistula* of Linnæus, is a native of both Indies. The pods of the East-India cassia are of less diameter, smoother, and afford a blacker, sweeter, and more grateful pulp, than those which are brought from the West-Indies. Those pods which are the heaviest, and in which the seeds do not rattle on being shaken, are commonly the best, and contain the most pulp, which is the part medicinally employed, and to be obtained in the manner described in the Pharmacopeias. The best pulp is of a bright shining black colour, and of a sweet taste, with a slight degree of acidity. It has been long used as a laxative medicine, and being gentle in its operation and seldom disturbing the bowels, is well adapted to children and pregnant women. The officinal preparation of this drug is *electuarium è cassia ;* it is also an ingredient in the *electuarium è senna.* ʒij. to ℥ij.

Cassia Lignæ. It is the *Laurus Cassia*, Linnæi.

Castor, the beaver. It is an amphibious quadruped, inhabiting some parts of Prussia, Poland, Russia, and Germany; but the greatest numbers are in Canada. In the inguinal region of this animal are found four bags of an oval shape, a large and a small one on each side; in the two large ones is contained a softish greyish yellow, or light brown substance, which, in a warm dry air, grows hard and brittle, and of a darker and browner colour; this is also called *Castor*, and is what is used in medicine. The two smaller bags are of little or no value. Castor has an acrid, bitter, and a nauseous taste; its smell is strong, aromatic, and even fœtid. It is medicinally used as a powerful antispasmodic in hysterical and hypochondriacal affections, and in convulsions. It has also been successfully administered in epilepsy and tetanus.—Grs. iiij to ℈i.

Castor Oil, i. e. *Ricini, (Ol.)*

Castration, the taking away the testicles of any animal.

Catalepsy. Καταληψις, from καταλαμβανειν, to seize, to hold. A sudden suppression of motion and sensation, the body remaining in the same posture that it was in when seized. M. M. Antispasmodics; bitters; cinchona; opium.

Catamenia. Menses. The monthly discharge of blood from the uterus of females, between the ages of 16 and 50; from κατα, according to, and μην, the month.

Cataplasma, καταπλασμα, a cataplasm, or poultice, from καταπλασσω, *illino, to spread like a plaster.* They are softer than plasters or ointments. They are generally formed of some vegetable substances, and applied of such a consistence as neither to adhere nor run. They are also particularly useful when the intention is to be effected by the perpetuity of heat or cold, which they retain longer than any other kind of composition.

Cataract, from καταρασσω, to mingle together, to confound. See *Caligo.*

Cataria, catmint or nep, a species of *Nepeta.* Tournefort called the *Nepeta* of *Linnæus* by the name of *Cataria.*

Catarrhus. Coryza. A catarrh. Καταρρος, a defluxion; from κατα, and ρεω, to flow down. An increased secretion of mucus from the membranes of the nose, fauces, and bronchiæ, with pyrexia, and attended with sneezing, cough, thirst, lassitude, and want of appetite. It is a genus of disease in the class *pyrexiæ*, and order *profluvia*, of Cullen. There are two species of catarrh, viz. *catarrhus a frigore*, which is very common, and is called a cold in the head; and *catarrhus a contagione*, the influenza, which sometimes seizes a whole city. Catarrh is also symptomatic of several other diseases. M. M. Warm clothing and drink; venesection; emetics; cathartics; mucilages; antimonials; squills; digitalis; camphor; opium; blisters.

Catechu. Terra japonica. An extract prepared in India from the juice of the *Mimosa catechu* of Linnæus, by boiling the wood and evaporating the decoction by the heat of the sun. In its purest state, it is a dry, pulverable substance, outwardly of a reddish colour, internally of a shining dark brown, tinged with a reddish hue; in the mouth it discovers considerable adstringency, succeeded by a sweetish mucilaginous taste. It may be advantageously employed for most purposes where an adstringent is indicated, and is particularly useful in alvine fluxes where its use is required. Besides this, it is employed also in uterine profluvia, in laxity and debility of the viscera in general; and it is an excellent topical adstringent, when suffered to dissolve leisurely in the mouth, for laxities and ulcerations of the gums, aphthous ulcers in the mouth, and similar affections. This extract is the basis of several formulæ in our Pharmacopeias, particularly of a tincture and an extract: but one of the best forms under which it can be exhibited, is that of a simple infusion in warm water with a proportion of cinnamon, for by this means it is at once freed of its impurities and improved by the addition of the aromatic. The word *catechu* is derived from *cate*, which, in the Oriental language, signifies a tree, and *chu*, juice. Fourcroy says, it is prepared from the addition of the seeds of a kind of palm, called areca. ℈ss to ʒss.

Catharsis, καθαρσις, purgation, whether by the menses, lochia, urine, or stool; in a way natural or artificial.

Cathartics. Those medicines, which taken internally increase the number of alvine evacuations; from καθαιρω, *to purge;* such as *jalapa, scammonium, aloe, colocynthis, calomel, sal catharticus amarus, kali vitriolatum, kali tarturizatum, cremor tartari, rhabarbarum, oleum ricini, manna*, &c.

Catheter, καθετηρ, is a hollow instrument, and somewhat crooked, to thrust up the yard into the bladder, to assist in bringing away urine, when the passage is stopped by a stone or gravel; though some writers use it also for linaments and other external applications.

Catheterismus, from καθετηρ, *catheterus.* The introduction of the catheter into the bladder; an appellation given by P. Ægineta to this operation, which is required in the following cases.

1. When a stone lies internally on the neck of the bladder, and stops the discharge of the urine.

2. When a preternatural weakness of the bladder hinders the urine from being discharged in the usual manner; and when other remedies fail, which often happens in women weakened with labour, or when the head of the child presses on the urethra.

3. When, by long retention of urine, the bladder is so distended and weakened as not to be able to discharge its contents.

4. When mucus, blood, pus, or other matter, sticks in the neck of

the bladder, from ulcers, or wounds of the kidneys, or from discharges of bloody urine.

5. When the urethra, or the neck of the bladder, is contracted or obstructed; but in this case bougies are preferred; or when the prostate is schirrous, and prevents the passage of the urine.

6. In the last months of pregnancy it is sometimes useful to introduce the *catheter*, to draw off the urine, as the weight of the uterus obstructs its discharge.

7. When a prolapsus uteri produces an ischury.

8. When a liquor is to be injected into the bladder; in which case a bladder, or an elastic bottle, may be filled with the liquor to be injected, fastened to the catheter, and, by gentle pressure, conveyed through it.

It is easy to introduce the catheter into the female bladder, since the direction of the urethra is nearly straight; but in males there is some difficulty. Heister directs the man to lie on his back, and the operator to take the penis in his left hand, as he stands on the patient's left side, reclining the penis towards the navel; then he is to introduce the catheter, with its concave part to the belly, into the urethra, so far as the os pubis; and so thrusting it under the symphysis of those bones, and moving the handle gently outwards, forces it into the bladder.

If the catheter is too small, it is the more apt to stop in the corrugations and foldings of the urethra, which often occur in elderly men. Dr. Hunter adds, that some impediments are often met with at the caput gallinaginis, in which case he advises to draw the catheter a little back, and press the end of the catheter a little higher, and then it will slip in; but he cautions against using any force. If a difficulty is still found, he advises the operator to put a finger into the anus, at the same time draw the perinæum forward, and therewith endeavour to assist the catheter in its introduction.

Mr. Ware, in a paper expressly written on this subject, says, "the mode in which I pass the instrument is as follows: Being first thoroughly oiled, I introduce it into the urethra, with its convex part uppermost, and carry it as far as it will pass without using force; then I turn it *slowly* round, so as to bring its concave side uppermost; and in doing this, I make a large sweep with the handle of the instrument, and, at the same time keep my attention fixed steadily on its apex, or inner termination, which I take particular care neither to retract nor to move from its first line of direction. When the catheter is turned, it must still be pressed onward, and its handle at the same time gently depressed: by this method it will be made to enter the bladder."

The catheter made use of by Mr. Ware is twelve inches long, which is more than an inch above the ordinary length; and the curvature larger than common; and with which he has succeeded often, where others of a different size and curvature had failed.

Those catheters are the best that are made with small holes at their ends, instead of long rhomboidal apertures.

In the following cases this instrument cannot be used:

1. When the neck of the bladder is greatly inflamed, for then the urethra is much contracted, and force in this case would endanger a sphacelus. 2. When a caruncle, cicatrix, or hard tubercle, obstructs the passage. 3. In old men, sometimes from the stricture shrinking, or from wrinkles in the urethra. 4. From the distension of the spongy substance of

the urethra with blood. 5. From a schirrosity, or preternatural tumour of the prostate gland. 6. From a stone lodged in the neck of the bladder. 7. When the uterus is remarkably prominent and pendulous over the ossa pubis, the neck of the bladder, then forming an angle with the body of the bladder, hinders the passage of the catheter. 8. When the uterus is retroverted, in which state it drags the bladder upwards and backwards.

Cauda Equina. The lumbar fasciculi, from their origin to the extremity of the os sacrum, form, through the whole canal of the lumbar vertebræ, and of the os sacrum, a large bundle of nervous ropes, called by anatomists *cauda equina*, because of some resemblance which it bears to a horse's tail, especially when taken out of the canal, and extended in clear water.

Caudatio. So an elongation of the clitoris is called.

Caudex, the trunk of a tree. It is that part of any plant which is betwixt the root and the branches. According to Linnæus it is the ascending and descending body of the root. In herbs and under shrubs this part is called *Caulis*, the stalk.

Caul, i. e. *Omentum.*

Cauliferous. Such plants are so called as have a stalk.

Caulis Floridus, cauliflower.

Caulis, καυλος, the stalk or stem. The stalk of a tree is called its trunk. Linnæus defines it to be the proper trunk of the herb, which elevates the leaves and fructification.

Caustic, *Caustica*, καυστικα, from καιω, *uro*, *to burn*, are such things as, by their violent activity, and heat thence occasioned, destroy the texture of the part to which they are applied, and eat it away, as we commonly express it, or burn it into an *Eschar*, which they do by the extreme minuteness, asperity, and quantity of motion, that, like those of the fire itself, tear asunder all obstacles, destroy the texture of the solids themselves, and change what they are applied to into a substance like burnt flesh; which, in a little time, with detergent dressings, falls quite off, and leaves a vacuity in the substance of the part. These are of use generally in abscesses and imposthumations, to eat through to the suppurated matter, and give it vent; and also to make issues in parts where cutting is difficult or inconvenient.

Causus, καυσυς, from καιω, *to burn.* An highly ardent fever. According to Hippocrates, a fiery heat, and insatiable thirst, are its peculiar characteristics. Others also are particular in describing it; but whether they are ancients or moderns, from what they relate, this fever is no other than a continued *ardent fever*, in a bilious constitution. In it the heat of the body is intense; the breath is particularly fiery; the extremities are cold; the pulse is frequent and small; the heat is more violent internally than externally, and the whole soon ends in recovery or death.

Cauterium, καυτηριον, from καιω, *to burn*; a cautery, either actual or potential.

Cava (Vena.) The large vein which receives the refluent blood, and conveys it to the heart, is thus named. See *Vena*.

Ceanothus, New-Jersey tea-tree. A genus in Linnæus's botany. He enumerates three species.

Cele, κηλη, a tumour caused by the protrusion of a soft part.

Celeri, a species of *Apium.*

Celiac Artery and *Veins.* See *Artery* and *Vein.*

Cells, little bags or bladders, where fluids or matter of different sorts are lodged; common both to animals and plants.

Cella Turcica. See *Brain*, and *Pinealis Glandula.*

Cellulæ Adiposæ, i. e. *Adiposi Ductus.*

Céllulæ Mastoidææ. These are very irregular cavities in the substance of the mastoid apophysis, which communicate with each other, and have a common opening towards the inside, and a little above the posterior edge of the orbicular groove. The mastoid opening is opposite to the small opening of the Eustachian tube, but a little higher.

Cellulosa Membrana, the cellular membrane. It is most commonly understood to be that part of it only which lies under the skin, next the flesh, and which contains but little fat in the cells; but it is found to invest the most minute fibres that we are able to trace, so that it is considered as the universal connecting medium of every part of the body. It is composed of an infinite number of minute cells united together, and communicating with each other.

Centaurium Minus. Centaury. *Gentiana centiaurium* of Linnæus and Hudson, and *Chironia centaurium* of Whithering and Curtis. This plant is justly esteemed to be a most efficacious bitter. It has been recommended by Cullen as a substitute for gentian, and by several is thought to be a more useful medicine. The tops of the centaury plant are directed for use by the colleges of London and Edinburgh, and are most commonly given in infusion; but they may also be taken in powder, or prepared into an extract.

Central Forces. This is a general appellation for the two grand species, centrifugal and centripetal forces.

Centrifugal Force, from *centrum*, *a centre*, and *fugo*, *to fly*, is that force by which all bodies moving round any other body in a circle, or an ellipsis, do endeavour to fly off from the axis of their motion in a tangent to the periphery of it. And this force is always proportional to the circumference of the curve in which the revolving body is carried round. The *centrifugal force* to the centripetal, is as the square of the arch which a body describes in a given time, divided by the diameter, to the space through which any heavy body moves in falling from a place where it was at rest in the same time. If any body swim in a medium heavier than itself, the *centrifugal force* is then the difference between the specific weight of the medium and the floating body.

Centripetal Force, from *centrum*, *a centre*, and *peto*, *to seek*, is that force by which any body moving round another is drawn or tends towards the centre of its orbit, and is much the same with *Absolute Gravity.* If a body, being specifically heavier than any medium, sinks in it, the excess of that body's gravity above the gravity of the medium, is the *centripetal force* of the body downwards.

Centrum Tendinosum, the same as *Centrum Nerveum.*

Cepa, onion. Linnæus includes the *onion* in the genus of *Allium.*

Cephalæa, κεφαλαια, a long continued pain in the head.

Cephalalgia, κεφαλαλγια, from κεφαλη, *the head*, and αλγος, *pain;* the head-ach. By some this word is used for a dull pain in the head, which is of short duration; but most frequently it is used as expressive of pain in the head in general, without regard to circumstances.

Cephalalgia Catarrhalis, i. e. catarrh, from cold.

Cephalalgia Inflammatoria, i. e. *Phrenitis.*

Cephalics, remedies that relieve disorders of the head; from κεφαλη, *the head.*

Cephalitis, inflammation of the brain.

Cephalica Pollicis, a branch from the cephalica vena, sent off from about the lower extremity of the radius, and runs superficially between the thumb and the metacarpus.

Cephalica Vena, the cephalic vein. It was so called, because the head was supposed to be relieved by taking blood from it. It comes over the shoulder, between the pectoral and deltoid muscles, and runs down the back part of the arm: when it gets to, or a little below, the bending of the arm, it divides into two; the inner of the two branches is called the *Mediana Cephalica.* It is a branch from the axillary vein.

Cephalicus, κεφαλικος, cephalic, from κεφαλη, *the head.* Thus remedies against disorders of the head are called.

Cephalo-Pharyngæus, from κεφαλη, *the head*, and φαρυγξ, *the throat.* A muscle of the pharynx is thus named. It arises above from the cuneiform process of the os occipitis, before the foramen magnum, from the pterygoid process of the sphenoid bone, from the upper and under jaw, near the roots of the last dentes morales, and between the jaws. It is inserted in the middle of the pharynx. Its use is to compress the upper part of the pharynx, and to draw it forwards and upwards.

Cera flava, and *Cera alba*, yellow and white wax, are both retained in the college Pharmacopeia; they enter into various cerates, plasters, &c.

Cerasus, the cherry-tree. A species of *Prunus.*

Ceratoglossus, from κερας, *a horn*, and γλωσσα, *a tongue.* See *Hyoglossus.*

Cercosis, κερκωσις, from κερκος, *a tail*, a disease of the clitoris, which consists of its preternatural enlargement.

Cerealia, the same as *Nutrientia*, or all sorts of corn of which bread is made.

Cerebellum, the little brain, or cerebellum. A round viscus, of the same use as the brain; composed, like the brain, of a cortical and medullary substance, divided by a septum into a right and left lobe, and situated under the tentorium, in the inferior occipital fossæ.

Cerebrum, the brain. A large, round viscus, divided superiorly into a *right* and *left hemisphere*, inferiorly into *six lobes*, two anterior, two middle, and two posterior; situated within the cranium, and surrounded by the dura and pia mater, and tunica, arachnoides. It is composed of a *cortical substance*, which is external; and a *medullary*, which is internal. It has four *cavities*, called *ventricles;* two anterior or lateral, which are divided from each other by the *septum lucidum*, and in which is the *choroid plexus*, formed of blood-vessels and glands; the third ventricle is a space between the thalami nervorum opticorum; and the fourth ventricle is a space between the cerebellum and medulla oblongata. Its principal prominences are, the *corpus callosum*, a medullary eminence, conspicuous upon laying aside the hemispheres of the brain; the *corpora striata*, two striated protuberances, one in the anterior part of each lateral ventricle; the *thalami nervorum opticorum*, two whitish eminences behind the former, which terminate in the optic nerves; the *corpora quadrigemina*, four medullary projections, called by the ancients *nates* and *testes;* a little cerebrine tubercle, lying upon the nates, called the *pineal gland;* and, lastly, the *crura cerebri*, two medullary columns which proceed from the basis of the brain to the *medulla oblongata.* The cerebrine arteries are branches of the carotid and vertebral arteries. The veins of the head are called *sinusses*, which return their blood into the internal jugulars. The use of the brain is to give off nine pair of nerves, through whose means the various senses are performed, and muscular motion excited.

Cerebrum Elongatum, i. e. *Medulla Spinalis*.

Cerumen, is the wax or excrement of the ear, to which Schroder and some other writers ascribe very strange virtues as a medicine.

Ceruse, is a preparation of lead with vinegar, which is of a white colour, whence many other things resembling it in that particular, are by chemists called *ceruse*, as the *ceruse* of antimony, and the like.

Cervicales. The nerves which pass through the vertebræ of the neck are thus called.

Cervicales Arteriæ, the arteries of the neck. They rise from the subclavians on their upper part, and are soon divided into two. The anterior ones go to the anterior muscles which move the neck and head; the posterior to the scalenus, trapezius, &c.

Cervicalis Descendens Dorsi, i. e. *Sacro-Lumbaris Accessorius*.

Cervix, the hinder part of the neck, as the fore part is called *Collum*.

Cervix Uteri, the neck of the womb.

Cevadilla, Indian or American caustic barley.

Chalcedonius, chalcedony; a species of *agate*, of a milk like colour, and only somewhat transparent.

Chalcoideum Os. The os cueniform of the tarsus.

Chalk (White.) See *Creta Alba*.

Chalybis Sal. i. e. *Sal Martis*.

Chalybs, steel. As a medicine it differs not from iron. It is softer or harder than iron, according to the management of the artist: when soft it is more easily prepared for medicinal purposes.

Chalybs Tartarizatus, i. e. *Mars Solubilis*.

Chamæmelum, common camomile. *Anthemis nobilis* of Linnæus. The name camomile is supposed to be expressive of the smell of the plant χαμαιμελον, *quoniam odorem mali habeat*. Both the leaves and flowers of this plant have a strong, though not ungrateful smell, and a very bitter, nauseous taste; but the latter are the bitterer and considerably more aromatic. They possess tonic and stomachic qualities, and are much employed to restore tone to the stomach and intestines, and as a pleasant and cheap bitter. A simple infusion is frequently taken to excite vomiting, or for promoting the operation of emetics. Externally they are used in the *decoctum pro fomento*, and are an ingredient in the *decoctum pro enemate*.

Chancre. A venereal ulcer on the parts of generation. M. M. Mercury; caustics.

Charcoal. See *Carbone*.

Chartreux (Poudre de) i. e. *Kermes Mineral*.

Chemistry. Dr. Black defines it to be "a science which teaches by experiments the effects of heat and mixture on bodies." Various are the opinions of etymologists as to the derivation of the word *chemistry*. Some say, that what knowledge of this art was retained after the flood, was taught by Cham, whence the names *Chumia* and *Chemia*. Dr. Wall, in his Dissertation on the Study of *Chemistry*, seems to think that the word χημεια was derived from the name of a district, or perhaps of the whole of Egypt, applied originally from some peculiar appearance of its soil, and borrowed afterwards, at a very distant period of time, to distinguish an art which was conceived to have had its rise and principal cultivation in that country. Plutarch, he adds, calls Egypt Χημια.

This science is one of the *two* great branches of experimental physicks; one of which treats of the *mechanical* properties of matter, such as are detected by aid of the mechanical powers, as in common mechanics, pneumatics, hydrostatics, hydraulics, optics, &c. and the other inquires into their *chemical* properties, by attending to the alterations wrought among their component particles, or constituent elements; as in the corruption and evaporation of organized bodies, and the employment of their materials in building up new forms of being; in the production of acids, of aëriform fluids, of alkalies and of water, and of the destruction and decomposition of all these again; in the knowledge and economical use of caloric; in processes upon ores and metals; in the cooking of food; in the preparation of medicines; in the manufacture of glass; in the tanning of leather; and an infinity of other effects brought about by a new arrangement among the minute and imperceptible ingredients of bodies.

The principles of chemistry are of such various and extensive application, that to a person unacquainted with them, narrow indeed must be the scope or circle of his knowledge of nature. And, doubtless, the neglect of this most ornamental and useful department of science in the ordinary courses of polite education, taught in universities and colleges, is the reason why scientific inquiries are so little relished, and make such slow progress. So lamentably backward are the English universities of Cambridge and Oxford on this most important science, and its relations, that a new association has been made, under the royal patronage, on a plan of Count Rumford's, and through the direction of Dr. Garnett, in the metropolis of England, for teaching, among other things, its principles, and their application to the purposes of increasing the comforts, and lessening the wants of mankind. This late institution is a severer satire on plans of common collegiate education, terminating in Bachelor's, Master's, and Doctor's degrees, and of their emptiness and vanity, than has, perhaps, ever appeared.

In the college of New-York chemistry has been made an undergraduate course for students of all kinds, during several years past.

It has been objected, by some, to the study of chemistry, that it abounds in hard and frightful words, difficult to remember, and uncouth to pronounce. To this it may be replied, that there are not above twenty radical technical terms, and these are as easily acquired as the terms of whist or picquet; nay, every reader of newspapers may find more strange and barbarous names of East-India and Chinese merchandize in one advertisement, than the whole Chemical Nomenclature furnishes. Every science, art, trade and profession, has its appropriate and peculiar words; and to learn the technology of chemistry is scarcely so difficult as to become acquainted with the points of the mariner's compass.

In spite, however, of the supineness of public institutions in regard to chemistry, it is forcing its way daily among the more wise, learned, and liberal part of mankind, by its own inherent beauty and excellence. And it is to be hoped the time is not far distant, when to be ignorant of chemistry will be as reproachful to a man of education, as to be unacquainted with the humblest parts of mathematics. The understanding of such writings as those of Priestley, Woodhouse and Webster, would repay a young man for studying it. Indeed there is one reason for acquiring a knowledge of chemistry which is alone inducement enough, and that is to be enabled to comprehend the Mitchillian doctrine of pestilence; a series of investigations, capable of rewarding amply of themselves. See *Acids*, *Air*, *Alkalies*, *Infection*, *Calcareous Earth*, &c.

Chemōsis. Inflammation of the conjunctive membrane of the eye, in which the cellular structure is distended with a florid fluid, and elevated above the margin of the transparent cornea: from χαινω, *to gape.* M. M. Bleeding, general and local; cathartics; blisters; antiphlogistic regimen; collyria of acetite of lead, sulphate of zinc or alum.

Chicken-pox. See *Varicella.*

Chilblain. Pernio. Erythema of Cullen. An inflammation of the extreme parts of the body, from the application of cold, attended with violent itching, and soon forming a gangrenous ulcer. M. M. Camphorated spirit; oil of turpentine; ungt. basilicon; calamine cerate.

China Chinæ, the Peruvian bark.

Chinchina, Peruvian bark.

Chio Turpentine. Cyprus turpentine. Chian turpentine. This substance is classed among the resins. It is procured by wounding the bark of the trunk of the *Phistachia terebinthus* of Linnæus. The best Chio turpentine is about the consistence of honey, very tenacious, clear, and almost transparent; of a white colour, inclining to yellow, and a fragrant smell, moderately warm to the taste, but free from acrimony and bitterness. Its medicinal qualities are similar to those of the turpentines.

Chiques, a name for the worms which get into the toes of the negroes, and which are destroyed by the oil which flows out of the cashew-nut-shell.

Chiragra, χειραγρα, from χειρ, *the hand*, and αγρα, *a seizure*, the gout in the hand.

Chirurgia, χειρεργια, from χειρ, *a hand*, and εργον, *a work*, manual operation, or surgery; or that part of medicine which consists of manual operation.

Chives, in *Botany*, are the fine threads of flowers, or the little knobs which grow on the tops.

Chlorosis, from χλωρος, *green*, or χλωριζω, *to appear green*, the green sickness. It is also called *Febris Alba*, *the virgin's disease*, *Febris Amatoria*, and *Icterus Albus.* Dr. Cullen places it in his *Nosology*, as a genus in the class *Neurosis*, and order *Adynamiæ;* but since that time, he hath seen cause for a change of his opinion, and now considers it only as a symptom of *Amenorrhœa.*

Choke-damp. A noxious gas is found in many caverns, as in the Grotto del Cani, in mines, wells, and other deep pits. This gas is called *choke-damp* by the English miners. It is heavier than common air, therefore lies chiefly at the bottom of pits; it extinguishes flame, and is noxious to animals. It is reckoned of the same kind as the calcareous gas.

Cholagoga, cholagogues, from χολη, *bile*, and αγω, *to evacuate.* By *cholagogues* the ancients meant only such purging medicines as expelled the internal fæces, which resembled the cystic bile in their yellow colour, and other properties.

Choledochus Ductus. It seems to be a continuation of the ductus cysticus; for it is often observed that the ductus hepaticus runs, for some space, within the side of the ductus cysticus, before it opens into its cavity: also, at the opening of the hepatic duct into the cystic, there is a small loose membrane, to hinder the bile from returning into it.

Cholera, χολερα, or *Cholera Morbus*. It is when the bile so exceeds in quantity or acrimony, as to irritate the bowels and stomach to eject it both upwards and downwards. Or it is a purging and vomiting of bilious or other acrid matter, with great pain and fever. Cœlius Aurelianus says the name is derived from χολη, *bile*, and ῥοη, *a flux*. Dr. Cullen names it *Cholera*; he places it in the class *Neuroses*, and order *Spasmi*, and mentions two species. 1. *Cholera Spontanea*, which happens in hot seasons, and without any manifest cause. 2. *Cholera Accidentalis*, which occurs after the use of food that digesteth slowly, and becomes too acrid.

Chondro-Pharyngæus. It is a muscle which rises from the cartilaginous appendage of the os hyoides, and is inserted into the membrane of the fauces.

Chorda Tympani. The fifth pair of nerves from the brain divides into three capital branches, one of which is called the inferior maxillary; a branch of this forms the lingual, which soon is accompanied by a small distinct nerve, which runs upward and backward towards the articulation of the lower jaw, in company with the lateral muscle of the malleus, and passes through the tympanum, between the handle of the malleus and the long neck of the incus, by the name of the *chorda tympani*.

Chordæ Tendineæ. From the edge of the valves in the ventricles of the heart, there are tendinous strings thus named, which arise from the fleshy columnæ in the two cavities, and lead to the internal structure of the heart.

Chordee, a spasmodic contraction of the penis, that sometimes attends gonorrhæa.

Chorea Sancti Viti. St. Vitus's dance. Convulsive motions of the limbs. It is a genus of disease, arranged by Cullen in the class *Neuroses*, and order *Spasmi*; from χορεια, dancing. M. M. Emetics; cathartics; valerian; cinchona; iron; cold bath; electricity: a daily exhibition of purgative medicines, early commenced, is strongly recommended by Dr. Hamilton.

Chorion, χοριον, a name of the external membrane of the fœtus. It hath this name from the chorus of blood-vessels which are spread upon it. It is divisible into two lamellæ. Some call the internal lamina the true *chorion*, and the external lamina the false *chorion*.

Choroid. From χοριον, the *chorion*, and ειδος, *resemblance*.

Choroid Membrane, the second tunic of the bulb of the eye, which is extremely vascular, and which forms the *iris* and *uvea* anteriorly.

Choroid Plexus, a plexus of blood-vessels and glands, situated in the lateral ventricles of the brain.

Chronic. From χρονος, *time*. A disease is so called that is of long duration, lasting above six or eight weeks.

Chrupsia. *Visus coloratus*. A disease of the eyes, in which the person perceives objects of a different colour than their natural. From χροα, *colour*, and οψια, *sight*.

Chrysalis, from χρυσος, *gold*; also called *Aurelia*, and *Nympha*. Thus naturalists call the worm or maggot while it lies hidden under a hardish pellicle: during this time it is in a state of seeming insensibility; but quitting this covering, it comes forth a moth, or a butterfly, or other winged insect.

Chyle, the milk-like liquor, observed some hours after eating, in the lacteal vessels of the mesentery, and in the thoracic duct. It is separated by digestion from the chyme, and is that fluid substance from which the blood is formed.

Chylification, the process carried on in the small intestines, and principally in the duodenum, by which the chyle is separated from the chyme.

Chylopoietic, any thing connected with the formation of chyle; thus *chylopoietic viscera*, *chylopoietic vessels*, &c.

Chyme, the indigested mass of food, that passes from the stomach into the duodenum, and from which the chyle is prepared in the small intestines. From χυμος, which signifies *humour*, or *juice*.

Cicatricula, a little white speck or vesicle in the coat of the yolk of an egg, wherein the first changes appear towards the formation of the chicken or the nervous cylinder. It is commonly called the *Treddle*.

Cicatrisantia, i. e. *Epulotica*.

Cicatrix, from *cicatrico*, *to skin*, a seam or elevation of callous flesh, rising on the skin, and remaining there after the healing of a wound or ulcer, which is commonly called a *Scar*.

Cichorium, succory or endive. A genus in Linnæus's botany. He enumerates three species.

Cicuta. Hemlock. This plant, *Conium maculatum* of Linnæus, is distinguished from those plants which bear some resemblance to it, by the spotted stem. It is generally believed to be a very active poison. When exhibited in immoderate doses, it produces anxiety, cardialgia, vomiting, convulsions, vertigo, coma, and death. Baron Stoerck was the first who brought hemlock into repute as a medicine of extraordinary efficacy: and although it does not effect the wonderful cures of cancer it was said to perform, it certainly possesses narcotic and antispasmodic virtues. There is scarcely any disease, to which human nature is subject, in which this remedy, like mercury, is not exhibited internally by some physicians, and in those of the glandular system it appears sometimes to be productive of benefit. Nor is it less efficacious when applied externally: a poultice made of oatmeal and the expressed juice, or a decoction of the extract, when the former cannot be obtained, allays the most excruciating torturous pains of a cancer, and thus gives rest to the distracted patient. Grs. ij. to ʒiiij.

Ciliæ, the edges of the eye-lids. They are semicircular, and cartilaginous, with hairs fixed in them, which by some are called *Ciliæ*. See *Tarsus*.

Ciliar Ligament. The circular portion that divides the choroid membrane from the iris, and which adheres to the sclerotic membrane. It appears like a white circular ring.

Cinara. Common artichoke. *Cynara scolymus* of Linnæus. A native of the southern parts of Europe, but cultivated here for culinary purposes. The leaves are bitter, and afford, by expression, a considerable quantity of juice, which, when strained, and mixed with an equal quantity of white wine, has been given successfully in dropsies; but it is an uncertain remedy.

Cinchona. *Quinquina*. *Cortex Peruvianus*. Officinal cinchona, or Peruvian bark. The tree which affords this valuable medicine, is the *Cinchona officinalis*, a native of Peru. The bark is brought to us in pieces of different sizes, some rolled up into short, thick quills, and others flat: the outside is brownish, and generally covered in part with a whitish moss; the inside is of a yellowish, reddish, or rusty iron colour. The best sort breaks close and smooth, and proves friable betwixt the teeth: the inferior kinds appear, when broken, of a woody texture, and in chewing separate into fibres. The former pulverises more easily than the latter, and looks, when powdered, of a light brownish colour, resembling that of cinnamon, or somewhat paler. It has a slight smell, approaching to mustiness, yet so much of the aromatic kind as not to be disagreeable. Its taste is considerably bitter, adstringent, very durable in the mouth, and accompanied with some degree of aromatic warmth, but not sufficient to prevent its being ungrateful. The medicinal properties of this drug are very considerable. It cures intermittent, remittent, nervous, and putrid fevers; putrid sore throat, scarlatina, and dysentery; stops excessive discharges, and is in general use as a tonic, and stomachic; it also is of infinite service in local affections, as gangrene, scrophula, ill-conditioned ulcers, rickets, scurvy, &c. and in most diseases where there is no inflammatory diathesis. The officinal preparations of this bark, are the powder, the extract, the tincture, and the decoction.—℈i. to ʒi. or more. Extract of ℈i. Tincture of ʒi. to ℥ss. Decoction ℥ij. or more.

Cinchona Cortex Peruvianus Ruber. The medicinal qualities of this red bark are similar to those of the former.

Cinchona Cortex Peruvianus Flavus. The medicinal properties of this new species are also nearly the same as those of the cinchona officinalis.

Cinnabar. A red mineral substance composed of mercury naturally combined with sulphur. It is found in the Dutchy of Deux-ponts, in the Palatinate, in Spain, South-America, &c. It is called native vermillion, and cinnabar in flowers. Artificial cinnabar is employed as a mild mercurial, and as an alterative.—Grs. iij. to ℈i.

Cinnamomum. Cinnamon. The tree which affords the true cinnamon, which is its inner bark, is the *Laurus cinnamomum* of Jacquin, a native of Ceylon. Cinnamon bark is one of the most grateful of the aromatics; of a very fragrant smell, and a moderately pungent, glowing, but not fiery taste, accompanied with considerable sweetness, and some degree of adstringency. It is one of the best cordial, carminative, and restorative spices we are in possession of, and is generally mixed with the diet of the sick. The essential oil, on account of its high price, is seldom used: a tincture, simple and spirituous water, are directed to be kept in the shops.—℈ss. to ʒss.

Circocele, or *Cirsocele*, κιρσοκηλη, an enlargement of the arteries and veins of the spermatic cord. From κιρσος, *varix*, and κηλη, *a tumour.* It is the same as *Hernia Varicosa.*

Circulatio, from *circulo*, *to compass about*, *moving as it were in a circle.* *Circulation.* In anatomy it is the circulation of any fluid through the vessels destined for its conveyance. Strictly speaking, circulation is only applied to the blood, because it moves from the heart to return to it again; but the other fluids do not return to the organ from which they were first discharged.

The honour of the discovery of the circulation is undoubtedly due to Dr. Harvey; but it has been claimed for Servetus, Columbus, and Cæsalpinus.

Servetus was an opponent of Calvin, and persecuted by him. He was a Spanish physician; but was not the author of any known medical work. In a theological tract, by way of allusion, he mentions the circulation of the blood through the lungs, rather indeed as an hypothesis than as an established fact. It is of more importance, in another view, to remark, that he considers the object of the circulation through the lungs to be the inhaling a spirit from the air, and the escape of a fuliginous vapour. He was unacquainted, however, with the structure of the heart, or the uses of the valves; and, with Galen, confines the blood to the liver and veins, while he supposes the heart and arteries filled with a spirit. Columbus, in 1569, followed him in describing this lesser circulation, and first explained the structure and use of the sigmoid and tricuspid valves; but with little consistency adopted also the fancies of Galen, first mentioned.

Cæsalpinus published about twelve years after Columbus, viz. in about 1681; and had not the authority of Aristotle and Galen possessed his imagination so strongly as to shut out the most obvious consequences of the best established facts, the honour of the discovery must have been his own. But his claims to genius of the highest rank are undisputed without this additional laurel. Aristotle first misled him by distinguishing two kinds of blood; one for the increase, and the other for the nourishment of the body; the first he supposed to be derived from the liver, and poured into the vena cava, attracted by the heat of the heart. From the right ventricle he traces the blood, with Columbus or Servetus, to the lungs, where he supposes it to be cooled only. The blood, now become spirituous and alimentary, in successive periods, according to this system, causes, by the fermentation excited, the succession of pulsations, while the aliment destined for increase is elicited from the veins; yet in sleep this effervescing blood, he admits, is returned by the veins, the valves of which had been described by J. B. Cannanus, and, more accurately, by Fabricus ab Aquapendente.

Such were the opinions which Harvey found in the schools; and he need only have recollected that simplicity was the criterion of truth, to suppose that blood, which circulated in the night, might also circulate in the day. The claim to this quality distinguished both Harvey, Newton, and Columbus; nor, if we know any thing of the human mind, does this representation diminish their credit. Peaches had for ages fallen from the tree; the structure of the valves of the heart had been for years known; and the Indies long discovered by an eastern course; when the calm dispassionate examination of these three first of philosophers, drew consequences which had escaped all their predecessors. They have received their reward; for they have demonstrated how high human intellect can soar: it is for their opponents to show how low it can descend.

With regard to the circulation, however, it is thus clearly described. The blood is conveyed from the left ventricle of the heart, by the aorta and its branches, to the minutest and most remote parts of the body; and then passing from the extremities of the smallest arteries into the incipient veins, whether continuous or not anatomists have not decided, circulates through them into their larger branches and into the right auricle of the heart, and in succession to the right ventricle. It is forced, with the fresh supplies that it receives from the chyle, passing into the subclavian vein, from thence into the pulmonary artery; and after circulating through the lungs, in its passage, is returned by the pulmonary vein into the left auricle, and thence into the left ventricle. The same round recurs until death concludes the progress.

When Harvey promulgated this doctrine is uncertain. It has been supposed, that he delivered his new system in the Lumley lectures, 1615. It is, however, singular, that a discovery so important should have passed unnoticed; though little doubt can be entertained that this important fact was established in his own mind early in the following year. This appears clearly from his MS. De Anatomia Universa. In the year 1619 this great discovery was promulgated; for, if we are not mistaken, in that year his Exercitatio Anatomica de Cordis, and Sanguinis Motu, appeared at Frankfort; a choice probably dictated by the convenience of circulation on the continent. This treatise is a masterpiece of simple, but cogent and decisive argument. After shortly confuting the errors of his predecessors, he describes the motion of the heart as it appears in a living animal; points out the alternate dilatations and contractions of its different auricles and ventricles, and their effect as regulated by the various valves. He then shows, by calculation, that the blood flows faster into the arteries than it can be supplied by aliment imbibed by the veins; and, as the arteries can receive no supplies but from the veins, the former must be gradually more distended, or the latter more emptied, unless the veins and arteries anastomose, which was supposed less improbable, as this communication takes place in the lungs. A few simple experiments illustrate this idea, and establish it beyond contradiction.

The clamour that this publication excited was inconceivable. It was either not true, or the ancients had already taught the same. Riolan, a more respectable antagonist than the common herd, was alone honoured with an answer; and the venerable antagonist retired with some disgrace from the field, accused of cavilling, unmeaning quibbles, rash unfounded assertions, and even unfaithful experiments. The number and names of his other antagonists which lie before us would fill our page, with little advantage or satisfaction to our readers.

During the dilatation of the heart, when the blood enters the ventricles, the coronary arteries receive that fluid, contrary to all the other arteries of the body, and thus supply the muscular fibres of the heart with the blood; for the passage of the blood is freer through the arteries during the heart's inflation than at the contraction, because those vessels are then less convoluted. That the heart is not the one and sole cause of circulation appears, because the arteries all perform their diastole at the same instant in healthy people. If the heart's propelling the blood was the sole cause of the circulation, the pulsation of the artery would be an undulation, and in different parts it would be perceived at different times, as the impulse at different distances of the artery from the heart would be in succession.

That some other power than the velocity of the blood dilates the capillary arteries to give passage to the globules, seems evident also from the experiments of Dr. Hales. He poured water into the aorta and other arteries of dogs; and though its force and velocity were equal to that given to the blood by the heart, yet it never passed by the anastomoses of the arteries and veins, but through the sides of the arteries; and this seems to prove that the arteries are totally stopped by the contraction of their fibres after the vital power no longer continues to act, and that the force of the heart hath not a power equal to what is required to dilate them. To this experiment indeed objections may be made; but strong arguments may be adduced to render the principal position highly probable. It is supported with great force by Dr. Whytt.

The whole arterial tube, therefore, contributes to the motion of the blood; and the heart, instead of moving a weight equal to the whole mass in this way, impels no more than about two ounces, the quantity supposed to be contained by the ventricle in each diastole. See Haller's Physiology.

The *laws of the circulation*, or the general circumstances that influence its various modifications, must detain us a little longer. Physiologists have anxiously endeavoured to ascertain the quantity of blood thrown out by each contraction of the heart, as well as its velocity. But these circumstances are of little real importance, and we need not examine nor attempt to refute the calculations and errors. It is enough that the left ventricle contains about two ounces; and that probably somewhat less is thrown out at each contraction. Whatever the velocity may be, it is gradually diminishing; for the areas of all the branches exceed that of the aorta, and the angles must sometimes impede rectilineal motion. A proportion of the impetus is in this way lost; nor is the resistance of the coats of the arteries, or the friction, to be wholly overlooked; though the elasticity and the muscular power, as well as the mucous secretion on the internal surfaces, greatly lessen its effects.

The velocity of the blood in the arteries will be in proportion to the frequency of contraction; and this in proportion to the return of blood in the veins, which is influenced by a variety of causes, chiefly exercise and agitation of mind. The frequency of the contraction, which arises from irritability, does not increase the velocity of the blood, since, in such instances, the left ventricle contracts before it is filled, and this state is not attended with a determination to the surface. In a healthy state the arteries are always full, and consequently each impulse gives successive momenta to the whole mass; but this succession is so rapid, and the action of the arterial coats so immediate, that the pulsation, which is the consequence, is apparently synchronous over the whole body. As, however, the velocity diminishes from the causes mentioned, this pulsation must be at last imperceptible; and at some distance from the heart, and more particularly in the veins, it is of course lost. The velocity of the blood will therefore vary in proportion to the power of the heart, to the distance from it, to the causes influencing the action of the arteries, and to the direction as affected by gravity.

The quantity of blood distributed to any part of the system will differ in proportion to the action of the arteries of that part; an action increased by resistance of every kind: but the effects of that resistance, at first owing to the action of the arteries of that part, and afterwards to the general consent of every part of the circulating system, is little affected by the state of the circulation in a distant part. The contrary idea has induced the most singular and preposterous practice. It is the parent of the doctrines of *derivation* and *revulsion*. Thus, if the head was affected, blood was drawn from the feet; but it will be at once obvious, that sixteen ounces of blood from a vein, if affecting one thousand six hundred arteries, will lessen the quantity of blood in each only 0.01; consequently, on the contraction of the left ventricle, only one-hundredth part less of blood will be sent to the head. But if the sixteen ounces be taken from the temporal arteries, or jugular veins, the head will be depleted in the same proportion, without any diminution. It is to be regretted that this idea continues to prevail among practitioners; and we still find blisters and cataplasms applied to the legs to relieve congestions in the head or lungs.

The quantity of blood distributed to different parts varies at different periods. In the growing state, the heart evidently increases in its bulk in a less proportion than the capacity of the arterial system. As age approaches, the number of the arteries lessens, and the proportion of the heart gains the ascendency. In this state the venous system is proportionably fuller than the arterial. In young animals the head is large, and its vessels full. Diseases of the head, from fulness, and hæmorrhages from the nose, are then common. At a subsequent period the determination is to the lungs, and soon afterwards to the genital system in both sexes; at a more advanced period to the hæmorrhoidal vessels. When the number of arteries diminishes from age, we find venous plethora in the head, with serous apoplexies and palsies; in the lungs, with humoral asthmas and catarrhus suffocativus; in the abdomen, with discharges of black bile; in the extremities, with varices.

Any general increase of the action of the arteries determines the blood rather to the surface than the internal parts; but, if checked in its determination to the surface, or irregularly accelerated or retarded, the vicera chiefly suffer. If, from the continued action of any cause, a fixed determination to any part is established, it becomes a necessary part of the constitution, and cannot, without danger, be altered.

The whole of the blood sent from the heart is not returned to that organ by the veins. The exhalations from the arteries into the cellular substance employ a part of it; the various secretions also greatly lessen it. The arterial system, however, always continues full, in consequence of the contractility of its muscular coat. The venous system has not this advantage, but the motion of the blood is slower in these; and, as it is kept up by the pulsation of the arteries, muscular action, &c. while advantage is taken of every action by the frequent interposition of valves, these vessels must continue full, since, from the want of any active force, a portion must be discharged into the heart, before that below can be propelled forward.

Some other circumstances respecting the circulation can only be understood when the structure of the heart is known.

We have remarked, that there is some doubt whether arteries terminate by continuous vessels in veins; in the corpora cavernosa penis they do not, and the veins there certainly absorb the effused blood. The course of the circulation also, when minutely examined, is not regularly progressive. It sometimes is retrograde for a little way, favoured by an anastomosis, chiefly when the vessel will not admit the red globules. The veins too do not all pass immediately to the heart; for, as we have remarked, those of the abdomen unite in forming the vena portæ dispersed in the liver, apparently for the secretion of bile.

The circulation of the blood in the fœtus hath some peculiarities different from what is observed in adults. 1st. The blood does not all pass through the lungs; a very small part only takes that course each time that it returns to the heart. 2dly. The blood brought by the two venæ cavæ into the right auricle of the heart passes chiefly into the right ventricle, but not entirely; for some portion goes immediately through the foramen ovale into the left auricle, and especially that brought up by the cava inferior. Suppose then two-thirds of the blood passes into the right ventricle, in order to circulate through the pulmonary artery; yet all the blood that flows into it in the fœtus will not circulate through the lungs, for a considerable part must necessarily pass by the ductus arteriosus, directly to the aorta, before it hath arrived at the lungs; so that probably not above one-third of the blood circulates through the lungs every time it is brought back to the heart. That blood which was thrown out directly from the right to the left auricle, goes thence to the left ventricle, and so on to the aorta, without touching at either the right ventricle or pulmonary artery, and, consequently, not arriving at the lungs. After the child is born, and a little grown up, the foramen ovale is closed up in most subjects; though, in some instances, it is found to continue more or less open during the whole life of the person.

Circulatorium, a circulatory glass. It is a vessel in which the contained liquor, when put over the fire, circulates by ascending and descending in such a manner, that the more volatile parts of the liquor raised by the fire, not finding a passage, may always fall back again. Thus, chemical circulation is only a species of digestion. Repeated distillation sometimes answers the end of circulation.

Circulus Arteriosus Iridis. It is composed of two arteries, going round the basis of the iris.

Circumflexus, i. e. *Circumflexus Palati.*

Circumflexus, or *Tensor Palati.* A muscle situated between the lower jaw and os hyoides laterally, that stretches the velum, to draw it downwards.

Citrates, are salts formed by the union of the acid of citrons with alkaline, earthy, or metallic bases; there are twenty-four species enumerated in M. Fourcroy's Elements of Natural History and Chemistry.

Citrus, the citron-tree. A genus in Linnæus's botany. He joins with this genus the *Aurantium*, *Limon*, and *Lima*. There are four species. See *Lemon*.

Citta, κιττα, the disease called *Pica*, or unnatural longings for eatables.

Clarification, in *Medicine*, is the fining liquors from their grosser parts, and is generally done by beating up with the whites of eggs, decoctions and turbid liquors into a froth; which, upon boiling, will entangle the grosser parts, and carry them up to the top in a tough scum; which is either taken off with a spoon, or separated by a flannel bag, called Hippocrates's sleeve. Another way also is by standing in a convenient vessel to suffer the grosser parts to settle, which is also sometimes promoted by a mixture of such matter as will give what should settle a greater weight, and make it fall sooner, as in distilled waters, which are milky, fine sugar, with a few grains of alum, will carry down the oily parts, and leave the clear; and this is generally called *Depuration*, which see.

Class, in *Botany*, is by Linnæus defined to be an agreement of several genera in the parts of fructification, according to the principles of nature, distinguished by art. He divides the vegetable kingdom into twenty-four classes. See *Sexual System*.

Classificatio, and *Classis*, (from *classes facere*, and ultimately from κλαῶ, *to divide)*. Classification may perhaps scarcely at first appear to be a subject which belongs to the present work; but as we wish not to conceal that we consider the arrangement of diseases as an object of importance, and as we have tacitly acquiesced in the propriety of the classification of plants, animals, and minerals, connected with medicine, by adopting the plans of naturalists, it is proper, in this place, to explain their principles.

Nature, it is said, has created only species: it is not true; for she has created only individuals. The similarity of these has occasioned the establishment of *species;* for similar individuals form a species. Individuals, differing in circumstances arising from accident; in plants and animals, from soil and climate; in diseases, from constitution; in minerals, from locality, are styled *varieties:* and these, when circumstances are changed, return to the species from which they started. These distinctions, though apparently simple and obvious, are, however, necessary; for naturalists have usually began at the other extremity, and formed "*methods*," classes and orders, before they have established species, and, at this moment, in nosology and mineralogy, the great impediments to improvement arise from the uncertainty of what are species. Even in botany this difficulty was once so great, that more than half of Tournefort's supposed species have been found to be varieties only. Three-fourths of Sauvages' species of diseases are varieties or symptoms. Having shortly then pointed out the distinctions between species and varieties, as well as the means by which the former are ascertained, we shall next consider *genera*. This is the first step in arrangement; for the establishment of species consists in ascertaining identity; of genera, similarity. A striking discriminating mark, in many species, sometimes establishes a genus; at others, a general similarity. The conduct of botanists, however, has differed in this part of their labour, from the difference of their dispositions. Some naturalists, catching hastily at analogies, have included numerous species under a genus: others, more wary and exact, have retrenched them too rigorously. The latest botanists have rendered the genera more, sometimes too, numerous; but this of the two is the more venial error, since new discoveries continually enlarge them.

An *order* is an association of genera; but orders are usually too comprehensive, including too great a number of genera; and to facilitate investigation, these are often divided into separate groups, as in mineralogy the species are sometimes again divided into subspecies. Each is a proof of imperfection in arrangement.

A *class* contains the different orders; and though, in reality, it should be the last, or nearly the last, labour, it has usually been the first; and, to make the system elegant in appearance, the classes have been few and comprehensive. The classes are connected by what in botany is styled a "*method*," which we have already mentioned. Thus, in the Linnæan system of plants, they are said to have evident or concealed fructification; and in nosology Dr. Cullen has first divided diseases into general and local, forgetting that with little change of appearance or treatment they pass insensibly into each other.

Clausura, an imperforation of any canal or cavity of the body. Thus *Clausura Uteri* is a preternatural imperforation of the womb;

Clausura Tubarum Fallopianarum, a morbid imperforation of the Fallopian tubes, which is mentioned by Ruysch as one cause of barrenness.

Clavatio, i. e. *Gomphosis*.

Clavellati Cineres, i. e. *Pot-ashes*.

Clavicle, collar bone. A bone shaped like the letter *s*, situated obliquely upon the upper part of the chest, and connecting the scapula and humerus to the thorax.

Clavus, a nail. Some physicians give this name to a pain in the small part of the head, commonly a little above the eyes, which seems as if that part was penetrated by a nail; and Dr. Sydenham calls such a pain on the top of the head in hysterical persons, *Clavus Hystericus*, the hysterical nail.

Clay. It is a genus of earth; it is soft, very ductile and tenacious when moist, and rendered very hard by fire. It is said to be a mixture of aluminous earth (earth of alum) and silicious earth, or flint. It has been called Potter's earth, and Argillaceous earth.

Cleanliness, the removal of excreted fluids, and the new compounds formed of them, from the persons, clothing, and habitations of men. If a man, and a marble statue as large as a man, be kept in the same chamber, the man will become unclean much more rapidly than the statue. The latter may receive dust, smoke, or foreign particles of other kinds, *from without*, but will not become nasty from any internal cause. Not so with the former; his living body, which has been long ago, and very justly, compared to a smoking dunghill, incessantly emits, during life, exhalations foul enough to soil linen, and rank enough to be smelled by dogs. The accumulation of these in the pores of the cuticle, and every where about the cuticle, makes it nasty and uncomfortable, and very often renders it the seat of disease, as of the itch, blotches, sores and pimples. If this nastiness is not washed or wiped off, so as to be removed entirely from the body, it will be wiped off by the shirt and other clothing constantly in contact with the body, and will infect that clothing with its peculiar taints, sticking to all its threads and filaments. And whenever sheets and bedclothes have been saturated with the excreted discharges wiped from human bodies, they also are uncomfortable and unhealthy. Among poor and negligent people in all countries, this animal matter surcharges their cuticles, clothes and beds: and in the heat of about 96° of Fahrenheit's scale, the ordinary heat of the human body, the moist ingredients with which the body and bed-clothes are charged, though not poisonous at first, are, by chemical and putrefactive action among themselves, changed in part to septic acid or pestilential air.

Among the poor and wretched inhabitants of the large manufacturing and commercial towns of Great-Britain, a blanket is sometimes put upon a bed, and kept there without washing or changing until it is worn out. The like happens to some articles of brown or black colours, which, after being put on, are never washed as long as they will hang together. In the narrow, sequestered, forlorn, unalkalized, and unventilated abodes of these persons, a poison is engendered, which often kills the people from whose excretions it is produced. The reader will recollect that it is not affirmed, for it is not true, that the excretions of these poor people of whom we are writing are commonly poisonous *at the time* of their secretion. On their *first* formation they are as free from *actual noxiousness* as the excretions of other people. But in their unhappy situations, the long accumulation and detention of the same nasty materials which befoul a shirt or a blanket, will turn to pestilence, and infect the atmosphere of a whole apartment, tenement, or house.

The point particularly worthy of notice in this statement is, that the septic poison *is not secreted such* from the mouths of the exhaling arteries; but that common secreted matter, having originally nothing directly venomous, *changes by degrees to a poison, by being, after secretion, exposed to the atmosphere in a heat* equal to that of the human body. The reader is desired to turn to the words *Contagion* and *Infection*, for more precise information on these two important points: and there he will find it stated, that *the former* of these is a virus produced by the vascular action of a living body, and *the latter* a poison formed during the putrefaction going on in inanimate matter.

This inanimate matter is of four different sorts: 1. *Matter vomited up* in times of sickness, both at sea and on shore, and left adhering to the floors, bedding or clothing; a very common case. 2. *Matter discharged by stool*, in cases both of health and sickness, and tainting floors, utensils, clothing and bedding; an occurrence unavoidable where there is a family of children, and frequent enough among grown persons, especially when infirm or sick. 3. *Matter discharged from the urinary and sexual organs*, more or less of which inheres to clothing and bedding. 4. *Matter discharged by perspiration*, happening to all human beings every moment of their existence, and sufficient, of itself, when accumulated and concentrated, to produce the most active and malignant poison. But the statue has none of these evacuations, and therefore remains clean.

The sufferings of men, in the early stages of society, from the collection of these excrementitious things around them, were excessive. The diseases incidental to their uncleanliness among the Jews, gave rise to many strict regulations and ceremonies in the Mosaic Law. Almost the same nasty way of living still continues among the common people of Syria, Egypt and Barbary. By a change in their religion, they have thrown off the Jewish, and adopted the Mahometan faith, much to their detriment; for they are not now under equally rigid injunctions to keep their *clothes and their houses* clean. The degree of nastiness among the ancient Hebrews induced a distemper which they called *leprosy*. The greater degree of it, prevalent among the modern Syrians, Egyptians and Natolians, produces what they now call *the plague*. Among the English, the circumstances of climate and constitution under which their nastiness is worked up to poison, make it constitute a disease among the emaciated poor, which they call *typhus*. When engendered in sea-vessels, from similar materials, it is denominated *ship-fever*; when in prisons, from the like causes, they call it *jail-fever*; when in crowded and badly-managed infirmaries, it is known by the denomination of *hospital-fever*; and when, in addition to somewhat of domestic uncleanness, the septic acid vapours of corrupting beef, fish, hides, offal, and the like, in the cities of North-America, are made to operate, under an intense heat, and high living, upon human constitutions, the malady produced has been called *yellow-fever*.

How, then, the reader will ask, is the wide-spreading and sore-wasting mischief to be arrested? Being bred in contact with our bodies, and clinging to our very skirts, how can it be made to unclench its gripe or quit its hold? Experience, the mother of all useful inventions, has sufficiently shown how this can be done. *Pure air* is one of the most easy, cheap, and obvious expedients for thinning and carrying away infectious fluids, when they exist in an aërial form. *It is the nature of infectious fluids to diffuse themselves around and among the surrounding bodies, until they impregnate all alike, and thus find their level.* If clean atmospheric air is admitted into an infected apartment, a portion of infectious gas will join the admitted portion of atmosphere, and thereby the contaminated air will be rendered more dilute or less concentrated. And if this clean air is made to pass through in a stream or current, the infectious gas mingling with it may be wafted away, and be so attenuated, and removed so far, as to do no more harm. The operation of a clean fluid, when applied to a firm or solid body in a nastier state than itself, is called *washing*. Clean air, passing by and through infected clothing and rooms, washes away a part of their filth. This might very significantly be called AIR-WASHING, as the application of it to the human body has been aptly called the AIR-BATH. In ordinary language, however, this process of washing through the medium of an aërial fluid has been known by the name of VENTILATION.

But cases occur where VENTILATION, OF WASHING WITH AIR, is either not efficacious or not expeditious enough. The nastiness and infection are either not washed out completely by it, or are removed too slowly for ordinary convenience. In such instances PURE WATER is a good auxiliary to PURE AIR. Septic poison, or, what is the same thing, infection, is disposed to diffuse itself, and find its level in clean water very readily, as well as in clean air: and water is better adapted to attract to itself, and carry away with it, gross and unvolatile matters, than air is. For the removal, therefore, of those thick, unctuous, and adhesive excretions, which do not quit their connection with the cuticle and garments, and rise in vapour, WATER has a more exact and determinate fitness than air has. Water has for this reason been, by the common usage of mankind, employed for this purpose; and the operation has been called WASHING, or, as it ought more properly to be expressed, WASHING WITH WATER.

If mankind wore few clothes to collect and confine their nastiness about them; if they lived in temperate latitudes, under open sheds, with little bedding and furniture; if they frequently used both the AIR-BATH and the WATER-BATH; and if they fed moderately upon food chiefly vegetable, whereby their excretions would be diminished in copiousness and rankness, as the natives of Otaheite seem to do; perhaps these two kinds of washing would answer most of the purposes of ridding them of their personal and domestic nuisances.

But with the greater part of the human race the case is widely different. Their shirts, breeches, stockings and coats, cover them by day, and their feather, flock or straw beds, sheets, blankets and coverlids, invest them by night. Their dwelling places are often close and narrow: and only now and then, by way of a rarity, are the persons, clothes, beds, bedding, furniture, and chambers of these families, WASHED AS THEY OUGHT TO BE, EITHER BY AIR OR BY WATER.

The condition of such mortals was unhappy to be sure. Doomed to exist, without the purifying streams of God's free gifts of air and water, sickness and abridgment of life were the unavoidable consequences. But this situation, though for a while deemed forlorn and desperate, was found, by experience, to be susceptible of great alleviation, and even of comfort. In the abundant stores of the Almighty, men at length discovered that great quantities of ALKALINE SALTS AND EARTHS had been treasured up for their relief. And they have since found that the processes for keeping up the stock of these articles will be as durable as the existence of fire, which prepares pot-ash and soda by the incineration of plants, and as lasting as the labours of shell-fish, which collect lime from the floods of the sea. See *Alkalies*, *Calcareous Earth*, *Lime*, *Soda*, and *Pot-ash*.

Asia seems to have been the cradle of mankind; though Egypt, a north-eastern corner of Africa, was, perhaps, the best seminary of learning in early ages. The power of alkalies to prevent corruption, to repress noxious vapours, and to give activity and despatch to water in removing nastiness from the human skin and clothing, had undoubtedly been discovered as long ago as the descent of the grandson of Abraham to that country. There were natural circumstances, in some parts of that region, peculiarly favourable to these discoveries. The surface of the land abounded with calcareous rock and brine of sea-salt; and these, acting upon each other, underwent a double decomposition, whereby the carbonate of lime and the muriate of soda were changed to a muriate of lime and a carbonate of soda. This carbonate of soda lay ready to their hands in the dry season, and required little more than to be scraped together for use. Its *effervescing quality*, when the acetic acid, or vinegar, was poured upon it, is noticed by King Solomon, who flourished one thousand years before the birth of Christ; and its *cleansing power* is remarked by the Prophet Jeremiah, six hundred years prior to that æra. So early was it known that the most comfortable and healthy consequences arose from ALKALIZING water, or rendering it ALKALINE.

This discovery, which was of more consequence to the physical purity, and, through it, to the moral proficiency and excellence of man, than the invention of the alphabet, has come down to us without its author. It belongs to some Memphian genius, whose name ought to be mentioned with those of Theban Hermes and Syrian Cadmus.

Such a solution of soda in water was called a *lixivium*, or *ley*, and afterwards all salts capable of forming a solution possessing such antiseptic, detergent, neutralizing, and sweetening qualities, were distinguished as *lixivial salts*. The theory of their operation is briefly this: soda (and the same is true of pot-ash) has a double property of neutralizing acids, and of rendering grease soluble in water. A portion of greasy as well as infectious matter inheres in garments, &c. which neither mere *air* nor unmixed *water* can wash away. But no sooner is water charged with an alkali, than, like a peace-officer authorised by a warrant, it searches every suspicious corner and lurking place, and drags forth mischief, with its aids and abettors, from their concealment.

Water, thus, to be rendered quick, safe and efficacious, ought to be *alkalized*. But as soda is not every where to be got, or, if to be purchased, costs too high a price for common use, POT-ASH began to be employed in its stead. Pot-ash was gathered on every hearth where wood was burned; and, in process of time, it began to be understood, that whosoever kept a wood fire, to obviate the evils of cold, and guard against the severity of hunger, would find in its ashes a sovereign antidote against nastiness, infection and pestilence. Water, therefore, was alkalized with *pot-ash*, and this *lixivial salt* was substituted for soda in the business of removiug corrupt excretions.

Experience, however, soon taught that pot-ash, taken hot from the fire-place, was of a caustic quality, and preyed upon the skin and flesh of those who put their hands into a ley made of it. Garments, too, soaked or boiled in this acrid lixivium, were sometimes rendered rotten, and fell to pieces on being handled afterwards. To secure the hands and the goods at the same time against this destructive alkali, another expedient was tried, and another discovery made. In almost every house, whether of a huntsman, a shepherd, or a cultivator of the earth, there were scraps and morsels of fat, and other animal substances, not consumed as food, and these often lay as incumbrances about the house, or were wastefully thrown into the fire. Now it was found that they might be employed for a very important domestic purpose; for the ley of the caustic pot-ash would combine with them, and in so doing there would be formed from the two a new product, possessing all the detergent and alkalizing powers of the pot-ash as respected the garments, without its corroding and disorganizing effects as regarded the hands of the washer. Thus *soap was discovered;* and such is the reason why its alkali is connected with and disguised by grease or oil.

The great and efficacious means of cleanliness are therefore found to consist in WASHING; with, 1. Clean air: 2. Clean water: 3. Water alkalized with soda: 4. Water alkalized with pot-ash: and, 5. Water alkalized with soap. And these, when seasonably and sufficiently employed, are capable of overcoming and removing every particle of nastiness, septic acid, or infection, which are engendered on the cuticle, in the clothing and bedding of men, within their habitations, and amidst their furniture. These agents are sufficient to prevent its formation, and to destroy it wherever it exists. And wherever infection arises, as on ship-board, in poor-houses and jails, in hospitals and camps, there is always a neglect of these ventilating and alkalizing processes which make pestilence vanish before them. See *Fumigation.* Lime has, also, an operation neutralizing, sweetening and wholesome, like the alkalies, but is not so active and powerful. See *Lime.* The virtues of alkalies are such, that *to alkalize a thing* is but another phrase for destroying pestilence and infection in that thing.

Climactericus Annus, climacteric year. From *climacter, the round of a ladder.*

Climacterical Years, are certain observable years which are supposed to be attended with some considerable change in the body; as the 7th year; the 21st, made up of three times seven; the 49th, made up of seven times seven; the 63d, being nine times seven; and the 81st, which is nine times nine; which two last are called the grand *climacterics.* Aulus Gellius tells us, that this whimsy first came from the Chaldæans, from whom it is very probable to have come to Pythago/as, who was very fond of the number seven, and used much to talk of it in his philosophy.

Climate, κλιμα, is a space on the terrestrial globe, comprehended between two circles parallel to the equator; so that from the beginning of one *climate* to that of another next to it, there is half an hour's difference in the longest summer's day; these are also divided into parallels, which is just half so much; but the former is small enough to distinguish the different constitution and temperaments of air, which this term is generally used to express.

Clinicus, κλινικος, *clinic*, from κλινη, *a bed*, clinical. It is applied to patients who keep their beds. Hence a *clinical* physician is one who attends the sick who are confined to their beds.

Clinoides, κλινοειδης, from κλινη, *a bed*, and ειδος, *resemblance*. The four small processes in the inside of the os sphenoides, forming a cavity called *Cella Tercica*.

Clitoris, a small glandiform body like a penis in miniature, situated above the nymphæ, and before the opening of the urinary passage of women: from κλειω, *to enclose or hide*, because it is hid by the labia pudendi.

Clitorismus, a morbid enlargement or swelling of the clitoris.

Clonicus, i. e. *Clonus*.

Clonici, diseases from clonic spasms.

Clonic Spasm. In a morbid state, the contraction of the muscles, or of the muscular fibres, are involuntary, and are excited by unusual and unnatural causes. When the contractions are succeeded by a relaxation, but, at the same time, are repeated without the concurrence of the will, or the repetition of natural causes, and are, at the same time, repeated more frequently, and commonly more violently, than in a healthy state; this state of morbid contraction hath been named *clonic spasm*, and is what we name, strictly, a *Convulsion*. Cullen.

Clonos, κλονος, any tumultuary, interrupted, or inordinate motion. It is applied to epileptic and convulsive motions.

Clove-Tree. See *Caryophyllus*.

Clunes, the buttocks.

Clunesia, inflammation and pain of the anus. See *Proctitis*.

Clyster, κλυστηρ, *Clysma*, κλυσμα, or *Clysmus*, κλυσμος, a glyster, from κλυζω, *to wash* or *cleanse out*; also called *Enema*, from ενεμα, which strictly signifies the injection of a liquor into any part, to wash or cleanse it; but custom has now confined this term to an injection into the fundament, to procure stools.

Cnemodactylæus, i. e. *Musculus Extensor Digitorum Pedis Communis*.

Coacus, or *Coan*. It is frequently applied to Hippocrates, or any thing relating to him or his writings, from his being born in the island of Cos or Coos. Particularly it is an epithet of a treatise of Hippocrates's, called *Coacæ Prænotiones*.

Coagulation, from *con*, and *ago*, *to drive together*, the curdling of milk, whereby some more viscid parts form coalescences, and leave the rest thinner and more fluid.

Coal. A genus in the class of inflammables; of a black colour; breaking generally in an horizontal direction; burning with smoke into an inflammable residuum; and much more hard and compact than any other genera of this class with which it can be confounded. Jet is ranked as a species of *coal*.

Coarctation, a rendering the canals narrow, or contraction of the diameters of the vessels. A *coarctation* of the pulse is its diminution.

Cobalt. The ores of *cobalt* resemble those of antimony. Their surface is almost always covered with an efflorescence of a dingy scarlet. These ores contain much arsenic, and it is from them that arsenic is usually got. They also frequently contain a portion of bismuth. Those which contain *cobalt* alone are very rare. Beaumè. The metallic part is of a white colour.

Coccinella, cochineal. It is an insect brought from New-Spain and Mexico. It is found on the leaves and branches of the *Opuntia*, called *Nopal* in New-Spain; by Linnæus *Coctus coccinellifer*. Coccinella is retained by the college in their Pharmacopeia; it enters the Tinctura Cantharidis, the Tinctura Cardamomi Composita, the Tinctura Corticis Peruviani Composita.

Cocculi Indi Aromatici, Jamaica pepper.

Cocculus Indus, India berry. In Linnæus's botany it is the *Menispermum Cocculus*.

Coccus Indicus Tinctorius, cochineal.

Coccygæus Musculus. It rises from the spine of the ischium, and is inserted in the side of the *Os coccygis*. This muscle and its fellow form a sling to bring that bone upwards and inwards. It is nothing else but a continuation of the posterior part of the *Levator Ani*. It is Winslow's *Coccygæus Posterior*.

Coccygæus Anterior. It rises from the anterior portion of the small transverse ligament, at the upper part of the foramen ovale of the os innominatum; runs between the great transverse ligament of the pelvis, and the musculus obturator internus, and is inserted into the lower part of the os coccygis.

Coccygis Os. It is situated at the extremity of the os sacrum. It is bent forward towards the pelvis; it is made up of four or five pieces, like false vertebræ, joined together by cartilages. The first piece is the largest, the rest are less and less as they descend.

Cochlea. A cavity of the internal ear, that resembles the shell of a snail, and in which are observed, the *modiolus*, or *nucleus*, extending from its basis to the apex, and in the centre of the scala.

Cochlearia, scurvy-grass, or spoon-wort. A genus in Linnæus's botany. He enumerates eight species. The college have retained the Cochlearia officinalis in their Pharmacopeia; it enters the Succus Cochleariæ Compositus, formerly called Succ. Scorbutic: and the Spiritus Raphani Compositus, formerly called Aqua Raph. Comp.

Cochleare, a spoon, perhaps so called from resembling a shell. The ancients had two kinds of *Cochlearia*; the greater, which contained a dram, and the lesser, which contained a scruple. In the present London and Edinburgh Dispensatories, a cochleare is half on ounce of syrup, and three drams of water, in weight.

Coction, in a medicinal sense, signifies that alteration, whatever it be, or however occasioned, which is made in the crude matter of a distemper, whereby it is either fitted for a discharge, or rendered harmless to the body. This is often brought about by nature, as we speak, that is, by the vis vitæ, or the disposition or natural tendency of the matter itself, or else by proper remedies, which may so alter its bulk, figure, cohesion, or give it a particular determination, so as to prevent any farther ill effects, or drive it quite out of the body. And that time of a disease wherein this action is performing, is called its *state of coction*.

Cæcalis Vena, a branch from the concave side of the *Vena Mesaraica Major*; it runs to the beginning of the colon.

Cæcum. See *Cæcum*.

Cœliaca, κοιλιακη. It is that species of diarrhœa, in which the discharges are chylous, and appear white, like milk.

Cœliac Artery. The first large artery so called, which is detached from the descending trunk of the aorta into the abdomen. It divides into two branches, the one on the right, the other on the left, of which the first gives the gastrica dextra, which goes to the stomach; the cistica, which goes to the gall-bladder, the epiplois dextra to the omentum, the intestinalis to the duodenum, and to a part of the jejunum, the gastro-epiplois to the stomach, to the omentum, and some branches to the liver, which enter the capsula communis, to accompany the branches of the vena porta: the left branch of the cœliaca gives the gastrica dextra, which is also spread on the stomach, the epiplois sinistra to the omentum, and the splenica to the substance of the spleen.

Cœliaca mucosa, i. e. *Diarrhœa mucusa.*

Cœliaca Passio, the cœliac passion. A species of *Diarrhœa,* in which the aliment is carried off in a liquid state, but not well digested. The discharges resemble chyle. Aretæus calls those afflicted with this disorder, κοιλιακοι; Cœlius Aurelianus calls them *Ventriculosi.*

Coffee, coffee-tree. A genus in Linnæus's botany. He enumerates two species.

Cohobation, is the returning any distilled liquor again upon what it was drawn from, or upon fresh ingredients of the same kind, to have it more impregnated with their virtues.

Coitus, signifies strictly the conjunction of male and female in the act of generation.

Colatura, any strained or filtered liquor is called the colature.

Colchicum, meadow saffron. A genus in Linnæus's botany. The *Colchicum Autumnale* is much commended as a diuretic medicine. The college have introduced the recent root of this plant into their Pharmacopeia; an Oxymel, Oxymel Colchici is directed.

Cold. Cold is an agent peculiarly powerful in producing diseases, and removing them; indeed almost the fabled spear, which heals the wounds that it has inflicted. Though we have styled cold an agent, it is seemingly a privation of heat; and the application of cold to the human body, is only the application of such bodies which powerfully attract heat in consequence of their lower temperature; apparently, in some cases, from their possessing a greater affinity for caloric, or from carrying off heat in consequence of their evaporation.

In the human body cold is a relative term. We style it cold when the thermometer is at 70°, if it has suddenly sunk from 84° to that point; but it is cold only at 32°, if the air has been long at 40°, with little wind. Temperate heat is generally placed at 62°; but the uniform heat of the earth in England is about 51°. From about these two last points (for, from many circumstances, there must be a considerable variety) cold diminishes the irritability of moving fibres: they contract more slowly; but, as cold condenses the skin, it presses more firmly on the subjacent vessels, and gives additional tone to the whole system. This effect of general pressure is evinced by the hilarity which we feel in a dense elastic atmosphere; and the same effect sometimes arises even from the support of clothes: an advantage felt by the weak and irritable of the softer sex. In this state of the atmosphere, the perspiration is diminished; but the discharge of that gazeous, insensible halitus, which contributes so powerfully to our feelings of health, seems to be continued with unabated vigour, and to be occasionally increased.

The discharges from the bronchial glands, from the lacrymal, and from those of the whole Schneiderian membrane, are augmented; and these, with the increased discharge of urine, seem chiefly to supply the deficiency of the perspiration: for, in steady continued cold, the bowels are by no means relaxed, often in a contrary state.

The nervous system seems to suffer in nearly the same manner with the moving fibres. Its sensibility is diminished; but the mental powers, we mean the intellectual, do not suffer. They seem to acquire vigour with the tone of the body; while tenderness, sensibility, and those feelings connected with an irritable system, are, in proportion, less acute. The stomach, which partakes of the state of the nerves and moving fibres, experiences an increased tone. Its functions are less rapid, but performed more perfectly; and, for similar reasons, the bowels are frequently less active, and the nutritious particles, by delay, more completely separated. In short, if we were to fix the limits where the animal system was in its most perfect vigour, we should say it was in those regions where the heat seldom rises above 70°, or falls below 32°.

When, during a great part of the year the heat is below the latter point, we find all the effects mentioned more striking, except the vigour of the intellectual faculties. When the irritability is further lessened, strength of mind becomes torpor; energy and vigour are sunk in insensibility, and roused only by violent causes to temporary exertions. When still further lessened, the distinguishing features of humanity are almost wholly lost. Even parental affection has little influence; and the great duties of religion are heard with indifference. The exertions necessary for the support of life, few as they are, occupy the mind and body. Love, which in warmer and more genial climates, refines the heart, and awakens every finer feeling, here sinks into an animal passion, neither importunate nor refined; and the same want of irritability protracts the period of puberty, and lessens the proportional number of the offspring.—A truly wise provision, where the means of support are so scanty.

The temporary effects of cold we have in part anticipated, under the article of BATHING. All the changes just noticed come on rapidly; but the accumulated irritability, when no longer repressed, restores the glow. If, however, the cause continues, the debility is increased; the pulse flutters with an irregular interrupted action; the senses become gradually weaker; a propensity to sleep so irresistible, that the victim is content to purchase it with his life, supervenes, and death creeps imperceptibly on this lethargy. The torpid animal, who passes his winter in this state of apparent death, recovers on the approach of spring. His irritability, suspended for a time, is accumulated; and he wakes from his death-like sleep with new vigour. When examined with a microscope, the vessels appear like dark lines; for the fluids are apparently coagulated. The action is first perceived in the vessels: this breaks the line into minute portions before these become undistinguishable in a circulating fluid.

The partial action of cold has similar effects; but they are confined to the part only. The bulk of the organ is diminished; the vessels are less distinguishable; the skin becomes pale; and, if the cold is too long continued, its life is destroyed. Before, however, this last effect takes place, we avail ourselves of the change ; the hernia is reduced ; the puerperal discharge checked ; inflammation diminished.

The diseases which cold produces are not numerous, if we speak only of continued cold. It checks, as we have said, the growth ; it protracts the period of puberty ; and renders the female less prolific. All these, however, are within the limits of health : and we may as well say, that the Italian female, full of fire and passion, is diseased from excess of fulness and irritability, as the Laplander from the defect of both. But, when the paucity of the menstrual discharge becomes a suppression ; when the circulation can be no longer carried to the extremities, but chilblains and sphacelus affect the fingers and toes ; when the whole system languishes ; disease must be present. Yet, if we consider the variety of climates ; the rigour of the arctic winters ; the hardships of the Esquimaux, or of the sailor, in pursuit of the whale and seal ; when we see, at the same time, the few diseases to which they are subject ; we are almost tempted to assert, that continued cold is very rarely the cause of disease.

The principal disorders attributed to cold are owing to its irregular application to the body overheated, or to a partial stream of cold air on one particular organ. From hence arise catarrhs, with all their attendant symptoms, and their accustomed danger ; from hence fevers, rheumatisms, diarrhœa, and all the variety of epidemics, with their attendant evils, date their origin. Even the most destructive miasmata often rest innocuous in the body, unless excited to action by cold ; and when we hinted that all catarrhs may originate from miasmata, we admitted that cold was an exciting cause.

In this enumeration we have omitted two diseases attributed to cold : the chaps on the lips and skin, from the contraction of cold air ; and the fragility of the bones, the *fragile vitreum* of Gaubius, supposed to be equally the effect of condensation. The former are scarcely diseases ; and there is much reason to conclude, that the deep-seated bones are little affected by the inclemency of the air. The internal parts preserve their usual heat in air of every temperature, without increase or diminution, as we have already shown ; and if fractures are more common in cold weather, it must be recollected that our steps are then more unsteady, the ground harder, and irregularly uneven.

It has been contended, that cold is, in its primary action, a stimulant ; but the idea arises from the refinements of system, rather than observation. From the first effects of cold, what has been styled reaction so suddenly follows, as to mislead the incurious or the prejudiced attendant. The dispute will, however, at last become verbal : for it is in no case contended that its stimulus will be injurious ; and generally admitted, that with little, often imperceptible, stimulus, it may be quickly rendered a powerful sedative.

If we look to cold as a remedy, we shall find a more cheering prospect. In our observations on cold bathing, we have distinguished it in its immediate, its continued, and repeated action. When we speak of cold in this place, we treat chiefly of its immediate and its continued action ; for cold applications are principally useful in these ways. We were almost led to confine our remarks to the latter ; but there are some facts which will not admit wholly of this explanation.

Cold is highly useful in FEVERS of almost every kind, though it will often admit only of the slight application of cold air; and rheumatic fevers seem to be the only exception. The heat forms the true indication for its use; since, in the early stage of intermittents, or in the exhausted state of protracted typhi, it is less admissible. When there is considerable heat, and no fixed organic affection of the internal parts, cold is often a very salutary remedy. We have, indeed, some instances, where, in a protracted cold fit, the application of cold has hastened the reaction; but the practice will be dangerous, unless the patient is strong and active. The effect of cold in the hot fit of fevers is to lessen the heat, and hasten the perspiration. This discharge is checked when the heat is considerable, and seldom takes place when it is much above 100°. Dr. Alexander places the perspirable heat too high, viz. at 108°.

Synocha is well adapted to this remedy; but it seldom occurs without the combination of internal inflammation, except when owing to worms, or sordes in the abdomen. In each case, cold must be employed with some caution and discrimination. Yet cool air and cool drinks may be allowed. Let us take this opportunity of making the distinction. By *cold*, when we speak of drinks, we mean, in general, from 51° to 40°; by *cool*, from 48° to 60°. The coolness of air is more relative; and, in general, means from 10° to 15° below the mean heat of the chamber, which should never exceed, if possible, 62°. It will be obvious, that these numbers are not to be taken with minute precision, but only as a general standard.

In *typhus*, the use of cold is a subject of greater nicety. Cool air and cool drinks are always proper, except when the patient sinks from faintness. Yet De Hahn used it in a low epidemic fever, at Breslaw, with some appearance of success; Dr. Gregory has sponged the body with cold water or vinegar; and the practitioners of America have employed it even more boldly in this, and its kindred disease, the yellow fever. The exhibition of calomel, at the same time, does not seem to deter them; and, indeed, till some effect on the gums appears, no benefit is derived from the medicine. Should it produce this peculiar symptom, its worst consequence, little disadvantage would probably arise. In some instances, very cold water has been employed as a clyster; and ice, in a bladder, applied to the stomach, or other parts, suffering under acute pain. From ourselves we can say little; we have, in a few instances, employed it certainly without injury; we can scarcely say with any striking advantage. Where the heat is great, it may be most freely used; when inconsiderable, sponging is the most adviseable application of cold, and vinegar mixed with water may have its advantages. The different parts of the body should be sponged also in succession.

PHLEGMASIÆ. *Ophthalmia* has been constantly benefited by cold applications; and the fact is so generally understood, that we need not enlarge on it. Even ether, which produces a considerable degree of cold by evaporation, has been employed. *Cynanche*, we are told by Dr. Rogers, is relieved in the northern climates by rubbing ice externally on the throat. A practice not very dissimilar is recommended in some parts of England, holding a piece of nitre or sal prunella in the mouth. Some caution is necessary, that this remedy be not employed in the malignant angina. In *phrenitis*, the utility of cold applications is sufficiently known and well established: but in the other internal inflammation it is a suspicious remedy. From its utility in *hernia* we may be led to employ it in *enteritis*. In this disease, cold water has been dashed against the legs and thighs with advantage; but it will be recollected, that, in hernia, enteritis, and cynanche, we approach so near the part affected that the cold is almost an external application; and, though we have mentioned among the effects of cold a costive state, we then spoke of its continued application in a cold climate. In *nephritis* we are told, by Mercurialis, that cold is useful; and, as we can so nearly reach the bladder, either by the perinæum or above the pubes, we suspect it may be useful also in *cystitis*.

In external *phlegmone*, and all *inflammations of the joints*, cold is a more doubtful remedy. It has never, we believe, been employed in rheumatism; and in gout we still think it must be injurious. In strains, in the white swellings of the knee, and in the morbus coxarius, cold, in the early stages, is advantageous; and it is rendered more effectual, by increasing the momentum of the water, the form in which it is usually employed, by pumping, which also regularly renews the cold application to the part.

In the HÆMORRHAGIÆ, with scarcely, if any, exception, cold is useful; and cold drinks, cold air, cold applications, are of the greatest importance. Even in hæmorrhages from the lungs it may be employed with little apprehension; and nitre, a remedy so powerful in every case of hæmorrhages, acts only by the cold which it produces. *Hæmorrhages from the uterus* are restrained by cold, though they often require it in the most active degree; and, perhaps, iced injections into the rectum would be serviceable. Cold injections in the *hæmorrhoides* are powerful and efficacious remedies. Cold is perhaps best adapted to the active hæmorrhages; but even those from debility and tenuity of the blood reap little less advantage from its use.

In the EXANTHEMATA, cold is also a very useful remedy. In the *small-pox*, we know it is freely and advantageously employed in the form of cold air and cold drinks. Accident has even shown, that cold bathing, in the worst kinds of the complaint, has preserved the patient from the most imminent danger. If, however, cold is used in these eruptive diseases, it must be employed with steadiness and perseverance. Slight cold, soon discontinued, will be rather injurious than beneficial. The effect of cold in these cases is to moderate the too active determination to the skin; which, pouring the fluids under the cuticle faster than they can be transmitted, are detained, and, by their irritation, produce the peculiar pustules. When this determination is restrained, moderate perspiration, or the insensible halitus, which we have called, with Chenot, the *diapnöe*, succeeds. The eruption of the small-pox may be thus, in a great degree, or even entirely, suspended with safety: we scarcely dare to say the same of the other exanthemata.

In *measles*, the poison is directed to the eyes, the bronchial glands, and often to the breast. These affections have prevented the free use of cold. In peripneumony, the advocates for its use can only allege, that when cold has been employed in other diseases with which the peripneumony was complicated, it has done no injury. In catarrh we find a few instances, but from a suspicious source, in which it is said to have been useful; but, on the whole, we find little foundation for pronouncing cold *even generally* safe in affections of the breast. We must, therefore, dissuade the practitioner from employing it in measles; nor is it necessary, when we find that we can easily diminish all the dangerous symptoms by cathartics. In *scarlatina* the experience of Dr. Currie, and the decisive conduct of Dr. Gregory, have established the utility of cold affusions. They are employed to counteract the heat, and must be continued while any considerable heat remains.

In the *miliaria*, the use of cold drinks and cool air has been long established; and such is their success, either in preventing or removing the disease, that we seldom want actual cold; at least such has been the fortune of the author. In violent cases, there is certainly no objection to actual cold.

In *erysipelas*, some apprehensions have been entertained of the effects of cold as a repellent; we believe without foundation. When in this disease, the brain is affected, subsequent to the tumour and inflammation of the face and head, the latter does not subside: it is a continuance of the same affection, or rather a greater extent of disease; and authors of credit have employed it with success.

In the *plague*, if it be really a genus of this order, our late experience in Egypt has fully established the advantages of cold applications, cold air, and cold affusions. These are particularly said to prevent bubos; and it is highly probable that considerable and continued cold would be useful to anthrax in other situations. The practitioner should, however, recollect, that anthrax is sometimes *apparently* critical.

Profluvia, the next order, contains but two genera; and in one of these catarrh, we have said that cold is inadmissible: yet in the epidemic catarrh, cool air and cool drinks have been generally useful. We know not that the application of cold has been carried further.

In *dysentery*, cold affusions are recommended by Dr. Lind. An Italian physician, Signor Rosa, recommends clysters of the coldest water.

In the *sanguineous apoplexy* (of the order COMATA), cold applications will undoubtedly be useful; but we find little authority for their use. In the *hydrocephalus*, which has been lately classed under this genus, the coldest water applied to the head is said, by Dr. Rush, to be serviceable; but it is not easy to say in so early a stage what the disease really is. Little danger will, however, probably ensue from cold applications in any kind of headach. The apoplexy from narcotic poisons is always greatly relieved by cold applications. (See BATHING). Tissot mentions the good effects of cold affusions in the coup de Soleil. In partial palsies, pumping on the affected limb, and then covering it with warm flannel, is often serviceable; and in weak joints, a similar remedy is equally beneficial.

In the SPASMI, cold is chiefly useful in the form of cold-bathing, which we have already noticed. In *colic* and *cholera*, cold drinks will be useful; but they should be administered with caution, in small quantities, frequently repeated.

The success of cold, in every form, in *maniacal cases*, is well established by a great variety of the most respectable evidence; particularly of cold applications to the head. In *tympanites* it is recommended by Dr. Cullen; and in *ischuria*, placing the patient on a wet stone floor, on his naked feet, has often removed the obstruction. It has been common to recommend bathing *scrophulous tumours* with sea-water: but the effect is apparently from the cold; and we have often employed common water with similar success. In *burns* we have already mentioned the utility of cold water.

It may not be amiss to add an account of some easy methods of producing a considerable degree of cold. When ice or snow are to be procured, we want no further assistance, for we can cool water only to the freezing point. When these are not at hand, water from a deep well will be found to be at the heat of about 50°. By adding gradually a mixture of nitre and crude sal ammoniac (muriated ammonia), in the proportion of 8 to 5, this water may be gradually cooled down to about 38°. When we reflect that the heat of the body is 98°, and that of the diseased part at least 104°, even the first degree will be considerable; and by repeating the application we shall often obtain the expected relief. From the water artificially cooled the benefit may be increased. But if this water be put into a bladder, and moistened with ether, spirit of wine, or indeed with common water, in a free current of air, the temperature will be nearly that of ice, and fully equal to any of the indications before laid down. The greatest extremity of cold required, is in some cases of puerperal uterine hæmorrhage. In this we have known the patient exposed to the severest winter cold, covered only with a sheet, which has been kept constantly wetted; and life has been only preserved by such severe treatment. But we must repeat that in every case, where cold is indicated, its use must be steady and constant.

Coli Dextrum (Ligamentum). Where the mesentery changes its name for that of mesocolon (which is about the extremity of the ileum) the particular lamina which is turned to the right side forms a small transverse fold, which is thus named.

Coli Sinistrum (Ligamentum.) It is a contraction of the mesocolon, a little below the left kidney.

Colica. The colic; from κολον, the colon, one of the large intestines. It is known by a pain in the belly, and a sensation like a twisting round the navel, attended with vomiting and costiveness. This genus of disease is classed by Cullen in the class *neuroses*, and order *spasmi*. The species of colic are, 1. *Colica spasmodica*, arising from spasm: 2. *Colica pictonum*, the painter's, or Devonshire, or white lead colic, which arises from the poison of white lead, and induces palsy of the hands: 3. *Colica stercorea*, common to persons of a costive habit. M. M. Venesection; cathartics; œnemas; opium; aromatics; emollient fomentations.

Colica sinistra (Arteria), i. e. *Mesenterica inferior Arteria.*

Colica superior (Arteria), i. e. *Mesenterica superior.*

Colica Vena. It is a branch from the mesaraica major. It runs to the middle of the colon, where it divides to the right and to the left, and forms arches. On the left it communicates with the upper branch of the hæmorrhoidalis, and on the right with the second branch of the mesaraica.

Colica recta (Vena.) It is a branch of the gastro-colica vena. It goes to the right portion of the colon, from thence to the upper part thereof, where it divides, and anastomoses with the colica and and the cœcalis.

Collaterales. So Spigelius calls the erectores penis, from their collateral order of fibres.

Colliquation, is the melting of any thing whatsoever by heat; but is more particularly used to express such a temperament or disposition of the animal fluids as proceeds from a lax compage, and wherein they flow off through the secretory glands, and particularly through those of the skin, faster than they ought; which occasions fluxes of many kinds, but mostly profuse clammy sweats. The remedy of this is in giving a better consistence to the juices by balsamics and agglutinants, and hardening the solids by subastringents. Hence a

Colliquative Fever, is such an one as is attended with a diarrhœa, or profuse sweats, from too lax a contexture of the fluids.

Collutorium Oris, i. e. *Gargarisma.*

Collyrium. From κωλυω, to check, and ρεος, a defluxion. Any medicine was formerly so called, which was applied with that intention. It is now only given to fluid applications for the eyes, or eye-waters.

Colocynthis, the *Coloquintida*, or bitter gourd, a species of *Cucumis.* The college have retained the medulla or pith of the colocynth fruit in their Pharmacopeia; it enters the Extractum Colocynthidis Compositum, formerly called Extract. Cathartic.

Colomba, a bitter root which hath been imported from the East-Indies; it hath been received into practice on account of its effects as a bitter in debilities of the viscera, arising from a long residence in warm climates, or from long continued diarrhœas and dysenteries. The college have introduced it into their Pharmacopeia; a Tincture, Tinctura Columbæ is directed. On an occasion of a great scarcity of this root, some fraudulent dealers in drugs most wickedly mixed white bryony root with it; the latter is an active purgative, and would therefore increase instead of remedying the disease, for which the Colomba was given.

Colon, the second portion of the large intestines; from κοιλος, *hollow*, because it is generally found empty in the dead body. See *Intestines.*

Colostrum, is the first milk in the breasts after delivery, according to some authors; but Bartholine applies it to an emulsion made by the solution of turpentine with the yolk of an egg.

Colubrinum Lignum, is sometimes applied to the snake-root that we have from Virginia, because of its supposed virtues against the bite and poison of serpents.

Columna Nasi, is that fleshy part of the nose which is prominent in the middle.

Columna Oris, i. e. *Uvula.*

Columnæ Cordis, the pillars of the heart. See *Heart.*

Columnæ Septi palati. These are two arches on each side of the uvula.

Coma, κωμα, signifies a propensity to sleep, not unlike what is meant by a *Lethargy*, which is not so aggravated with an entire loss of sensation as in a confirmed *Apoplexy.*

Coma Somnolentum, is an uniform deep and distempered sleep, from which the patient being awaked, suddenly relapses into it again.

Coma Vigil, is an insuperable disposition to sleep, from which the person frequently awakes as from a frightful dream.

Comata. Under this name Dr.

Cullen hath an order in his *Nosology*, under the class *Neuroses*. In this order he comprehends those affections which have generally been called *Soporose* diseases; but (he says) they are most properly distinguished by their consisting in some interruption or suppression of the powers of sense and voluntary motion, or of what are called the animal functions. These (he adds) are usually suspended in the time of natural sleep; but in all these diseases, sleep, or even the appearance of it, is not constantly a symptom.

Comatose, those who have a strong propensity to sleep.

Combination of Medicines. In the rage of reformation, it is not uncommon to step beyond the proper limits; and, in almost every science, it is necessary, in different eras, to review dispassionately the conduct of its professors; to correct, at times, their intemperate zeal, or to supply their omissions. Physicians have for many years aimed at simplicity in prescription, with propriety and success; but they have sometimes failed, in wholly rejecting combinations with which their ancestors succeeded. And it was rather a spirit of empiricism than philosophical induction, which gave a general currency to Dover's sweating powder, and many of Ward's compositions.

To check, in some degree, the rage of simplicity, and the general tendency to too great refinement, we shall, from the different classes in medicines, select some instances, where combination is not only defensible but advantageous.

In the exhibition of *emetics* we are often disappointed, by the medicine remaining inactive in the stomach, and escaping, with its stimulant powers unimpaired, into the intestines. The addition of an antimonial to the ipecacuanha may quicken its action; but this is subject to a similar inconvenience. By the addition of a few grains of the white vitriol, we can often, with either of the others, produce the effect. A sedative emetic, less dangerous than the tobacco or the foxglove, would be a great acquisition to the materia medica; but, even at present, in some pulmonic cases, the foxglove may be actively given for this purpose. The union of the squills with the ipecacuanha has often been highly useful, and equally so with the antimonials.

In the class of *cathartics*, combination is often essentially necessary. We distinguish cathartics as operating by increasing the secretions from the glands of the chylopoetic viscera, and thus affording the natural stimulus to the intestines; as increasing the action of their moving fibres, by a stimulus peculiarly their own; or, as occasioning an extraordinary effort of the constitution, to throw off a poisonous substance introduced. It will be obvious, by uniting the two first, we gain many advantages. The effect of rhubarb, for instance, will be quickened and increased, if the polycrest salt assists in increasing, at a more early period, the motions of the alimentary canal; soap will sheath the acrid particles of aloes, and extract of jalap, while it assists their action; and the warmer gums, as in Dr. Fordyce's formula, gently stimulate the superior part of the canal, while they sheath and mitigate the too great acrimony of some of the ingredients. The old formulæ of manna with the salts, quickened by some of the more active tinctures, or occasionally with metallic preparations, though apparently a disagreeable and discordant union, had many advantages, which are, in vain, expected from the more elegant formulæ of modern times. In general, the more gentle laxatives should be quickened by the more powerful purgatives; and the latter (if indicated) softened by the oily, saccharine, the mucilaginous, or the saponaceous cathartics. There is, perhaps, no class of medicines in which greater latitude of combination may be allowed with advantage.

In *diaphoretics*, a judicious combination produces the most singularly beneficial effects. Generally speaking, the fluids are thrown to the surface by the stimulus of warmth, or other powers exciting the action of the heart and arteries. This stimulus, however, requires regulation; for we have found (see *Cold*), that excess of temperature is unfavourable to the discharge from the skin. Stimulus, when fever is not present, will, however, often succeed; but, in general, it requires the addition of a relaxant. Thus opium has, in every age, been the chief ingredient in sudorifics. But Dover refined on the former plans, by adding another relaxant; Ward, by the union of the white hellebore, which he, perhaps, supposed to be a stimulant, but which acted probably in a different way. Some poisonous medicines, by exciting nausea, relax the skin, and prove diaphoretic. Of this kind is the veratrum album, which Ward employed; and all the variety of narcotic vegetables will produce the same effect. In combination with the warmer stimulants, therefore, a great variety would probably form useful diaphoretics, did we want any more powerful than those we possess.

Diuretics are of a similar nature; and, independent of the more immediate and active stimulus conveyed to the kidneys, narcotics, by inducing general relaxation, promote greatly the flow of urine. Some combinations of the two kinds we have employed with effect; and, if Bacher's tonic pill is useful, it is from a combination of this kind. The necessity of the union is sufficiently perceived, by joining aromatics with the foxglove. Why not rather the oils of juniper or turpentine?

Errhines are also of two kinds, the stimulant and evacuant: these are usually combined. We have but one internal sialogogue; but the Hindoo unites the stimulant with the sedative in the preparation of his betel.

In the exhibition of *emmenagogues* we occasionally combine, with advantage, the more general stimulants and tonics with the topical stimulants of aloetic purgatives; sometimes the latter with relaxants: and, in *lithontriptics*, we unite bitters, designed to counteract the calculous diathesis, with medicines that act on the calculus itself.

Medicines of a more general action do not so frequently require combination. We allude to *stimulants* and *sedatives*. *Astringents* and *tonics*, however, demand a more exact attention, properly to appropriate the medicine to the disease, as each is seldom without an admixture of the other, and a stimulant principle is sometimes combined. But this part of the subject requires a minuteness of detail, which can only be advantageously pursued when connected with the consideration of separate diseases.

In many of these classes Dr. Fordyce seems to think, that the union of two or more substances of the same class can be more easily borne, and be more effectual, than the same bulk of a single medicine; as water, when saturated with one salt, will dissolve a portion of a different kind. It is not improbable; and while, as in the classes just alluded to, we are measuring the degree in which we shall add the warmer to the purer astringent, we may perhaps increase the activity of the medicine. On this subject we cannot properly decide; for *we, too*, are of "St. Thomas, and hard of belief."

Another method in which combination will be useful is, where two indications can be at once answered by the union of different medicines. The instance given by Dr. Fordyce is the union of tormentil with ipecacuanha in old diarrhœas. The one strengthens the bowels, while the other determines to the skin: an effect highly advantageous in the cure. This consequence of combination is peculiarly important, and we would strongly recommend it to the practitioner's attention: but it will be obvious, that it rather relates to the management of particular diseases; and to pursue the subject would require a volume. See Transactions for improving Medical and Chirurgical Knowledge, vol. ii. p. 314.

Combustion. It is difficult to give a good definition of combustion. It is a collection of phenomena, which certain bodies exhibit, when heated with access of air; the principal of which are the continuance or augmentation of heat, agitation, or intestine motion, the emission of light, flame, and a total change of the matter burned.

Comiste, the epilepsy. This name arose from the frequency of persons being seized with this disorder while in the assemblies called Comitia.

Comitialis Morbus, i. e. *Comiste*.

Comitissæ Pulvis, i. e. *Cort. Peruv. Pulv.*

Commetica, the same as *Fucus*, or *Ars fucalis*, are such things which give beauties not before in being, as paints to the face; differing from cosmetics, which are only to preserve beauties already in possession.

Cummi, gum. When alone it signifies gum Arabic. The κομμι λευκον mentioned by Hippocrates in his *De Morb. Mulieb.* is gum Arabic.

Commissura, a suture or joint.

Commissures, the angles of the labia pudendorum above and below, or the point where the lips meet.

Communis Sal, i. e. *Sal Marinus.*

Comparative Anatomy, is that kind of anatomy which considers the same parts of different animals with relation to that particular structure and formation as is most suited to the manner of living, and necessities of every creature: as in the *comparative anatomy* of stomachs; for instance, it is remarkable, that those creatures which have the opportunities of frequent feeding, have their stomachs very small in comparison to some creatures of prey, which may probably be under a necessity of fasting for a great while, and therefore have stomachs large enough to hold food sufficient for a long time.

Complexus, is a muscle of the hinder part of the head, that arises from the transverse processes of the vertebræ of the neck, and ascending obliquely, adheres to the spine of the same vertebræ, and is inserted into the occiput. It moves the head backwards to one side.

Complexus Magnus, i. e. *Complexus.*

Complexus Minor, called also *Mastoidæus Lateralis*, and *Trachelo Mastoidæus*. It arises from the transverse processes of the three uppermost vertebræ of the back, and from the five lowermost of the neck, where it is connected to the transversalis cervicis, by as many thin tendons, which unite into a belly, and run up under the splenius; inserted into the middle of the posterior side of the mastoid process, by a thin tendon. Its use is to assist the *complexus*; but it pulls the head more to a side.

Complicatus, the same muscle that is called *Complexus*.

Complication of Diseases, is when a person labours under divers distempers at a time, and more especially if they have any affinity to one another; as the dropsy, asthma, and jaundice, or the like, which frequently happen together to the same person.

Compound Medicine, is what consists of more ingredients than one.

Compressor Naris. A muscle of the nose, that compresses the alæ towards the septum nasi, particularly when we want to smell acutely. It also corrugates the skin of the nose, and assists in expressing certain passions.

Compressus, from *con* and *premo*, *to press together*, compress. It is the way by which, with bolsters of linen rags, surgeons suit their bandages for any particular part or purpose: and hath so long ago as Avicen been used for such contrivances as prevent the flux of matter upon any part.

Conception. The impregnation of the ovulum in the female ovarium by the subtile prolific aura of the semen virile. In order to have a fruitful coition, it is necessary that the semen be propelled into the uterus or vagina, so that its fecundating vapour shall be conveyed through the Fallopian tubes to the ovarium: hence it is necessary that there be a certain state of the ovarium of the female in order to impregnate it; which is, that the ovum shall be mature, and embraced by the fimbriæ of the Fallopian tube to convey that vivifying substance to the ovum. See *Generation*.

Conchæ Narium Inferiores, also called the inferior spongy laminæ of the nose. They are situated in the nasal fossæ, on each side; they are suspended like the ethmoidal concha, without resting on any thing.

Conchæ Narium Superiores. So Winslow calls the interior part of each lateral portion of the *Os Ethmoides*.

Concoctio, (from *concoquo*, *to digest*). CONCOCTION. It is generally understood to be such a change upon the morbid matter, by the power of nature, generally with assistance of art, as renders it fit for separation from the healthy parts of our fluids, and to be thrown out of our bodies. But this doctrine, at least in fevers, is certainly false. That morbid matter, when it exists, passes off from the blood in its pristine state, appears from the matter of the small-pox and measles, both which communicate the same disease at every period after the eruption. It is most probable also, that, in every infectious fever, the morbid matter, after assimilating some of the fluids of the patient affected, passes off in the same state that it was received. Acrimony in the blood is in no case rendered mild by any process in our constitutions; on the contrary, it is always expelled unaltered by some of the emunctories. Pus is never formed of a kindly nature whilst the heat of the body much exceeds the degree that is proper to health.

The theory of concoction, however, which has prevailed since the days of Hippocrates, has been of the most fatal consequence to the science of medicine, and to patients affected with fevers. It precluded all observation of the effects of medicines in the early stages of such fevers, and left the patient to the ravages of their cause. When the idea was added, that heat was the instrument by which the change was effected, the miseries of the sufferers were greatly augmented. The curtains were drawn; the windows shut; the fires large and incessant; and the medicines of the most stimulating kind. It was truly said, that those who recovered escaped διὰ πυρος, through the fire.

Sydenham supposed that the concoction of the febrile matter meant no more than a preparation and separation of the morbific from the sound particles. See Kirkland on Fevers, p. 14, 27.

Condimentum, and *Conditura*, are used to signify those pickles or liquors in which other bodies are preserved from decay: the person doing this is the *conditor*, and the thing so preserved the *conditum*. But all this branch of pharmacy is now the business of him we call a confectioner.

Conductor, is an instrument to put up into the bladder, to direct the knife in cutting for the stone; from *conduco*, *to lead*.

Condyle. A rounded eminence of a bone in any of the joints: κονδυλος; from κονδυ, an ancient cup shaped like a joint.

Condyli, κονδυλοι, knots in the bones about the joints of the fingers, which make them thicker.

Condyli, are the little knots or protuberances of those short bones which make them thick about their articulations, as on the knuckles.

Condyloide Apophysis. See *Maxilla Inferior*.

Condyloma, κονδυλωμα, from κονδυλος, *Digiti Articulus*, is the knitting of the bones in articulation, but more particularly those of the fingers.

Condyloma Clavus, a corn. Dr. Aitken reckons it a kind of *Sarcoma*.

Condylomata, are a soft kind of tumours arising on the internal coat of the anus, unattended with pain, and of the natural colour of the skin.

Confection, may signify any composition, from *cum* and *facio*, *to make up together*; but it is generally applied to a particular sort of medicine, compounded with dry ingredients of many kinds, powdered and made into the consistence of a thin electuary with honey or syrup.

Conferva, river weed. A genus in Linnæus's botany, of the order of *Algas*, or *Thongs*. He enumerates twenty-one species.

Confirmantia medicamenta, medicines which restore or confirm the strength of the body, or any part of it; or medicines which fasten the teeth in their sockets.

Confluent, flowing together, are any liquors joining into a common stream; but this is generally used for that sort of the small-pox wherein the pustules run into one another.

Conformation, is used to express that particular make and construction which is peculiar to every individual; and hence a *mala conformatio* signifies some fault in the first rudiments, whereby a person comes into the world crooked, or with some of the viscera or cavities unduly proportioned. Thus many are subject to incurable asthmas, from too small a capacity of the thorax, and the like.

Confusæ Febres, are such fevers which come together alternately in the same persons, but keep not their periods and alternations so exactly as to be easily distinguished from one another.

Congeneres, when spoken of muscles imports those which concur in the same action.

Congestion, the same as collection of matter, as in abscesses and tumours.

Conglobate Gland. Lymphatic gland. Globate gland. A round gland formed of a contortion of lymphatic vessels, connected together by cellular structure, and having neither a cavity nor an excretory duct; such are the mesenteric, inguinal, axillary glands, &c.

Conglomerate Gland. A gland composed of a number of glomerate glands, whose excretory ducts all unite into one common duct; such are the salival, parotid glands, &c.

Coniferous, from *conus*, *a cone*, and *fero*, *to bear*, are such trees or shrubs as bear a squamose scaly fruit, of a woody substance, and a figure approaching to that of a cone, in which there are many seeds; and when they are ripe the several cells or partitions in the cone gape or open, and the seeds drop out. Of this kind are the fir, pine, beech, and the like.

Conium maculatum, spotted hemlock, a species of *Conium.* The plant is the officinal hemlock. The college hath directed the herb, the flower, and the seed; its extract is called Succus Cicutæ Spissatus, and is ordered to be made as soon as the flowers appear.

Conjuncti Morbi, are when two or more diseases come together, which are distinguished into *connexi* and *consequentes;* the former subsisting at the same time, and the latter following one another.

Conjuncta Signa. The pathognomonic signs of a disease are so called.

Conjunctiva Tunica. See *Adnata.* The *conjunctiva* is often confounded with the adnata; they are two distinct coats, and both but partial coverings of the fore part of the eye, though the *conjunctiva* is also spread over the inside of the eye-lids. The *conjunctiva* is a thin transparent membrane, which lines the inner surface of the eye-lids, and at the edge of the orbit has a fold, and is continued forward over the anterior half of the globe of the eye. It is exterior to all the other coats of the eye, and connected with the albuginea, by means of a cellular substance, from which it may easily be separated in the dead subject by dissection.

Connatus, συγγενης, used much by Hippocrates for what is born with a person; the same with *congenite*, as,

Connutritus, συντροφος, is what becomes habitual to a person from his particular nourishment, or what breaks out into a disease in process of time, which gradually had its foundation in the first aliments, as from sucking a distempered nurse, or the like.

Consent of Parts, is that perception one part has of another at a distance, by means of some fibres and nerves which are common to them both, or communicated by other branches with one another: and thus, the stone in the bladder, by vellicating the fibres there, will affect and draw them so much into spasms as to affect the coats of the bowels in the same manner by the intermediation of nervous threads, and cause a colic there; and also extend their twiches sometimes so far as the stomach, and occasion grievous vomitings. The remedy therefore in such cases is to regard the part originally affected, how remote and grievous soever may be the consequences and symptoms in other places.

Conserva, a conserve. Conserves are compositions of recent vegetable matters and sugar, beat together into one uniform mass.

Conservatio. In *Pharmacy*, it is preserving, pickling, or keeping from putrefaction and evaporation by the addition of some other substance.

Conservatio Medica, called by

the Greeks φυλακλικη and υγιειη, is that part of a physician's care that preserves a person in health, by preventing the attack of a distemper, in distinction from the pharmaceutic, which applies remedies to the diseased.

Constipation, and *Constriction*, from *constringo*, *to bind together*, is the binding up wounds, or closing the mouths of vessels so as to prevent any efflux of their contents.

Constipatus, costive. A person is said to be costive, not only when the alvine fæces do not daily pass from him, but also when what is discharged by the anus is too hard to receive its form from the impress of the rectum upon it.

Constrictiva, styptics.

Constrictores, from the same derivation are muscles of the nose, called also *Depressores Labii superioris*, depressors of the upper lip, which arise from the fourth bone of the upper jaw, immediately above the gums of the dentes incisores, and ascending are inserted into the roots of the alæ nasi, and superior parts of the upper lip; they draw the upper lip and alæ nasi downwards. There are also the

Constrictores Alæ Nasi. They rise fleshy below the root of the nares, immediately above the gums of the dentes incisorii, and ascending transversely are inserted into the coats of the alæ nasi, and the superior part of the upper lip.

Constrictor Ani, i. e. *Sphincter Ani*.

Constrictor Isthmi Faucium. From the uvula two arches run down, and there is a cavity between them, where the tonsils are lodged. The anterior arch goes down to the basis of the tongue, and is thus called; the other passes down the palatum molle, and goes to the pharynx, whence it is distinguished by the name of *Palato-Pharyngæus*.

Constrictor Labiorum, i. e. *Sphincter Labiorum*.

Constrictor Musculus, i. e. *Buccinator*.

Constrictor Oris, i. e. *Orbicularis Oris*.

Constrictor Palpebrarum, i. e. *Orbicularis Palpebrarum*.

Constrictor Pharyngis Medius, i. e. *Hyo-Pharyngæus*.

Constrictor Pharyngis Superior, i. e. *Cephalo-Pharyngæus*.

Constrictor Vesicæ Urinariæ. See *Detrusor Urinæ*.

Constrictores Pharyngæi. See *Pharynx*.

Constrictores Pharyngis Inferior, i. e. *Crico-Pharyngæi*.

Constrictorii, diseases attended with constriction.

Constringentia, astringents.

Consumption, from *consumo*, *to waste*. In general it signifies a defect of nourishment, or the decaying of the body, and particularly by a waste of muscular flesh: it is frequently attended with a hectic fever, and is divided by physicians into several kinds, according to the variety of its causes, which must carefully be regarded in order to a cure. See Morton *De Phthisi*, and the *Theatrum Tabidorum*.

Contabescentia, i. e. *Atrophia*.

Contagion, *Contagio*, or *Contagium*, from *Contingo* and *Contactus*, contact, is a secreted humour from a living vascular surface, of a poisonous quality, and capable of exciting a disease like to that by which itself was produced, when applied to the living system of a healthy animal of the same species. Thus the matter of small-pox is a contagion, being produced in the incision of an inoculated spot, and in the pustules which make their appearance after the eruptive fever. The pus or sordes of lues venerea is also a contagion, formed by arterious action on a diseased secreting surface. Measles is another example of a contagious disease, it being propagated by a peculiar morbid stimulus inherent in matter secreted during the febrile state of the body. So the matter of vaccinia or cow-pox is a contagion formed by a morbid vascular action on the teats of kine, and communicated thence first to human beings, and afterwards from a human being to another.

In has been supposed that the number of contagious diseases was very great. But this seems to be a mistake: for yellow fever, ship, jail and hospital fevers, and pestilential fevers, as well as the plague itself, seem to be entirely destitute of that peculiar morbid secretion, which we denominate *Contagion*. Neither of the febrile diseases just enumerated produces, in any of its stages, a secreted fluid, or humour of any kind, that can, with any propriety, be called *contagious*. On the other hand, it is sufficiently understood that in the cities of America yellow fever is excited by the septic exhalations from putrefying beef, hides and fish; from feculency, offal and excrements acted upon by the intense rays of their summer sun. In sea vessels it is equally evident that fevers of the most destructive kind have arisen, as in several of the armed ships of the American States, from putrefying animal provisions; in other instances fevers have arisen during long voyages from septic gases exhaling from excrementitious substances, such as matter discharged by vomiting, stool, urine and perspiration undergoing a pestilential change in the cloathing and bedding which receive them. In prisons and hospitals, where, from collected fæces, from foul wounds and ulcers, and from perspiratory pores, much offensive matter is effused, and, by intestine action worked to a noxious or pestilential quality, a febrile poisoning is induced, by which health is undermined or destroyed. So, from the most correct estimate that can be formed, *the plague*, as it is emphatically called, of Barbary, Egypt and Syria, is caused by septic exhalations proceeding from the accumulated nastiness incidental to the disgusting way of living in countries where the master of an house never invites his friend within his doors, where the decencies and elegances arising from the liberal and polite intercourse of the sexes are unknown, where oppression and poverty debase the human species to the lowest point of degradation, and where the construction both of their private dwellings and of cities favour remarkably the accumulation of noxious and plague-begetting materials. Notwithstanding the fashionable notion of the highly contagious nature of the plague of Asia and Africa, there seems to be no foundation whatever for it. All these diseases last enumerated are propagated by infection, or septic acid gas. See *Infection*.

Contagions are secreted poisons; and of these poisons produced by living animals there are two kinds: 1. Poisons produced by *healthy* action of the vessels, as those of the rattle-snake, viper and spider; and, 2. Those which are formed in consequence of a *morbid* condition of the secreting arteries, as those of lues, variola and vaccinia. Their chemical constitution labours under the same difficulty which attends our knowledge of the greater part of other secreted fluids, and they have not been well analized. It is presumable, however, from the analogy the *contagions* bear to *infection*, that there is a great similarity in their composition. But wherein this particularly consists is not perfectly understood. They seem, however, to be destructible by the same agents, and *alkaline salts* and *earths* are capable of overcoming both the one and the other class of these injurious compounds.

Contagiosi, disorders from contagion, or contagious diseases.

Contentio, a tension, or stricture.

Continens Febris, a continual or continent fever, which proceeds regularly in the same tenor, without either intermission or remission. This happens rarely if ever.

Continua Febris, a continued fever, attended with exacerbations and slight remissions, but no intermission.

Contorsio, from *contorqueo, to turn aside*, contortion. In *Medicine*, this word signifies, 1. The iliac passion; 2. An incomplete dislocation; 3. A dislocation of the vertebræ of the back sideways, or crookedness of them; 4. A disorder of the head, in which it is drawn to one side.

Contra-Apertura, a counter-opening; as when a puncture is made into the bottom of a wound, so as to favour the discharge of what could not easily pass at the top, where an opening was already made.

Contraction, from *contraho, to draw together*, expresses the shrinking up of a fibre, when it is extended: and

Contractile, is such a body as, when extended, has a property of drawing itself up again to that dimension it was in before extension. For the cause of this property, which is of the utmost consequence to a right understanding of the animal economy, see *Fibre*.

Contraction. Contractura. A rigid contraction of the joints. It is a genus of disease in the class *Locales*, and order *Dyscinesiæ* of Cullen. The species are, 1. *Contractura ab inflammatione*, when it arises from inflammation: 2. *Contractura a spasmo*, called also tonic spasm and cramp, when it depends upon spasm: 3. *Contractura ob antagonistas paraliticos*, from the antagonist muscles losing their action: 4. *Contractura ob acrimonia irritante*, which is induced by some irritating cause: 5. *Contractura articularis*, originating from a disease of the joint. M. M. For the 2d and 3d species see the articles *Tetanus* and *Paralysis*. In the others oily frictions about the joints and the bellies of the flexor muscles.

Contrafissura, contrafissure. It is a crack in the skull, opposite to where the blow was given, e. g. the blow is received on the right bregma, and thereby a fissure is occasioned in the left.

Contra-Indication. A symptom attending a disease, which forbids the exhibition of a remedy that would otherwise be employed: for instance, bark and acids are usually given in putrid fevers; but if there be difficulty of breathing or pain of the side, they are contra-indications to their use.

Contralunaris, an epithet given by Dietericus to a woman who conceives during the menstrual discharge.

Contrayerva. Contrayerva. This word is of Spanish origin, and signifies an antedote to poison. The officinal part of this plant, *Dorstenia contrayerva* of Linnæus, is the root. It has a peculiar kind of aromatic smell, and a light, adstringent, warm, bitterish taste; and on being long chewed it discovers somewhat of a sweetish sharpness. Putrid and nervous fevers are the diseases in which this medicine was formerly used. Grs. v. to ℈i.

Contusion. Contusio, a bruise; from *Contundo*, to knock together. M. M. Vinegar; brandy; sugar of lead; liniment of soap or ammonia. If pyrexia follow, venesection, cathartics, and the antiphlogistic regimen.

Convalescence, is that space from the departure of a disease, and the recovery of the strength which was lost by it.

Converge, or *converging Rays*, are those which go from divers points of the object, and incline towards one another.

Convex, from *conveho*, *to carry out*, is the external round part of any body opposite to the hollow, and commonly in *Anatomy* called *Protuberance*.

Convoluta Superiora (Ossa), i. e. *Concha Narium Superior*.

Convoluta Inferiora, the lower shelves of the nose.

Convolvulus Syriacus, i. e. scammony.

Convolvulus, a name of the iliac passion.

Convulsion. Convulsio. Clonic spasm. Alternate relaxations, with violent and involuntary contractions of the muscular fibres, without sleep. Cullen arranges convulsion in the class *Neuroses*, and order *Spasmi*. M. M. If it proceed from teething, an incision on the suspected teeth; if from crudities in the first passages, an emetic; if from acidities, castor oil, volatile alkali and other antacids; if from worms, anthelmintics; if from repelled eruptions, a warm bath, blisters. In general antispasmodics and anodynes.

Convulsio Clonica, convulsion alternating with relaxation.

Convulsio Indica, i. e. *Tetanus*.

Convulsio a Nervi Punctura, i. e. *Trismus*.

Convulsio Soloniensis, i. e. *Raphania*.

Convulsio Tonica, convulsion not alternating with relaxation.

Convulsio Uteri, i. e. *Abortus*.

Coolers, which produce an immediate sense of cold, as fruits, all acid liquors, and common waters, cucumbers, &c.

Copaifera, balsam capivi tree. A genus in Linnæus's botany. There is but one species.

Copal. The natives of America call all transparent odoriferous gums by the name of *Copal*. That which is in our shops is a resinous gum, and is brought from New-Spain. It is in irregular masses; some are transparent, others less so in different degrees. It differs from other resinous bodies in being difficultly dissolved by rectified spirit of wine, &c.

Cophosis, a difficulty of hearing; from κωφος, dumb. See *Dysecoëa*.

Copper. Cuprum. An imperfect metal, of a red brilliant colour; hard, elastic, sonorous, and very ductile. It is found in the earth in various states. The uses of this metal in the arts are numerous. All its preparations are very violent poisons, and ought never to be given internally, but with the greatest caution. The sulphate of copper is a powerful tonic and diuretic, and is given internally in dropsies and weaknesses.—From Grs. $\frac{1}{4}$ to 1 at a time. From ℈ss to ℈i. operates as an emetic. Externally it is employed by surgeons as an escharotic.

Copperas. A name given to the three vitriols, viz. the blue, green, and white. The English green vitriol is purely ferrugineous; but almost all others have an admixture of copper. It seems as if the metallic part of all vitriols had been formerly supposed to be copper only; hence, in various countries, they have received names expressive of copper. The English call each of them *copperas*; the Germans *kupfferwasser*; some Latin writers *cuperosum*, i. e. *cuprum erosum*; the Greeks χαλκανθος.

Copula, whence *Copulation*,

strictly signifying the conjunction of male and female in the act of generation, but used by some physical writers for a peculiar mixture of some bodies with others.

Cor. See *Heart.*

Coracobrachialis, } from κόραξ, *a*
Coracobrachiæus, } *crow*, and βραχιων, *brachium, an arm.* This muscle arises tendinous and fleshy from the fore part of the coracoid process of the scapula, adhering in its descent, to the short head of the biceps; inserted, tendinous and fleshy, about the middle of the internal part of the os humeri, near the origin of the third head of the triceps, called *brachialis externus*, where it sends down a thin tendinous expansion to the internal condyle of the os humeri. Its use is to raise the arm upwards and forwards.

Coraco-hyoidæus. It arises from the superior part of the upper costa of the scapula, and is inserted into the basis of the os hyoides, to pull it downwards and backwards.

Coracoides Processus, the beak-like process. Its name is from its likeness to the beak of a crow. It projects from the anterior extremity of the upper costa of the scapula. This process is a little crooked, with its point inclining forwards; a ligament goes out on its superior part, to connect it to the acromion and clavicle. At the birth of children it is cartilaginous.

Coracoideus, i. e. *Coracobrachialis.*

Coralachates, a species of the *Achates*, which resembles coral with respect to its colour.

Corallina, coralline. The corallines, of which there are several kinds, were formerly reckoned amongst plants: but later inquiries prove them to be the product of different animals which resemble polypes. Modern naturalists define them as being submarine plant-like bodies, that consist of many slender, finely divided, and jointed branches. They are distinguished from plants by their texture and hardness. By distillation they yield a considerable quantity of volatile salt; and their smell, on burning, resembles that of burnt horns, and other animal substances. See on this subject Ellis's *Natural History.*

Corallium, coral. Its produce is similar to that of coralline. It is also called *Lithodendron*, or tree-stone.

Corallium Nigrum, black coral. What is usually shown for black coral, is a woody, and not a stony production.

Corallium Album Ramosum, also called *Madrepora Vulgaris*, white coral. The best is brought from the Mediterranean, and is not porous, but solid.

Corallium Rubrum, red coral. This sort hath chiefly been used in medicine. It contains a small portion of iron; its basis seems to be the same calcareous animal earth as that of coralline, and other animal earths; it is possessed of the same properties with them, and no other. The college have retained this substance in their Pharmacopeia; it enters the Pulvis e Chelis Cancrorum Compositus; the Pulvis Contrayervæ Compositus; and the Confectio Aromatica: it is the Isis Nobilis, Linnæi.

Corculum, a diminutive, from *Cor*, *the heart.* In *Botany*, it signifies the heart or essence of a seed, and the primordium of the future plant, attached to, and involved in the cotyledon.

Cordials. Medicines are geneally so termed which possess warm and stimulating properties, and that are given to raise the spirits; from *cor*, the heart.

Coriandrum. Coriander. *Coriandrum sativum* of Linnæus. Every part of the plant has a very offensive odour; but upon being dried, the seeds have a tolerably grateful smell, and their taste is moderately warm, and slightly pungent. They possess a stomachic and carminative power, and are directed in the *infusum amarum*, *infusum sennæ tartarizatum*, and some other compositions of the Pharmacopeias.—℈i. to ʒi.

Coriaria, tanner's sumach, a species of *Rhus*.

Cork-tree, a species of oak.

Cornea, a coat of the eye, which is also called *Sclerotica*. It is the first and outermost coat which is proper to the eye; it is thick and tendinous: its anterior part is distinguished by the name of *cornea transparens*, or *cornea lucida*, and the posterior part *cornea opaca*, and *sclerotica*, or *sclerotis*. The transparent part is elastic, the opake part is not. The fore part bearing a fancied resemblance to transparent horn, takes the name of *cornea*. The natural transparency of the *cornea* is liable to be obscured by inflammation, or by humours affecting it, by abscesses and ulcers. It is more proper to consider this coat of the eye as the *sclerotica*, and the *cornea* only as its transparent part.

Corn. Clavus. A hardened portion of cuticle, produced by pressure; so called because a piece can be picked out like a corn of barley. M. M. Soaking in warm water; paring and securing them from pressure by a thick annulary plaister or other means.

Cornelian, a species of *Agate*. The name *cornelian* is given to several species of *agate*, but is only properly applied to that of a red colour.

Corniculares Processus, i. e. *Coracoides Processus*.

Cornu Cervi, the horn of the stag or hart. The horns of the hart or male deer are to be understood, but those of the male or female of the common fallow deer are generally used. The college have retained it in their Pharmacopeia; the burning of Hartshorn, Cornu Cervi Ustio, is directed among the *more simple preparations;* Spirit of Hartshorn, called Liquor Volatilis Cornu Cervi, and Oleum Cornu Cervi, are directed; the latter thrice distilled, is called Oleum Animale; a Decoction of Burnt Hartshorn, Decoctum Cornu Cervi, is directed. Hartshorn Shavings are employed in making the Pulvis Antimonialis.

Cornua Uteri, in *Comparative Anatomy*, the horns of the womb. The womb is so divided in some quadrupeds, as to form corners resembling horns.

Cornus, the cornel-tree, or dog-wood. A genus in Linnæus's botany. Of this species there are nine.

Corolla, in *Botany*, the most conspicuous part of a flower, surrounding the organs of generation, and composed of one or more flower-leaves, most commonly called *Petals*, to distinguish them from the leaves of the plant. It is the termination of the liber, or inner bark, continued to, and accompanying the fructification in this new form of painted leaves. Its use is the same as that of the calyx, serving as an inner work of defence to the parts it encloses; as the calyx, which is usually of a stronger texture, does for an outer one, according as there are one or more petals. The *corolla* is said to be monopetalous, polypetalous, &c.

Corollary, is an useful consequence drawn from something which had been before advanced or demonstrated, often used in Geometry.

Corona Imperialis, crown imperial, a species of *Fritillaria*.

Corona Seminis, the little crown which adheres to many kinds of seeds, and which, serving them as wings, enables them to disperse.

Coronalis, is the first suture of the skull. It reaches transversely from one temple to the other; it joins the os frontis with the ossa parietaria. This is open the breadth of a finger or two in the middle in young children, but grows closer with age; though sometimes, by convulsion fits, or a bad conformation, it not only closes in children, but the edges shoot over one another, which is what the good women call *Head-mould-shot;* after which they seldom live long.

Coronaria Ligamenta. The coronary ligament of the radius is a sort of ligamentary hoop, surrounding the circular circumference of the head of that bone, reaching from one side of the small lateral sigmoid, or transverse cavity of the ulna, to the other in an arch, which is about three-fourths of a circle. It is nearly as solid as a cartilage. It connects the radius very close to the ulna, yet admits of the pronation and the supination of the arm.

Coronaria Vasa, coronary vessels, are the two branches which the great artery spreads over the outside of the heart, for its supply with blood and nourishment before it pierces the pericardium. See *Heart.* The arteries and veins which surround the left orifice of the stomach are likewise by some anatomists so called.

Coronarius Stomachicus, the ramification of the nerves from the eighth pair, near the upper orifice of the stomach.

Corona, is a sharp process of the lower jaw-bone. See *Maxilla Inferior.*

Coronoid. Processes of bones are so called that have any resemblance to a crow's beak; from κορωνη, a crow, and ειδος, likeness.

Corpora Cavernosa. See *Generation, parts of*, proper to men; and

Corpora Nervoso Penis, called also *Corpora Cavernosa:* these are two spongy bodies arising distinctly from the lower part of the os pubis. A little from their root they come close together, being only divided by a membrane, which, at its beginning, is pretty thick, but as it approaches to the end of the yard, grows thinner and thinner, where the *corpora cavernosa* terminate in the middle of the glans. The external substance of these spongy bodies is hard, thick, and white. The internal is composed of small fibres and membranes, which form a sort of loose net-work, upon which the branches of the blood-vessels are curiously spread. When the blood is stopped in the great veins of the penis, it runs through several small holes in the sides of their capillary branches into the cavities of the net-work, by which means the *corpora cavernosa* become distended, and by that means the penis erected.

Corpora Fimbriata. A border on the edge of the fornix in the brain is thus named.

Corpora Olivaria. Two eminences on the medulla oblongata are thus named. Winslow calls those *Corpora Olivaria* which Willis calls *Corpora Pyramidalia.*

Corpora Pyramidalia, are two protuberances of the under part of the cerebellum, about an inch long, which, from their resemblance to a pyramid in shape, are thus called; and on each side of them, towards the lower end, there are two more, which, from their figure resembling an olive, are called *Corpora Olivaria.* Further, when the blood hath discharged itself of the seed in the testicles, it returns by the veins, which, rising in several branches from the testes, tend towards the abdomen in the production of the pæritoneum, the same way the arteries come down; in their progress the branches frequently inosculate, and divide again till they come near the abdomen, and then they all unite in one trunk, and there, because of their shape, are also called *Corpora Pyramidalia*.

Corpora Striata. Two prominences in the lateral ventricles of the brain, are thus named.

Corpulentia, excess of fat.

Corpus, a body, strictly expresses the same as *Matter*, which see.

Corpus Callosum, is the upper part or covering of the two lateral ventricles appearing immediately under the process of the dura mater, below the depth of all the circumvolutions of the brain, and formed by the union of the medullary fibres of each side.

Corpus Glandulosum. See *Prostatæ*.

Corpus Luteum. The granulus papilla which is found in that part of the ovarium of females, from whence an ovum had proceeded; hence their presence determines that the female has been impregnated; and the number of the *corpora lutea* corresponds with the number of impregnations. It is, however, asserted by a modern writer, that *corpora lutea* have been detected in young virgins, where no impregnations could possibly have taken place.

Corpus Mucosum, i. e. *Rete mucosum*.

Corpus Pampiniforme, } the spermatic
Corpus Pyramidale, } cord.

Corpus Reticulare. See *Rete mucosum*.

Corpus spongiosum Urethræ, the spongy body of the urethra. It is of the same substance as the corpora cavernosa, and surrounds the urethra, and at its extremity forms the glans. That end next the prostatæ, because of its bigness, is called the *Bulb of the Urethra*.

Corpus varicosum, the spermatic cord.

Corpuscles, a diminutive of *corpus, body*, signify the minute particles, or atoms, of which any body is constituted. And that way of reasoning which endeavours to explain things by the motion, figure, and position of these minute ingredients of mixed bodies, has of late, and particularly from the authority of Mr. Boyle, been called the

Corpuscular Philosophy; the chief principles of which are, 1. That there is but one catholic or universal matter, which is an extended, impenetrable, and divisible substance, common to all bodies, and capable of all forms: 2. That this matter, in order to form the vast variety of natural bodies, must have motion in some or all its designable parts; and that this motion was given to matter by God the Creator of all things, and has all manner of direction and tendencies: 3. That matter must also be actually divided into parts, and each of these primitive particles, fragments, or atoms of matter, must have its proper magnitude, figure, and shape: 4. That these differently sized and shaped particles have different orders, positions, situations, and postures, from whence all the variety of compound bodies arises. Sir Isaac Newton, in his second book of *Optics*, shows a way of guessing with great accuracy at the sizes of the component corpuscles or particles, of which bodies are constituted.

Corrector, is such an ingredient in a composition as guards against or abates the force of another; as the lixivial salts prevent the grievous vellications of resinous purges, by dividing their particles, and preventing their adhesions to the intestinal membranes, whereby they sometimes occasion intolerable gripings; and as spices and carminative seeds also assist in the easier operation of some cathartics, by dissipating collections of wind. In the making a medicine likewise, such a thing is called a *corrector*, which destroys or diminishes a quality in it that could not otherwise be dispensed with: thus turpentines may be called the *correctors* of quicksilver, by destroying its fluxility, and making it thereby capable of mixture; and thus rectified spirit of wine breaks off the points of some acids, so as to make them become safe and good remedies, which before were destructive.

Corroborate, signifies to strengthen. See *Strength.*

Corroborating Medicines, are such as increase the strength of the body by enlivening the vital faculties.

Corrosives. Caustics. Substances are so called which possess a power of destroying the texture of a solid part to which they are applied, independent of any mechanical action; from *corrodo, to eat away.* See *Caustics.*

Corrugate, is to wrinkle or purse up, as the skin is drawn into wrinkles by cold or any other cause.

Corrugator Supercilii. Each eye-brow has one. It is a muscle arising from the great canthus of the orbit, and terminating in the skin about the middle of the eye-brows. Some reckon this pair only a prolongation of the frontales; their name declares their use, from *corrugo, to wrinkle up*, or knit the brows.

Corrugator Coiteri, i. e. *Corrugator Supercilii.*

Corruption, is the destruction, or at least the cessation for a time, of the proper mode of existence of any natural body: for whenever a body loses all, or any of those accidents which are essentially necessary to the constituting it of such a particular kind, it is then said to be corrupted or destroyed, and loses its former denomination, being not now a body of the kind it was before: but nothing can be destroyed as to its substance or materiality; for as in generation nothing of matter is produced that did not before exist, so in *corruption* nothing more is lost than that particular modification which was its form, and made it be of such a species.

Cortex, from *corium, a hide*, and *tego, to cover;* properly the outer rind of vegetables, distinct from the liber: thus the corolla is a continuation of the liber, and the calyx of the cortex. The Peruvian bark is so called by way of pre-eminence.

Cortex Cardinalis de Lugo. The *Cort. Peruv.* was thus called, because the cardinal Lugo had testimonials of above a thousand cures performed by it in the year 1653.

Cortex Magellanicus. Winteranus Cortex.

Cortex Peruvianus, i. e. *Cinchona.*

Cortex Winteranus Spurius, i. e. *Canella Alba.*

Corymbus, is a species of fructification, having its flowers supported on flower-stems of different lengths, but so disposed, that the flowers shall be nearly of an equal height, as occurs in the milefolium, or common yarrow.

Coryza, κορυζα, is a defluxion of serous sharp humours from the glands of the head, upon a diminution of perspiration, or taking cold. Dr. Cullen uses this word as synonymous with *Catarrh.*

Coryza Catarrhalis, a catarrh from cold.

Coryza Febricosa, a catarrh from cold.

Coryza Phlegmatorrhagia, a catarrh from cold.

Cosmetic, from κοσμεω, *orno, to beautify*; such medicines as preserve the beauty and smoothness of the skin.

Costæ, the ribs. Of these there are 24 in number, viz. 12 on each side the 12 vertebræ of the back: they are crooked, and like to the segments of a circle; they grow flat and broad as they approach the sternum; but the nearer they are to the vertebræ, they are the rounder and thicker; at which end they have a round head, which being covered with a cartilage, is received into the sinus in the bodies of the vertebræ, and at the neck of each head (except the two last ribs) there is a small tubercle, which is also received into the sinus of the transverse processes of the same vertebræ. The ribs thus articulated make an acute angle with the lower vertebræ. The ribs have each a small canal or sinus, which runs along their under sides, in which lies a nerve, vein, and artery. Their extremities, which are fastened to the sternum, are cartilaginous, and the cartilages make an obtuse angle with the bony part of the ribs: this angle respects the head. The cartilages are harder in women than in men, that they may the better bear the weight of their breasts. The ribs are of two sorts: the seven upper are called *costæ veræ*, because their cartilaginous ends are received into the sinus of the sternum. The five lower are called *falsæ*, because they are softer and shorter, of which only the first is joined to the extremity of the sternum; the cartilaginous extremities of the rest being tied to one another, and thereby leaving a greater space for the dilatation of the stomach and entrails. The last of these false ribs is shorter than all the rest: it is not tied to them, but sometimes to the musculus obliquus descendens. If the ribs had been articulated with the bodies of the vertebræ at right angles, the cavity of the thorax could never have been enlarged in breathing. If each rib had been a rigid bone articulated to the transverse processes of the vertebræ, the sternum could not have been thrust out to that degree as it is now, or the cavity of the thorax could not have increased so much as is requisite in inspiration: for when the ribs are pulled up by the intercostal muscles, the angle which the cartilages at the sternum make with the bony part of the rib must be increased, and consequently its subtense, or the distance between the sternum and the transverse processes, lengthened. Now, because the rib cannot move beyond the transverse process upon the account of its articulation with it, therefore the sternum must be either thrust to the other side, or else outwards; it cannot move to the other side, because of an equal pressure upon the same account there; and therefore it is thrust outward, or the distance between the sternum and the vertebræ is increased. The last ribs, which do not reach the sternum, and consequently conduce nothing in this action, are not articulated with the transverse processes.

Costales Nervæ, i. e. *Dorsales Nervæ*.

Costo-hyoidæus, i. e. *Coraco-hyoidæus Musculus*.

Cotyledon, in *Botany*, signifies a side lobe of the seed in vegetables, of a porous substance and perishable, answering the purpose of the placenta in the animal economy; and hence the disposition of the *cotyledons* is called *Placentation*, which see.

Cotyledones, are little glands dispersed up and down the outermost membrane of the fœtus, said to separate a nutritious juice, and thus called from their resemblance to the herb pennywort, called in Latin *Cotyledon.* See *Chorion.*

Cotyloid Cavity. The acetabulum is so termed by some; from κοτυλη, the name of an old measure, and ειδος, resemblance.

Cough. See *Tussis.*

Cough (whooping), i. e. *Pertussis.*

Couhage, i. e. *Cow-Itch,* or the *Dolichos pruriens.*

Courap, the modern name for a distemper very common in Java, and other parts of the East-Indies. It is a sort of herpes on the breasts, face, arm-pits, and groins. The itching is almost perpetual, and the scratching is followed by great pain, and a discharge of matter. *Courap* is a general name for any sort of itch.

Coup de Soleil. See *Sunstrokes.*

Cowper's Glands. Before the hymen we observe an orifice on each side, from *Cowper's Glands,* which lie upon each side of the perinæum, and serve the same use as in the male.

Coxa, i. e. *Femur.*

Coxæ Dolores, i. e. *Sciatica.*

Coxæ Ossa, i. e. *Ossa Innominata.* Some call the ischium thus; also the *Coccygis Os,* which see.

Crab Yaws, a name in Jamaica for a kind of ulcer on the soles of the feet, with hard callous lips, so hard that it is difficult to cut them. The unguent. cœrul. f. is their cure.

Crampus. So Helmont calls the cramp. It is a sort of convulsion, occasioning a sudden and painful rigidity of the muscles, which soon goes off: it principally affects the fingers, hands, feet, or legs.

Cranesbill, a sort of forceps used by surgeons; so called from its resemblance in shape to the bill of a crane.

Cranium, or skull, is made up of several pieces, which being joined together, form a considerable cavity, which contains the brain as in a box; and it is proportionate to the bigness of the brain. Its figure is round, a little depressed on its sides: such a figure being the most capacious, whilst the flatness of its side helps to enlarge the sight and hearing. The several pieces of which the *cranium* is composed, are joined together by sutures, which makes it less apt to break, and gives room to several membranes which suspend the dura mater, and which go to the pericranium, to pass through, and that the matter also of transpiration might have vent. These pieces of bones are six proper, and two common, and each is made up of two tables, or laminæ, between which there is a thin and spongy substance, made of some bony fibres, which come from each lamina, called in Greek *Diploe,* and in Latin *Meditullium.* In it there are a great many veins and arteries, which bring blood for the nourishment of the bones. The tables are hard and solid, because in them the fibres of the bones are close to one another. The diploe is soft, because the bony fibres are at a greater distance from one another; by which contrivance the skull is not only made lighter, but also less subject to be broken. The external lamina is smooth, and covered with the pericranium; the internal is likewise smooth, but on it there are several furrows made by the pulse of the arteries of the dura mater, whilst the *cranium* was soft and yielding.

The *cranium,* as was before said, is made of several pieces joined together by sutures, that it might be the stronger and less apt to break, that several membranes and vessels which suspend the dura mater, and which go to the pericranium, may pass through the sutures, and that the matter of transpiration may pass through them.

And the bones of the *cranium* are six proper, and two common to it; and these have several inequalities made by the vessels of the dura mater. It has two large dimples made by the anterior lobes of the brain. Above the crista galli it has a small blind hole, into which the end of the sinus longitudinalis is inserted: from this hole it has a pretty large spine, which runs up along its middle; instead of this spine there is sometimes a sinus, in which lies the sinus longitudinalis, which ought carefully to be observed by chirurgeons in wounds of this place. This bone is thicker than those of the sinciput, but thinner than the os occipitis. In children it is always divided in the middle by a true suture.

The second and third are the bones of the sinciput, called *Parietalia;* they are the thinnest bones of the *cranium;* they are almost square, somewhat long, and are joined to the os frontis by the sutura coronalis, to one another in the crown of the head by the sutura sagittalis, to the os occipitis by the lambdoidalis, and to the ossa temporum by the suturæ squamosæ. They are smooth and equal on their outside, but on their inside they have several furrows, made by the pulse of the artery of the dura mater. They have each a small hole near the sutura sagittalis, through which there pass some veins which carry the blood from the teguments to the sinus longitudinalis.

The fifth and sixth are the ossa temporum, situated on the lower part of the sides of the *cranium;* their upper part, which is thin, consisting only of one table, is of a circular figure, and is joined to the ossa parietalia by the suturæ squamosæ; their lower part, which is thick, hard, and unequal, is joined to the os occipitis, and to the os sphenoides. This part is called *Os Petrosum.* They have each three external apophyses, or processes, and one internal. The first of the external is the processus zygomaticus, which runs forward, and unites with the process of the os malæ, making that bridge called the *Zygoma*, under which lies the tendon of the temporal muscles. The second is the mammillaris or mastoidæus; it is short and thick, situated behind the meatus auditorius. The third is the processus styliformis, which is long and small; to it the horns of the os hyoides are tied. The internal process is pretty long and big in the basis of the skull; it contains all the cavities and little bones of the ear. The holes in the temporal bones are two internal, and four external; the first of the external is the hole through which the auditory nerve passes; the second is common to it, and the os occipitis; the eighth pair of nerves, and the lateral sinuses pass through it. The first of the external holes is the meatus auditorius externus: the second opens behind the palate; it is the end of that passage which comes from the barrel of the ear to the mouth: the third is the orifice of the conduit by which the carotid arteries enter the *cranium:* and the fourth is behind the processus mastoidæus; by it passes a vein which carries the blood from the external teguments to the lateral sinuses. Sometimes this hole is wanting; there is another which is between the processus mastoidæus and styliformis, through which the portio dura of the auditory nerve passes; they have each a sinus lined with a cartilage under the meatus auditorius, which receives the condyle of the lower jaw.

The sixth bone of the *cranium*

is the os occipitis: it lies on the hinder part of the head; it is almost like a lozenge, with its lower angle turned inwards: it joins the ossa parietalia and petrosa by the lambdoidal suture, and the os sphenoides by the sphenoidalis: it is thicker than any other bones of the *cranium*, yet it is very thin where the splenius, complexus, and trapezius muscles are inserted. Externally it is rough: internally it has two sinuses, in which lie the two protuberances of the cerebellum; and two large furrows, in which lie the sinus laterales: it has seven holes; the first are two, common to it and the ossa petrosa; the lateral sinuses and the par vagum pass through them. The third is the great hole through which passes the medulla spinalis. The fourth and fifth are the holes through which there pass two veins, which bring the blood from the external teguments to the sinus lateralis: sometimes there is but one, and sometimes none of these two: and sometimes there are two more, through which the vertebral veins pass. This bone has also two apophyses, one on each side of the great hole: they are lined with a cartilage, and articulated with the first vertebra of the neck. It has also a protuberance in its middle, from which there goes a small ligament, which is inserted into the first vertebra of the neck. It is longer in beasts than in men.

The first of the bones common to the skull and upper jaw, is the sphenoides: it is a bone of a very irregular figure, and situated in the middle of the basis of the skull; it is joined to all bones of the *cranium* by the sutura sphenoidalis, except in the middle of its sides, where it is continued to the ossa petrosa, as if they were one bone. On its outside it has five apophyses; the first two are broad and thin like a bat's wings; they are called *Pterygoides;* they have each a pretty long sinus, from which the muscles called *Pterygoidæi* arise; and at their lower end they have each a small hook like a process, upon which the pteristaphilinus externus turns its tendon. The third and fourth make the internal and lower part of the orbit; and the fifth is a little apophysis, like the crista galli in its fore-part, which is received in a cavity at the farther end of the vomer. There is also a little small protuberance in the middle of this bone, from which the muscles of the uvula arise; on its inside it has four processes called *Clinoides;* they form a cavity in the middle of this bone called *Cella Turcica*, in which lies the glandula pituitaria. Betwixt the two tables of this bone, under the cella turcica, there is a sinus divided into two in its middle, which opens by two holes into the cavity of the nostrils. In the os sphenoides there are twelve holes: by the first and second pass the optic nerve; by the third and fourth, which are called *Foramina Lacera*, pass the third pair, fourth pair, first branch of the fifth pair, and the sixth pair; by the fifth and sixth pass the second branch of the fifth pair; by the seventh and eighth pass the third branch of the same pair; by the ninth and tenth enter the arteries of the dura mater; and by the eleventh and twelfth enter the internal carotid, and the intercostal nerves go out. The canals by which the carotids enter are oblique; the beginning of them is made in the ossa petrosa, and they open within the skull in the sphenoides. The second and last of the common bones is the *Ethmoides*, to be described under that word, which see.

Crapula, κραιπαλη, *surfeit;* whether from eating or drinking. It is a species of *Cholera.* A plethoric habit, manifesting itself by eruptions on the skin, is often, but improperly, termed a surfeit.

Crasis, κρασις, *mixtura*, *a mixture*, is such a due mixture of qualities in a human body, as constitutes a state of health.

Crassa Arteria, i. e. *Aorta*.

Crassa Intestina, the large intestines.

Crassamentum. See *Cruor*.

Cream of Lime. According to Dr. Black this is formed by the dissolved particles of the quicklime near the surface recovering their fixed air from the atmosphere, whereby they are rendered insoluble in water, and thus appear in their original form of calcareous earth. Experiments prove, that steams of fixed air introduced into lime-water precipitate all its dissolved quick-lime in the state of a mild calcareous earth.

Cremaster, κρεμαστηρ, from κρεμαω, *to suspend*. These muscles are called *Suspensorii*. They arise from the inside of Poupart's ligament on each side, run down to the perforation where the seminal cord comes out, and being expanded over it, make part of the tunica vaginalis communis. They draw up and suspend the testicles.

Cremor, the name of a distemper endemial in Hungary, which seems to be a sort of *Crapula*.

Cremor. It is the expressed juice, also the strained juice of any grain, particularly of barley, boiled until it be so soft as to pass through a strainer. It is also the cream of milk.

Crepatio, in *Pharmacy*, it is the cracking or bursting of any seed in boiling, and this is to be understood when seeds are directed to be boiled *ad crepaturam*.

Crepitus, a crackling of the joints, from a defect of synovia, or other causes. Also a noisy discharge of air from the anus.

Creta, chalk. Kentman mentions fifteen sorts; the only one now used in medicine is the *creta alba*, which is a sort of calcareous earth. The college have retained it in their Pharmacopeia; its preparation is directed among *the more simple preparations*; it is employed in the preparation of the Ammonia, or Volatile Alkali, and of Alum: it is rubbed into a fine powder with Mercury, Hydrargyrus cum Creta, formerly called Merc. Alkalisat. it enters the Mistura Cretacea, formerly called Julepum e Creta: the Pulvis e Chelis Cancrorum Compositus: the Pulvis e Contrayervæ Compositus: the Pulvis e Creta Compositus, instead of the Pul. e Bolo Comp. the Pulvis e Creta Comp. cum Opio. instead of the Pulv. e Bol. Comp. cum Opio. the Trochisci e Creta, instead of the Tabellæ Cardialg.

Cribriforme (Os), i. e. *Os Ethmoides*.

Cribrosum (Os), i. e. *Os Ethmoides*; from *cribrum*, *a sieve*.

Crico-arytænoidæus lateralis, from κρικος, *a ring*, αρυταινα, *an ewer*, and ειδος, *shape*; arises fleshy from the cricoid cartilage laterally, where it is covered by part of the thyroid, and is inserted into the side of the base of the arytænoid cartilage, near the former. Its use is to open the rima glottidis, by pulling the ligaments from each other.

Crico-arytænoidæus posticus, arises fleshy from the back part of the cricoid cartilage, and is inserted into the posterior part of the base of the arytænoid cartilage. Its use is to open the rima glottidis a little, and by pulling back the arytænoid cartilage, to stretch the ligament so as to make it tense.

Cricoides, κρικος, *a ring*, and ειδος, *a form*. The name of the annular cartilage belonging to the larynx.

Crico-pharyngæus, from κρικος, *annulus*, and φαρυγξ, *gutter*. It arises from the side of the thyroid cartilage, near the attachment of the sterno-hyoidæus, and thyreo-hyoidæus muscles; and from the cricoid cartilage, near the crico-thyroidæus; it is inserted into the white line, where it joins with its fellow, the superior fibres running obliquely upwards, covering nearly one half of the middle constrictor, and terminating in a point: the inferior fibres run more transversely, and cover the beginning of the œsophagus. Its use is to compress that part of the pharynx which it covers, and to raise it with the larynx a little upwards.

Cricos, κρικος, *a ring*, or *circle*. Hippocrates calls the annular cartilages, which form the aspera arteria, thus.

Cricothyroidæi, from κρικος, *a ring*, θυρεος, *a helmet*, and ειδος, *shape*. These arise from the sides and fore part of the cricoid cartilage, running obliquely upwards; are inserted each by two portions, the first into the lower part of the thyroid cartilage; the second into its inferior cornu. Their uses are to pull forwards and depress the thyroid, or to elevate and draw backwards the crycoid cartilage.

Crinones, from *crinibus*, *hairs*; the name of a disorder that chiefly troubles children, pricking their backs as if with thorns: it makes the patient very restless; and is said to arise from hairs, which are scarce a pin's length, but thick and strong. See an account of it in the *London Medical Journal*, vol. ii. p. 280, &c.

Crisis, κρισις, from κρινω, *to judge*. It is some change in the patient, which discovers the state of a disease, whether for the better or the worse. And

Critical Days, are those days wherein such change happens. The writers of Institutions have strangely perplexed this part of a physician's province: it may therefore be of consequence to clear it up as much as is consistent with our allotted room here. The concoction then of any morbific matter, and the humour to be secerned, is nothing else but a change of it into such a due magnitude or smallness, as it may be carried by the circulating blood along the canals, and excerned by vessels destined for that purpose. But if the morbific matter cannot be reduced to such a smallness that may correspond to the orifice of the secretory vessels, then either an abscess or hæmorrhage will follow, if a crisis is begun; for which reason abscesses, &c. are accounted less perfect crises. But that the morbific matter may be reduced to a due smallness, and its wished-for discharge be effected, there is required a considerable time, if the quantity of matter is large; that is, if the distemper be great and severe. And since there are a great many causes, and those very constant, that may occasion the blood and offending humours therein to be of a different fluidity in the inhabitants of different climates, it is impossible but that different spaces of time should be required for the finishing concoction; which make it impossible to determine the *critical days* in one climate from what they are found to be in another. The causes of real *critical days*; that is, such on which happens the last concoction of the morbific matter, which is always attended with its expulsion, are all those things which occasion the humours to become of such a certain magnitude or minuteness, and of a greater or lesser cohesion; but with any given power, bodies, unequally large, or unequally cohering, cannot be concocted in an equal time; wherefore it is to be found from the observations made by all nations among themselves, what are the usual causes and conditions of those diseases which require a certain number of days to finish such a concoction in. And when there is a sufficient number of such observations made, the distemper and circumstances appearing the same, we may be able to foretel a *critical day* with much more exactness than it is now in our power to do.

Crista, the name of a turbercle about the anus and pudenda; they are so called on account of their form.

Crista Galli, cock's comb. A species of Rhinanthus. Also, an eminence on the upper part of the os ethmoides.

Cristæ Clitoridis, i. e. *Nymphæ*.

Crithe, κριθη, i. e. *Grando*, or stye on the eye-lid.

Critica Signa, those signs which are taken from the crisis of a disease, as to recovery or death.

Critici, critical fevers, those fevers which terminate with the appearance of alateritious sediment in the urine.

Crocus, saffron. A genus in Linnæus's botany. He enumerates one species, and two varieties: the officinal saffron is the autumnalis. The stigma or the female part of the flower is the saffron used in medicine.

Crocus, is a term given to many preparations made by the chemists after the manner of rust, by corroding metallic substances. The college have retained Saffron in their Pharmacopeia; it enters the Vinum Rhabarbari, formerly called Tinct. Rhab. Vinos. the Tinct. Aloës Composita, formerly called Elix. Aloës: the Tinctura Corticis Peruviani: the Tinctura Rhabarbari: the Tinctura Rhabarbari Composita: the Syrups Croci: the Pilulæ ex Aloë cum Myrrha, formerly called Pilulæ Rufi: the Conf. Aromatica instead of the Conf. Cardiac.

Crocus Metallorum, i. e. *Crocus Antimonii*.

Cross-Stitch. See *Suture (Crucial.)*

Crotaphite, κροταφιται, the same as *Temporal Muscle*, which see; from κροταφος, *time*, or else κροτεω, *to beat*, as the pulse.

Croton, bastard ricinus, or physic nut. A genus in Linnæus's botany. He enumerates twenty-three species.

Croup, i. e. *Cynanche Trachealis*.

Crowfoot. *Ranunculus*.

Crown Imperial. See *Corona Imperialis*.

Crucialia (Ligamenta). They rise from the inside of each condyle, and are attached to the femur. They give strength to the joint, and limit its motion.

Crucialis, i. e. *Herba Cruciata Hirsuta*.

Crucible. It is an earthen vessel used by chemists and refiners; it is made on purpose to bear such a heat as is necessary for fusing metals.

Cruciform Flower, in *Botany*. It consists of four petala regularly disposed in form of a cross: they constitute the fifth class in Tournefort, and the tetradynamia of Linnæus.

Crudity, signifies properly rawness, or any thing not duly digested and mixed, whether in animal or other substances.

Cruor. Sometimes it means the blood in general, and sometimes the venal only; but is the proper term for the thick, red part of the blood, called also *crassamentum*, in distinction to the serous or aqueous part.

Crura. The two largest legs, or roots of the medullary substance of the brain, called *Medulla Oblongata*, are thus named.

Crura-Clitoridis. The two spongy bodies that form the clitoris, before their union, are thus called.

Cruræus, vel Cruralis, arises fleshy, from between the two trochanters of the os femoris, but nearer the minor, firmly adhering to most of the fore part of the os femoris, is connected to both vasti muscles. It is inserted tendinous into the upper part of the patella, behind the rectus. The use is to assist in the extension of the leg.

Cruræus, from *Crus*, i. e. *Femur*.

Crurales Arteriæ, the crural arteries; the external iliac arteries pass out of the belly under the inguinal glands, and there take the name of *Crural*; each runs under the fartorius, vastus internus, and triceps muscles, and is covered by them to the lower part of the thigh; a little above the internal condyle of the os femoris it runs to the ham, and there takes the name of *Poplitæus*.

Crural Hernia. Femoral Hernia. A tumour under the groin, and in the uppermost part of the thigh, arising from a protrusion of part of an abdominal viscus under Poupart's ligament. M. M. as in bubonocele.

Cruralis. The nerve which passes from the loins into the thigh, is thus called. It is produced by the conjunction of the second, third, and fourth lumbar branches. It passes under Poupart's ligament, runs on the fore part of the thigh, upon the iliacus internus muscle, and one of its principal branches accompanies the vena saphena to the ankle.

Crus, the leg. It includes the whole of the lower extremity, from the os innominatum to the toes; viz. the thigh, leg, and foot. It sometimes signifies only the thigh; by some it is confined to that part between the knee and the ankle.

Crusta Lactea. When the *Tinea* affects the face it is thus named. In the hairy scalp only it is called *Tinea*, or scald head.

Cryptæ, κρυπται, from κρυπτω, *to hide*; hollow places like cavities, containing some fluid. It is a term used in anatomy to express a receptacle of any particular humour or matter, in distinction from a gland, which is not supposed to receive, but only to transmit.

Cryptogamia, from κρυπτος, *occultus*, *concealed*, and γαμος, *nuptiæ*, *nuptials*, in the Linnæan system of botany, a class of plants, the twenty-fourth or last in order. This class consists of such plants as either bear their flowers concealed within the fruit, or have them so small as to be imperceptible; it comprehends four orders, viz. *Filices*, fernes, *Musci*, mosses, *Algæ*, flags, and *Fungi*, mushrooms, consisting each of a variety of genera.

Cryptopyica (Ischuria,) a suppression of urine from a retraction of the penis within the body.

Crysorchis, κρυσορχεις, a retraction or retrocession of one of the testicles.

Crystalli, eruptions about the size of a lupine, white and transparent, which sometimes break out all over the body. They are also called *Crystallinæ*, and by the Italians *Taroli*. Dr. Cockburn speaks of them as attendant on a gonorrhœa.

Crystallinæ Manus, in Hippocrates, are hands so cold as to seem frozen.

Crystalline Humour, is the second humour of the eye, that lies immediately next to the aqueous, behind the uvea, opposite to the pupilla, nearer to the fore part than the back part of the globe; it is the least of the humours, but much more solid than any of them. Its figure, which is convex on both sides, resembles two unequal segments of spheres, of which the most convex is on its back side, which makes a small cavity in the glassy humour in which it lies. It is covered with a fine coat called *Aranea*.

Crystallization, is such a combination of saline particles as resembles the form of a crystal, variously modified according to the nature and texture of the salts. The method is by dissolving any saline body in water, and filtering it, to evaporate till a film appears at the top, and then let it stand to shoot; this it does by that attractive force which is in all bodies, and particularly in salt, by reason of its solidity; whereby, when the menstruum, or fluid, in which such particles float, is sufficiently impregnated, or evaporated, so that the saline particles are within each other's attractive powers, they draw one another more than they are drawn by the fluid, then will they run into crystals. And this is peculiar to those salts, that if ever so much divided and reduced into minute particles, yet, when they are formed into crystals, they each of them reassume their proper shapes; so that one might as easily divest and deprive them of their saltness, as of their figure. This being an immutable and perpetual law, by knowing the figures of the crystals, we may understand what the texture of the particles ought to be, which can form those crystals. And on the other hand, by knowing the texture of the particles, may be determined the figures of the crystals; for, since the figures of the most simple parts remain always the same, it is evident the figures which they run into, when compounded and united, must be uniform and constant. And since the force of attraction may be stronger on one side of a particle than on another, there will constantly be a greater accretion of salts upon those sides which attract more strongly. From which it may easily be demonstrated, that the figure of the least particles is entirely different from that which appears in the crystal.

Crystalloides Tunica, i. e. *Aranea.*

Cube, is a solid body of six equal sides, which are all squares. It is one of the five regular bodies, and its contents are found by multiplying any one side or surface by the height.

Cubeba, *Cubebs*, a species of *Piper.* The college have retained Cubebs in their Pharmacopeia.

Cubiforme (Os), i. e. *Cuboides Os.*

Cubit, is the middle part between the shoulder-bone and the wrist. It is also the ninth degree in the Linnæan scale for measuring plants; from the elbow to the extremity of the middle finger; or seventeen Parisian inches.

Cubitæus, from *Cubitus*, i. e. *Ulna.*

Cubitalis, i. e. *Cubitæus.*

Cubitalis Arteria, the cubital or ulnar artery. It parts from the radial artery about a finger's breadth below the bend of the arm. Near the carpus it lies just under the integuments, runs across the palm of the hand, and forms an arch which anastomoses with that of the radial; whence these arteries go to each finger and the thumb.

Cubitalis Externus, i. e. *Extensor Carpi Ulnaris.*

Cubitalis Riolani, i. e. *Anconeus.*

Cubitalis, a name of the ulnar nerve. Cheselden describes the cubital nerves as being two in each arm, the upper passing over the upper extuberance of the os humeri, and runs on to the thumb and the three next fingers by its branches, which spread when it approaches the thumb; the inferior, which passes under the inner extuberance of the os humeri, and runs on to the ring and little fingers.

Cubitalis Ext. & Int. (Vena.) See *Basilica Vena.*

Cubiti Profunda (Vena). Sometimes from one, and sometimes from another of the branches, called *Mediana*, a branch goes out on the inside of the fore arm, which is thus named.

Cubitus, from *Cubando*, because the ancients used to lie down on that part at their meals, i. e. *Ulna*, which see; or the elbow, or the fore arm from the elbow to the wrist.

Cubitus, a cubit measure. In *Botany*, it is eighteen inches; so the stalks of plants are named *cubitalis*, *bicubitalis*, &c. according to their height.

Cuboides, *(Os)*, from κυβος, *a cube*, and ειδος, *form*. It is situated immediately before the os calcis; on its fore side it sustains the os metatarsi of the little toe, and the toe next to it.

Cucullaris, a muscle serving to move the scapula, so called from its figure resembling that of monk's hood. It is also called *Trapezius*.

Cucullate-flower, from *cuculla*, *a hood;* so called from its resemblance in shape to a hood.

Cucumis, cucumber. A genus in Linnæus's botany. To this genus he adds the *Anguria*, *Melo*, and *Colocynthis*. There are thirteen species.

Cucupha, is an ancient form of quilting spices into a cap to be worn upon the head in many nervous distempers, and such as more particularly affect the head; but they are now almost out of practice.

Cucurbita, the gourd. A genus in Linnæus's botany. To this genus he adds the *Pepo* and *Melopepo*. He enumerates seven species.

Cucurbita, a cucurbit. A chemical vessel, commonly called a body, made of earth or glass, in the shape of a gourd, and therefore thus called.

Cucurbita, *vel* / *Cucurbitula* } A cupping-glass.

Cucurbitini Lumbrici, a sort of worms in human bodies, which resemble gourd-seeds in shape, and therefore are thus named. The separate joints of the tape-worm are thus named.

Culinary salt. It is the salt which is used at our tables, to be taken with our food; muriate of soda.

Cuminum, *Cumin*. A genus in Linnæus's botany. There is but one species, viz. *Cyminum*. The college have retained this seed in their Pharmacopeia; it enters the Emplastrum Cumini, formerly called Empl. e Cymino.

Cunealis Satura, the suture by which the os sphenoides is joined to the os frontis.

Cuneiforme Os, from *Cuneus*, *a wedge*. A name of the os sphenoides, from its being wedged between the other bones. It is also a name of the third bone of the first row in the wrist; it is so called from its appearing like a wedge sticking between the two rows.

Cuneiformia Ossa, are the fourth, fifth, and sixth bones of the foot, thus called from their wedge-like shape, from *Cuneus*, *a wedge*, and *Forma*, *shape:* for they are large above, and narrow below. They lie all three at the side of one another. The upper side is convex, and their under hollow, by which means the muscles and tendons in the bottom of the foot are not hurt when we go. At one end they have each a sinus, which receives the os naviculare, and at the other end they are joined to the three inner bones of the metatarsus; the inmost of these bones is the biggest, and that in the middle the least.

Cuneus, the *Wedge*, which is a triangular prism, whose sides are acute angled isosceles triangles.

Cunnus, expresses so much of a woman's privy parts as consist of the clitoris, nymphæ, and labia.

Cupel, or *Copel*. It is a vessel made of ashes and burnt bones, for separating the dross from metals, chiefly used by the refiners.

Cupellation. The purifying of perfect metals by means of an addition of lead, which at a due heat becomes vitrified, and promotes the vitrification and calcination of such imperfect metals as may be in the mixture, so that these last are carried off in the fusible glass that is formed, and the perfect metals are left nearly pure. The name of this operation is taken from the vessels made use of, which are called cupels.

Cupri Rubigo, verdigrise.

Cuprum. See *Copper*.

Cura Avenacea. A decoction of oats and succory roots, in which a little nitre and sugar were dissolved, was formerly used in fevers, and was thus named.

Curcuma. Turmeric. *Curcuma longa* of Linnæus.—The root of this plant is imported here in its dried state from the East-Indies, in various forms. Externally it is of a pale yellow colour, wrinkled, solid, ponderous, and the inner substance of a deep saffron or gold colour: its odour is somewhat fragrant; to the taste it is bitterish, slightly acrid, exciting a moderate degree of warmth in the mouth, and on being chewed it tinges the saliva yellow. It is now very seldom used medicinally, but retains a place in our Pharmacopeias. ℈i. to ʒi.

Currant-tree. See *Ribes*.

Custos Oculi, an instrument to preserve the eye in an operation.

Cutambuli, the name of a sort of worms either under the skin or upon it, which by their creeping cause uneasiness and pain.

Cutaneus Musculus, i. e. *Platysma Myoides*.

Cutaneous, is any thing concerning the skin, either of a distemper, or remedy; from *Cutis*, the skin.

Cutaneous Diseases, are generally supposed to proceed from that curdy matter, like paste, which being thrust out and lodged between the cuticular pores, causes a stagnation of the juices, and dryness of the skin, &c.

Cutaneum Ossis Coccygis (Ligamentum); it goes out anteriorly from the extremity of the *Os Coccygis*; it is slender, and divides into two portions at the orifice of the anus, which run into the membrana adiposa, and are inserted in the skin on each side of the anus by a kind of expansion, and continuing to divaricate, they are lost on the two sides of the perinæum.

Cutaneus i. e. *Sphincter Ani*; also the name of a nerve that passes from the union of the seventh cervicle and first dorsal pairs to the inside of the arm.

Cuticula, the cuticle or scarf-skin; also called *Epidermis*, from επι, *supra*, *above*, and δερμα, *cutis*, *the skin*; is the first and outermost covering of the body, commonly called the *scarf-skin*. This is that soft skin which rises in a blister upon any burning, or the application of a blistering plaster. It sticks close to the surface of the true skin, by which it is also tied by the vessels which nourish it, though they are so small as not to be seen. When the *scarf-skin* is examined with a microscope, it appears to be made up of several layers of exceeding small scales, which cover one another, more or less, according to the different thickness of the *scarf-skin* in the several parts of the body. In the lips, where the scales appear plainest, because the skin is thinnest, they only in a manner touch one another. Now these scales are either the excretory ducts of the glands of the true skin, as is apparent in fishes, or else the glands have their pipes opening between the scales. Lewenhoeck reckons, that in one circular scale there may be 500 excretory channels, and that a grain of sand will cover 250 scales; so that one grain of sand will cover 102500 orifices through which we daily perspire.

The scales are often glewed to one another by the grosser parts of our insensible transpiration hardening upon them by the heat of the body, which carries off the more volatile particles. The humour, which is afterwards separated by the glands of the skin being pent in between the scales, causes frequent itching; and where the matter has been long pent up, small pimples; for the removing of which, nature directs to those wholesome remedies of frequent rubbing, or washing, or bathing. The use of the *scarf-skin* is to defend the nerves of the skin, which are the origin of the sense of feeling, from the injuries of rough and hard bodies, as well as the air; for either those would make too exquisite and painful an impression on the naked nerves; or the air would dry them, so that they would be less susceptible of the nicer touches of pleasure.

Cuticularis Membrana, the dura mater.

Cuticulosus, i. e. *Sphincter Ani*.

Cutis, the skin. In this there are three parts remarkable: the first is an infinite number of the papillæ pyramidales; these are the ends of all the nerves of the *skin*, each of which is enclosed in two or three covers of a pyramidal figure, and those covers each above another. They may be easily seen and separated in the *skin* of an elephant, and in the skin of the feet of several other animals. Between these papillæ are an infinite number of holes, which are the orifices of the excretory vessels of the miliary glands underneath. About the papillæ is spread a mucous substance, which, because it is pierced by them, and consequently full of little holes, is called by Malpighi, the *Corpus reticulare;* its use is to keep the extremities of the nerves soft and moist, and sensible of the slightest touches. The second part is a web of nervous fibres, and other vessels differently interwoven, and it is the parenchyma, or that part of the *skin* that the parchment is made of. The third part is an infinite number of miliary glands, about which there is much fat; they lie under the other two parts, and they separate the matter of sweat and insensible transpiration. Each gland receives a nerve and artery, and sends out a vein and excretory vessel, which last passes through the other two parts of the cuticula, for discharging the body of this matter, and for moistening the cuticula, and the papillæ pyramidales, that they may not dry, which would very much hurt the sense of feeling. Upon the surface of the *skin* there are many parallel lines which are cut by as many parallel ones. These intersections make spaces of a rhomboidal figure; and out of each angle, for the greatest part, grows a hair, shorter or longer, as nature requires in the several parts of the body; but in the palms of the hand, where there are no hairs, these lines do not intersect one another; and on the ends of the fingers they are spiral. The *skin* is six times thicker than the scarf-skin; and in the sole of the foot it is much thicker than in the face, hands, and other parts. In the summer it is softer, because the pores are wider. In the winter it is more compact and hard, because the pores are closer; therefore the hairs of beasts stick faster, and furs made of them are better in that season. In some this *skin* is white, in others black and tawny, which probably comes from the different colours of the mucus, which covers the parenchyma of the *skin;* for the fibres of the *skin* in all are white, and there is little or no difference in the colour of different bloods. The *skin* is not only a covering in which all the parts of the body are wrapped up, but in it also nature has placed the organs of the sense of feeling, so that not the least thing hurtful can assault us without our knowledge: and as it preserves us from external offences, so it relieves us of noxious and superfluous internal humours; its glands being the emunctories of the whole body, through which not only the peccant humours pass, but likewise the greatest part of the liquors which we drink, which having part of their office in conveying the aliments into the blood, are in the next place to dissolve the saline and terrestrial particles to be carried off through the glands of the *skin* and kidneys.—Now the sum of all these particles strained through the cuticular glands, is, by Sanctorius, reckoned to amount to about 50 ounces in Italy; so that suppose a man's body to weigh 160 pounds, then in 51 days we perspire a quantity equal to the weight of the whole body. And from the consideration of this and other evacuations, our bodies are said to be renewed and changed in some stated times: but that the vessels or solid parts of the body do constantly decay, waste, and evaporate, does not at all seem probable; nor if they do, is it possible to determine in what time there is a total change; and I am more apt to think, that the fluids only consume, of which though several pounds are daily lost, yet it is not from thence certain when the old stock is spent, and the vessels filled with new juices: for, besides that the true quantity of blood in the body is not certainly known, we can never be sure whether they are new or old juices, or a mixture of both, which are constantly flying off; and if a mixture, which is most probable, in what proportion they are mixed, which must necessarily be known in order to determine when the old mass is entirely evacuated. But that part of our native blood does remain in the body, even to the last stages of life, some think credible from hence, that the small-pox comes upon many at 80 or 90 years of age; but whether that is conclusive, we have not leisure here to examine.

Cycas, the sago-tree. A genus in Linnæus's botany. There are two species.

Cyclopion, κυκλωπιον, from κυκλοω, *to surround*, and ωψ, *the eye*, the white of the eye.

Cyclos, a circle. Hippocrates uses this word to signify the cheeks, and the orbits of the eyes.

Cyclus Metasyncriticus. It is a long protracted course of remedies, persisted in with a view of restoring the particles of the body to such a state as is necessary to health.

Cydonia, the quince-tree. A species of *Pyrus*. It is the *Pyrus Cydonia* of Linnæus. The college have retained its fruit, and its seed, in their Pharmacopeia; a mucilage of the seeds, Mucilago Seminis Cydonii Mali, is directed.

Cynanche, κυναγχη, from κυων, *a dog*, and αγχω, *to suffocate*. It is that species of *Angina*, or *Quinsey*, in which the tongue is inflamed and swelled, so that it hangs out between the teeth. Aretæus says it is thus named from dogs either being subject to it, or else when in health they hang out their tongues at times. Cœlius Aurelianus says, that the voice of a patient in a quinsey resembles that of a dog or of a wolf. *Cynanche* is the generic name for a *Quinsey* in Dr. Cullen's *Nosology*.

Cynanche Epidemica. It is the *Febris Anginosa* of Huxham.

Cynanche Exanthematica, i. e. *Cynanche Epidemica*.

Cynanche Gangrænosa, the putrid quinsey. The same as the *Cynanche Maligna*.

Cynanche Maligna, the putrid quinsey, or ulcerated sore throat.

Cynanche Parotidæa, i. e. the quinsey of the parotid glands, commonly called the *Mumps*.

Cynanche Pharyngæ, the quinsey of the pharynx and œsophagus.

Cynanche Stridula, the quinsey commonly called the *Croup*.

Cynanche Trachealis, the tracheal quinsey, known by the name of the *Croup*.

Cynanche Tonsillaris, the quinsey of the tonsils. It is an inflammation of the mucous membrane of the fauces, particularly affecting the tonsils, the velum, and the uvula.

Cynanche Ulcerosa, i. e. *Cynanche Maligna*.

Cynara, artichoke. A genus in Linnæus's botany. He enumerates four species.

Cynicus, κυνικος, canine. Certain convulsions, called *Cynic Spasms*.

Cynodontes, κυνοδοντες, from κυων, *a dog*, and οδυς, *a tooth*. The canine teeth.

Cynolissa, or *Cynolissus*. It is used by Leister, in his *Exercit. Tert. De Morb. Chron.* in the same sense as *Rabies Canina*.

Cynorexia, the same as *Bulimia*, i. e. a greedy appetite that is not easily satisfied.

Cynorrhodon, from κυων, *a dog*, and ροδον, *a rose*, i. e. *Cynosbatos*.

Cynosbatos, the dog-rose, or hip-tree. It is one of the largest plants of the rose-kind. The college have retained the fruit of this shrub in their Pharmacopeia. It is the Rosa Canina, Linn. with the pulp of the fruit a Conserve, Conserva Cynosbati, is directed to be made.

Cypsele, or *Cypselis*, the ear-wax.

Cysteolithos, κυστεολιθος, from κυστις, *the bladder*, and λιθος, *a stone*. The stone in the bladder.

Cysticæ Arteriæ, the cystic arteries. The hepatic artery having advanced behind the ductus hepaticus towards the vesiculæ fellis, it gives two principal branches, called *Arteriæ Cysticæ*.

Cysticæ Venæ, a branch from the vena portæ ventralis; they run along the vesicula fellis, from its neck to the bottom, and as they are often only two in number, they are called *Cysticæ Gemellæ*.

Cystics, medicines prescribed in any disorder of the bladder; because *cysticus*, from κυςις, *a bladder*, signifies any part of the body so called, as the urinary bladder or gall-bladder.

Cysticus Ductus, is a pipe that goes from the neck of the gall-bladder, not in a straight line with the bladder, but as it were, more depressed in the liver; into which some bilious ducts likewise open, and its inner membrane has several rugæ, to retard the motion of the bile.

Cystic, is also applied to the arteries and veins communicating between the vena portæ and liver.

Cystides, encysted tumours, and those whose substance is included in a membrane.

Cystis, κυστις, a bag. It is applied to any receptacle of morbid humours.

Cystitis. Inflammation of the bladder; from κυςις, the bladder. A genus of disease arranged by Cullen in the class *pyrexiæ*, and order *phlegmasiæ*. It is known by great pain in the region of the bladder, attended with fever, a hard pulse, a painful discharge of urine, and a frequent desire to urine. M. M. As in nephritis.

Cystocele, a hernia formed by the protrusion of the urinary bladder.

Cystolithica (Ischuria), a retention of urine from a stone in the bladder.

Crystophlegica (Ischuria), a suppression of urine from a palsy in the bladder.

Cystoptosis, the inner membrane of the bladder protruding through the urethra.

Cystophlegmatica (Ischuria), a suppression of urine from abundance of mucus in the bladder.

Cystoproctica (Ischuria), a suppression of urine from pain in the bladder, caused by indurated fæces, wind, inflammation, abscess, &c. in the rectum.

Cystopyica (Ischuria), a suppression of urine from purulent matter in the bladder.

Cystospastica (Ischuria), a suppression of urine from a spasm in the sphincter of the bladder.

Cystothromboides (Ischuria), a suppression of urine from grumous blood in the bladder.

Cystotomia, a cutting of the bladder in the operation for the stone.

D

DÆMONIA, or *Dæmonomania*, δαιμονομανια, a kind of melancholy supposed to arise from the possession of a dæmon; it is occasionally feigned by impostors. See *Sauvag. Nosologia.*

Daphne, spurge-laurel, or *Mezereon*. A genus in Linnæus's botany. He enumerates seventeen species.

Dartos. The part so called, under the skin of the scrotum, is by some anatomists considered as a muscle, although it appears to be no more than a condensation of the cellular membrane lining the scrotum. It is by means of the dartos that the skin of the scrotum is corrugated and relaxed.

Data, from the participle of *do, to give*, is a term used for such things or quantities as are supposed to be given or known, in order to find out thereby other things or quantities, which are unknown or sought for. This, which was first transplanted from the mathematics into medicine, expresses any quantity, which, for the sake of a present calculation, is taken for granted to be such, without requiring an immediate proof for its certainty: and this is called the given quantity, number, or power: and such things as are known, from whence, either in the animal mechanism, or the operation of medicines, we come to the knowledge of things before unknown, are now frequently in physical writers called *data*.

Datura, thorny-apple. A genus in Linnæus's botany. He enumerates seven species.

Daucus. The carrot. The cultivated root of the *Daucus carota* of Linnæus. Scraped, and applied in the form of a poultice, it is an useful application to phagedenic ulcers, and to cancers, and putrid sores. The seeds, which obtain a place in the materia medica, have a light aromatic smell, and a warm acrid taste, and are esteemed for their diuretic qualities, and for their utility in calculous and nephritic complaints.

Decagynia, from δεκα, *decem*, and γυνη, *mulier, a woman*; the fifth order in the tenth class in the Linnæan system; comprehending those plants whose fructification discovers ten styli, which are considered as the female organs of generation.

Decandria, from δεκα, *decem, ten*, and ανηρ, *maritus, a husband*; in the Linnæan system of botany, a class of plants, the tenth in order, which has hermaphrodite flowers, with ten stamina in each, and includes five orders.

Decantation, is the pouring off any liquor clear from its fæces.

Decidua. Dr. Hunter first discovered this very thin and delicate membrane or tunic, which adheres to the gravid uterus, and is said to be the reflexion of the chorion, which, on that account, is called *decidua reflexa.* The tunica decidua comes away after delivery in small pieces mixed with the *lochia.*

Decoction. Any medicine boiled in a watery fluid; from *decoquo,* to boil. In a chemical point of view it is a continued ebullition with water, to separate such parts of bodies as are only soluble at that degree of heat.

Decrepitation, is a term much used by Ludovicus and Wedelius for the crackling noise which salt makes when put over the fire in a crucible.

Decussation, is when lines cross one another; and is the case of many muscles and membranes, where the fibres run over one another in greater or lesser angles, and give both strength and conveniency of motion of different ways, much in the same manner as threads are disposed in a net.

Defectio Animi, a fainting or swooning.

Defensitive, is said of a plaster or bandage whereby surgeons keep on their dressings, and secure wounds from the air.

Deflagration, signifies burning away any thing, and is a term frequently made use of in chemistry for setting fire to several things in their preparation: as in making the Æthiops with fire, the sal prunellæ, and many others of the like nature.

Defluxion. A discharge of a fluid from any part; from *de,* and *fluo,* to run off.

Deglutition. A natural action, by which the masticated bole or a fluid is conveyed from the mouth into the fauces, and from thence through the æsophagus into the stomach.

Dejectio, dejection, from *dejicio, to cast off.* Going to stool is so called.

Deleterious. Those substances are so called, which are of a poisonous nature; from δηλεω, to hurt or injure.

Deliquium Animi. Fainting. See *Syncope.*

Delirium, from *deliro, to rave* or *talk idly.* It is an incapacity in the organs of sensation to perform their function in due manner, so that the mind does not reflect upon, and judge of, external objects as usual: as is the case frequently in fevers, from too impetuous a hurry of the blood, which alters so far the secretion in the brain, as to disorder the whole nervous system.

Deltoides. A muscle of the superior extremity, situated on the shoulder. It is so called from its resemblance to the Greek Δ. It pulls the arm directly outwards and upwards, and forwards and backwards, according to the different directions of its fibres.

Demulcents. Medicines are thus called, which possess a power of diminishing the effects of stimuli on the sensible solids of the body: such are *amylum, gummi arabicum, oleum olivarum, aqua hordeata,* &c.

Dentagra. The tooth-ach. See *Odontalgia.*

Dentata. So the second vertebra of the neck is called. It is remarkable for its process, which is called *processus dentatus,* which plays in the hollow of the anterior arch of the vertebra above it.

Dentifricium, from *dentes fricare, to rub the teeth,* dentifrices, medicines for cleaning the teeth.

Dentition, the breeding or cutting of the teeth. The first dentition takes place about the sixth or seventh month, and the teeth are termed the primary or milk teeth. About the seventh year these fall out, and are succeeded by others, which remain during life, and are called the secondary or perennial teeth. The last dentition takes place between the ages of twenty and five and twenty, when the four last grinders appear; they are called *dentes sapientiæ*.

Deobstruent, from *de* priv. and *obstruo, to obstruct*. They are such medicines as open obstructions.

Depascens (Ulcus,) despacent ulcer, i. e. *Phagedæna*, and *Herpes miliaris*.

Dephlegmation. Vinous spirits are said to be dephlegmated or rectified, when well freed from their watery parts.

Depilatory, from *de*, *of*, or *from*, and *pilæ*, *hairs*, such a medicine as takes the hairs off from any place where they are a deformity, which may be commodiously done with quick-lime, orpiment, &c.

Depressio, a depression. In *Surgery* it generally signifies a sinking inwards of some part of the skull, which happens from an external violence by which the bone is fractured.

Depressor. Several muscles are so termed, because they depress the parts into which they are inserted; from *deprimo*, to press down.

Depressor Anguli Oris. A muscle of the mouth and lip, situated below the under lip, that pulls down the corner of the mouth.

Depressor Labii Superioris Alæque Nasi. A muscle of the mouth and lip, situated above the mouth, that draws the upper lip and ala nasi downwards and backwards.

Depressor Labii Inferioris. A muscle of the mouth and lip, that pulls the under lip and skin of the side of the chin downwards, and a little outwards.

Depuration, is the freeing any liquor or solid body from its foulness, which may be effected various ways. 1st. By *Decantation*, by which, when the grosser parts are settled at the bottom of the vessel, the clear liquor above is poured off. 2dly. *Despumation*, see *Clarification*; in which eggs or other viscid matters are used. 3dly. *Filtration*, which is by passing, without pressure, the fluid to be purified through strainers of linen, flannel, or paper, which, retaining the feculence, permits only the clear liquor to pass.

Detergents. Those applications are so termed by surgeons, which possess the property of cleansing foul ulcers; from *detergo*, to wipe off.

Detonation. The noise produced by the explosion of nitre, or substances containing nitre, when heated, which is greater or less, according to the manner and quantity of the composition, the sudden or gradual application of the heat, the coolness of the vessels, &c. from *detono*, to thunder.

Detrusor Urinæ, the muscular coat of the bladder which expels the urine.

Diabētes. An immoderate flow of urine; from διὰ, *through*, and βαινω, *to pass*. It is a genus of disease in the class *neuroses* and order *spasmi* of Cullen. There are two species of this complaint: 1. *Diabetes serosus*, in which there is a superabundant discharge of limpid urine, of its usual urinary taste: 2. *Diabetes mellitus*, in which the urine is very sweet, and contains a great quantity of sugar. M. M. Emetics; diaphoretics; warm cloathing; warm bath; cantharides; sulphuric and nitric acids; opium; astringents. Dr. Rollo's method is a diet entirely of animal food; three or four drops of hepatized ammonia four times a day, gradually increasing the dose till it produces slight vertigo; the skin to be anointed with lard; abstinence from exercise; antimonial wine with opium at night; an issue over each kidney; the bowels to be kept open with aloes and soap.

Diagnostic, διαγνωτις, from διὰ,

per, through, and γινωσκω, *cognosco, to know*, is that judgment of a disease that is taken from the present symptoms and condition of the patient.

Dialyses. A solution of continuity, or a destruction of parts; from διαλυω, *to dissolve*. It is an order in the class *locales* of Cullen's nosology.

Diapedesis, διαπηδησις, is such a rupture of the sides of a vessel of the body, from an internal cause, as leaves considerable interstices between the fibres through which the contents escape; from δια, *per, through*, and πηδαω, *salio, to leap*. It is also expressive of a transudation of blood through the coats of an artery.

Diaphanous, διαφανης, from δια, *through*, and φαινω, *to shine*, is any transparent body that may be seen through, as the humours of the eye, the *Cornea Tunica*, &c.

Diaphoresis, διαφορησις, from διαφορεω, of δια, *through*, and φερω, *to carry*. It is an elimination of the humours through the pores of the skin.

Diaphoretics. Medicines which, from being taken internally, increase the discharge by the skin; such are antimonial and camphorated preparations, whey, nitre, &c.

Diaphragm. *Septum transversum*. A muscle that divides the cavity of the thorax from that of the abdomen; from δια, and φραττω, *to divide*. The use of this muscle is very considerable; it is the principal agent in respiration, particularly in inspiration; for when it is in action, the cavity of the thorax is enlarged, particularly at the sides where the lungs are chiefly situated; and as the lungs must always be contiguous to the inside of the thorax and upper side of the diaphragm, the air rushes into them, in order to fill up the increased space. In expiration it is relaxed and pushed up by the pressure of the abdominal muscles upon the viscera of the abdomen; and at the same time that they press it upwards, they pull down the ribs, by which the cavity of the thorax is diminished, and the air suddenly pushed out of the lungs.

Diaphragmitis, inflammation of the diaphragm.

Diarrhœa. A purging; from διαρρεω, *to flow through*. It is distinguished by frequent stools with the natural excrement, not contagious, and seldom attended with pyrexia. It is a genus of disease in the class *neuroses* and order *spasmi* of Cullen, containing the following species: 1. *Diarrhœa crapulosa*. The feculent diarrhœa, from *crapulus*, one who overloads his stomach. 2. *Diarrhœa biliosa*. The bilious, from an increased secretion of bile. 3. *Diarrhœa mucosa*. The mucous, from a quantity of slime being voided. 4. *Diarrhœa hepatirrhœa*. The hepatic, in which there is a quantity of serous matter, somewhat resembling flesh, voided; the liver being primarily affected; from ηπαρ, *the liver*, and ρεω, *to flow*. 5. *Diarrhœa lienteria*. The lientery; when the food passes unchanged. 6. *Diarrhœa cœliaca*. The cœliac passion; food passes off in this affection in a white liquid state like chyle. 7. *Diarrhœa verminosa*. Arising from worms. M. M. In the three first species, ipecacuanha, rhubarb, or some other purgative. In the last, anthelmintics. In all, opium; mucilages; then tonics, sometimes astringents, and if acidities prevail, prepared chalk.

Diarthrosis. A moveable connection of bones; from διαρθροω, *to articulate*. This genus has five species, viz. enarthrosis, arthrodia, gingymus, trochoides, and amphyarthrosis.

Diastole, διαστολη, from δια, and στελλω, *to contract, to stretch*, signifies the dilatation of the heart, auricles, and arteries; and stands opposed to the *Systole*, or contraction of the same parts.

Diāthesis. Any particular state of the body: διαθεσις; from διαθημι, *to dispose:* thus, in inflammatory fever, there is an inflammatory diathesis, and during putrid fever, a putrid diathesis.

Dicrotus, δικροτος, from δις, *twice*, and κρεω, *to strike*, an appellation of a pulse, in which the artery seems to strike double. Dr. Solano first observed it, and it is considered as a certain sign of an approaching critical hæmorrhage from the nose. It is also called a rebounding pulse.

Dictamnus Albus. White fraxinella, or bastard dittany. *Dictamnus albus* of Linnæus. The root of this plant is the part directed for medicinal use; when fresh, it has a moderately strong, not disagreeable, smell. Formerly it was much used as a stomachic, tonic, &c. but is now fallen into disuse.

Diet, *Diæta*, διαιτα. The dietetic part of medicine is no inconsiderable branch of medicine, and seems to require a much greater share of regard than it commonly meets with. A great variety of distempers might be removed by the observance of a proper diet and regimen, without the assistance of medicine, were it not for the impatience of the sufferers. However, it may on all occasions come in as a proper assistant to the cure, which sometimes cannot be performed without a due observance of the non-naturals. That food is in general thought the best and most conducive to long life, which is most simple, pure, and free from acrimony; not too volatile, but such as approaches nearest to the nature of our own bodies in a healthy state, or capable of being easiest converted into their substance by the vis vitæ *humana*, after it has been duly prepared by the art of cookery: but the nature, composition, virtues, and uses of particular aliments, can never be learnt to satisfaction, without the assistance of practical chemistry.

Dietetics, is that part of physic which considers the way of living with relation to food, or diet suitable to any particular case.

Digastricus. A muscle so called from its having two bellies, from δις, *twice*, and γαστηρ, *a belly*, situated externally between the lower jaw and *os hyoides.* Its use is to open the mouth by pulling the lower jaw downwards and backwards; and when the jaws are shut, to raise the larynx, and consequently the pharynx, upwards, as in deglutition.

Digester, a strong vessel or engine, contrived by M. Papin, to boil, with a very strong heat, any bony substances so as to reduce them into a fluid state.

Digestion. The change that the food undergoes in the stomach, by which it is converted into chyme. In chemistry it is an operation in which such matters as are intended to act slowly on each other, are exposed to a slow heat, continued for some time.

Digestives. A term applied by surgeons to those substances which, when applied to an ulcer or wound, promote suppuration: such are the *unguentum resinæ flavæ*, *unguentum elemi*, &c.

Digitalis. Common fox-glove. *Digitalis purpurea* of Linnæus. The leaves of this plant have a bitter, nauseous taste, but no remarkable smell; they have been long used externally to ulcers and scrophulous tumours with considerable advantage. Respecting the internal use of this plant, we are told of its good effects in epilepsy, scrophula, and phthisis; and Dr. Withering and others have established its reputation as a diuretic in dropsies. It is, however, necessary to observe, that this remedy must be cautiously administered, for the plant is of so deleterious a nature, that three grains of the dried leaf have been known to produce the most dreadful tormina.—Grs. $\frac{1}{4}$ cautiously increased to 3 or more.

Digitus, a finger. The *fingers* and thumb in each hand consist of fifteen bones, there being three to each *finger*; they are a little convex and round towards the back of the hand, but hollow and plain towards the palm, except the last, where the nails are. The order of their dispositions is called first, second, and third *Phalanx.* The first is longer than the second, and the second longer than the third The upper extremity of the first bone of each *finger* has a little sinus which receives the round head of the bones of the metacarpus. The upper extremity of the second and third bones of each *finger* hath two small sinuses parted by a little protuberance; and the lower extremity of the first and second bones of each *finger* has two protuberances divided by a small sinus. The two protuberances are received into the two sinuses of the upper extremity of the second and third bones; and the small sinus receives the little protuberance of the same end of the same bones. The first bone of the thumb is like to the bones of the metacarpus, and it is joined to the wrist, and second of the thumb, as they are to the wrist and first of the *fingers.* The second bone of the thumb is like the first bones of the *fingers*, and it is joined to the first and third, as they are to the bones of the metacarpus, and second of the *fingers.* The *fingers* are moved side-ways only upon their first joint. Besides these bones there are some small ones, called *Ossa Sesamoidæa*, because they resemble sesamum grains: they are reckoned about twelve in each hand: they are placed at the joint of the fingers under the tendons of the flexores *digitorum*, to which they serve as so many pullies.

Diluents, or *Dilutors*; such as common whey, ptisans, and juleps, which, in respect of the blood in a state of viscidity, are thinner than it, and therefore said to thin it.

Dioptrics, concern the different refractions of light passing through different mediums, as the air, water, glasses, &c.

Diploe. Meditullium. The spongy substance between the two tables of the skull; from διπλοω, *to double.*

Diplōpia. Visus duplicatus. A disease of the eye, in which the person sees an object double or triple; from διπλοω, *to double.*

Director. A chirurgical instrument, in which there is a groove for the cutting instrument to slide.

Discrimen. It is a small roller, about twelve feet long, and two fingers breadth broad, rolled up with one head, and used after bleeding in the forehead, as follows: the bandage is held with the left thumb upon a compress, so that about a foot hangs below the forehead; then the roller is carried round the temples and occiput in the circular direction; after this the part which hangs down is to be carried over the head to the occiput, and there having rolled it several times about the head, it is to be secured.

Discutients. A term in surgery applied to those substances which possess a power of repelling or resolving tumours.

Disease. It is such an alteration of the chemical properties of the fluids or solids, or of their organization, or of the action of the moving power, as produces an inability or difficulty of performing the functions of the whole or any part of the system, or pain, or a preternatural evacuation. A disease is variously termed, when it pervades the whole system, and does not depend on any other disease; as an inflammatory fever, for instance: it is called a *general disease*, to distinguish it from inflammation of the eye, or any other viscus, which is a *partial* or *local* one: and when it does not depend on another disease, it is termed an *idiopathic disease*, which may be either general or partial, to distinguish it from a *symptomatic affection*, which depends upon another disease, and is produced by consent of parts. See also *Endemic*, *Epidemic*, *Sporadic*, &c.

The following are the classes and orders under which *diseases* are arranged, by that great master of the healing art, Dr. Cullen.

Classis I. Pyrexiæ.

Ordo I. Febres.
II. Phlegmasiæ.
III. Exanthemata.
IV. Hæmorrhagiæ.
V. Profluvia.

Classis II. Neuroses.

Ordo I. Comata.
II. Adynamiæ.
III. Spasmi.
IV. Vesaniæ.

Classis III. Cachexiæ.

Ordo I. Marcores.
II. Intumescentiæ.
III. Impetigines.

Classis IV. Locales.

Ordo I. Dysæsthesiæ.
II. Dysorexiæ.
III. Dyscinesiæ.
IV. Apocenoses.
V. Epischesis.
VI. Tumores.
VII. Ectopiæ.
VIII. Dialyses.

Dislocatio, from *dis*, and *locus*, *a place*, to put out of its place: the same as luxation.

Dissectio, from *disseco*, *to cut*, dissection, the cutting up a body with a view of examining the structure of the parts.

Distentio, distention. It is when parts are stretched beyond their natural size. It sometimes signifies simply dilatation, pandiculation, or a convulsion, as *nervous distention* almost always implies.

Distichiasis. A disease of the eye-lash, in which there is a double row of hairs, the one row growing outwards, the other inwards towards the bulb of the eye; from διστοιχια, *a double row.* M. M. Extraction of the hairs, and confining the new ones by adhesive plaisters as they grow.

Distillation. A chemical process, very like unto evaporation, instituted to separate the volatile from the fixed principles by means of heat. Distillatory vessels are either alembics or retorts; the former consist of an inferior vessel, called a cucurbit, designed to contain the matter to be examined, and having an upper part fixed to it, called the capital or head. In this last the vapours are condensed by the contact of the surrounding air, or in other cases by the assistance of cold water surrounding the head, and contained in a vessel called a refrigeratory. From the lower part of the capital proceeds a tube, called the nose, beak, or spout, through which the vapours, after condension, are, by a proper figure of the capital, made to flow into a vessel called the receiver, which is usually spherical. These receivers have different names, according to their figure, being called mattrasses, balloons, &c. Retorts are a kind of bottle, of glass, pottery, or metal, the bottom being spherical, and the upper part gradually diminishing into a neck, which is turned on one side.

Diuresis. An increased secretion of urine; from δια, *through*, and ρεω, *to flow*. See *Diabetes*.

Diuretics. Those medicines or substances are so called, which, when taken internally, augment the flow of urine from the kidneys; from δια, and ουρον, *urine*.

Docimastica, the docimastic art. It is the art of examining fossils, in order to discover what metals, &c. they contain.

Dogma, δογμα, from δοκεω, *to be of opinion*. In *Medicine* it is a sentiment founded on reason and experience, which are the professed rules of the dogmatist, as distinguished from one of the methodic, or of the empiric sects.

Dogmatica Medicina, is understood of that state of medicine which adds reason to experience: from δοκεω, *censeo, to judge;* and the divine Hippocrates was the first of this distinction, called

Dogmatici, δογματικοι, physicians who reasoned upon experience, in opposition to those sects who were called *Methodists* and *Empirics*, and conducted their practice only by observation and example, without examining into the reasons for such particular proceedings.

Dolichos. Cowhage. *Dolichos pruriens* of Linnæus. The pods of this plant are covered with sharp hairs, which are the parts employed medicinally as anthelmintics, on which account they are admitted into the Edinburgh Pharmacopeia. The hairs of one pod.

Dose. It is so much of any medicine as is taken at one time.

Dracunculi, from δρακων, *a serpent*, Guinea worms. In hot countries these worms get into the feet and legs of the inhabitants.

Drastic. A term generally applied to those medicines which are very violent in their action; thus drastic purges, emetics, &c. from δραστικος, *active, brisk*.

Dropsy. See *Ascites*, *Anasarca*, *Hydrocephalus*, *Hydrocele*, &c.

Drupa, in *Botany* is a fleshy or pulpy pericarpium without valve, containing a stone, as the plum, peach, &c.

Ductus, from *duco, to lead*, a duct or canal. This word is frequently applied to parts of the body through which particular fluids are conveyed.

Ductus Arteriosus. It is found only in the fœtus, and very young children. It arises from the aorta descendens, immediately below the left subclavian artery. In adults it is closed up, and appears like a short ligament, adhering by one end to the aorta, and by the other to the pulmonary artery, so that in reality it deserves no other name than that of *Ligamentum Arteriosum*.

Ductus Venosus. In a fœtus, as the vena cava passes the liver, it gives off the *ductus venosus*, which communicates with the sinus of the vena portæ, and in adults becomes a flat ligament.

Dulcamara. Woody nightshade, or bitter-sweet. *Solanum Dulcamara* of Linnæus. The stipites or younger branches are directed for use in the Edinburgh Pharmacopeia. Dulcamara does not manifest those narcotic qualities, which are common to many of the nightshades, but, when properly managed, is a very powerful and efficacious remedy. It is recommended in rheumatism, cutaneous affections, &c. and is said to act powerfully as a diuretic.

Duodenalis Arteria, also called *Intestinalis*. As soon as the gastrica dextra hath passed behind the stomach, it sends out the *duodenal artery* (which sometimes comes from the trunk of the hepatica;) it runs along the duodenum, on the side next the pancreas, to both which it furnishes branches, and also the neighbouring part of the stomach.

Duodenalis Vena, a branch from the vena portæ ventralis; it is distributed chiefly in the duodenum, but sends some branches to the pancreas. A branch of the gastrica is also thus called. The hæmorrhoidalis interna gives a branch of this name to the duodenum.

Duodenum, from *duodeni*, *twelve*. This intestine is thus named from a supposition that its length does not exceed the breadth of twelve fingers, and if measured with the ends of the fingers, is about the matter. It is continued to the pylorus, from which turning downwards, it runs under the stomach immediately above the vertebræ, towards the left side, and ends at the first of the windings under the colon. At its lower end there are two canals, which open into its cavity; one comes from the liver and gall-bladder, called the *Ductus Communis Choledochus;* and the other from the *Pancreas*, called *Pancreaticus*. Its passage is straighter, and its coats thicker than any of the three upper divisions of the intestines.

Duplicana, i.e. *Tertiana Duplex*.

Dura Mater. *Dura meninx*. A thick membrane, formed of two layers, that surrounds and defends the brain, and adheres strongly to the internal surface of the cranium. It has three considerable processes, the falciform, the tentorium, and the septum cerebelli; and several sinusses, of which the longitudinal, lateral, and inferior longitudinal, are the principal.

Dysæsthēsiæ. The senses injured or destroyed by the imperfections of the organs; from διαισθησια, *loss of sensation*. It is an order in the class *locales* of Cullen's nosological arrangement.

Dyscinesiæ. Motion impeded, or depraved, from an imperfection of the organ; from δυς, *bad*, and κινεω, *to move*. An order in the class *locales* of Cullen's nosology.

Dysecoēa. Hearing diminished or destroyed; from δυς, *difficult*, and ακοη, *hearing*. A genus of disease in the class *locales* and order *dysæsthesiæ* of Cullen, containing two species: *Dysecoēa organica*, which arises from wax in the meatus, injuries of the membrane, or inflammation and obstruction of the tube: *Dysecoēa atonica*, when without any discernible injury of the organ.

Dysentery. Flux. A genus of disease in the class *pyrexiæ* and order *profluvia* of Cullen's nosology. It is known by contagious pyrexia; frequent griping stools; tenesmus; stools chiefly mucous, sometimes mixed with blood, the natural fæces being retained or voided in a hardened state; loss of appetite, and nausea: from δυσεντερια, *pain in the bowels*.—M. M. Venesection, if the pulse be full and strong; an emetic; mild purgatives; cerated glass of antimony, ipecacuanha, or some other diaphoretic, every third or fourth hour; mucilages and opiates *per ore et ano;* a blister on the abdomen; prepared chalk; tonics and adstringents.

Dysōpia. Sight depraved, requiring one certain quantity of light, one particular distance, or one position; from δυς, *bad*, and ωψ, *an eye*. A genus of disease in the class *locales* and order *dysæsthesiæ* of Cullen, containing the five following species: 1. *Dysopia tenebrarum*, requiring objects to be placed in a strong light: 2. *Dyso-*

pia luminis, objects only discernible in a weak light: 3. *Dysopia dissitorum*, in which distant objects are not perceived: 4. *Dysopia proximorum*, in which objects too near are not perceived: 5. *Dysopia lateralis*, in which objects are not seen, unless placed in an oblique position.

Dysorexia. The appetite depraved, or deficient; from δυς, *bad*, and ορεξις, *appetite*. An order in the class *locales* of Cullen's nosology.

Dyspepsia. Want of appetite, accompanied by nausea, vomiting, flatulence, heartburn, costiveness, and pain in the stomach, with other symptoms of debility in the organ of digestion; from δυς, *bad*, πεπτω, *to concoct*. It is symptomatic of schirrhus, ulcer, poison, worms, chlorosis, pregnancy, gout, nephritis, &c.—M. M. Emetics; occasional laxatives; antacids; demulcents; carminatives; antispasmodics; opium; bitters; cinchona; iron; cold bath; exercise; light, nutritive diet.

Dyspermatismus. Slow or impeded emission of semen during coition; from δυς, *difficult*, and σπερμα, *seed*. A genus of disease in the class *locales* and order *epischeses* of Cullen.—M. M. In debilitated habits, tonics, astringents and antispasmodics. In robust habits, evacuants and a vegetable diet chiefly acid or acescent.

Dysphōnia. A difficulty of speaking; from δυς, *bad*, and φωνη, *the voice*.

Dyspnœa. Continual difficult respiration, without sense of stricture, and accompanied with cough through the whole course of the disease; from δυς, *difficult*, and πνεω, *to breathe*. A genus of disease in the class *neuroses* and order *spasmi* of Cullen.

Dysuria. Difficulty and pain in discharging the urine; from δυς, *difficult*, and ερον, *urine*. A genus of disease in the class *locales* and order *epischeses* of Cullen, containing six species: 1. *Dysuria ardens*, a sense of heat, without any manifest disorder of the bladder: 2. *Dysuria spasmodica*, from spasm: 3. *Dysuria compressionis*, from a compression of the neighbouring parts: 4. *Dysuria phlogistica*, from violent inflammation: 5. *Dysuria calculosa*, from stone in the bladder: 6. *Dysuria mucosa*, an abundant secretion of mucus.—M. M. In the first species, mucilages; cream of tartar. In the last, cascarilla; essence of amber.

E

EAR. The organ of hearing is situated at the side of the head, and is divided into external and internal ear. The *auricula*, commonly called the ear, constitutes the external, and contains several eminences and depressions, as the *helix*, *antihelix*, *tragus*, *antitragus*, *concha auriculæ*, *scapha*, and *lobulus*. The external auditory passage, containing the wax, proceeds from its middle down to the membrane of the tympanum, which divides the external from the internal parts of this organ. Behind the membrana tympani is an irregular cavity, the cavity of the tympanum, in which are four little bones, the *malleus*, *incus*, *stapes*, and *os orbiculare*; and four openings, one of the Eustachian tube, mastoid sinus, fenestra ovalis, and fenestra rotunda. The tympanum is terminated by the labyrinth. The labyrinth is the remaining part of the internal ear, consisting of the *cochlea*, *vestibulum*, and *semicircular canals*. The arteries of the ear are the external and internal auditory. The veins empty themselves into the external jugulars. The muscles of the ear are divided into three classes: the common, proper, and internal. The common muscles are, the *attollens aurem*, *anterior auris*, and *retrahentes auris*, which move the whole ear. The proper are, *helicis major*, *helicis minor*, *tragicus*, *antitragicus*, and *transversus auris*; these affect the parts only to which they are connected. The muscles of the internal ear are, *laxator tympani*, *tensor tympani*, and *stapedius*, which belong to the ossicula auditus. The nerves of the external ear are branches of the *nervus auditorius mollis*, and those of the internal ear are branches of the *nervus auditorius durus*.

Earth. Modern chemists are of opinion, that no bodies should be admitted as true earths, but such as are perfectly insipid, insoluble, and infusible; and therefore they admit but of two earths, which are equally simple and elementary. The one is that which constitutes rock crystal, quartz, grit-stone, flints, and all hard stones which strike fire with steel, and is called *vitrifiable earth*, because it is the only earth that forms a transparent glass by combination with alkalis. The other is termed *argillaceous earth*, which in a state of purity is almost opake, and disposed in thin plates or laminæ. It is tasteless, like vitrifiable earth, but adheres to the tongue.

Ebrietas, (from *ebrio, to be drunk.*) *Drunkenness.* Spirituous liquors animate, and for a time, our natural vigour is more active; but this effect is fleeting. If they are often repeated, or too freely used, their excess of action enervates the constitution; the appetite and the digestion are impaired; the spirits fail; and a general feebleness ensues.

The effects of spirits on the human body have not been discussed with philosophical precision, nor is this the place for the enquiry. It has been generally supposed that alcohol is a stimulant, and that the repeated stimulus exhausts the excitability. From every experiment, however, on the nerves, it has been found a sedative; and those who trust in such conclusions have supposed, as usual, that it combines a stimulant power. Were we inclined to form systems, we should endeavour to show that it is really a sedative, and that its apparent stimulus is only an instance of irregular, rather than increased, action. Whatever be the source, its secondary effects are allowed to be highly sedative; and from the diminution of irritability, the most fatal effects are derived, particularly indurations of the liver, which have been ridiculously attributed to its coagulating the blood.

To relieve the effects of ebriety, we must employ moderate stimulants and tonics, particularly those which contain no portion of ardent spirits. The most effectual are the Bath-waters, carbonated ammonia, or even the pure alkali; light bitters with aromatics. The most difficult, but the most essential part of the cure, is to prevent the continuance of the practice. This can be seldom attained; never, it is said, with females; but men will sometimes "turn from the error of their ways." As the want of irritability is chiefly felt in the liver, its circulation should be assisted by a gentle, steady stimulus to its ducts, by those laxatives which assist the secretion of bile.

When the over-night's potation has been too liberal, a wet napkin should be bound round the head; a quantity of cold water should be placed at the bed-side; and if a restlessness comes on with heat, a dryness of the tongue, &c. this water should be drunk as freely as the thirst requires: thus, by degrees, a perspiration is produced, and the most effectual relief obtained. On the succeeding day, abstemiousness is requisite; and such a regimen should be pursued as is consistent with the nature of the constitution. A man of a strong, healthy, plethoric habit, should drink plentifully of thin, warm, diluting liquids, mixed with vegetable acids; keep in bed, and promote perspiration. The weak, delicate, and relaxed, besides abstinence from solid diet, should ride on horseback, or take some other gentle exercise in the pure air; a glass or two of generous wine, as a cordial, may be allowed, or such other means pursued as are calculated to invigorate the system, and keep up an increased state of insensible perspiration.

To the most violent effects of fermented spirits vinegar is an antidote. A sponge dipped in vinegar should be frequently applied to the mouth and nose; an emetic that operates quickly should be given; a clyster, and, after it, a purging draught, may be administered; and a gentle sweat promoted.

Ebullition, is strictly any boiling up, like that of water over the fire, but is generally used to signify that struggling or effervescence which arises from the mingling together of any alkalizate and acid liquor; and hence any intestine violent motion of the parts of a fluid, occasioned by the struggling of particles of different properties, is called by this name.

Ebulus, dwarf elder, a species of *Sambucus*.

Ecbolica, from εκϐαλλω, *to cast out*, medicines which cause abortion.

Ecbrasmata, εκβρασματα, from εκϐρασσω, *to cast out violently*, fiery pustules on the surface of the body.

Ecbyrsomata, εκβυρσωματα, from βυρσα, *a skin*, protuberances of the bones at the joints, which appear through the skin.

Eccathartica, εκκαθαρτικα, from καθαιρω, *to purge*. According to Gorræus, *eccathartics* are remedies which, applied to the skin, open the pores; but in general they are understood to be deobstruents: sometimes expectorants are thus called, and so are purgatives also.

Ecchymoma, εκχυμωμα, i. e. *Ecchymosis*.

Ecchymoma Arteriosum, the spurious aneurism.

Ecchymosis, εκχυμωσις, from εκχυω, *to pour out*, and αιμα, *blood*; a disorder of the superficial parts of the body, which happens when by a contusion the capillary vessels are broken, and their contained fluids extravasated, which, stagnating, change the natural colour of the part to brown, livid, or black. Bell, in his Surgery, says, that when, in the operation of blood-letting, a small tumour is raised immediately above the orifice in the vein, by the blood insinuating itself into the cellular substance of the neighbouring parts; such a tumour, when round and small, is termed a *Thrombus*, and when more diffused, an *Ecchymosis*.

Eccoprotica, εκκοπρωτικα, eccoprotics, from κοπρος, *dung*, mild cathartics, whose operation extends no farther than to evacuate the intestines.

Eclampsia Typhodes, i.e. *Raphania*.

Eclampsia, εκλαμψις, } from λαμπω, *to shine*.
Eclampsis, }

It signifies a splendour, brightness, effulgence, flashing of light, scintillation. It is a flashing light, or those sparklings which strike the eyes of epileptic patients.

Cœlius Aurelianus calls them *circuli ignei*, scintillations, or fiery circles. Though only a symptom of the epilepsy, Hippocrates puts it for epilepsy itself.

Eclectica, εκλεκτικη, *Medicina*, from εκλεγω, *to elect*. Archigenus and some others selected from all other sects what appeared to them to be the best and most rational; hence they were called *Eclectics*, and their medicine *Eclectic Medicine*.

Eclegma, εκλειγμα, from εκλειχω, *lingo, to lick*, is a form of medicine made by the incorporation of oils with syrups, and which is to be taken upon a liquorice stick; the same also as *Lambative*, from *lambo*, which signifies the same, and *Linctus*.

Ecphractic, εκφρακτικα, from εκφραττω, are such medicines as incide and render more thin tough humours, so as to promote their discharge.

Ecphraxis, εκφραξις, from εκφραττω, *to remove obstruction*, an opening of the pores.

Ectopiæ, protrusions, as in cases of herniæ, luxations, &c. In Dr. Cullen's nosology it is the name of an order in the class *Locales*.

Ectopocystica (Ischuria) In Sauvages's nosology it is a suppression of urine from a rupture of the bladder.

Ectropium, εκτροπιον, from εκτρεπω, *to invert*, an inversion or eversion of the eye-lids. The eye-lids are so retracted, that their inner red skin is rendered prominent, and the eye cannot be sufficiently covered by them. When this accident happens to the upper eyelid, it, then resembling the hare's eye, is called *Lagophthalmus*, or hare's eye. The word *Ectropium* is often applied to the under eyelid only.

Effervescence, expresses a greater degree of motion or struggling of the small parts of a liquor than is commonly understood by fermentation or ebullition; and such as occasions great heat; or rather, it is the extrication of air from the fluids that contain it as a constituent.

Effloratio, or *Efflorescence*, expresses the breaking out of some humours in the skin, as in the measles and the like.

Effluvia, from *effluo, to flow out*, are those small particles which are continually flying off from bodies; the subtilty and fineness of which appear from their being able, a long time together, to produce very sensible effects without any sensible diminution of the body from whence they arise; and the considerable effects they may have upon other bodies within the sphere of their activity, may be learned from the writings of Mr. Boyle and others on that subject.

Eggs. The eggs of poultry are chiefly used as food: the different parts are likewise employed in pharmacy and in medicine; the calcined shell is esteemed as an absorbent: the oil of the egg is softening, and is used externally to burns and chaps. The yolk of the egg renders oil miscible with water, and is triturated with resinous and other substances.

Elæosaccharum, from ελαιον, *oleum*, and σακχαρ, *saccharum, sugar*, denotes the mixture of oil and sugar together, which is frequently done with the distilled oils, to make them mix with aqueous fluids for present use. It is an admirable form of medicine, and highly deserves to be better esteemed, and more frequently used than we find it. All the virtues of vegetables are with great advantage reducible into it. It is very ready and commodious for taking, and capable of continuing for a long time unaltered, and of being transported to distant regions, without any diminution of its virtue.

Elaterium, ελατηριον. A genus in Linnæus's botany There are two species. It is the name also of a species of *Momordica*. This word is often used by Hippocrates to signify an external application of a digestive or a detergent nature.

Elcosis, numerous, or large chronic ulcers, carious, fœtid, and attended with a slow fever.

Elder. See *Sambucus*.

Elecampane. See *Inula*, and *Helenium*.

Electricitas, *electricity*, (from ηλεκτρον, *amber*.) We must not detail the principles of this science, or enlarge on contending systems. It will simplify our language if we consider *positive* electricity as the excess, and *negative* as a deficiency, of this fluid: the former as the excess of uncombined electricity, the latter as a deprivation of the due or necessary quantity. A theory of this kind we could render equally probable with any other; but it is unnecessary, since the facts may be readily translated into a more fashionable language, if such a translation be required.

In the view we have just offered, each body has its proportionate share of this fluid, which may be increased or diminished; but, in either case, the equilibrium is only restored with some violence, called a *shock;* though it may more silently take place by appropriate means, to be afterwards described. This share is determined by the nature of the body; but is, in general, greater or less as the body is a conductor, or a non-conductor; i. e. that it has a power of conducting any excess of electricity to its common reservoir, the earth, or of confining it to its own substance. Thus metals and fluids are powerful *conductors;* any dry bodies, particularly vitreous ones, *non-conductors*. The human body is, in general, a conductor, as consisting of fluids, and communicating with the earth by its surface, commonly moistened by the perspiration.

It has been rendered highly probable, by an anonymous author, in a collection of essays (Exeter Essays,) that, on the conversion of any fluid to an ærial form, the electrical escapes; and, on the contrary, that when air is converted to a fluid, that it disappears; probably, in the first instance, separated from, and in the last combined with, the fluid. If this be true, in meteorological phenomena, as it seems to be, from a very careful induction from facts, it probably is so in physiology; and it is supported by some striking appearances. Thus the electricity of the human body, in its healthy state, is, like that of the generality of bodies, positive: such also is the electricity of the blood; but, in the animal economy, various functions continually go on, in which air is separated and carried off. The electricity, therefore, of the body must be constantly changing; and we, of course, find, as may be expected, that of some of the fluids negative. Such is the electricity of all the excrementitious fluids.

Again: We know that in confined air, in heated and crowded rooms, these ærial changes are more considerable; and it is consequently not uncommon, in such circumstances, to find the electricity of the whole body negative. Such observations have, unfortunately, not been duly examined, and we must take advantage of incidental facts. The ignis fatuus is, we know, inflammable air ignited by electricity. It flies from a person who pursues it, because the electricity of each is positive; but Dr. Priestley has recorded an observation, where it seemed to follow the person, who had been long in a crowded room; and we learn from Mr. Read, (Phil. Transactions for 1794,) that the electricity of the air, in such an apartment, probably from the perspirations of a numerous assembly, is negative. We may conclude, then, that the positive electricity of the body disappears in the animal process; but nothing is lost. It, perhaps, performs a most important office, which we can only at present guess at; but this is scarcely a place for conjecture. Let us, however, at once hazard it. The electrical fluid, by its union, elicits heat (Pictet sur le feu, 108;) and this fluid is nearly and intimately connected with the nervous power. The one is probably occasioned, and the other supported, by the electricity that disappears.

If a resinous, as well as a vitreous, electricity exist, in other words, two fluids of different and opposite properties, the distinction appears to be immaterial in a medical view. Each produces similar effects when used as a remedy, and this consideration led us to adopt the simple language with which we introduced the subject.

Electricity is employed in medicine chiefly when accumulated. If the communication with the earth is cut off, and the fluid accumulated in the body by the action of a proper machine, it is called *simple electricity*. If then the fluid is drawn off, silently, by points, or more actively by rounded conductors, the *electric aura*, or *electric sparks*, are said to be drawn. If the accumulated electricity be at once discharged, or, in other language, if the communication between the different sides of the electrical jar be suddenly restored, the shock is said to be produced. Electricity, in each instance, acts as a stimulus only. Simple electricity increases the circulation, accelerates the jet of blood in bleeding, increases perspiration, as well as the other secretions, and the appetite. When the aura is gently drawn off, a slight stimulus augments the action of the vessels, from which it is taken; when by rounded conductors, in the form of sparks, the stimulus is more considerable. When the equilibrium is suddenly restored, every fibre seems agitated. When slight, it is felt in the fingers and wrists only; when gradually more violent, the shock affects the elbows, the arms, and the chest. This happens when the equilibrium is restored, by touching the conductor with each hand; and, in this case, the fluid takes the shortest circuit, through the arms and breast, apparently passing through the nerves; for its effects are chiefly felt where they are more strictly tied down by their sheaths. When the stimulus is wanted in any particular part, the conductors are so placed as to convey the fluid necessary to restore the equilibrium through that part. The effects of the shock are said to be stimulant; but it is rather a violent concussion, without any discriminated or permanent change. It may be made so strong as to kill smaller animals; and, for a time, to deprive even a human being of his senses. When animals are killed by it, the irritability of the muscles is destroyed, an effect also occasioned by hydrogen: sometimes an important blood-vessel is ruptured. If the shock be a stimulus, and destroy by excess of excitement, we might expect, that, in a less degree, it would prove useful as such. It undoubtedly excites the action of a paralysed muscle, but produces no permanent good effect; so that this mode of employing electricity is now almost wholly disused.

In general, then, electricity

must be considered as a simple stimulant; and it increases all the actions going on in the system, whether salutary or morbid. It promotes suppuration, and more firmly impacts the fluids in infarcted glands. But it also discusses tumours not too firmly fixed, and assists the recovery of the nervous power of a debilitated organ.

From this view of the subject, it will be obvious that electricity is chiefly useful in asthenic diseases, and in obstructions not yet insurmountable. It must be hurtful in inflammatory disorders; where, with an inflammatory diathesis, there is a strong determination to any part; when the irritability is considerable, or the obstruction firm, and of long standing.

In *febrile diseases* it has been seldom employed, except to terrify on the approach of intermittents; when, by the unexpected shock, it often succeeds.

In *inflammations*, it has been sometimes employed to discuss phlegmons; occasionally to relieve opthalmiæ. In both cases the shocks are inadmissible. In the former sparks may be drawn; but, in the latter, the points must be used to solicit the aura. In the tooth-ach it has been also sometimes employed, as well as in the gout, and in inflammatory cynanche, but with very little effectual relief; and it is now, in general, disused.

The chief complaints in which advantage from electricity has been expected are the palsies. It was first used at Geneva; and was said to have cured a locksmith and one other person of hæmiphlegiæ. It is now well known, that the relief obtained by each was temporary only; and though it continues to be employed, generally in the form of shocks, its utility is inconsiderable and temporary. In many instances it has certainly been injurious.

In the more partial palsies, drawing sparks has been occasionally beneficial, though in no considerable degree: and the power of debilitated organs, as of the eye in gutta serena, of the ear in deafness, or of a palsied muscle, has been sometimes, in part, restored. Electricity has been also tried in chronic rheumatism, a species of palsy, and in amænorrhœa. Slight shocks, in each, have been sometimes useful. In the last complaint, the fluid must be directed through the pelvis. We have sometimes succeeded in procuring a return of the menses by these means; but we have more often produced leucorrhœa. Electricity has been also often employed to restore suspended animation from apparent drowning, and is supposed to be a powerful and effectual remedy; but we have never found it of the slightest use. A physician at Brunswick, M. Friske, has directed the shocks, through the abdomen, to kill the tape-worm; in which he thinks he has succeeded. On recurring to the authors on medical electricity, in almost all we observe a very prudent remark, that during its course the proper medicines are by no means to be omitted.

Electricity, that property of certain bodies, whereby, after being rubbed, excited, or heated in some particular degree, they acquire a power of attracting and repelling other remote bodies, and frequently of emitting sparks and streams of light. The ancients having observed that amber, which they called *electrum*, ηλεκτρον, upon being rubbed, attracted bits of straw, down, and other light bodies, first gave this property the name of *electricity*, which they thought peculiar to amber, and a few stones mentioned by Theophrastus, Pliny, and some others. But the philosophers of the last, and more particularly of the present age, have found that numbers of other bodies possess this quality, and made so many discoveries in *electricity*, that there is scarce any other subject in natural philosophy that has given occasion to more experiments. Among the first, as well as most ingenious writers upon the subject, is Dr. Franklin, to whose book we refer the reader: after him Dr. Priestley, &c. on this subject should be read. It has been pretended by some that great benefit may be derived to the healing art from these discoveries. These hopes in many instances may be too sanguine; it does not, however, follow that medicinal advantages are not to be gained from *electricity*: so subtile and so elastic a fluid admitted in a large quantity into our bodies, as from undoubted experience, it greatly heats the flesh and quickens the pulse, may in particular cases be attended with advantages. In effect we meet with several cures performed in paralytic cases, by the force of *electricity*.

Electrum, ηλεκτρον, *amber*. It is also a mixture of gold with a fifth part of silver.

Electuary, is a form of medicine made of conserves, powders, spices, &c. into the consistence of honey, or the pulp of a roasted apple, to be divided into doses, when taken, like a bole. The form is attended with considerable inconveniences; for *electuaries*, generally made up with honey, or syrup, when the consistence is too thin, are apt to ferment, and when too thick, to candy. By both which, though it is exceedingly difficult to avoid the one or the other of them, the ingredients will either be entirely altered in their nature, or impaired in their virtues. It is therefore a pity that this form should be so much in use, whilst others infinitely superior to it in all respects lie neglected or unthought of.

Elements. The minutest particles of any substance, which can no farther be divided by chemical analysis: such are oxygene, hydrogene, azote, caloric, matter of light, carbone, &c.

Elemi. Gum elemi. The parent plant of this resin is not ascertained. Elemi is brought here from the Spanish West-Indies; it is most esteemed when softish, somewhat transparent, of a pale whitish colour, inclining a little to green, and of a strong, though not unpleasant smell. It is only used in ointments and plasters, and is a powerful digestive.

Elephantiasis. *Elephas*. A disease that mostly affects the feet, which appear somewhat like those of the elephant; from ελεφας, *an elephant*. It is known by the skin being thick, rough, wrinkly, unctuous, and void of hair, and mostly without the sense of feeling. It is said to be contagious. Cullen makes it a genus of disease in the class *cachexiæ* and order *impetigines*.

Elevator. A chirurgical instrument with which surgeons raise any depressed portion of bone, but chiefly those of the cranium.

Elevator, i. e. *Levator Scapulæ*. Also the *Rectus Superior Oculi*.

Elevatores Ani, i. e. *Levatores Ani*.

Elevator Auriculæ. This muscle arises from the external termination of the frontal muscle, it being formed of diverse fleshy fibres covering the temporal muscle; and being thin and membranous, is carried over it; then growing narrower, is inserted into the upper part of the ear, bringing it upward and forward.

Elevator Labii Inferioris, i. e. *Levator Labii Inferioris.*

Elevator Labii Superioris, i. e. *Levator Labii Superioris.*

Elevator Nasi Alarum. This muscle arises from the top of the bone of the nose, near the lachrymal cavity, with a sharp and fleshy beginning, and falling down towards its sides, in a triangular figure, not much unlike the Greek letter Δ, it marcheth downwards the length of the bone, and is inserted broad and fleshy into the nasi alæ.

Elevator Oculi. It arises from the bottom of the socket, near the hole which gives a passage to the optic nerve; then passing over the upper part of the globe of the eye, is inserted into the superior and anterior part of the sclerotica.

Elevator Palpebræ Superioris, i. e. *Levator Palpebræ Superioris.*

Elevator Labiorum. See *Levator Communis.*

Elutriatio, washing over. It is the pouring a liquor out of one vessel into another, in order to separate the subsiding matter from the clear and fluid part.

Elythroides, ελυτροειδης, from ελυτρον, *a sheath*, and ειδος, *form.* So the tunica vaginalis of the testes is called, because it includes them as in a sheath.

Emansio Mensium. Thus some Latin writers term the restraint, loitering, tarrying, or retention of the menses, that is, when they do not begin to flow at the period of life at which they may be expected.

Embrocation, from εμβρεχω, *to moisten*, or *soak in.* It is an application in a fluid form, usually prepared of volatile and spirituous ingredients, and mostly used to relieve pains, numbness and palsies.

Embryo. The *fœtus in utero* is socal led before the fifth month of pregnancy; from εν, *in*, and βρυω, *to bud forth*, because its growth resembles that of the budding of a plant.

Embryotomy, from εμβρυον, *a fœtus*, and τεμνω, *to cut.* It is a cutting of the child whilst in the womb, in order to its easier delivery.

Embryulcus, from εμβρυον, a *fœtus*, and ελκω, *to draw*, an hook for the extraction of a child when labour is difficult.

Emetics. Under this name are to be considered those medicines which, taken into the stomach in a sound state, are capable of exciting vomiting; from εμεω, *to vomit:* such are *antimonium tartarizatum*, *ziuncum vitriolatum*, *ipecacuanha*, *nicotiana*, &c.

The use of these medicines is so extensive, and their effects often so important, that they will justify our considering them at some length. The most simple view we can take of emetics is, that they evacuate the stomach by the inverted action of its own motions with those of the œsophagus, assisted by the contraction of the diaphragm and abdominal muscles. This alone is an object of no little importance when we consider the extensive influence of this organ, and the very dangerous consequences which arise from its acrimonious or vitiated contents. But the advantages do not rest here. The same inverted motion is communicated to the duodenum, and, in some degree, to the inferior parts of the canal. Into this second stomach, the bile and pancreatic juice are poured; and, while the joint action of the diaphragm and the abdominal muscles compress the gall-bladder to evacuate its contents, the inverted motion of the duodenum and stomach evacuate it. Emetics, in this way, unite with cathartics in assisting the secretion and discharge of bile; in relieving or preventing infarctions of the liver: for, while the latter promote the secretion by stimulating the ducts, the former contribute to the same purpose by an action more strictly mechanical.

We have often had occasion to remark the extensive influence of the stomach in the animal economy, particularly its connection with the state of the brain and the extreme vessels. The first effect of emetics, in consequence of this connection, is to produce a general relaxation, approaching sometimes to faintness. In this state the extreme vessels sympathise and yield, with little resistance, to the force of the circulation. Perspiration follows, which by the action of vomiting is still further increased; and, if this is kept up by other means, the most salutary changes are often produced. We perceive the connection of the stomach with the head, rather in the morbid than the salutary effects. During the action of vomiting, the return of the blood from the head is impeded, and all its vessels are distended; which has occasioned some hesitation in the use of emetics, when these vessels were previously distended, as in apoplexy and palsy. In such circumstances, however, we find the irritation on the brain communicated to the stomach, and vomiting excited.

The agitation of vomiting has been considered as useful; but this is a vague, indistinct indication. Medicines of this kind have, however, been employed where obstructions have been suspected; and, in the brain, the alternate filling and emptying their vessels may contribute to excite and support their action. We see some traces of such an influence from their utility in nervous diseases, particularly in those attended with general languor, as hypochondriasis, and in obstructed menses; but more strikingly in the good effects of very active emetics, particularly of vitriolated mercury in the cure of gutta serena. Another distant effect of emetics is more certain: their increasing the action of the absorbent system. Their operation, in this way, is not easily explained, but such effects are well established; and, on this account, we shall find them extremely serviceable, when we wish to promote the absorption of purulent matter that we cannot with ease or safety evacuate. They cannot be employed to relieve the more extensive accumulations of dropsies.

A very important effect of emetics, referrible in part to their action, and sometimes, perhaps, to the nature of the medicine, is their power of emulging the bronchial glands. On the first access of nausea, we find a flow of saliva, and a little discharge from the bronchiæ; but, when the emetic begins to act with some violence, this discharge is considerable; and no remedy is more powerful in producing a complete evacuation of those glands, or relieving them from the infarctions of viscid mucus. In part, this effect may be owing to the medicine; for we shall find some of the most active emetics to be expectorants also.

Emetics are of very different kinds. Some are purely stimulant, as mustard, volatile alkali, and horse-radishroot. Others are sedative or relaxant. Opium, in large doses, acts as an emetic. Foxglove, tobacco, putrid substances, oil, and warm water, are emetics of different strength, nearly in their order. The greater number, however, act apparently by a peculiar stimulus. In some of these the stimulus is obvious; and, when the stomach is not affected, acts on other secretory organs. The principal emetics of this kind are the antimonial preparations, which affect the bowels, the skin, and sometimes the bronchial glands. The mercurials are similar in this respect; but the copper, zinc, and platina, which, in all their forms, are emetic, seem not to affect any other glands. The acrimony of the squill and the seneka root is very general: they are not only emetics, but cathartics and expectorants. The asarabacca and the groundsel juice are more limited in their stimulant powers. The former, besides its emetic property, acts chiefly as an errhine, and the latter only on the intestines. The ipecacuanha is the connecting link between these more general stimulants and medicines, which seem to act from a specific influence on the stomach. There are certain emetics which may be referred to this head. The vitriols of zinc, already mentioned, not to separate the metallic substances, have little general stimulus; and the air of the lungs which, when swallowed, proves certainly emetic, is wholly without any other power. Every nauseous taste tends to excite the action of the stomach; and to this head may be referred the bitters, as wormwood, camomile-flowers, the seeds of the carduus benedictus and broom. Putrid substances, and the liver of sulphur, act apparently in the same way.

Other causes of vomiting are more obscure in their action. Association of ideas is a mental operation; yet a very frequent and certain cause of vomiting is, the recollection of objects connected with the evacuation of the stomach at a former period. Motion in a circle, in a ship, or in an unaccustomed direction, has the same effect. The motion of a wheel carriage, especially if the windows are closed, or the person sits in the back seat of a coach, will often produce vomiting. This effect, as connected with the changes in the common sensorium, must remain in obscurity.

The principle on which emetics act is not readily explained. It has been said that they are constantly sedatives; and, as plausibly, that they are always stimulant. Very powerful emetics belong to each class, yet, perhaps, a different principle influences their operation. The affection of the stomach is apparently increased action; but, in medicine, increased action is sometimes owing to a defect. It is, more obviously, irregular action; and we might thus attribute vomiting to the principle we have already endeavoured to establish, that irregular action is connected with a diminution of tone. We certainly, in this way, approach, at least, very near the truth; and the facts will, in general, support it. In every instance, however, except where vomiting is owing to an affection of the brain, there appears to be a substance inimical to the constitution, which the stomach, influenced by the vires medicatrices, attempts to discharge; and the necessary motions are consequently excited. Yet we must keep in our view, that languor and faintness, from any cause, will produce the same effect; and we thus see why causes of extreme debility will equally excite this organ, independent even of the presence of any medicine, certainly by the intervention of any violent commotion. In this way may, probably, be explained the experiments of those who have excited vomiting by injections of emetic medicines into the veins. In fact, every foreign substance in the blood-vessels excites such commotions, with faintings and convulsions; nor is it surprising that the stomach should equally suffer. In general, then, the most active emetics are the most powerful sedatives; and the whole class of poisons, particularly the narcotic cathartics, are violently emetic.

The motions of the stomach during the operation of emetics are, as we have said, inverted. This has been proved by occular observation; and it is equally certain, that the action of the muscular fibres of the œsophagus are equally inverted. A nauseous draught, the repetition of an emetic, will sometimes excite the action of the œsophagus only; and we once saw it so permanently excited by a crystal of emetic tartar sticking in it, that the mildest fluids could not, for a long time, pass into the stomach. The action of the fibres of the stomach surrounding the cardia is, in some instances, exclusively excited; as in those who discharge wind, a small portion of acid, of oil, or any substance swimming on the surface of the contents of the stomach, and producing cardialgia. The more violent exertions of this organ alone discharge its whole contents; and such exertions must be strong and long continued before they are communicated to the duodenum. These are not facts merely of curiosity, but of great importance in the exhibition of vomits. It is in vain to expect benefit from them, if only the slight ineffectual discharge of a little of the tea, which has been drank, takes place. The strain, such as arises from the action of the greater curvature, is necessary, if any viscid mucus is to be evacuated; if any effect on the liver can be expected. The evacuation of bile appears towards the end of the operation, sometimes after the interval of two or three hours; frequently on taking in the first draught of negus, or a similar cordial. The expediency of the remedy is then triumphantly pointed out; but, in reality, the bile was the effect, and was not previously in the stomach. The assisting actions of the diaphragm and abdominal viscera are sufficiently felt during the operation, if the facts were not ascertained by the experiments of Mr. Haighton.

These observations are of some importance in the administration of emetics. If the medicine is not for some time in the stomach previous to the vomiting, the whole organ is seldom excited. It has been usual to direct that the emetic shall be first discharged, probably from its apprehension of doing some injury. The practice is, however, proper, from its thus exciting every portion; but, as the vomiting, without some contents, is painful, on the first appearance of sickness a little camomile tea may be allowed. In the whole operation, however, if more than a half pint of any fluid is contained in the stomach at one time, the greater is the probability of its acting incompletely. In cases of poisons the vomiting is extremely violent, and we then only want to dilute, and to render the action as easy as is consistent with the discharge. The dry vomits, as they are called, where all drinking is precluded, are painful remedies, but of great importance in assisting the bronchial discharges, or in relieving visceral obstructions.

Opposed to the severity of dry vomits, are the milder nauseating doses of antimonials or squills. These assist, in some degree, the discharge from the bronchiæ, but not so effectually as full vomiting. Their chief advantages are in the earlier state of fevers; in which they, in some degree, contribute to relieve the dryness of the skin, and to mitigate, by this effect, the great heat.

The use of emetics is very extensive. In *fevers* of every kind they are most powerful remedies.

In *intermittents*, the vomiting, sometimes excited on the accession by nature, has taught us to lessen the violence of the paroxysm by emetics; and occasionally to prevent it, by their previous exhibition, and continuing to support the perspiration they excite. In every intermittent, and remittents also, we find bilious congestions, which active vomiting contributes to relieve. By this means the paroxysms of each gradually become milder; and there have been many instances where no other remedy was required.

In *continued fevers* emetics are highly useful, but their effects are not equally striking. The debilitating power of every febrile attack affects the stomach, and produces those irregularities of the digestive process which we have already described. The wholesome aliment is, in this way, converted into an injurious load; and emetics are not more useful in determining to the skin, than in removing the acrimonious or putrid saburræ. When contagion also has been received, though breathed with the air, it immediately affects the stomach, producing a bad taste in the mouth. This, with all the subsequent bad consequences, an emetic, followed by a brisk cathartic, will often remove. The particular kinds of fever offer few remarks of importance. In the synocha, bleeding, if it be at all admissible, should be premised; but the young practitioner, eager with his lancet, should reflect, that every throbbing pulse is not a strong one; nor does every headach portend approaching delirium. Emetics have often been of service even in the most inflammatory fevers, when bleeding has not preceded; and we should always consider, that the worst putrid fevers are sometimes ushered in by symptoms seemingly inflammatory. In the lower putrid fevers, emetics are useful; but the nauseating doses, which may be continued in inflammatory fever, should soon be omitted in the latter, as they debilitate in a considerable degree.

In the next order, the *phlegmasiæ*, emetics are less essentially necessary; and, in these, bleeding must be frequently premised. After vomiting, the nauseating doses may be continued with the best effects. In the *pneumonia* they are often important remedies, from their power of emulging the bronchial glands. In *phrenitis*, though dangerous from increasing the accumulation in the head, we are sometimes obliged to employ them. In *cynanche* they are inconvenient, though useful, remedies. When the inflammation terminates in suppuration, suffocation often impends, and then vomiting, a precarious remedy, which may even bring on the fate it is intended to avert, may at once rescue the victim from the grave. Firm and steady must be the physician who prescribes it; but he who would for a moment hesitate when his patient's life is at stake, whatever risk he may personally run, merits not the name of man, or the character of a physician. In the other pyrexiæ we find little room for the use of this remedy. In *hepatitis*, for obvious reasons, it is doubtful, though sometimes useful; in *enteritis* the natural vomiting is often the most troublesome symptom; but in the *peritonitis puerperarum*, emetics, given early, have been considered as a most certain remedy. In *gout*, emetics have been employed to obviate the return of paroxysms; and in *rheumatism*, if bark be useful in this view, vomits must be equally so.

Emetics are remedies of peculiar value and importance in the order *exanthemata*. We need not enlarge on the different kinds, for in each these remedies are useful on the first appearance of fever. In those, however, attended with nervous or putrid fever, the repetition must be attempted with caution.

In *hæmorrhages*, emetics are supposed of doubtful efficacy; but they are more generally useful than has been supposed. With respect to the *hæmorrhagia cerebri* we shall reserve our observations for the present; and in *epistaxis* we need not have recourse to an active, uncertain remedy, when we have more safe ones within our reach. In *hæmoptysis*, emetics have been forbidden; but with little reason. Dr. Robinson, near sixty years since, recommended them as safe and effectual remedies; and we know that there are none which more certainly deserve this character: yet the general opinion is so decidedly in opposition to their employment, that, unless in emergency, we think they should not be exhibited; or even *in emergency*, not professedly as emetics. One of the most obstinate hæmoptyses the author of this article ever saw yielded only to the digitalis, which acted as a violent emetic; and its action was continued for several days. The bleeding only ceased during the operation of vomiting, and was finally stopped. Vomiting has been employed with success in *mænorrhagia*; but a physician may brave popular prejudice more safely in any disease than in female ones: nor is their utility in this complaint very clearly established. We speak, however, only at present of febrile mænorrhagia. In every other kind, emetics are decidedly injurious.

Of the *profluvia*, the only genera, *catarrh*, and *dysentery*, are greatly benefited by these remedies.

In the *adynamiæ*, emetics are of very extensive utility. They are of doubtful efficacy in *syncope*, when the disease arises from a topical affection of the heart and larger arteries, or when owing to debility, or an exhausted constitution. In many, perhaps the greater number of instances, fainting proceeds from accumulations in the stomach, and emetics are then absolutely necessary. In *dyspepsia*, *hypochondriasis*, and *chlorosis*, they are remedies of the greatest importance.

The order styled *spasmi* is a group of diseases scarcely connected. *Palpitatio*, however, like syncope, more commonly depends on accumulations in the stomach and bowels than on any other cause; and *asthma*, with *dyspnœa*, is greatly relieved by the operation of emetics, when not owing to any topical affection of the heart and arteries. If any medicine be useful in *pertussis*, it is occasional vomiting; but the *pyrosis* is a spasmodic complaint, and ultimately cured by a very different plan.

In the *vesaniæ*, emetics are the most important remedies. When the disease is not connected with the stomach, which generally happens, they are probably useful by the agitation formerly mentioned among their effects.

In the first order of the *cachexiæ*, the *marcores*, we find little foundation for their employment; yet, as in *tabes* the hectic fever is mentioned, they may appear to be indicated. But the fever, in this case, is from debility only, the exacerbation of the common evening paroxysm. It reminds us, however, of an omission, which we must supply, the utility of emetics in *phthisis*; a disease that has no appropriate place in the system of Dr. Cullen, which we have chiefly followed. Whether we consider the fever as a remittent, the bronchial glands as infarcted, or the existence of purulent matter in a concealed abscess, emetics appear to be medicines of the greatest utility. In fact, they are so; and could phthisis be ever cured, it would be by the joint action of emetics and blisters. No remedy is so generally useful as a slight emetic, frequently repeated; it checks the fever, relieves the burning heat, renders the respiration more free, and the cough more loose. Yet hæret, lateri lethalis arundo, emetics will *not* cure. In *dropsies* natural vomiting is of occasional utility; but in *hydrocephalus* and *hydrothorax* vomiting is inadmissible. We find a few solitary cases where the water in *hydrocele*, a partial dropsy, has been evacuated in this way.

For the various genera of the order *impetigines* we find little room for the use of this remedy. If *frambœsia*, as Dr. Adams thinks, (Memoirs of the Medical Society, vol. vi.) be an exanthema, emetics may be of service, as they very certainly are in *icterus*. Even where the pain at the pit of the stomach is violent, and the existence of a calculus unequivocal, though emetics may for a time increase the pain, the relaxation which they produce assists its passage. Neither in accidental nor in artificial vomiting have we ever found, in this case, any inflammation (the great source of alarm) follow. Emetics are of more importance in the last class of diseases, than from their *local* nature might be expected. In every case of obstructed sense, where the cause is not so firmly fixed as to resist every power, these remedies are useful; in the *caligo* for instance, *amaurosis*, *dysæcia*, and *ageustia;* in the greater number of depraved and deficient appetites; and in some of the depraved or irregular motions. In the *apocenoses*, the passive hæmorrhages, or mucous discharges, they are certainly injurious. In the *epischeses*, if we except the *amænorrhæa*, and in the *tumores*, except the purulent ones, they are hurtful.

The choice of emetics is a subject of some importance; but it is chiefly regulated by the quickness or the violence of their action. The most quickly operating emetic, in cases of emergency, is the white vitriol; the most violent is the turbith mineral. It is common to select the mercurial emetics in venereal cases; but this plan is not attended with peculiar advantages. We have often thought it singular that the squills are not more frequently employed for this purpose in asthma or pneumonia. They indeed produce a very permanent and distressing nausea, and are often employed as nauseating remedies; but we suspect that they might be particularly useful if given in these cases so as to produce full vomiting. In such instances physicians seem to prefer the antimonial emetics, and it must be allowed that the squills are very uncertain in their operation.

Emetics are injurious when there is any original defect in the head, in the heart and larger arteries, or, perhaps, in the abdominal viscera, if we except the liver; in the aneurisms of the larger vessels, in the delicate and the weak, if particularly plethoric. If no plethora exists, debility is seldom so considerable as to contraindicate vomiting, should there be any foundation for thinking it may produce real good effect.

With respect to the administration, we have little to add to what we have already remarked. In cases of fever we prefer the evening; in asthmatic cases, the morning; in hectics, the period when the febrile accession is most strongly marked. In the other disorders there is little choice of time. The preferable form is a liquid; and were the preparation of the ipecacuanha wine to be always depended on, this would be the best form of a medicine almost universally employed as an emetic, since the powder, apparently entangled in the coats of the stomach, sometimes occasions a continuance of painful retchings. Those who have repeatedly taken this medicine often find even the smell or taste sufficient to excite vomiting; and, from what has been said, it will be obvious that such vomiting will be ineffectual. To patients of this class it may be given in pills, or the tartarised antimony may be substituted.

Vomits, taken in the morning, should be allowed to produce their operation in bed. In the evening, if not taken in bed, the patient should immediately retire to it, without exposing himself to any chill. At any other period of the day, cold, after the vomiting, should be carefully avoided.

Any warm liquid may be employed to facilitate the action of the emetic; but the camomile, the carduus tea, mustard infusion, or whey, or the volatile alkali added to the bitter infusions, greatly facilitate it.

Emetocatharticum, a medicine which operates by vomit and by stool.

Emmenagogues. Those medicines that possess a power of promoting that monthly discharge of blood by the uterus, which, from the laws of economy, should take place in certain conditions of the female system; from εν, *in*, μην, *a month*, and αγω, *to draw: sabina, tanacetum, aloes, ferrum*, &c. possess more or less this property.

Emollients. Those substances which possess a power of relaxing the living animal fibre, without producing that effect from any mechanical action: such are *aqua tepida, olea blanda, adeps suillæ, opium*, &c.

Emphractica, εμφρακτικα, from εμφρασσω, *to obstruct*, such topics as stop the pores when applied to the skin.

Emphysema, εμφυσημα, from εμφυσαω, *to inflate*, a windy tumour, formed by the air insinuating itself, by a small wound, between the skin and muscles, into the substance of the cellular or adipose membrane, spreading itself afterwards up to the neck, head, belly, and other parts, much after the manner in which butchers blow up their veal. It is generally occasioned by a fracture of the ribs, or some extraneous body puncturing the lungs.

Empiric, εμπειρικος, from εμπειρεω, *calleo*, is strictly a trier or experimenter, and vulgarly signifies those persons who have no true education in, or knowledge of the grounds of physical practice, but venture upon hearsay and observation only. Medicine was almost altogether in the hands of such before Hippocrates; and many pretended only to one disease, which they had accustomed themselves to; but the prince of physic added reason thereunto, and taught the advantages of theory. Notwithstanding which, latter ages are again much degenerated into empiricism; and to one regular knowing physician, such is the defect of our laws at present in this respect, there are fifty that practise who are mere *empirics*.

Empneumatosis, εμπνευματωσις, from εμπνεω, *to blow into*, or *inflate*, an inflation of the stomach, the womb, or other parts.

Emprosthotonos. Aclonic spasm of several muscles, so as to keep the body in a fixed position and bent forward; from εμπροσθεν, *before, forwards*, and τεινω, *to draw.* Cullen considers it as a species of tetanus. See *Tetanus.*

Empyema, εμπυημα, from εν, *intus, within*, and πυον, *pus, matter*, is a collection of purulent matter in any part whatsoever, strictly taken; but it is generally used to signify that in the cavity of the breast only; and which sometimes happens upon the opening of abscesses, or ulcerations of the lungs, or membranes enclosing the breast. Its cure is difficult, from the difficulty of absorbing by any vessels such extravasated matter; and therefore often calls for the help of a surgeon, to discharge it by aperture externally.

Empyreuma, εμπυρευμα, from εμπυρεω, *to kindle*, of πυρ, *fire*. In *Chemistry*, it is the offensive smell and taste which distilled waters, or other substances receive from being too much exposed to the fire.

Empyreumatica Olea, empyreumatic oils. These are *oils* both of the animal and vegetable kind, which are distilled with a heat greater than that of boiling water; for thus they receive a burnt smell.

Empyros, εμπυρος, one labouring under a fever.

Emrods. See *Hæmorrhoides*.

Emulgent Vessels. Renal vessels. The vessels of the kidneys are so termed; from *emulgeo*, *to milk out*, because the ancients supposed they milked the serum from the blood. The emulgent artery is a branch of the aorta. The emulgent vein evacuates its blood into the ascending cava. The absorbents of the kidneys proceed to little glands in the neighbourhood, and from thence to the thoracic duct.

Emulsion, from *emulgeo*, *to milk out*. Medicines of any kind, made in a form resembling milk, are called *emulsions;* but generally they are made from farinaceous seeds, which are beat up with some fluid, by which their oily parts are intimately blended with it.

Emunctory. The excretory ducts of the body are so termed; from *emungo*, *to drain away:* thus the exhaling arteries of the skin constitute the great emunctory of the body.

Enarthrosis. The ball and socket joint. A species of diarthrosis, or moveable connection, in which the round head of one bone is received into the deep cavity of another, so as to admit of motion in every direction; as the head of the os femoris with the acetabulum of the os innominatum; from εν, *in*, and αρθρον, *a joint*.

Encanthis. An excrescence or intumescence of the lachrymal caruncle, which is situated in the inner angle or canthus of the eye; from εν, *in*, and κανθος, *the angle of the eye*.

Encausis, εγκαυσις, a burn or scald, or rather, the inflammation of a pustule caused by a burn or scald. It is synonymous with Dr. Cullen's *Erythema ab Ambustione*.

Encephalon, εγκεφαλον, from εν, *in*, and κεφαλη, *the head*. The *encephalon* includes the dura mater, the pia mater, the cerebrum, the cerebellum, and the medulla oblongata.

Endemic. A disease is so termed that is peculiar to a certain class of persons, or to a nation; from εν, *in*, and δημος, *people:* thus struma is indemial to the inhabitants of Derbyshire and the Alps; scurvy to sea-faring people; and the plica polonica is only to be met with in Poland.

Enema, ενεμα, *a clyster*, from ενιεμι, *to inject*, or *throw in*. The words *enema*, *clyster*, and *lotion*, are equivalent to each other, and signify any liquid medicine injected into the anus.

Clysters are usually injected by means of a bladder and pipe, called *elusma*, *fistula*, *auliscos;* from whence *fistula armata*, *pipe*, and *bladder:* but in many other countries a syringe is always used, by which the liquor is thrown up further into the bowels.

The quantity of liquor used in each clyster will vary according to the age of the patient and intention proposed. For infants, two ounces are sufficient; a child of six years old, from six to eight ounces; a youth of fourteen years, from eight ounces to a pint; and to an adult, from a pint to a pint and half. In general, the bulk should be considerable; for they stimulate from their bulk alone, and a quart of milk and water will often produce the appropriate effect; a circumstance of some utility, when the too anxious friends dread every evacuant. When the more active purgatives are thus combined with increased bulk, they seldom fail.

Clysters seldom reach beyond the sigmoid flexure, or that turn of the colon, on the left side, before its strait direction obtains for it the name of the rectum. They thus operate chiefly by stimulating the lower part of the gut, and evacuate only to the extent which that stimulus reaches. They are of little use, therefore, as evacuants, unless a purgative has been taken, whose effects we wish to hasten. This is often of considerable service where only small doses of cathartics can be retained; for by these means they prove effectual; and frequent solicitations by clysters produce, in such circumstances, the best effects.

In diarrhœas, and all disorders where the intestines are weak, or whenever the clyster is to be retained, the quantity for an adult should not exceed five or six ounces.

In ardent fevers, and inflammations of the bowels, they answer the end of a fomentation, and should be administered from a pint to a quart. In putrid fevers, this mode of introducing the bark and fixed air into the constitution has been adopted, it has been said, with success. Nourishment may be conveyed by clysters, when, from some complaint of the mouth, throat, or stomach, nothing can be swallowed or retained: many have been thus supported during several weeks. In such cases a quarter of a pint of rich broth is injected, with thirty or forty drops of tinctura opii, every five or six hours, and bark with port wine has been injected in the same way. The effects are not, however, so decidedly beneficial as they have been represented.

Clysters should never be either hot or cold when used; but so warm, that, when inclosed in a bladder, the heat gives only an agreeable sensation to the closed eye-lid.

When a clyster is intended only to evacuate, three or four ounces of common salt, or as much soap in a pint and half of water, are sometimes equally effectual with any quantity of the other purging medicines.

When a very powerful stimulus is required in purging clysters, it is usual to mix emetics with them, and of these the vinum antimonii merits, it is said, the preference. But any of the more active purgatives will equally succeed; and there is not a more effectual purgative clyster than three drams of the pulp of colocynth, boiled for a quarter of an hour in a sufficient quantity of water, to strain off a little more than a pint. To this should be added two ounces of oil, and as much vitriolated magnesia.

The usual method of injecting clysters is very inadequate, and often ineffectual. An injecting syringe, which holds a pint and half, is the proper instrument; and it is sometimes of advantage to have a lateral pipe, by which it may be supplied without withdrawing. We might thus even fill the colon, and produce many beneficial effects; since a fomentation could be in this way effectually applied to many important parts, when in a state of inflammation, or otherwise diseased. De Haen, by such an instrument, filled the colon of a dog, and in some experiments even conquered the obstruction which its valve offers.

Energy. Action. The degree of force exercised by any power;

thus nervous energy, muscular energy, &c. from ενεργεω, *to act.*

Enneandria, from εννεα, *novem, nine*, and ανηρ, *maritus, a husband;* in the Linnæan system of botany, a class of plants, the ninth in order, with hermaphrodite flowers, and nine stamina or male parts in each.

Ensiform Cartilage. Ziphoid cartilage. A small sword-like, and sometimes bifurcated cartilage, attached to the end of the sternum; from *ensis*, a sword, and *forma*, resemblance.

Enteritis. Inflammation of the intestines; from εντερον, *an intestine.* It is a genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen, and is known by the presence of pyrexia, fixed pain in the abdomen, costiveness, and vomiting. M. M. Venesection very copiously; castor oil; manna; calomel or aloes one grain every hour till it operates; warm bath; emollient fomentations; glysters; a blister; mucilages; small doses of opium.

Enterocele. Hernia intestinalis. Every hernia may be so called, that is produced by the protrusion of an intestine; from εντερον, *an intestine*, and κηλη, *a tumour.*

Entero-Epiplocele. A rupture formed by the protrusion of part of an intestine; with a portion of the epiploon; from εντερον, *an intestine*, επιπλοον, *the epiploon*, and κηλη, *a tumour.*

Entero-Hydrocele. An intestinal hernia with water in the scrotum; from εντερον, *an intestine*, υδωρ, *water*, and κηλη, *a tumour.*

Enterology, from εντερον, *intestinum, a gut*, and λογος, *sermo, a discourse*, is a treatise of the bowels, and is generally understood to include the contents of the three cavities, head, breast, and belly.

Enteromphalus, εντερομφαλος, from εντερον, *an intestine*, and ομφαλος, *the navel*, a rupture of the intestine at the navel.

Enteroraphia, suture of a gut when wounded. It is generally performed by the glover's stitch, and a portion of the thread is left at each end of the seam, to connect it to the necessarily pre-existing wound of the muscles, &c. of the belly, till the wounded gut adheres to the wound of the belly.

Enteroscheocele, from εντερον, *an intestine*, οσχεον, *the scrotum*, and κηλη, *an hernia.* It is when the intestine descends into the scrotum.

Entrichoma, εντριχωμα, from εν and τριχωμα, *the hair*, the edge of the eye-lid on which the hairs grow.

Entropium. A disease of the eye-lids, occasioned by the eye-lashes and eye-lid being inverted towards the bulb of the eye. M. M. Adhesive plasters; glue; extraction of the cilia.

Enula Campana. Common inula, or Elecampane. *Inula helenium* of Linnæus. This plant, though a native of Britain, is seldom met with in its wild state, but mostly cultivated. The root, which is the part employed medicinally, in its recent state, has a weaker and less grateful smell than when thoroughly dried, and kept for a length of time, by which it is greatly improved, its odour then approaching to that of Florentine orris. It was formerly in high estimation, but is now fallen into disuse. ℨi to ℨij.

Enuresis. An involuntary flow of urine; from ενουρεω, *to make water.* A genus of disease in the class *locales* and order *apocenoses* of Cullen, containing two species. 1. *Enuresis atonica*, the sphincter of the bladder having lost its tone from some previous disease: 2. *Enuresis ab irratione, vel compressione vesicæ*, from an irritation or compression of the bladder. M. M. 1st. Tonics; cold aspersion; a blister over the sacrum or perinœum. 2d. Removal of the pressure or irritation; a cathartic; mucilage; opium.

Ephelis. Broad, solitary, or aggregated spots, attacking most commonly the face, back of the hand, and breast, from exposure to the sun; from επι and ηλιος, *the sun.*

Ephemera, εφημερος, from επι, *super*, *upon*, and ημερα, *dies*, *a day*, is a fever that terminates in the compass of one day.

Ephidrosis. Sudatio. Mador, A violent and morbid perspiration; from εφιδροω, *to perspire.* A genus of disease in the class *locales* and order *apocenoces* of Cullen.

Epiala, a kind of tertian fever.

Epialos, επιαλος, an ardent fever, in which both heat and cold are felt in the same part at the same time. Galen defines it to be a fever in which the patient labours under a preternatural heat and a coldness at the same time. The ancient Latins call it *Quercera.*

Epidemical Catarrhous Disease. So some have called the influenza.

Epidemical Catarrhous Semipestilential Fever, a name of the influenza.

Epidemius, (from επι, *upon*, and δημος, *the people.*) *Epichorios; pandemius*, *popularis*, *regionalis morbus.* An epithet of diseases which at certain times are popular, and frequently attack; then for a time disappear, and again return.

The extensive influence of epidemic diseases has excited the greatest attention to their causes. In almost every ruder age they have been referred to the anger of their peculiar divinities, and sacrifices were instituted to reconcile them. More lately Mr. Webster has attempted to connect them with the eruptions of volcanos, or the devastation of earthquakes. A more sound philosophy and more attentive observation have shown, that they are owing very often to the effluvia of neighbouring marshes; and their occasional appearance is connected with the prevailing wind which passes from the marsh to the habitations. Another cause of their prevalence is, the wind from the marsh coinciding with the time when the moist ground begins to appear, from the water subsiding. This is the period of sickness; for the marsh, while covered with water, is innocuous. Another cause of epidemics is the weather. A long continued warm season, suddenly interrupted by a cold piercing wind, will produce a violent and extensive epidemic, which particularly attacks in the highest, and apparently the most healthy situations; for this reason, that the inhabitants are there most exposed to cold. But if this interchange of weather occurs to the inhabitants of a crowded city, the epidemic will be highly putrid, and often fatal. Should contagion of a malignant kind concur, the devastation of the epidemic will increase in proportion. These are the concurring causes of the American yellow fever, and the late fatal epidemics in Spain.

There are, however, causes which we cannot investigate. Extensive epidemics appear, and travel in succession, with different severity, through every part of the globe that we are acquainted with. The destroying angel seems to move with a studied regularity, without our being able to arrest his steps or alter his course. We often find these inexplicable epidemics without much danger, influencing the appearance of diseases and their treatment. Thus, while some epidemics prevail, evacuations from the bowels are necessary in almost every complaint; even where, in appearance, unnecessary or contraindicated. In others they are, with difficulty, borne in any disorder. This necessary attention to the prevalence of the constitution merits very particular attention; and the more extensive a physician's experience is, by so much will he be better able to treat the commonest disease.

Epidemics connected with the seasons or prevailing temperature may be easily traced, and we shall find them occasionally mitigated or severe: sometimes apparently stopped; at others exerting their power with increased virulence. The peculiar treatment, however, suggested by a general epidemic, should not at once be discontinued. The human constitution does not soon change; the alteration is gradual, and almost imperceptible: nor should the medical plans be altered till they are decidedly injurious.

When an epidemic has continued for some time, the body is habituated to the influence of the morbid cause; suffers less from it; and the health is more readily restored. At this time, remedies before useless are found to produce some salutary effects; and, at the end of an epidemic, we usually are told of a plan which never fails. On its return, these boasted plans are as ineffectual as before. In fact, they only combated, with success, a disease of reduced power.

We greatly want a judicious and well connected account of epidemics. Mr. Webster has lately brought together a very extensive collection of facts of this kind, with the views formerly mentioned; but the chaff is so intimately mixed with the grain, that the salutary information is with difficulty selected.

We cannot give a better view of the epidemics of the two last centuries than in the comprehensive abstract of Dr. Sims.

" 1. The first epidemic constitution was as follows: The years 1590, 1591, 1592, were all exceedingly dry; as was part of 1593; afterwards very rainy weather until the end of 1597. In 1593 the plague killed eleven thousand five hundred and three in London; the same year it was prevalent in Alcmaar. A catarrh prevailed in 1597. The rainy weather began in Florence in 1592, during which a pestilential fever raged there, attended with a whitish tongue, and an inflammation, with ulcers about the throat and mouth.

" 2. There was, in 1598, an excessive heat and drought, which continued next year; 1600, a severe winter; 1601,a drought of five months' continuance; 1602, a cold spring and summer, cold dry harvest and winter; the rest of this constitution very rainy, until the end of 1608, except seven weeks frost in 1607. In 1603, the plague was imported from Ostend, where, and in the Low-countries, it raged much, and killed thirty-six thousand two hundred and sixty-nine in London.

" 3. In 1609, three months' most rigorous frost, wherein the Thames became like a solid highway; 1610, an excessive hot dry summer,as were those of 1611 and 1612; 1616, 1617, and 1619. The winters of 1614 and 1615, great frost and snow; the rest of this constitution wet until the end of 1624. In 1609 the plague broke out in Alcmaar, as also in Denmark. In 1610 the Hungarian fever commenced in many places, and made great havock for several years, so as often to be denominated a plague. About the same time the malignant sore throat is supposed to have commenced in Spain, where it killed incredible numbers. In 1611 the plague is said to have destroyed two hundred thousand at Constantinople. In 1614 the most fatal small-pox spread all over Europe. In 1618 the sore throat broke out at Naples, where it continued its ravages for twenty years; it was preceded by a similar disorder among cattle. In 1618 the plague existed in Bergen. In 1619 it broke out in Denmark and in Grand Cairo.

"4. In 1625, a hard frosty winter, summer wet and hot; 1626 and 1627 excessively hot summers; 1630 and 1631, a great drought; the other years wet until 1634. In 1625 the plague killed thirty-five thousand four hundred and seventeen in London; it raged in Denmark both in 1625 and 1629; as also in 1625 in Leyden. In 1632 inflammations of the jaws prevailed, with an erysipelas in one or more parts of the body.

"5. In 1634, an excessively frosty winter; 1635, 1636, 1637, and 1638, very hot and dry summers; then very rainy years until 1643. In 1635 the plague in Leyden and the camp fever spread all over Germany. In 1636 the plague was in London, whereof died thirteen thousand four hundred and eighty; in 1637, the plague in Denmark.

"6. The years 1643 and 1645 were remarkable for hot summers, followed by inconstant rainy seasons until 1650. In 1643 a fatal malignant fever was spread by the armies all over England; 1644, a malignant epidemic fever in Denmark; a similar fever in England, in which there was a roughness and sliminess of the throat and jaws, with pain, but scarcely any swelling or inflammation: it seemed only a mere defluction, by which the sick seemed choaked, and for which astringent gargles were useful. In 1650 a general catarrh prevailed.

"7. The years 1651 and 1659 had both very hot summers, and proved mostly dry; thence to 1665 very wet. The winters of 1651 and 1658 remarkably cold. In 1651, in the country about Rome, a contagious epidemic quinsey prevailed, and made terrible slaughter among children. A small ulcer arose in the mouth, for which juice of wood-sorrel, syrup of pomegranates, with the bark, and chiefly the acid of vitriol, were useful. All that took these medicines recovered; but those who were not tractable, and refused medicines, died: it did not seize adults, nor the aged. In 1654 the plague was in Denmark; and in 1655, and the two following years, it prevailed exceedingly in the south of Europe; the agues likewise of these hot years were malignant, and spotted fevers were very common. In 1664, after a mild rainy winter, a malignant purple fever raged in Prussia, and killed great numbers under twelve years of age, those only escaping who had no inflammation or œdematous tumour in the throat. Such as recovered, after sweating, had scales pealing off the skin; then adults had a swelling over their body and of their belly, which continued several weeks like leucophlegmatia, and then went off by sweat and urine. This epidemic seems a considerable deviation from their general progress laid down in the scheme of them already mentioned, and is, therefore, particularly noticed in this place.

"8. In 1665, an excessively severe frost, which continued to the end of March; summer temperate; 1666, a very hot dry year, followed by two as wet and cold. In 1665, immediately after the frost, began the plague in London, which killed, according to the least computation, sixty-eight thousand five hundred and ninety-six. Since that time the plague has vanished from London, and all other epidemics seem to have become less malignant, owing to many causes; among which may, perhaps, be a greater use of fresh vegetable food, a less use of fish, an universal use of tea, superior cleanliness in our persons, a greater attention to the poor in times of scarcity, which are now scarcely felt in any extreme degree, and, lastly, the tremendous fire in 1666; since which the streets have been very much widened, and the houses so enlarged, that the same number of inhabitants now occupy above double the space. In 1667 an epidemic fever, with aphthæ, prevailed in Holland, in which acids were useful, but neither bleeding nor purging.

"9. In 1669, the summer intolerably hot, after which the winter was as severely cold and frosty; 1670, a severe frosty winter; the rest of this constitution bad and wet. In 1669 a most fatal fever prevailed, with slimy tongue, sore mouth, &c. in which bleeding was hurtful, but acids and laxatives very beneficial. Sydenham does not mention this fever, nor its return in 1678, although, next to the plague, they were the greatest epidemics in his time; which, together with his little knowledge of putrid fevers, can only be attributed to his practice lying about the court; whilst Morton, who practised in the city, gives abundant proofs that putrid complaints were as prevalent then as at this time. The same year, in Norway, malignant measles are said to have prevailed, with thrush, which, if mismanaged or neglected, ended in a fatal mortification. In 1675 a coryza, or cough, was prevalent.

"10. In 1678, summer and harvest droughty, hot, and clear; 1679, winter long, severe frost, and intensely cold; 1680 and 1681, summer extremely dry and hot; the next two years rainy. In 1678 the same fever and sore throat prevailed as in 1669. In 1679, after a most deluging October, a catarrh was universal. In 1682, sphacelated tongues and angina maligna prevailed among cattle; in the same year, in Dublin, a fatal petechial fever.

"11. The year 1684 was remarkable for the severest frost remembered at that time, succeeded by a very dry and hot summer, to which 1686 bore a near resemblance: the other years were rainy till 1691. In 1684, spotted fevers, particularly of the miliary kind, were common. This and the following year of 1685 are remarkable for the greatest number of burials. In 1688 an epidemic catarrh prevailed all over Europe.

"12. A frosty winter in 1691, and excessively hot and dry summer. The same in 1694; the other years rainy and variable. In 1691 a fatal spotted fever prevailed; in 1693 an universal catarrh; and in 1695 the hooping-cough.

"13. Of 1698, an exceedingly hard frost in the winter; the rest of this constitution rather rainy. In October, 1698, began a fatal contagious spotted fever, which spread all over England. Coughs attended most of the diseases in 1703.

"14. The year 1704 was excessively dry, so that the grass was burnt up; this continued until August 15, 1705; the rest of this constitution cold and wet. In 1704 malignant spotted fevers were common. In 1708 coughs and coryzas prevailed every where, so that few escaped.

"15. In 1709, great frost all over Europe, even in Portugal; 1712, a very frosty winter; the rest of this constitution variable. In 1709 the plague broke out in Dantzick, immediately after the thaw, and killed twenty-four thousand five hundred and fifty-three. In 1710 the plague in Copenhagen killed twenty-five thousand. In 1712, sore throats universal in July and August, with dizziness and pains of the limbs, in London.

" 16. The year 1714, and the six succeeding years, were all dry, with hot summers. In the winter of 1716 so severe a frost that the Thames was covered with booths: that of 1718 likewise very frosty; the rest to 1731, cold, wet, and variable, except 1723, which was cold and dry; and 1729, which was a cold dry winter, followed by a hot dry summer. In 1720 the plague killed sixty thousand in Marseilles. In 1729 an universal epidemic catarrh prevailed in November.

" 17. The year 1731 was a very dry one, which continued until harvest 1732; summer of 1733 rather dry and pleasant, as was most of 1738; the remainder of this constitution extremely wet. In the beginning of 1733 was an epidemic catarrh; 1737, 1738, and 1739, were all much infested with catarrhal fevers, especially among children.

" 18. In 1740 was the severest frosty winter and spring that had happened for three hundred years; 1741, extremely dry hot summer; 1742, a variable, but dry year; the rest of this constitution wet or variable. In 1740 a malignant petechial fever made great havock in Bristol, and in Galway in Ireland. In 1741 it reached London, where this and the last year were the most mortal ever known, except when the plague reigned, the burials amounting to sixty-two thousand nine hundred and eighty. In 1742 the putrid sore throat broke out. In March, 1744, an epidemic catarrh was universal, and was more fatal than usual.

" 19. In 1747, there was an excessively hot dry summer; 1750, a dry year throughout and intensely hot summer; the rest of this constitution moderate, variable, or wet. In 1747, and the succeeding years, the sore throat seemed to acquire new vigour, alarming the inhabitants of these kingdoms very much. In November, 1758, there was an universal epidemic catarrh.

"20. The year 1760 was droughty from June 26 to September 16; the end of that and the following year severely wet, as was the end of 1763 and beginning of 1764; the rest of this constitution moderate. In April and May, 1762, a most epidemic catarrh.

" 21. A very dry year, and rather hot summer in 1765, as was the next year, though not quite so much so; the remainder of this constitution moderate years, rather inclining to wet. During this constitution no very remarkable epidemic till the universal catarrh in November, 1775, unless we reckon such, the small-pox of the year 1772, which, succeeding a hard winter, were more fatal than they had ever been before in London.

" 22. The year 1776 was dry, and 1778 still more so. The winter of 1780 was the most frosty since 1740: yet these deviations from what might be accounted moderate weather were so small as scarcely to deserve notice. In May, 1782, there was a very general epidemic catarrh; and early in 1783 began the constitution which produced the epidemic scarlatina anginosa, which spread very considerably."

Epidermis, επιδερμις, from επι, *upon*, δερμα, *the skin*, the scarf-skin. See *Cuticula*.

Epididymis. A hard, vascular,

oblong substance, that lies upon the testicle, formed of a convolution of the *vas deferens* ; from επι, *upon*, and διδυμος, *a testicle*.

Epigastricæ Arteriæ, epigastric arteries. The external iliac artery divides into two branches at the ligamentum Poupartii: one of them is the *epigastric*, which runs to the inside of the rectus abdominis, at whose upper part it communicates with the internal mammary.

Epigastricæ Venæ, the epigastric veins. The internal iliac veins, a little before their going out of the belly, send off from the inside the *epigastric veins*, which send branches to the neighbouring glands, and run up the musculi recti abdominis, and then advancing, join the mammary.

Epigastrium, επιγαστριον, from επι, *super*, *upon*, and γαςηρ, *venter*, *the belly*, is the upper part of the abdomen, reaching from the cartilago ensiformis till within two fingers' breadth of the navel. Its two sides are hypochondria; the right of which covers the greatest part of the liver; the left the spleen, part of the stomach, and colon.

Epiglottis. The cartilage at the root of the tongue that falls upon the glottis; from επι, *upon*, and γλωττις, *the glottis*, or superior opening of the larynx.

Epilepsia. Convulsions with sleep, and usually froth issuing from the mouth; from επιληψις, *a swoon*. It is a genus of disease in the class *neuroses* and order *spasmi* of Cullen, and contains nine species: 1. *Epilepsia traumatica*, arising from an injury of the head: 2. *Epilepsia a dolore*, from pain: 3. *Epilepsia verminosa*, from the irritation of worms: 4. *Epilepsia a veneno*, from poisons: 5. *Epilepsia exanthematica*, from the repulsion of cutaneous eruptions: 6. *Epilepsia a cruditate ventriculi*, from crudities of the stomach: 7. *Epilepsia ab inanitione*, from debility: 8. *Epilepsia uterina*, from hysterical affections: 9. *Epilepsia ex onanismo*, from onanism. M. M. Avoiding the exciting and removing the predisponent causes; venesection when the vessels are too full; emetics; purgatives; antispasmodics; blisters; issues; cinchona; iron; flowers of zinc; cuprum ammoniacum; arsenic; digitalis; nitrate of silver grs. $\frac{1}{4}$ to 1. three or four times a day; acetite of lead. Dr. Currie has recommended the cold bath in the height of the paroxysm; Dr. Hamilton the daily use of purgatives.

Epinyctis, επινυκτις, from επι, *on*, and νυξ, *night*. It is a kind of pustule, which rises in the night, whence its name. It is an angry tumour affecting the skin in the arms, hands, and thighs; the ancients rank with it the *Terminthus*, which is somewhat less. It is of the bigness of a lupine, of a dusky red, and sometimes of a livid and pale colour, with great inflammation and pain. In a few days it breaks and gleets, and separates away in a slough.

Epios, επιος, *mild*, *gentle*, an epithet which Hippocrates bestows on mild epidemic fevers.

Epiparoxysmus. It is when the patient suffers more exacerbations than are usual in a fever.

Epiphænomenos, επιφαινομενος, from επι, importing *addition*, and φαινομενον, *a phænomenon*, or *symptom*, an adventitious symptom which does not appear till the disease is found, and seems to be the same as *Epiginomenos*.

Epiphlebos, επιφλεβος, from επι, and φλεψ, *a vein*, one whose veins are prominent.

Epiphlogisma, επιφλογισμα, from επι, and φλογιζω, *to inflame*, of φλοξ, *a flame*, a violent inflammation, attended with pain, tumour, and redness.

Epiphlogisma, a name which Hippocrates gives to the shingles; also a burning heat in any part.

Epiphora. The watery eye. An involuntary flow of tears; from επιφορα, *a flood.* A genus of disease in the class *locales* and order *apocenoses* of Cullen.

Epiphysis. Any portion of bone growing upon another, but separated from it by a cartilage; from επι, *upon*, and φυω, *to grow.*

Epiplocele, επιπλοκηλη, from επιπλοον, *omentum*, *the caul*, and κηλη, *tumour*, *a swelling*, is a rupture of the caul, which falls down into the scrotum.

Epiploicæ (Appendiculæ.) The peritonæal coat of the intestines sends out some processes like little epiploons, to which Winslow gives this name.

Epiploica Arteria. Before the splenic artery arrives at the spleen, it sends a branch to the omentum, which is thus called.

Epiploica Dextra (Vena.) It is a branch from the trunk of the mesaraica major, which goes to the omentum.

Epiploica Sinistra (Vena.) It arises from the splenica at the small extremity of the pancreas, and is ramified on the omentum, all the way to the colon, where it communicates with the hæmorrhoidalis interna.

Epiplois Dextra, is a branch of the cœliac artery which runs through the right side of the inner or hinder leaf of the caul.

Epiplois Postica, is a branch of the cœliac artery springing out of the lower end of the splenica, and running to the hinder leaf of the caul.

Epiplois Sinistra, is a branch of the cœliac artery that is bestowed on the lower and left side of the caul.

Epiploitis. It is that species of inflammation which Dr. Cullen calls *Peritonitis Omentalis.* It is the same as *Puerperalis Febris.*

Epiploomphalon, επιπλοομφαλον, from επιπλοον, *the omentum*, and ομφαλος, *the navel*, an hernia umbilicalis.

Epiploon. The omentum; from επιπλοω, *to sail over;* because it is mostly found floating, as it were, upon the intestines. See *Omentum.*

Epiploscheocele, an hernia, in which the omentum descends into the scrotum.

Epiporoma, επιπωρωμα. It is any indurated tumour in the joints, from επιπωροω, *to harden;* a callous concretion, a tophus, a tophaceous callus, molesting the joints.

Epischesis, επισχεσις, suppression of usual evacuations. In Dr. Cullen's nosology it is the name of an order in the class *locales.*

Episcopales Valvulæ, i. e. *Valvulæ Mitrales.*

Epispastics. Those substances which increase the action of the vessels, in those parts of the surface of the body to which they are applied, in such a manner as to produce an efflux of fluids there; from επι, and σπαω, *to draw:* of this nature are *cantharides*, *semina*, *sinapi*, *ammonia*, &c.

Epistaxis. Bleeding at the nose, with pain or fulness of the head. A genus of disease arranged by Cullen in the class *pyrexiæ* and order *hæmorrhagiæ.* M. M. Rest; cold; compression; saline purgatives; sulphuric acid.

Episthotonos, the same as *Emprosthotonos*, i. e. when the tetany bends the body forward.

Epistrophalus, from επι, *upon*, and ςρεφω, *to turna bout.* It is applied to the first vertebra of the neck, because it turns about upon the second as upon an axis, which therefore was so called by the ancients. Some, though improperly, call the second thus. It is also written *Epistrophea*, and *Epistrophis.*

Epithema, επιθημα, or *Epithem*, επιθεμα, from επι, *upon*, and τιθημι, *to lay upon*, or *apply*. It is any outward application, but generally signifies those of a liquid form, like a fomentation.

Epithelium. So the cuticle on the red part of the lip is called.

Epithesis, επιθεσις. In *Surgery*, it is the rectification of crooked limbs by means of instruments.

Epsom Salt, i. e. *Purging Salt (Bitter.)*

Epsom Water. Its medical powers are contained in the salt which bears its name, and which is also called *Sal Cath. Amar.*

Epulis, επουλις, from επι, *upon*, and ουλα, *the gums*, excrescences on the gums, of which there are two species, one without pain, the other is troublesome, and often degenerates into a cancer.

Epulotica, επουλωτικα, *Epulotic*, from επουλοω, *to cicatrize*, topical medicines which dry up humidity, repress fungous flesh, and dispose wounds or ulcers to be covered with skin. Dry lint, gentle compress, and the cerate with lapis calaminaris, are the general applications.

Equilibrium. It is when two or more forces acting against one another, none of them overcome the others, but destroy one another's effects, and remain at rest.

Equisetum, horse-tail. A genus in Linnæus's botany, of the order of *Filices*, or ferns. He enumerates seven species.

Equitatio, riding. During this exercise, all the viscera are shaken, and pressed against each other; at the same time the pure air acts with a greater force on the lungs. Weakly persons, or those whose stomachs are infirm, should be cautious of riding before their meals are somewhat digested.

Equivocal Generation, is the production of plants without seed; or of insects or animals without parents, in the natural way of coition between male and female; which is now believed never to happen, but that all bodies are unequivocally produced.

Erector Clitoridis. A muscle of the clitoris that draws it downwards and backwards, and serves to make the body of the clitoris more tense, by squeezing the blood into it from its crus.

Erector Penis. A muscle of the penis that drives the urine or semen forwards, and by grasping the bulb of the urethra, pushes the blood towards the corpus cavernosum and the glans, and thus distends them.

Erethismos, ερεθισμος, from ερεθιζω, *to excite*, *irritate*. In general, whatever is an obstacle to nature is an *Erethismos*. In particular it signifies an irritation of the belly, from thin acrimonious humours, and their discharge in liquid stools.

Ergot. So the French call the rye which is diseased in a particular manner, from its grains assuming somewhat of the form of a cock's spur.

Erode, and *Erosion*, the same as *Corrosion*, which see.

Erotomania, ερωτομανια, that sort of melancholy to which lovers are subject.

Erpes, i. e. *Herpes*.

Errana, or *Erratica*, is used by physicians in various senses, but chiefly for wandering pains, and sometimes for fevers of uncertain periods, as irregular tertians or quartans.

Errhine. By errhines are to be understood those medicines which, when topically applied to the internal membrane of the nose, excite sneezing, and increase the secretion, independent of any mechanical irritation; from εν, *in*, and ρις, *the nose*. To this class belong *nicotiana*, *helleborus*, *euphorbium*, *asarum*, &c.

Error Loci. Boerhaave is said to have introduced this term, from the opinion that the vessels were of different sizes, for the circulation of blood, lymph, and serum; and that when the larger sized globules were forced into the lesser vessels by an *error of place*, they were obstructed. But this opinion does not appear to be well grounded. In Aitken's *Elements* it signifies dislocation.

Eructation, belching, from ερευγω, *to belch up*, or *to break wind upwards*.

Eruption, from *erumpo*, *to break out*. It is any *eruption* in the skin.

Eryngium, eryngo, or sea-holly. *Eringium maritimum* of Linnæus. The root of this plant is directed for medicinal use. It has no particular smell, but to the taste it manifests a grateful sweetness; and, on being chewed for some time, it discovers a light aromatic warmth or pungency. It was formerly celebrated for its supposed aphrodisiac powers, but it is now very rarely employed.

Erysipelas, ερυσιπελας. This word is variously derived. Constantine and Martinius derive it from ερυω, *to draw*, το πελας, *the neighbouring parts*. The Latins call it *Ignis Sacer*, when it is of the ulcerated kind. In Switzerland it is called the *Violet*; some name it the *Rose*, from its red colour. St. Anthony's fire. A genus of disease in the class *pyrexiæ* and order *exanthemata* of Cullen. It is known by synocha of two or three days continuance, with drowsiness, and sometimes with delirium; pulse commonly full and hard; then erythema of the face, with continuance of synocha, tending to either apoplexy or to abscess. There are two species of this disease, according to Cullen: 1. *Erysipelas vesiculosum*, with large blisters: 2. *Erysipelas phlyctænodes*, with phlyctenæ, or small blisters. It has however been more properly divided into erysipelas with synocha, or sthenic diathesis, and erysipelas with typhus, or asthenic diathesis. M. M. 1st. Venesection; cathartics; refrigerants; diaphoretics; blisters and the antiphlogistic regimen. 2nd. Cinchona; Virginian snake-root; camphor and sulphuric acid. In both the semicupium and sinapisms, and mild dry powders externally.

Erysipelatoides, from ερυσιπελας, *an erysipelas*, and ειδος, *likeness*. It is a tumour resembling the erysipelas, or a spurious erysipelas.

Erythema. A morbid redness of the skin, as is observed upon the cheeks of hectic patients after eating, and the skin covering bubo, phlegmon, &c.

Erythema a Frigore. The same as *Pernio*.

Erythema Ambustio, the inflammation caused by burns or scalds.

Erythema Gangrænosum, the tumour called a carbuncle.

Erythroeides, ερυθροειδης, or *Erythroides*, from ερυθρον, *rubrum*, *red*, and ειδος, *forma*, *appearance*, is a red membrane, called also *Tunica Vaginalis*, embracing loosely the whole body of the testicles, and adhering to one end of the epididymus.

Esaphe, εσαφη, from εσαφαω, *to feel with the fingers*, the touch or feeling the mouth of the womb, to know its state.

Escalot, a kind of onion.

Eschara, the name of a submarine plant, which resembles a net or cobweb. Its virtues are similar to those of coral.

Eschara, εσχαρα, an eschar crust. In *Surgery*, it is a hard crust, or a scab upon the flesh, formed by the application of a red hot iron, a caustic, or some sharp humour of the body. Also a slough formed on a wound or ulcer, and is an instance of mortification.

Escharotics. See *Caustics*.

Esculent, an appellation given to such plants, or the roots of them, as may be eaten; such are beets, carrots, artichokes, &c.

Essence, is strictly that which constitutes the nature of any thing, and makes it be what it is; but in *Medicine* it is used to signify the chief properties or virtues of any simple or composition collected together.

Essential Oils, are such as were really in a plant, and drawn from it by distillation, in distinction from those made by insolation.

Essential Salts, are such as will crystallize in the juice, or an infusion of plants, in distinction from those made by incineration, and appear to be actually contained in the plant.

Essera. A species of cutaneous eruption, distinguished by broad, shining, smooth, red spots, mostly without fever, and differing from the nettle rash in not being elevated. It generally attacks the face and hands.

Esthiomenos, εσθιομενος, from εσθιομαι, *to eat*, eating, corroding, an inflammation in the skin, attended with a sharp humour, more properly the *Herpes Excedens*. It is indeed any inveterate ulcer.

Ether Acetic, *Acetous Ether*.

Ether Muriatic, *Marine Ether*.

Ether Nitric, *Nitrous Ether*.

Ether Sulphuric, *Vitriolic Ether*.

Etherial Oil. The chemists thus call a highly rectified *oil*, that differs little from an inflammable spirit, as the *oil* of turpentine, and the like.

Ethica, i. e. *Hectica*.

Ethmoid Bone. Cribriform bone. A bone of the head; from ηθμος, *a sieve*, and ειδος, *form*; because it is perforated like a sieve. It is situated anteriorly in the basis of the cranium, at the upper part of the nose. The principal eminences and depressions of this bone are the crista galli, the perpendicular septum, the spongy laminæ and the cribrose foramina.

Eudiometry. The measurement of the quantity of oxygen contained in atmospheric air, or indeed in any gas in which it is not intimately combined, is named *eudiometry*, and the instrument by which it is performed, the *eudiometer*. To attain such a measurement, it is merely necessary to present to atmospheric air, some substance which combines with its oxygen, and which either does not afford any gaseous product, or affords one that is easily abstracted and measured. Different substances have been applied to this purpose.

The fluid originally employed by Scheele, in the analysis of the air, the solution of sulphuret of potash, or what is rather more convenient, the sulphuret of lime, is perhaps superior in accuracy to any, at least if the air be not too long exposed to it, and be not in too small quantity proportioned to the quantity of fluid. Phosphorus is applied by a very simple apparatus, but by its solubility in nitrogen gas, it adds to the bulk of the residual air, for which a correction must be made. Nitrous gas was employed by Priestley; it exhibits the result immediately, but is liable to several sources of fallacy. Hydrogen gas was employed by Volta: a given measure of it being put along with a quantity of the air, designed to be submitted to trial, into a graduated tube, and inflamed by the electric spark, the diminution of volume indicating the quantity of oxygen; 100 measures of oxygen require rather less than 200 measures of hydrogen for saturation; about 40 measures of hydrogen are therefore sufficient to saturate the oxygen contained in 100 measures of atmospheric air, but it is proper to use an excess of hydrogen, as otherwise part of the oxygen is liable to escape combination.

From 60 of hydrogen, with 100 of atmospheric air, Mr. Dalton states, that the residuum after explosion is 100, 21 of oxygen combining with 39 of hydrogen. The method is simple and expeditious, and as Humboldt and Gay Lussac have remarked, has the great advantage, from the bulk of the mixture, and the great diminution of volume, from the consumption of a given quantity of oxygen, of being more delicate than any other. It also requires no corrections for variations of temperature or atmospheric pressure; and any impurity in the hydrogen gas, which it has been supposed might be a source of error, may be avoided by care. It affords also the best method of determining the purity of oxygen gas, or the proportion of oxygen in any mixed gas containing it. Humboldt and Gay Lussac, in an elaborate memoir, have pointed out all the circumstances to be attended to in employing it as an eudiometer. (Journal de Physique, tom. lx. p. 129.)

From the practice of eudiometry, it was at one time expected, as the name implies, that we should be able to ascertain the purity of the air, with regard to its salutary or noxious power on life. It was soon found, however, particularly by Priestley, (and the fact has also since been established by De Marti,) that the air of places the most offensive and unhealthy, afforded as much oxygen as that of others of an opposite description; the air, for example, of crowded cities, of low, damp situations, or of crowded manufactories, has not been found less pure than that of the country; the noxious quality of the air depending not so much on any deficiency of oxygen, as on the presence of effluvia not discoverable by this test.

It was at one time imagined, that the composition of atmospheric air is not uniform, but that it varies both at different parts of the earth's surface, and still more at different heights. Ingenhouz made a number of experiments to prove the former fact, from which he concluded, that the air is purer, or contains more oxygen at sea than on land, and that in the neighbourhood of marshy situations it contains less oxygen than the standard. (Philosophical Transactions, vol. lxx. p. 354.)

Saussure made some experiments on the air at some of the elevated parts of the Alps, the summit of the great St. Bernard, the Buet, &c. In this air the proportion of oxygen was less than in the air on the plains. (Voyages, tom. ii. p. 357; tom. iv. p. 451.)

Von Humboldt relates also, that air brought from a great height in the atmosphere, by a person who had ascended in a balloon, contained in 100 parts 25.9 of oxygen, while air at the surface contained 27.6; and that at the summit of the Peak of Teneriffe, the proportion of oxygen amounted only to 19, while at the foot of the mountain it was 27. The proportions which he states prove sufficiently the error of the eudiometrical method he employed; and the eudiometer he did use, that with nitrous gas, corrected by trying its purity with sulphate of iron, is indeed the one which is most liable to fallacy. The analysis of the air in the upper regions of the atmosphere, has since been executed with accuracy by Gay Lussac, assisted by Thenard. A glass balloon was filled with air, at the height of 21,735 feet from the surface, the greatest which has yet been reached, and when opened under water by Gay Lussac after his descent, one half of its capacity was filled by the water, a sufficient proof that it had been accurately closed. The air was subjected to trial, both by Volta's eudiometer, and by the solution of surphuret of potash; it afforded by the former method 21.49 of oxygen, in 100; by the latter 21.63. Atmospheric air at the surface, analysed at the same time in the eudiometer of Volta, gave precisely the same result, 21.49. (Nicholson's Journal, vol. x. p. 286.)

Saussure, junior, also found, that the air on the summit of the Col-du-Geant contained within one-hundredth part as much oxygen as that on the plain, and even this difference may be ascribed to the difficulty of making the experiment with perfect accuracy. The uniformity of the composition of the atmosphere at different parts of the earth's surface, appears also to be established.

Mr. Cavendish originally observed, that air subjected to examination at different times, and air likewise from different places, was of perfectly similar composition; (Philosophical Transactions, vol. lxxiii. p. 129,) and the same observation had been made by Fontana, from his own experiments. (Philosophical Transactions, vol. lxix.)

Mr. Davy states, that no sensible difference was found in the air sent from the coast of Guinea, and the air in England. (Journal of the Royal Institution, vol. i. p. 48.)

Berthollet found, that the air in Egypt and in France was similar, affording 22 of oxygen in the 100, any difference observed not amounting to a two-hundredth part of the air submitted to trial. (Memoirs relative to Egypt, p. 326.)

De Marti, by experiments in Spain, obtained the same uniformity of composition (between 21 and 22 of oxygen in the hundred parts) in the air at places at a distance from each other; and he adds also, as established by his experiments, that in every state of the atmosphere, whether with regard to temperature, to pressure, as indicated by the barometer, to winds, to humidity, to the season of the year, or the hour of the day or night, the results were precisely the same. (Journal de Physique, tom. iii. p. 173.) And more lately the researches of Humboldt and Gay Lussac, made with the view of determining this question, have established the same conclusion. (Journal de Physique, tom. lx. p. 152.)

The instruments for subjecting atmospheric air to such changes as may indicate its proportion of oxygen, have been called *eudiometers*. When a mixture of nitrous gas is to be made with atmospheric air, the most convenient apparatus consists in a glass tube closed at top, and graduated by a diamond into cubic inches and parts. The lower aperture may be widened, in order that the gases may more easily be passed up, and likewise to afford the facility of its standing alone upon the pneumatic shelf. It is likewise usual and advantageous to fit a stopper in the mouth by grinding; a cubic inch measure will be required for determining the quantities poured up. A bottle will do for this purpose, and the instrument may be made very well by a chemist who is obliged to work for himself; by taking any small bottle whatever, and pouring its contents of water, by successive times, into the tube placed mouth upwards. By this means he will obtain a graduation, which, whether of the cubic inch or not, will answer the purposes of eudiometry.

When air is to be exposed to a liquid sulphuret, which absorbs the oxygen, the eudiometric tube may be immmersed in the liquid. Professor Hope, of Edinburgh, has contrived a very simple, elegant, and accurate apparatus for this purpose, announced in "Nicholson's Journal," iv. 210. It consists of a small bottle, of the contents of about three ounces, intended to contain the eudiometric liquid; into the neck a tube is accurately fitted by grinding, which holds precisely a cubic inch, and is divided into a hundred equal parts, and on one side the bottle, near its bottom, there is a neck into which a stopper is ground in the usual manner. In the use of this apparatus, the bottle is first filled with the liquid employed, which is best prepared by boiling a mixture of quick lime and sulphur with water, filtering the solution, and agitating it for some time in a bottle half filled with common air. The tube, filled with the gas under examination, or with common air, if that be the subject of the experiment, is next put into its place, and, on inverting the instrument, the gas ascends into the bottle, where it is brought extensively into contact with the liquid, by brisk agitation. An absorption of oxygen, if present, ensues, and to supply its place, the stopper in the side of the bottle is opened under water, a quantity of which rushes into the bottle; the stopper is then replaced under water, the agitation renewed, and these operations are alternately performed, till no farther diminution takes place; the tube is then withdrawn, while the neck of the bottle is under water, and after the tube has been kept in this situation for a few minutes, the quantity of the diminution will be seen by the graduated scale upon the tube.

Tubes fitted up for exploding a mixture of hydrogen, or other inflammable gases, with oxygen gas, have been called the eudiometers of Volta; they are usually made very strong, and are provided with two wires, which pass through sockets cemented in holes drilled through the glass, near the top, which is not perforated. The electric spark being passed between these wires, gives fire to the gases, not without some risk of blowing out the confining liquid, or breaking the glass.

Eucmeti, ευεμετοι, from ευ, importing *facility*, and εμεω, *to vomit*, those who vomit with ease.

Euexia, ευεξια, from ευ, *bene*, *well*, and εξις, *habitus*, *habit*, a sound and healthy constitution, in opposition to cachexy, or a bad habit.

Eule, ευλη, *a worm*, properly that is bred in ulcers.

Eupatoria, common acrimony.

Eupepsia, from ευ, *good*, and πεπτω, *to digest*, good digestion.

Euphorbium. An inodorous gum-resin in yellow tears, which have the appearance of being worm-eaten: it is imported from Ethiopia, Lybia, and Mauritania. It contains an active resin, and is very seldom employed but as an errhine.

Euphrasia, eyebright. A genus in Linnæus's botany. He enumerates seven species.

Euphrosyne, i. e. *Euphrasia*.

Eurythmia, ευρυθμια, from ευ, *well*, and ρυθμος, *order* and *harmony*, properly in music. It imports the proper order of the pulse.

Eusarcos, ευσαρκος, is used by Galen, and others since, for such a proportion of flesh as is not too lean or too corpulent, but gives due symmetry and strength to all the parts. As,

Eusplanchnos, ευσπλαγχνος, is applied by Hippocrates to those who are supposed to have sound viscera. Thus the adverb ευ is put to several things to express the goodness of their condition; as

Eutaxia, for an healthful state; *Euthanasia*, for an easy or happy death, &c.

Evacuation, signifies any diminution of the animal fluids, whether it be by cathartics, blood-letting, or any other means.

Evacuatorii, diseases attended with increased discharges.

Evaporation. The volatilization of a fluid by means of heat, with access of air, in order to diminish its fluidity, or to obtain any fixed salts it may hold in solution, or diminish the quantity of a residuum. In this manner the water of the sea is evaporated, and the salt obtained, and decoctions made into extracts.

Evil, the same as *Scrophula*.

Exacerbantes, remitting fevers.

Exacerbatio, i. e. *Paroxysmus*.

Exacinata, stoned. The word *Acinus*, besides other meanings, is also used for the stone of the grape; hence *Uvæ Exacinatæ*, for grapes that have their stones taken out.

Exæresis, from εξ, *out of*, or *away*, and αιρω, *to remove*. It is that part of surgery which consists of removing superfluities; as removing parts by amputation, extracting foreign bodies, &c.

Exanguis, without blood. So Galen and the ancients called the nerves, cartilages, bones, and other parts which appeared white.

Exania, the same as *Procidentia*; also, in particular, the bearing down of the anus.

Exanimation, is used by Scribonius Largus for real death; but is in general applied to swoonings or such sinking of the spirits as is attended with the loss of sense for some time.

Exanthema, εξανθημα, from εξανθημω, *effloresco*, *to flower out*, is such an eruption of the skin as the measles, and is generally attended with a fever, and terminates in a rash. *Exanthema Febrile* is an order in Dr. Cullen's *nosology*, in his class *Pyrexia*.

Exarthrema, εξαρθρημα, from εξ, *out of*, and αρθρον, *a joint*, a luxation.

Exarthros, εξαρθρος, an epithet for a person whose joints are large and prominent.

Exarticulation, the same as luxation.

Exasperatio, exasperation. Besides its signifying the increase of a disorder, it is also a rendering the skin rough.

Excipiens. In prescriptions, that is called the *excipient* which receives the other ingredients, and gives them a proper form, as officinal electaries, conserves, robs, &c.

Excitability, and *Excitement*. The former of these is the *capacity* of the body to admit of increased action; and the latter the *state* of increased action. In Brown's system, excitability is the distinction of life, and the excitement of heat and other stimuli alone necessary (if we understand him) to produce life. When these are present, the body lives; when absent, it dies; and life is thus a flame kept up by constantly blowing.

Exclusorium, a medicine which causes abortion.

Excoriatio, } excoriation, abra-
Excoriatura, } sion of the skin; also pulling the bark from off a tree or plant, &c.

Excrementum, an excrement. It is whatever requires to be discharged out of the body; from *excerno*, *to divide*, *part*, or *separate*.

Excrescentia, from *ex* and *cresco*, an excrescence. It is any thing which grows preternaturally upon any part of the body; as wens, warts, &c.

Excretion, is that separation of an animal substance, as ejects somewhat quite out of the body, as of no further use, which is called *Excrement*.

Exercitatio, (from *exercito, to exercise.*) Exercise. The exercise of the body for the benefit of health is called gymnastic. The military exercises, gardening, husbandry, or other employments in the open air, conduce greatly to health; and moderate exercise in the open air, an hour or two before breakfast, improves the appetite and cheers the spirits: glandular obstructions are best prevented and cured by moderate exercise.

On the other hand, when exercise is too freely used, it occasions loss of appetite, loathing of food, costiveness, rigors, and fainting. In this case a moderate use of wine, warm bathing, quiet sleep, and a moist nourishing diet, afford the best relief.

Exocystis, a prolapsus of the internal membrane of the bladder.

Exomphalos, εξομφαλος, from εξ and ομφαλος, *a navel*, any protuberance of the navel, but particularly the hernia umbilicalis; also a dropsy of the navel.

Exoneirosis, εξονειρωσις, is by Linden explained a species of gonorrhœa, commonly called *Pollutio Nocturna*, when the semen involuntarily flows in sleep; from εξ, *out*, and ονειρος, *a dream*.

Exophthalmia, from εξ, *out*, and οφθαλμος, *the eye*, is an uncommon prominence of the eye out of its socket, of which Bonetus gives a very remarkable case, *Med. Sept.* lib. i. cap. 64.

Exorcism, εξορκισμος, hath been introduced into the practice of physic by enthusiasts, who pretended by some religious ceremonies to expel an evil spirit out of the body, which was supposed the cause of diseases.

Exostosis, εξοστωσις, from εξ, and οστεον, *os, a bone*, is any protuberance of a bone that is not natural, as often happens in venereal cases.

Exotic, is applied to those things which are the natural produce of other countries, and not of our own.

Expansion, spreading out; in a physical sense, is the stretching out, opening, or spreading of any body, but generally signifies such an alteration as is made by *Rarefaction*, which see.

Expectoration, is promoting those discharges which are made by coughing, as bringing up phlegm, or any thing that obstructs the vessels of the lungs, and strengthens the breath.

Expiration, from *expiro, to breathe out*, is that part of respiration which thrusts the air out of the lungs, and contracts the cavity of the breast. See *Respiration*.

Expressed Oils, are such as are procured from any bodies only by pressing, as the *oils* of olives, almonds, and the like. And the doing this is called *Expression*.

Expulsion, the same as excretion; and the power of expelling any thing is by some writers called *Facultas Expultrix*.

Exsiccation, drying. This pharmaceutic operation is effected by exhaling the moisture from the body, to be dried over a gentle fire, or by absorbing it, as when such subjects are laid on chalkstones for this end. As instances vary, coction, insolation, torrefaction, decantation, or filtration, assist the process of drying.

Exspuition, signifies a discharge of saliva by spitting.

Exstasis, or *Ecstasis*, an ecstacy. It is a species of *Catalepsy*, particularly when the patient recollects the ideas which he conceived during the paroxysm. Also, a delirium; an apoplexy of the mind.

Extension, stretching out; the same as expansion.

Extensors. Many muscles are so called, which serve to extend any part; as

Extensor Carpi, which is also called *Bicornis*, is two distinct muscles. The first arises from above the external protuberance of the humerus, and the second from the lowermost part of the external protuberance. They both lie along the external part of the radius; and passing under the annular ligament, one is inserted into the bone of the metacarpus that sustains the fore-finger, and the other to that which sustains the middle-finger. These two extend the wrist.

Extensor Carpi Ulnaris. Some call it *Extensor Carpi interior.* It rises from the outer condyle of the os humeri, and then receives an origin from the edge of the ulna: its tendon passes in a groove behind the styloid process of the ulna: it passes and is inserted into the inside of the basis of the metacarpal bone of the little-finger.

Extensor Digitorum communis, arises from the external protuberance of the humerus; and at the wrist it divides into three flat tendons, which pass under the annular ligament, to be inserted into all the bones of the fore, middle, and ring fingers.

Extensor Digitorum longus. Dr. Hunter calls this *Extensor longus Digitorum Pedis.* It rises from the upper part of the tibia and fibula, and the interosseus ligament; its tendon passes under the annular ligament, and then divides into five, four of which are inserted into the second and third phalanges of the toes, and the fifth goes to the basis of the metatarsal bone. This last Winslow reckons a distinct muscle, and calls it *Peronæus brevis.*

Extensor Digitorum brevis. It is also called *Pedicus.* It rises from the anterior part of the os calcis, runs across the instep, and divides commonly into four tendons, but sometimes only into three, which are inserted into the three toes next to the great one, or into all the four.

Extensor Indicis, comes from the middle and external part of the ulna, and passing under the annular ligament, is inserted into the third bone of the fore-finger, where it joins the extensor communis.

Extensor minimi Digiti, arises from the external protuberance of the humerus, and from the upper part of the ulna, and passing under the annular ligament, is inserted into the third bone of the little-finger.

Extensor Pollicis, arises from near the upper half of the fibula forwards, and passing under the annular ligament, is inserted into the last bone of the great toe. It is called *Extensor Pollicis longus.*

Extensor Pollicis brevis. It is only a slip from the extensors of the toes, and is inserted into the first bone.

Extensor primi internodii Pollicis, arises from the upper and external part of the ulna, and passes obliquely over the tendon of the radius externus, and is inserted near the second joint of the thumb.

Extensor secundi internodii Pollicis, arises from the upper and internal part of the radius, and is inserted into the upper part of the second bone of the thumb.

Extensor tertii internodii Pollicis, arises from the ulna, a little below the first *extensor,* and is inserted into the third bone of the thumb.

Extenuatio, (from *extenuo, to diminish.*) Leanness. This may arise in two ways: one from the increased evacuation of the nutritious particles; the other from cacochymia, or a depravation of the fluids. Prosper Alpinus observes, in his Presages of Life and Death, that if, after being extenuated by a disease, the body continues lean, though the nutriment be duly received, it denotes a relapse. Again, leanness from a spitting of blood, attended with a slow fever, is highly dangerous; and it is equally a bad sign in an ardent fever for the body not to become speedily lean, or to waste rapidly: the first prognosticates a tedious disease; the latter, death.

In general, leanness is not a disease; and, whatever are the evacuations, or the degree of extenuation, if without fever, and the appetite keeps up, there is little danger. Extenuation alone is not a disease, nor a predisponent cause: the same cannot be said of its opposite, obesity. An acrimony in the fluids rather than increased discharges occasions it; but the source of the greatest emaciation is the effusions of dropsy. The body is never so thoroughly extenuated as in dropsy, though greatly so in hectics, from absorbed purulent matter, and cancer. Some recent remarks, by Dr. Pemberton, in his Practical Treatise on various Diseases of the Abdominal Viscera, are so truly ingenious and comprehensive, that we shall select them in his own words. We cannot compress or give them in language more scientific and elegant.

"A proneness in the body to waste or not, as the same disease shall happen to be situated in this or that part, is in itself a circumstance very remarkable; and as an attention to this proneness may help to lead us through the obscurities which too often attend internal complaints, it is a subject well worthy of further consideration.

"To assist us in this inquiry it may be right to specify a few examples, where the difference of the effect of disease on the bulk is most striking. Let us take the two cases, of a diseased state of the mesenteric glands, and a diseased or scrophulous affection of the breast. In the former we shall find there is a great emaciation; in the latter, none at all.—In an ulceration of the small intestines, great emaciation takes place; in schirrus of the rectum, none.—In a disease of the gall bladder, which is subservient to the liver, the bulk of the body is rapidly diminished; but in a disease of the urinary bladder, which is subservient to the kidneys, scarcely any diminution of bulk is to be perceived.—In an abscess of the liver the body becomes much emaciated; but in an abscess of the kidneys the bulk is not diminished.

"If we examine into the functions of those parts, the diseases of which do or do not occasion emaciation, we may perhaps be led to the true cause of this difference of their effect on the bulk. In order, however, to understand more clearly how the functions of these parts bear relation to each other, it may be necessary to premise, that the glands of the body are divided into those which secrete a fluid from the blood for the use of the system, and those which secrete a fluid to be discharged from it. The former may be termed glands of supply; the latter, glands of waste.

"The small intestines, in consideration of the great number of absorbents with which they are provided for the repair of the system, may be considered as performing the office of glands of supply.

"The large intestines, on the contrary, may be considered as performing the office of glands of waste; inasmuch as they are furnished very scantily with absorbents, and abundantly with a set of glands which secrete or withdraw from the system a fluid, which serves to lubricate the canal for the passages of the fæces, and which itself, together with these fæces, is destined to be discharged from the system.

"I have often imagined that this mode of considering the subject might, in many cases, assist us in approaching to the seat of a chronic disorder, by deciding where the disorder is *not* situated, and consequently by contracting within narrower limits the difficulties of our researches.

"Thus the symptom exhibited by the patient, either in retaining his bulk, or in being emaciated, might serve as a diagnostic, according to my conception, for the purpose of deciding whether the disorder is seated in the glands of supply, or in the glands of waste.

"The glands which secrete a fluid to be employed in the system, as well as the glands of direct supply, may be considered the liver, the pancreas, the mesenteric glands, perhaps the stomach, and the small intestines: and the glands of waste are the kidneys, breasts, exhalent arteries, and the large intestines.

"In an abscess of the liver, and an abscess of the kidneys, both of which glands frequently run into suppuration, without exhibiting any pain in the part affected, it seems impossible to decide in what part of the system the derangement manifested in both these cases by the hectic fever is situated.

"According to the foregoing idea, if emaciation takes place, we might then determine that the disorder must be situated in a gland of supply; and thus we should be led to decide, that the disorder was certainly not in the kidneys; consequently we should be secured from the danger of misapplying our remedies upon a part which was not affected.

"The same hectic attends a chronic disease of the mesenteric glands, and of the small intestines: and here likewise, if emaciation does not take place, we should decide that the disorder was not situated in these parts, or in the liver.

"Now it is surely of considerable importance to determine where the disorder is not found, that our inquiries may be solely directed to those parts in which it is to be found.

"If this position respecting the bulk of the body, under disease, should be admitted as true, will it not afford a probability that the spleen, whose diseases produce great emaciation, is a gland of supply?

"What has been here advanced must be considered as applying to local diseases unattended by pain, as pain will itself sometimes waste the body, though sometimes it will not. Here too the wasting from pain seems to vary according to the part from which it proceeds. A stone in the bladder of urine, or in the kidneys, nearly stopping the discharge of urine, and occasioning the greatest pain, will not in the least affect the bulk; but a biliary stone, under similar circumstances, will occasion great and rapid emaciation."

Externus, vel superior Musculus Mallei, i. e. *Tensor Membranæ Tympani.*

Externus Tympani Auris, i. e. *Laxator Externus.*

Extraction, in the largest sense, signifies any solution made by menstruums, unless there be allowed this difference between them, that in solution the menstruums absorb the whole substance of the body, but in this they carry off only certain particles of it. Camphor is dissolved in spirit of wine, but jalap is more properly said to be extracted; for the resin only is taken out by the menstruum, the other particles being left untouched. But *extraction* most commonly signifies such an inspissation, or thickening of a solution, as, when there is drawn off a certain quantity of the menstruum, reduces the remaining mixture to the consistence of honey; as in the extracts of saffron, gentian, and the like. Extracts are chiefly made out of vegetables, and require different menstruums according to the different nature of the plants, especially in gums; for such as are mucilaginous, as gum arabic, and tragacanth, &c. are not easily to be dissolved but in aqueous liquors; whereas, on the other hand, resinous gums, as galbanum, scammony, &c. must have ardent spirits to dissolve them. There are others again of a middle nature, which may be dissolved in either sort of menstruums, though not so easily in one as in the other. Thus aloës and rhubarb, which are sometimes resinous, are better made into extracts with spirit of wine than water. But plants which abound less with resin, such as hellebore, &c. are more commodiously extracted with water. To perform, therefore, *extraction* aright, a proper menstruum is necessary, and one which is as near akin as possible to the body to be extracted. Thus *extraction* is usually performed; but its use does not seem to be of so great service in physic as is generally imagined; for much of the more subtile parts fly away, either when the menstruum is drawn off by distillation, or when it evaporates in the open air. So that if those particles are any ways useful in medicine, it is to no purpose to seek for them in extracts. It is also of service to clear some gums and resins from dross; for, as the taking up the genuine substance by a proper menstruum leaves all that is not so behind; so, by evaporating the menstruum again, the resin, or whatsoever of that nature it is, will be recovered in its utmost purity.

Extraction. In *Surgery*, it is the drawing from or out of the body, any thing that is offensive.

Extractum, an extract. In *Pharmacy*, it is a solution of the purer parts of a mixed body inspissated by evaporation nearly to the consistence of stiff honey. See *Extraction.*

Extraneous, any thing foreign. It is also used to express the same as external, and frequently signifies the same as excrescence, something that is not natural to the substance it grows out of, or properly belongs to a part to which it adheres.

Extravasated, is any thing that is got out of its proper vessel; from *extra*, *out of*, and *vas*, *a vessel.*

Extravasation, is applied to any of the fluids in the body, which are out of their proper vessels; thus an ecchymosis, sugillation, or aneurism, may be called *extravasations.*

Exulceration, the same as ulcer; but generally used to express those beginning erosions which wear away the substance, and form an ulcer; or when an excoriation begins to suppurate.

Exumbilicatio, a protuberance of the navel.

Exuviæ, the sloughs or skins of serpents that are cast in spring.

Eye. Oculus. The eye, or organ of vision, is situated in a socket called the orbit, at the side of the root of the nose, that is composed of seven bones, viz. the frontal, superior maxillary, jugal, lachrymal, palatine, ethmoid, and sphænoid, which almost surround and defend it. Anatomists have divided the soft parts which form the eye into external and internal. The external parts are the *supercilia* or eye-brows, *palpebræ* or eye-lids, *cilia* or eye-lashes, lachrymal gland, lachrymal caruncle, nasal duct, muscles of the bulb of the eye, and the fat of the orbit. The internal parts are those which form the bulb, or eye, properly so called: they consist of five membranes, viz. the sclerotic, choroid, retina, hyaloid, and capsule of the crystalline lens; two chambers, one anterior, the other posterior; and three humours, the aqueous, crystalline lens, and vitreous humour. The arteries of this viscus are the internal orbital, the central, and optic artery. The veins empty themselves into the external jugulars. The nerves are the optic, and branches from the third, fourth, fifth, and sixth pair.

All the rays which come from one point of an object are, by the cornea and humours of the *eye*, united in a point of the retina, which is in a straight line drawn from the same point of the object, through the centre of the *eyes*; and consequently all the rays which come from all the points of an object are united on the retina, in the same order and proportion as the points of the objects are from whence those rays come. Therefore the interposition which these rays make upon the retina, must be the image of the object. And thus vision in general is performed; but to know what the several parts of the globe contribute hereunto, it is needful to observe, that the cornea is more convex than any other part of it; by which means all the rays are gathered to pass through the pupilla, and none of them are lost upon the uvea. The aqueous humour being thinnest, and most liquid, easily changes its figure, when either the ligamentum ciliare contracts, or both the oblique muscles squeeze the middle of the bulb of the *eye*, to render it oblong, when objects are too near us. The straight fibres of the uvea dilate the pupilla, when there are but few rays of light; and the circular fibres contract it, when there are too many. When the pupilla is contracted, we see most distinctly; when it is dilated, we see most clearly. The glassy humour keeps the crystalline at such a distance from the retina, as is necessary for uniting the rays which come from one point of the object, exactly in one point of the retina. The impression of the object is made upon the retina. The choroides is tinctured black, that the rays of light which pass through the retina may not be reflected back again, to confuse the image of the object. Being distinct, vision consists in the union of all the rays which come from one point of an object, exactly in the point of the retina; and the rays which come from objects at different distances are united at different distances, behind the crystalline humour. They cannot both be exactly united upon the retina, therefore the *eye* cannot see equally distinctly, at the same time, objects at different distances. It is for this reason that the globe of the *eye* moves so quickly, and almost continually, and that the muscles of the *eyes* have such a great quantity of nerves to perform their motions. When the globe of the *eye* is so flat, as happens sometimes in old age, that the rays pass the retina before they unite, in such a case there is no distinct vision; and such as have this defect are called *Presbytæ;* and if, on the contrary, the globe of the *eye* be so convex as to unite the rays before they come to the retina, neither is there then any distinct vision; and such as have this defect are called *Myopes*.

Eyebright. See *Euphrasia*.

F

F, f, or ft. In a prescription they are abbreviations of *fiat* or *fiant*, let it or them be made; thus, *f. bolus*, let the substance or substances prescribed be made into a bolus.

Faba febrifuga. See *Nux vomica*.

Faba Græca latifolia, i. e. *Guajacana*.

Faba Indica. See *Nux vomica*.

Faba Purgatrix, the Barbadoes nut.

Fabago, a species of *Zygophyllum*.

Fabasuilla, common black henbane.

Fabrorum Aqua, water in which hot iron is quenched.

Face. The bones of the face are divided into those of the upper and under jaw. The upper jaw consists of thirteen bones, viz. two superior maxillary, two jugal, two nasal, two lachrymal, two inferior spongy, two palatine, and the vomer. The under jaw is formed of one bone, the inferior maxillary bone.—The muscles of the face are those of the eye-lids, eye-ball, nose, mouth, and lips.

Facies Hippocratica, is when the nostrils are sharp, the eyes hollow, the temples low, the tips of the ears contracted, the forehead dry and wrinkled, and the complexion pale or livid.

Facies rubra, i. e. *Gutta rosacea*.

Factitious, signifies any thing made by art, in opposition to what is the produce of nature.

Faculty, is a power or ability to perform any action. Institution-writers mention three, viz. natural, vital, and animal. By the first they understand that by which the body is nourished and augmented, or another like it generated; which some farther divide into three, nutrition, growth, and generation; and the first of these has also by some been divided into attractive, retentive, concoctive, and expulsive: but these are terms that puzzle rather than instruct, as they convey no distinct signification. The vital *faculty* is that by which life is preserved, and the ordinary functions of the body performed. And the animal *faculty* is what conducts the operations of the mind; as the imagination, memory, &c.

Fæces, are excrements; but often made use of to express the ingredients and settlings after distillation and infusion.

Fæculæ, are the dregs which subside in vegetable juices, as in that of the roots of briony; but these are not used so much in medicine as formerly.

Fæx. It is properly the sediment of lees, or grounds of any fermented liquor; but in *Medicine* it is generally understood of wine. It is the same as fæces. The alvine excretions are thus called.

Fagopyrum, buckwheat, or brank, a species of *Polygonum*.

Fagus, the beach-tree. A genus in Linnæus's botany. He includes in his genus the *Castanea*, or chesnut, and enumerates three species.

Fainting, from kneeling. In kneeling, the ossa pubis are lower than when we stand; and this not only increases the hollow of the loins, and throws the abdomen and its viscera more outward, or forward, but also, in some measure, strains the abdominal muscles, which is so uneasy to some persons as to cause them to faint away. The depression of the os pubis in kneeling depends partly on the tension of the two musculi recti anteriores, the lower tendons of which are, in this situation, drawn with violence under the condyloid pulley of the os femoris. Winslow's *Anatomy*.

Falciform Process. The falx. A process of the dura mater, that arises from the crista galli, separates the hemispheres of the brain, and terminates in the tentorium; from *falx*, a scythe, and *forma*, resemblance.

Falling Sickness, i. e. *Epilepsia*.

Falling-Star, in meteorology, a phenomenon that is frequently seen, and which has been usually supposed to depend on the electric fluid. Mr. Davy, in a lecture delivered at the Royal Institution, gave many reasons against this opinion: he conceives that they are rather to be attributed to falling stones. It is observable that when their appearance is frequent they have all the same direction; and it has been remarked that they are the forerunners of a westerly wind.

Fallopian Tube. See *Generation, Parts of, belonging to Women*.

Fallopii Ligamentum; also called *Ligamentum Poupartii*. It is only the lower border of the tendon of the external oblique muscle of the belly, stretched from the fore part of the os ilium to the os pubis.

Fames. See *Hunger*.

Fames canina, dog-appetite, is such an insatiable hunger, as is not to be satisfied with eating, but continues even when the stomach is full. This is a case much talked of by the ancients, but rarely met with amongst us. It seems to arise from fretting sharp juices in the stomach, which, by their continual vellications, excite a sense like that of hunger, and is to be conquered by medicines, and not ordinary food, such things as the testacea, all alkalies, and chalybeates.

Farina, meal or flour.

Farina fæcundans, impregnating dust. It is placed on the apices of flowers, and falls from thence upon the head of the pistil, or female part of the flower, and is thence conveyed to the matrix, in order to impregnate the seed.

Farinacea, a kind of *Nutrientia*.

Fascia. A bandage, fillet, or roller; hence the aponeurotic expansions of muscles, which bind parts together, are termed *fasciæ*.

Fascia sex, &c. Capitum, a six, &c. headed roller.

Fascia spiralis repens, a spiral roller.

Fascia uniens, a roller applied to promote the union of divided parts.

Fascia Lata. A thick and strong tendinous expansion sent off from the back, and from the tendons of the glutei and adjacent muscles, to surround the muscles of the thigh. It is the thickest on the outside of the thigh and leg, but towards the inside of both becomes gradually thinner. A little below the trochanter major, it is firmly fixed to the linea aspera; and farther down, to that part of the head of the tibia that is next the fibula, where it sends off the tendinous expansion along the outside of the leg. It serves to strengthen the action of the muscles by keeping them firm in their proper places when in action, particularly the tendons that pass over the joints where this membrane is thickest.

Fascial Nerves. The eighth pair of nerves are so called. They arise from the fourth ventricle of the brain, pass through the petrous portion of the temporal bone to the temples, where they divide into several branches.

Fascia Lumborum. It is a strong tendon fixed to the lateral part of the os sacrum, from the spines of the sacrum, from the spine of the ilium and the spines of the lumbar vertebræ.

Fat. Adeps. A concrete oily matter contained in the cellular membrane of animals, of a white or yellowish colour, with little or no smell or taste. It differs in all animals in solidity, colour, taste, &c. and likewise in the same animal at different ages. In infancy it is white, insipid, and not very solid; in the adult it is firm and yellowish; and in animals of an advanced age its colour is deeper, its consistence various, and its taste in general stronger. Fat meat is nourishing to those that have strong digestive powers. It is used externally as a softening remedy, and enters into the composition of ointment and plasters.

Fatuitas. Foolishness. A synonim of *Amentia.*

Fauces. A cavity behind the tongue, palatine arch, uvula, and tonsils; from which the pharynx and larynx proceed.

Febrifuge. A medicine that possesses the property of abating the violence of any fever; from *febris*, a fever, and *fugo*, to drive away.

Febris. An order in the class *pyrexiæ* of Cullen, characterized by the presence of pyrexia, without primary or local affection.

Febris Intermittens. An intermittent fever or ague. A genus of disease in the class *pyrexiæ* and order *febres.* It is known by cold, hot, and sweating stages in succession, attending each paroxysm, and followed by an intermission or remission. There are three species of this disease, viz. 1. *Intermittens quotidiana*, a quotidian ague. The paroxysms return in the morning at an interval of about twenty-four hours. 2. *Intermittens tertiana*, a tertian ague. The paroxysms commonly come on at mid-day, at an interval of about forty-eight hours. 3. *Intermittens quartana*, a quartan ague. The paroxysms come on in the afternoon, with an interval of about seventy-two hours. M. M. An emetic or cathartic if the stomach be foul or the bowels slow; cinchona ʒi. every second hour during the remission; opium; sulphate of copper; arsenic.

Febris Continua. A continued fever. A genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen. It has no intermission, but exacerbations come on twice in one day. The species of continued fever are: 1. *Synocha.* Inflammatory fever, known by increased heat; pulse frequent, strong and hard; urine high coloured; senses not much impaired. 2. *Typhus*, which is contagious, and is characterized by moderate heat; quick, weak and small pulse; senses much impaired, and great prostration of strength. Typhus has four varieties, viz. 1. *Typhus petechialis*, typhus with petechiæ: 2. *Typhus mitior*, the nervous fever: 3. *Typhus gravior*, the putrid fever: 4. *Typhus icterodes*, the yellow fever. M. M.—1st. Venesection; cooling cathartics; an emetic; refrigerants; diaphoretics; blisters; camphor; acids; antiphlogistic regimen. 2. An emetic; mild purgatives; wine; spirit of vitriolic æther; refrigerants; opium; cold air; cold affusion; acids; blisters; bark; snakeroot. 3d. same as the 2d. 4th. Active purgatives; refrigerants; blisters; cold affusion: about venesection, salivation and tonics, practitioners are divided in opinion.

Febris Hectica. A genus of disease in the class *pyrexiæ* and order *febres* of Cullen. It is known by exacerbations at noon, but chiefly in the evening, with slight remissions in the morning, after nocturnal sweats; the urine depositing a furfuraceo-lateritious sediment; appetite good; thirst moderate. Hectic fever is symptomatic of chlorosis, scrophula, phthisis, diseased viscera, &c.

Fecula. A dry, pulverent, insipid, white, grey, or variously coloured substance, insoluble in water, and of an earthy appearance, obtained by certain processes from vegetables; such as starch, sago, salep, &c.

Felon. So the paronychia is called when its seat is in the periosteum at the beginning.

Femur. Os femoris. The thigh bone. A long cylindrical bone, situated between the pelvis and tibia. Its upper and rounded eminence is called the head, below which are two rough eminences, the great and small trochanter. The two eminences on the inferior extremity are termed condyles.

Fermentation. A spontaneous commotion in a vegetable substance, by which its properties are totally changed. There are several circumstances required in order that fermentation may proceed; such are, 1. A certain degree of fluidity; thus dry substances do not ferment at all: 2. A certain degree of heat: 3. The contact of air. Chemists, after Boerhaave, have distinguished three kinds of fermentation: the *spirituous*, which affords ardent spirit; the *acetous*, which affords vinegar, or acid; and the *putrid* fermentation, or putrefaction, which produces volatile alkali. The conditions necessary for spirituous fermentation are, 1. A saccharine mucilage: 2. A degree of fluidity slightly viscid: 3. A degree of heat between 55 and 65 of Fahrenheit: 4. A large mass, in which a rapid commotion may be excited. When these four conditions are united, the spirituous fermentation takes place, and is known by the following characteristic phenomena: 1. An intestine motion takes place: 2. The bulk of the mixture then becomes augmented: 3. The transparency of the fluid is diminished by opake filaments: 4. Heat is generated: 5. The solid parts mixed with the liquor rise and float in consequence of the disengagement of elastic fluid: 6. A large quantity of cretaceous acid gas is disengaged in bubbles. All these phenomena gradually cease in proportion as the liquor loses its sweet and mild taste, and becomes brisk, penetrating, and capable of producing intoxication. In this manner, wine, beer, cider, &c. are made.

Fermentum, ferment, barm, or yeast, leaven; to which may be added, from late experiments, the carbonic acid, or fixed air; substances which enter into fermentation more readily than others. Pliny, in his Natural History, Lib. xviii. c. 7. speaks of the barm from malt liquor.

Fern. See *Filix.*

Ferrum. Iron. See *Iron.*

Fersæ, the measles.

Fibre. A very fine simple filament, composed of earthy particles, connected together by an intermediate gluten. It is owing to the different arrangements of the fibres that the cellular structure, membranes, muscles, vessels, nerves, and in short, every part of the body, except the fluids, are formed.

Fibrin. If a quantity of blood, newly drawn from an animal, be allowed to remain at rest for some time, a thick red clot gradually forms in it, and subsides. Separate this clot from the rest of the blood, put it into a linen cloth, and wash it repeatedly in water till it ceases to give out any colour or taste to the liquid; the substance which remains after this process is denominated *fibrin.* It has been long known to physicians under the name of the fibrous part of the blood; but has not till lately been accurately described. It may be procured also from the muscles of animals.

Fibula. A long bone of the leg, situated on the outer side of the tibia, and which forms, at its lower end, the outer ancle.

Ficus. A fleshy excrescence about the anus, in figure resembling a fig. See *Condyloma.*

Filices, ferns, one of the seven tribes or families of the vegetable kingdom, according to Linnæus, by whom they are thus characterized, in having their fructification on the back side of the leaves. They constitute the first order in the class *Cryptogamia*, and consist of eighteen genera. This order comprehends the entire sixteenth class of Tournefort, in whose system the *Filices* make only a single genus in the section of the above-mentioned class.

Filix. Male polypody or fern. *Polypodium filix mas* of Linnæus. The root of this plant has lately been greatly celebrated for its effects upon the *tænia osculis superficialibus*, or broad tape-worm. Madam Noufer acquired great celebrity by employing it as a specific. In this country it is of little or no advantage.—ʒi. ℥ ss.

Filtration, is the method of rendering fluids clear by passing them through a porous solid, as the filtering stone, compact close linen, woolen cloths, or porous paper, which is generally used for this purpose, as a lining to a funnel, or other such vessel. Filtration is also performed on a principle somewhat different, as by immersing one end of a porous substance, as a piece of list, skein of cotton, or slip of thick paper, or other such substance, moistened in its whole length in the fluid, and allowing the other end of it to hang down over the outside of the vessel. The fluid in this depending part drains out by its own gravity, and is supplied by capillary attraction from the portion next within the vessel, which is supplied in the same manner from the surface of the fluid, till the whole passes over, unless too deep, these appearing to act as a syphon.

Filtrum. See *Filtration.* It is also a stone which is found in the bay of Mexico, which is used for filtering liquors through.

Fimbriæ. The extremities of the Fallopian tubes.

Fire. The word heat has been used with so much precision by Doctors Black, Irvine, Crawford, and others, that the word fire seems to have been rendered of little use, except to denote a mass of matter in a state of combustion, which is, indeed, its vulgar acceptation. The term has, however, been used by many eminent writers, to denote what these great philosophers call the matter of heat, now generally termed *Caloric*, which see.

Fire-Damp. An inflammable gas, thus named by the English miners, is found in mines and other deep pits. It is lighter than air; it floats near the roofs of mines, and is apt to catch fire and explode.

Fire (Potential,) the same as caustic.

Fissure. That species of fracture in which the bone is slit, but not divided.

Fistula. A term in surgery, applied to a long and sinous ulcer that has a narrow opening, and sometimes leads to a larger cavity.—M. M. A seton or laying open the whole course of the fistula with a director and scalpel.

Flammula Jovis. Upright virgin's bower. *Clematis recta* of Linnæus. More praises have been bestowed upon the virtue which the leaves of this plant are said to possess, when exhibited internally as an anti-venereal, by foreign physicians, than its trial in this country can justify. The powdered leaves are sometimes applied externally to ulcers as an escharotic.

Flannel, a kind of woollen stuff, composed of a woof and warp, and woven after the manner of baise. Various theories have been adopted to prove the utility of flannel as an article of dress: it is unquestionably a bad conductor of heat, and on that account very useful in cold weather; this is accounted for from the structure of the stuff; the fibres touch each other very slightly, so that the heat moves slowly through the interstices, which being already filled with air, give little assistance in carrying off the heat. On this subject Count Rumford has made many experiments, from which it should seem, that though linen, from the apparent ease with which it receives dampness from the atmosphere, appears to have a much greater attraction for water than any other, yet that those bodies which receive water in its unelastic form with the greatest ease, or are most easily wet, are not those which in all cases attract the moisture of the atmosphere with the greatest avidity. "Perhaps," says he, "the apparent dampness of linen to the touch arises more from the ease with which that substance parts with the water it contains, than from the quantity of water it actually holds; in the same manner as a body appears hot to the touch in consequence of its parting freely with its heat, while another body, which is really at the same temperature, but which withholds its heat with great obstinacy, affects the sense of feeling much less violently. It is well known that woollen cloths, such as flannels, &c. worn next the skin, greatly promote insensible perspiration. May not this arise principally from the strong attraction which subsists between wool and the watery vapour which is continually issuing from the human body? That it does not depend entirely on the warmth of that covering is clear; for the same degree of warmth produced by wearing more clothing of a different kind does not produce the same effect. The perspiration of the human body being absorbed by a covering of flannel, it is immediately distributed through the whole thickness of that substance, and by that means exposed by a very large surface to be carried off by the atmosphere; and the loss of this watery vapour which the flannel sustains on the one side, by evaporation, being immediately restored from the other, in consequence of the strong attraction between the flannel and this vapour, the pores of the skin are disencumbered, and they are continually surrounded by a dry and salubrious atmosphere." He expresses his surprise, that the custom of wearing flannel next the skin should not have prevailed more universally. He is confident it would prevent a number of diseases; and he thinks there is no greater luxury than the comfortable sensation which arises from wearing it, especially after one is a little accustomed to it. "It is a mistaken notion," says he, "that it is too warm a clothing for summer. I have worn it in the hottest climates, and at all seasons of the year; and never found the least inconvenience from it. It is the warm bath of perspiration confined by a linen shirt, wet with sweat, which renders the summer heats of southern climates so insupportable; but flannel promotes perspiration, and favours its evaporation; and evaporation, as is well known, produces positive cold."

Flatus, is wind gathered in the bowels, or any cavities of the body, caused by indigestion.

Flexor, a name applied to several muscles, from their office, which is to bend the parts to which they belong.

Flexor Accessorius Digitorum Pedis, seu Massa Carnea Jacobi Sylvii. A muscle situated on the leg, that assists the *flexor.*

Flexor Brevis Digitorum Pedis. A flexor muscle of the toes, situated on the leg.

Flexor Brevis Minimi Digiti Pedis. A muscle, situated on the foot, that bends the little toe.

Flexor Brevis Pollicis Manus. A muscle, situated on the hand, that bends the first joint of the thumb.

Flexor Brevis Pollicis Pedis. A muscle, situated on the foot, that bends the first joint of the great toe.

Flexor Carpi Radialis. A muscle, situated on the cubit or fore arm, that bends the hand and assists in its pronation.

Flexor Carpi Ulnaris. A muscle, situated on the cubit or fore arm, that assists the former.

Flexor Longus Digitorum Pedis, Profundus, Perforans. A flexor muscle of the toes, situated on the leg, that bends their last joints.

Flexor Longus Pollicis Manus. A muscle, situated on the hand, that bends the last joint of the thumb.

Flexor Longus Pollicis Pedis. A muscle, situated on the foot, that bends the last joint of the great toe.

Flexor Ossis Metacarpi Pollicis, seu Opponens Pollicis. A muscle, situated on the hand, that brings the thumb inwards, opposite to the other fingers.

Flexor Parvus Minimi Digiti. A muscle, situated on the hand, that bends the little finger, and assists the adductor.

Flexor Profundus Perforans. A muscle, situated on the fore arm, that bends the last joint of the fingers.

Flexor Sublimis Perforatus. A muscle, situated on the fore arm, that bends the second joint of the fingers.

Flints (Liquor of.) When two or three parts of alkaline salt are added to one of vitrifiable earth, and the degree of heat is carried no further than to melt the mixture, without giving time for the alkali to evaporate, the product obtained is a vitriform mass, in which the earth is held in solution: but as the mixture retains a great superabundance of alkali, it preserves almost all the properties of alkaline salt; it powerfully attracts moisture from the air, and deliquesces. In this state it is called *Liquor of Flints.*

Flowers of Zinc. They are to be considered as the calx of this semimetal. The calx is very refractory, and in the highest degree fixed.

Fluats (Fluas, tis, s. m.) Salts formed by the fluoric acid, combined with different bases; thus, *fluat of alumine, fluat of ammoniac,* &c.

Fluctuation, a term in *Surgery.* When matter is formed in an abscess, and lightly pressed with the fingers, the motion of *fluctuation* may be distinctly felt.

Fluid. A fluid is that substance, the constituent principles of which so little attract each other, that when poured out, it drops *guttatim*, and adapts itself, in every respect, to the form of the vessel containing it.

Fluor Spar. Vitreous spar.

Sparry fluor. A species of salt which abounds in nature, formed by the combination of the sparry acid with lime. It is called spar, because it has the sparry form and fracture: fluor, because it melts very readily; and vitreous, because it has the appearance of glass, and may be fused into glass of no contemptible appearance.

Fluor Albus, is a distemper common to the female sex, called by them the *Whites*. See *Leucorrhœa*.

Flux. See *Dysentery*.

Focus. From its signifying a *hearth* or *fire-place*, some have made use of it to express the seat of a fever, or some other distempers. In *Optics* it is the point of convergence or concourse, where the rays meet and cross the axis after their refraction or reflection.

Fœniculum Dulce. Common fennel. *Anethum Fœniculum* of Linnæus. The seeds and roots of this indigenous plant are directed by the colleges of London and Edinburgh. The seeds have an aromatic smell, and a warm sweetish taste, and contain a large proportion of essential oil. They are stomachic and carminative. The root has a sweet taste, but very little aromatic warmth, and is said to be pectoral and diuretic. ℈i. to ℈ij.

Fœnum Græcum. Fenugreek. *Trigonella fœnum græcum* of Linnæus; a native of Montpelier. The seeds are brought to us from the southern parts of France and Germany; they have a strong disageeable smell, and an unctious farinaceous taste, accompanied with a slight bitterness. They are esteemed as assisting the formation of pus, in inflammatory tumours; and the meal, with that intention, is made into a poultice with milk.

Fœtus. The child, inclosed in the uterus of its mother, is called a fœtus from the fifth month after pregnancy until the time of its birth. The internal parts peculiar to the fœtus are the thymus gland, canalis venosus, canalis arteriosus, foramen ovale, valve of Eustachius, and the membrana pupillaris. Besides these peculiarities, there are other circumstances in which the fœtus differs from the adult. The lungs are black and collapsed, and sink in water; the liver is very large; all the glands, especially the thymus and suprarenal, and the vermiform process of the cæcum, are also considerably larger in proportion. The teeth of the fœtus are hid within their sockets; the great intestines contain a substance called meconium; the membrana tympani is covered with a kind of mucous membrane, and the bones in many places are cartilaginous.

Follicle. A small membraneous receptacle.

Folliculose Gland. A gland which consists of a hollow vascular membrane, and has an excretory duct; as the muciparous and sebaceous glands.

Folliculus Fellis, the gall-bladder.

Follis, i. e. *Folliculus*, the name of a large leather bag filled with wind, and used as an exercise by the ancient Romans.

Fomentation, is a sort of partial bathing, by applying hot flannels to any part, dipped in medicated decoctions, whereby steams are communicated to the diseased parts, their vessels are relaxed, and their morbid action is thereby removed.

Fomes, fuel, from *fovendo*. When spoken of diseases, it is the internal or antecedent cause which foments and continues the disease.

Fomites. Dr. Cullen observes that clothes, &c. receive contagious matter from human bodies, and retain it in an active state for a long time. The substances thus imbibed, he says, are called by this name. Many think that contagion received from them is more powerful than that arising from human bodies.

Fontanella. The fontasul. It is the membranous part which is found in new-born infants at the coronal and sagittal commissures, and which, in length of time, hardens into a bone.

Fontanella, or *Fonticulus*, signifies strictly a little spring, and is used to express issues, setons, or any such like artificial discharges.

Foramen, a hole.

Foramen Cæcum. A single opening in the basis of the cranium, between the ethmoid and the frontal bone, that gives exit to a small vein.

Foramina Lacera. A pair of foramina in the basis of the cranium, through which the internal jugular veins, and the eighth pair of accessory nerves pass.

Foramen Ovale. The opening between the two auricles of the heart of the fœtus. See also *Os innominatum.*

Forceps, properly signifies a pair of tongs; but is used for an instrument in chirurgery, to extract any thing out of wounds, and the like occasions.

Fore-Skin. See *Præputium.*

Forfex, an instrument to draw teeth with.

Formiats (Formias, tis. s. m.) Salts produced by the union of the formic acid with different bases: thus, *formiat of alumine*, *formiat of ammoniac*, &c.

Formic Acid. The acid of ants was known to Tragus, Bauhme, Fisher, Etmuller, Hoffman, and many others. It is obtained chiefly from the red ant, *Formica rufa* of Linnæus, by distilling them in a retort, and by washing them in boiling water. When rectified and rather concentrated, it has a penetrating smell, and is corrosive; and its taste is so agreeable when greatly diluted with water, that it has been proposed to be used instead of vinegar.

Formula, a little form of prescription, such as physicians direct in extemporaneous practice, in distinction from the great forms, which are for the officinal medicines.

Fornix. The medullary body, composed of three crura, situated at the bottom of the ventricles, under the septum lucidum.

Fortification Agate. See *Onyx.*

Fortis (Aqua,) a name of the nitrous acid, given because of its dissolving power. In the manufacture of soap, the caustic alkaline lixivium is called also the *strong water.*

Fossa, a ditch. In *Anatomy* it is the same as *Fossa Navicularis.*

Fossil. This signifies any thing that is dug out of the earth; from *fodio, to dig.* For the several divisions of which, see the writings of natural historians.

Fracture. A fracture is a solution of a bone into two or more fragments. A *simple* fracture is when the bone only is divided. A *compound* fracture is a division of the bone, with a laceration of the integuments, the bone mostly protruding.—A fracture is also termed transverse, oblique, &c. according to its direction. Treatment. Replace the pieces of bone in their natural situation. Retain them with splints and bandages. Bathe the limb with vinegar or spirits, and keep it still.—Bleed and use the antiphlogistic regimen if necessary.

Frænulum of the Tongue. The cutaneous fold, under the apex of the tongue, that connects the tongue to the infralingual cavity. It is sometimes, in infancy, so short as to prevent the child from sucking, when it is necessary to cut it, in order to give more room for the motion of the tongue.

Frænum of the Penis. The membranous fold which connects the præpuce to the inferior part of the glans penis.

Frambœsia. The yaws; from *framboise*, Fr. a raspberry. A genus of disease arranged by Cullen in the class *cachexiæ* and order *impetigines* It is somewhat similar in its nature to the lues venerea, and is endemial to the Antilla islands. It appears with excrescences, like mulberries, growing out of the skin in various parts of the body, which discharge an ichrous fluid. M. M. Generous diet and diaphoretics 21 days; then salivation for ten; afterwards guaiacum.

Fraximus, the ash-tree. A genus in Linnæus's botany. He enumerates three species.

Friction, is often used by physicians for rubbing any part in order to dislodge any obstructed humours, or promote a due motion of the included juices. This is of great service in medicine, and may contribute to the cure of several distempers, and especially such as proceed from a stoppage of insensible perspiration, or an obstruction of the cuticular pores.

Frons, the forehead. It is that part which is above the eye, destitute of hair, and that reaches from one temple to the other.

Frontal Bone. The cockleshell-like bone which forms the forehead, and contains the two anterior lobes of the brain. Its principal processes are the two superciliary arches, and two external and internal orbital apophyses. Its cavities are two orbital cavities, a niche for the trochlea of the superior oblique muscle, two large p tuitary sinuses, one on each side above the root of the nose, called the frontal sinuses; the ethmoid niche, and superciliary foramen. In the fœtus it is composed of two bones. The union of the frontal bone with the parietal bones, forms the coronal suture.

Fructification, among botanists, includes the flower and fruit, with their several coverings and attachments.

Fructists, fructistæ, that set of authors who have attempted the establishing the classes and distinctions of plants upon the fruit, seed, or receptacle of these in plants. Of this list is Cæsalpinus, Morrison, Ray, Herman Boerhaave.

Fructus, fruit. Properly it is the part of a plant wherein the seed is contained; but in general it is any seed or grain covered or uncovered, but with the coverings when there are any.

Fucus, hath been used for a colour or paint to beautify the face with, and belongs to the class of *Cosmetics*.

Fumaria Bulbosa, great bulbous fumitory, and hollow-root. Common fumitor. The leaves of this indigenous plant, *Fumaria officinalis* of Linnæus, are directed for medicinal use by the Edinburgh college: they are extremely succulent, and have no remarkable smell, but a bitter, somewhat saline taste. The infusion of the dried leaves, or the expressed juice of the fresh plant, is esteemed for its property of clearing the skin of many disorders of the leprous kind.

Fumigation, is making one body receive the steam of another, and is done various ways, and to different purposes. The chemists use it for a species of calcination, when that process is performed upon any substance by the steams of another; as lead is reducible into a calx by the steams of acids. Among physicians, it means the application of fumes to particular parts of the body, as those of factitious cinnabar to venereal ulcers.

Function. The power or faculty by which any action of an animated body is performed. The functions of our body are divided into *vital*, by which life is immediately supported, as the action of the heart and arteries, respiration and animal heat; *animal*, which are effected through the operation of the mind, as the external and internal senses, the voluntary action of the muscles, voice, watching, and sleep; *natural*, by which the body is preserved, as hunger, thirst, mastication, deglutition, digestion, chylification, sanguification, nutrition of the body, and the various secretions and excretions; and, lastly, into *sexual functions*, such as menstruation, conception, formation of the fœtus, and parturition.

Functio, from *fungor, to perform.* We shall add professor Richerand's new classification of the functions. It is elegant, comprehensive, and complete.

THE PLAN OF A NEW CLASSIFICATION OF THE FUNCTIONS OF LIFE.

Class	Order	Genus	Functions
CLASS I.—Functions that serve for the preservation of the individual.—(*Individual life.*)	ORDER I. Functions which assimilate the aliment by which the body is nourished. (*Assimilating, internal, or digestive functions.*)	GENUS I.—*Digestion* Extracts the nutritive part.	Reception of the food. Mastication. Solution by the saliva. Deglutition. Digestion in the stomach. - - - - duodenum. - - - - intestines. Excretion of the fæces and of the urine.
		GENUS II.—*Absorption* Carries it into the mass of humours.	Inhalation of chyle. - - - - lymph. Action of vessels. - - - glands. - - - the thoracic duct.
		GENUS III.—*Circulation* Propels it towards the organs.	Action of the heart. - - - - arteries. - - - - capillary vessels. - - - - veins.
		GENUS IV.—*Respiration* Combines it with atmospheric oxygen.	Action of the parietes of the thorax. - - - lungs. Alteration of the air. - - - in the blood. Disengagement of animal heat.
		GENUS V.—*Secretion* Causes it to pass thro' several modifications.	Exhalation. Secretion by follicles. - - - - glands.
		GENUS VI.—*Nutrition* Applies it to organs, to which it is to supply growth, and restore their loss.	Different in every part, according to the peculiar composition of each.

(Class I. Continued.)

- **Order II.** Functions which form connections with surrounding objects. (*External or relative functions.*)
  - **Genus I.**—*Sensations* Inform the being of their presence.
    - Organs
      - The Sight.
      - Hearing.
      - Smell.
      - Taste.
      - Feeling.
    - Action of nerves.
    - - - the brain.
    - Human understanding.
    - Sleep and watching.
    - Dreaming and sleep-walking.
    - Sympathy.
    - Habit.
  - **Genus II.**—*Motions* Approach towards or remove it from them.
    - Organs and muscular motion.
    - The skeleton.
    - Articulations.
    - Place.
    - Progressive motions.
      - Walking.
      - Running.
      - Jumping.
      - Swimming.
      - Flying.
      - Creeping.
  - **Genus III.**—The *Voice* and *Speech* Cause it to communicate with similar beings, without change of place.
    - The Voice
      - Articulated, or Speech.
      - Modulated, or Singing.
    - Stammering.
    - Lisping.
    - Dumbness.
    - Ventriloquism.

Class II. Functions that serve for the preservation of the species.—(*Life of the species.*)

- **Order I.** Functions which require the concurrence of both sexes, as
  - *Conception* and *Generation.*
    - General differences of the sexes.
    - Hermaphrodism.
    - Systems relative to generation.
- **Order II.** Functions which exclusively belong to females, as
  - *Gestation.*
    - Of the uterus in a state of impregnation.
    - History of the embryo.
    - - - - - fœtus and its membranes.
  - *Delivery.*
    - On the uterus after delivery.
    - The lochiæ.
  - *Lactation.*
    - Action of the breasts.
    - Milk.

- *Growth.*
  - Infancy.—Dentition.—Ossification.
  - Puberty.—Menstruation.
  - Adolescence.
  - Youth.
- *Virility.*
  - Temperaments.
    - Sanguine.
    - Muscular.
    - Biliary-melancholic.
    - Lymphatic.
    - Nervous.
  - Idiosyncracy.
  - Human race.
    - European Arab.
    - Negro.
    - Mongul.
    - Hyperborean.
- Decrease.
  - Age of decrease.
  - Old age.
  - Decrepitude.
- Death.
- Putrefaction.

The splendid work of M. Vicq d'Azyr on the Brain furnishes us with the following table of the *functions*, or the *proper characters of living bodies*. These are, *digestion*, *nutrition*, *circulation*, *respiration*, *secretions*, *ossification*, *generation*, *irritability*, and *sensibility*. Every body in which one or several of these functions are observed must be regarded as an organized or living body.

I. *Digestion.—Living Bodies*,

Which have one or many stomachs distinct from the œsophagus and intestinal canal: *man*, *quadrupeds*, *cetacea*, *birds*, and *crustacea*.

Whose stomachs are distinguished from the œsophagus and intestinal canal only by some enlargement: *oviparous animals*, *serpents*, *cartilaginous* and *proper fish*.

Who have only an alimentary tube: *insects*, *worms*, *zoophytes*.

Who have neither stomach nor intestinal canal: *plants*.

II. *Nutrition.—Living Bodies*,

Whose nutritious juices are absorbed by the vessels opening into the external cavities: *animals* of *every kind*.

Whose nutritious juices are absorbed by vessels opening externally: *plants*.

III. *Circulation.—Living Bodies*,

Having blood, blood-vessels, and a heart, with two ventricles and two auricles: *man*, *quadrupeds*, *cetacea*, and *birds*.

A single ventricle, internally divided into several cavities and two auricles: *oviparous quadrupeds* and *serpents*.

A single ventricle and auricle: *cartilaginous* and *other fish*.

Whose heart is formed by a long convoluted contractile vessel containing a white fluid: *crustacea*, *insects* and *worms*. In some crustacea there are traces of a heart.

Who have no heart, but vessels filled with fluids of different kinds: *zoophytes* and *plants*.

IV. *Respiration.—Living Bodies*,

Who breathe by free unconnected spongy lungs: *man*, *quadrupeds*, *cetacea*.

Who breathe by free cellular muscular lungs: *oviparous quadrupeds* and *serpents*.

By lungs adhering to the ribs provided with appendices: *birds*.

By gills of different forms: *fish* and *crustacea*.

By holes placed on different rings: *insects* and *earth-worms*.

By a trachea and external fringes: *aquatic worms*.

By tracheæ: *plants*.

In which neither holes nor tracheæ are discernible: *polypi*.

V. *Secretion.*

This takes place in different forms or degrees in every living body.

VI. *Ossification.—Living Bodies*,

Which have an internal bony skeleton: *man*, *quadrupeds*, *cetacea*, *birds*, *oviparous quadrupeds*, and *fish*.

An internal cartilaginous one: *cartilaginous fish*.

An external horny: *perfect insects* and *lithophytes*.

Calcareous: *crustacea*, *shell-fish*, the greater number of *madrepores*, *zoophytes*.

Woody: *plants*.

Which have no skeleton: *insects* in their lava state, *worms*, *polypi*.

VII. *Generation.—Living Bodies*,

Viviparous: *man*, *quadrupeds*, *cetacea*.

Oviparous, whether hatched internally or without the body: *birds*, *oviparous quadrupeds*, *cartilaginous* and other *fish*, *serpents*, *insects*, *crustacea*, *worms*, *plants*.

VIII. *Irritability.—Living Bodies*,

Wholly muscular or contractile: the greater number of the larvæ of *insects*, *worms*, *polypi*.

Whose muscles cover their

skeleton: *man, quadrupeds, birds, cetacea, oviparous quadrupeds, fish, serpents.*

Whose muscles are covered by their skeleton: *perfect insects* and *crustacea.*

Who have some contractile parts, but no spontaneous motions: *plants.*

IX. *Sensibility.—Living Bodies,*

Who have nerves, and a brain distinct from their spinal marrow: *all animals*, except those in the following sections.

Who have nerves and a brain scarcely distinct from their spinal marrow: *insects, crustacea, worms.*

Without discovered nerves, brain or spinal marrow: *zoophytes, plants.*

Fungus. Proud flesh. A term in surgery to express any luxuriant formation of flesh.

Fungus hæmatodes. This singular complaint was first distinctly described by Mr. Hey, in his very excellent work, entitled "Practical Observations in Surgery." It is a bloody tumour which forms in every part of the body, painful when seated in the muscles; but producing little inconvenience when in the cellular substance. It distends the integuments; but does not, like an abscess, render them thinner. When pressed with the hands, one part will give the sensation of a deep-seated fluid; in another the tumour is hard and uneven. When the integuments burst, the appearances are sometimes those of an excoriation only; sometimes a dark, bloody mass protrudes through the aperture. Where the fungus comes into contact with the muscles, they lose their natural redness and their fibrous appearance, becoming brown, and like the adipose membrane. When the fungus appears through the skin, it bleeds copiously, and the hæmorrhage is frequently repeated till the patient sinks; neither the hydrargyrus nitratus ruber, the hydrargyrus muriatus, antimonium muriatum, or undiluted vitriolic acid, can repress its growth. Amputation is the only remedy; and if the tumour has begun at the lower part of a limb, and the slighest portion is left at the upper, the disease returns. It appears to be an organized, and is probably a living, parasitic animal, nourished by the vital fluid of the patient, and capable of absorbing from the subjacent vessels what is effused from its own.

Funiculus Umbilicalis. Funis umbilicalis. The navel-string or umbilical cord. A cord of an intestinal form, about half a yard in length, that proceeds from the navel of the fœtus to the centre of the placenta. It is composed of a crutaneous sheath, cellular substance, one umbilical vein, and two umbilical arteries; the former conveys the blood to the child from the placenta, and the latter return it from the child to the placenta.

Furnaces. The furnaces employed in chemical operations are of three kinds: 1. *The evaporatory furnace*, which has received its name from its use; it is employed to reduce substances into vapour, by means of heat, in order to separate the more fixed principles from those which are more ponderous, and were mixed, suspended, compounded, or dissolved in the fluid: 2. *The reverberatory furnace;* which name it has received from its construction being appropriated to distillation: 3. *The forge furnace*, in which the current of air is determined by bellows.

Furor Uterinus. See *Nymphomania.*

Furuncle. An inflammation of a subcutaneous gland, known by an inflammatory tumour that does not exceed the size of a pigeon's egg; from *furo*, to rage. M. M. Emollient poultices; incision; basilicon; calamine cerate.

Fusion. A chemical process, by which bodies are made to pass from the solid to the fluid state, in consequence of the application of heat.

G

GALACTOPHOROUS *Ducts.* The excretory ducts of the glands of the breasts of women, which terminate in the papilla or nipple; from γαλα, *milk*, and φερω, *to carry*, because they bring the milk to the nipple.

Galbanum. A gummi-resinous juice, obtained partly by its spontaneous exudation from the joints of the stem of the *Bubon galbanum* of Linnæus, but more generally, and in greater abundance, by making an incision in the stalk, a few inches above the root, from which it immediately issues, and soon becomes sufficiently concrete to be gathered. It is imported into England from Turkey and the East-Indies, in large, softish, ductile, pale-coloured masses, which by age acquire a brownish yellow appearance: these are intermixed with distinct whitish tears, that are the most pure part of the mass. Galbanum holds a middle rank between assafœtida and ammoniacum, but its fœtidness is very inconsiderable, especially when compared with the former; it is therefore accounted less antispasmodic, nor are its expectorant qualities equal to those of the latter; it, however, is esteemed more efficacious than either in hysterical disorders. Externally it is often applied by surgeons to expedite the suppuration of inflammatory and indolent tumours, and by physicians as a warm stimulating plaster. It is an ingredient in the *pilulæ è gummi*, *the emplastrum lithargyri cum gummi* of the London Pharmacopeia, and in the *emplastrum ad clavos pedum* of the Edinburgh. Grs. v. to ℈i.

Galena. The name of an ore formed by the combination of lead with sulphur.

Galenic Medicine, is that practice of medicine which conforms to the rules of Galen, and runs much upon multiplying herbs and roots in the same composition, though seldom torturing them any otherwise than by decoction, in opposition to chemical medicine, which, by the force of fire and a great deal of art, fetches out the virtues of bodies, chiefly mineral, into a small compass.

Gall. See *Bile.*

Gallæ, gall. They are hard round excrescences, produced by the puncture of an insect. They are the *Cynipidis Nidi.* The insect makes a puncture in the leaf of an oak-tree, there lodges its egg, which remains until the young insect is able to eat its way out. The tear which issues from the wound, gradually increased by accessions of fresh matter, forms a covering to the eggs and succeeding insect. The *galls* are a strong astringent. They are retained in the Pharmacopeia of the college.

Gall-Bladder. An oblong membranous receptacle, situated under the liver, to which it is attached in the right hypochondrium. It is composed of three membranes: a common, fibrous, and villous. Its use is to retain the gall, which regurgitates through the hepatic duct, there to become thicker, more acrid and bitter, and to send it through the cystic duct, which proceeds from its neck into the common duct or ductus communis choledochus, to be sent on to the duodenum.

Galvanism. This surprising branch of philosophy has been denominated galvanism, from Galvani, an Italian professor, whose experiments led to its discovery. In 1789, some time before he made the most important discovery, he was by accident led to the fact, of electricity having the property of exciting contractions in the muscles of animals. Stimulated by the then prevailing idea of electricity being a principle inherent in animals, which, acting upon the musclar susceptibility, was the immediate cause of muscular motion, he was induced to persevere in the inquiry, during the prosecution of which, he brought to light other facts, which laid the foundation of this valuable scientific acquisition. After having observed that common electricity, even that of lightning, produced vivid convulsions in the limbs of recently killed animals, he ascertained that metallic substances, by mere contact, under particular circumstances, excited similar commotions. He found, that it was essential, that the forces of metals employed should be of different kinds. He applied one piece of metal to the nerve of the part, and the other to the muscle, and afterwards connected the metals, either by bringing them together, or by connecting them by an arch of a metallic substance; every time this connection was formed the convulsions took place. The diversity in the metals employed in these experiments appeared, in the very early stages of this inquiry, to be connected with their respective degrees of oxydability, the one being possessed of that property in a great degree, and the other little liable to the change. Hence zinc, and silver, or gold, was found to produce the greatest muscular contractions. The pile was found to unite the effects of as many pairs of plates as might be employed. Previously to this no other effect had been produced than what resulted from the energy of a single pair of plates. A pile of fifty pairs of plates, with as many corresponding pieces of wet cloth, was found to give a pretty smart shock, similar to an electric shock, every time that a communication was made between the top and bottom of the pile. It was found, however, that little or no shock was perceived, when the hands, or other parts applied, were not previously moistened. It was also observed, that the effect was increased when a larger surface was exposed to the action of the pile. If the communication was made by touching the pile with the tip of each finger merely, the effect was not perceived beyond the joint of the knuckle; but if a spoon, or other metallic substance, were grasped in moistened hands, the effect was felt up to the shoulder. If the communication be formed between any part of the face, particularly near the eyes, and another part of the body, a vivid flash of light is perceived before the eyes, corresponding with the shock. This phenomenon may be more faintly observed, by placing a piece of silver, as a shilling, between the upper lip and the gum, and laying a piece of zinc at the same time upon the tongue: upon bringing the two metals in contact, a faint flash of light is perceived. It is singular, that this light is equally vivid in the dark with the strongest light, and whether the eyes be shut or open.

It is to Mr. Cruickshank that

we are indebted for the invention of the galvanic trough, a discovery which very soon superseded the use of the pile, as being more manageable, and attended with less trouble to the operator. It consists of a wooden box, or trough, the depth and breadth of which correspond with the size of the plates. The wood of which the trough is formed, should be the oldest and hardest mahogany, being less liable to warp than other kinds of wood. The sides of the trough must be dovetailed together, and the bottom ought to be grooved into the sides, and fitted-in with turpentine; perpendicular grooves must be made in the sides of the trough, for the reception of the plates, correspondent to which there must be grooves in the bottom. When the length of a trough is more than two feet, it becomes unwieldy; it should not even be that length, when the size of the plates would render it too heavy to be handed about. The distance between the plates should be about three-eighths of an inch; if they are nearer together, the acid employed is too soon exhausted, and consequently, the power of the battery less lasting. The plates should be of copper and zinc. Though silver is stronger than copper, it is not so in proportion to the price. The zinc plates are best cut out of sheets of malleable zinc, as being cheaper, less liable to break, and may be used much thinner. The copper may be employed so thin as six ounces to the square foot. The plates of copper being made a little larger than the zinc, may be lapped over the edges of the latter, by which means they fit much closer to the zinc plate, without the labour of hammering the copper plates previously flat. The copper plates only require to be soldered to the upper edge of the zinc plate, since the other three edges are so secured with cement in the grooves as to preclude the necessity of soldering. The lapping over of the copper is sufficient to keep it close to the zinc plate till the plate is fastened in the trough. Previously to inserting the plates in the trough, the inside must be lined with a cement, formed of resin and bees-wax, or what is cheaper, of six parts of resin and one of lime and oil. The plates, being previously warmed, are to be pressed down into the grooves before the cement becomes quite cold. After the plates have been inserted, in such order that all the zinc surfaces shall face one way and the copper the other, the cement must be more evenly adjusted with a hot iron which will reach to the bottom of the cells; the trough being laid first on one side and then on the other for that purpose. When the cementing process is finished, and the whole sufficiently cold, the trough must be dressed off and varnished with copal varnish where it can be had, but in lieu of that, with common spirit varnish. When the varnish is dry it must be polished with rotten-stone and water.

In the above construction it is manifest that two of the surfaces are lost by being laid and soldered together. About two years ago the writer of this article had conceived the possibility of making use of both the surfaces of the copper and zinc plates at the same time. Accordingly he cemented into a trough, in the groove made for the plates of metal, plates of glass. The metal plates were formed by soldering together a plate of each, of copper and zinc, and then bending them till the plates became parallel to each other, leaving a space between the two surfaces a little wider than the thickness of the glass plates.

The cells between the glass plates being filled with the proper liquid, each of the above compound plates were made to bestride one of the glass plates, in such order that a zinc and copper plate of two different compound plates, in succession to each other, may occupy each of the cells. All the surfaces are by this contrivance exposed to the action of the liquid, and might be considered double the power of a common trough, having the same number of plates. Little or no advantage was gained by this method. Though there are two surfaces of each metal in each of the cells, it will be evident, from several minor experiments already given, that two of the surfaces are so completely disconnected as to produce little or no effect. One of the zinc surfaces in this trough is facing the glass on one side the cell, and one of the copper surfaces is similarly situated on the other side. The trough, therefore, is, for general use, the most convenient, and in other respects, the best battery yet introduced.

The next thing to be considered, is the management of the galvanic battery. First, all of the cells of the trough must be filled, within about half an inch of the top, with a liquid, composed of water, with about one twenty-fifth part of the muriatic or the nitric acid. The plates of the trough are shorter than the depth of the trough, by about three-fourths of an inch; so that the trough may be leaned on one side in the filling, for the purpose of letting the liquid run equally into all the cells. If a number of troughs are to be connected together, the communication must be made by arcs of metal, which are inserted into the liquid of one cell of each trough. In making the connection, it is to be observed, that the zinc surface of one trough must correspond with the copper one of another, and the zinc of the latter with copper of a third, and so on. This arrangement may be better conceived by placing them in the same order, and to end in such a way, that all the zinc surfaces may face one way, and the copper ones the other. After all the troughs are connected together, let the two unconnected ends, at which the experiments are to be made, be as near together as possible.

A connection being now formed between the two ends, one of which we shall term the zinc end, and the other the copper end, the united energy of the whole will be transmitted through the connecting medium.

The most striking and the most common experiments are those which consist in the galvanic energy upon the organs of animals. If two metallic rods, or, what is equally convenient, two silver spoons, be grasped, one in each hand, the skin of the part being previously moistened with a solution of salt, and one of the spoons be brought in contact with one end of the battery, the moment the other comes in contact with the other end of the battery, the shock is perceived. Fifty compound plates will give a shock which will be felt in the elbows. One of a hundred will be felt in the shoulders. A greater number of plates give so forcible a shock to the muscles, as to be dreaded a second time. The shock appears to depend upon the number of plates. The stun, or first impression, is much the same, whatever may be the size of the plates; at least, from the size of two inches square to that of ten;

the surfaces being as four to one hundred. The effect upon the muscles, as well as upon the cuticle itself, is very different from large plates, when the series is the same. It appears, that the shock, or first impression, is as the series, which is also as the intensity of the electricity. If the shock be received from the same number of large plates, the same species of commotion is produced in the first instance, as with the small plates; but if the contact be still kept up, a continuation of the effect is perceived, which is felt through the whole arms, producing a vast tremor, attended with a sensation of warmth. If the plates be from eight to twelve inches square, this effect may be perpetually kept, while the acid in the cells is expended.

Though small plates have been recommended for medical purposes, we think large ones will be found more likely to have a good effect. If the medical advantage is to be derived from the stimulus of galvanism, the effect of a perpetual and regular current of that stimulus must certainly be preferable to the rapid transmission of a small quantity.

The galvanic shock may also be conveniently given, by immersing the hands or the feet into vessels containing a solution of salt, and bringing wires from each end of the battery into the liquid. If any other part of the body is intended to be operated upon, a sponge, moistened with salt water, fastened to a metal plate connected with one end of the battery, may be applied to the part, and the hand or foot put into a vessel of the same liquid, connected by a wire with the other end of the battery. Small bits of sponge or bits of leather may be fastened to the end of the connecting wires, and made more or less moist as the delicacy of the part may require. This contrivance is very useful in operating upon the eyes or ears.

When galvanism is used medically, it should first be applied very feebly, and the effect gradually increased, as the susceptibility of the part will admit. If the part has, from disease, become so languid and insusceptible, as not to be sensible of the effect, it should be scarified, or by other means have the cuticle removed. This is sometimes the case with languid tumors, and some cases of paralysis. Though we had no great opinion of the medical agency of galvanism, we have lately heard of several very successful cases, one of which in particular was the cure of perfect loss of speech. If the naked metal of the wire, from a powerful battery, be applied to the skin, it becomes cauterized and blistered.

If the plate, covered with a moistened sponge, connected with one end of the battery, be applied to the back of the head, at the same time that the moistened fingers of one hand are slightly applied to the other end, a smarting sensation will be felt in the part, and a taste at the same time will be felt in the mouth, similar, but in a greater degree, to that occasioned by the piece of zinc, and the shilling when laid upon the tongue. This experiment succeeds the best with a small number of large plates, as much as ten inches square.

The action of galvanism on the human body is nearly that of electricity; but as a stimulant, it is less intense, and more steady. The cuticle in animals, and the epidermis in plants and seeds, resist it more powerfully than the electrical influence; and it is necessary often, for the purpose of increasing its power, to puncture the skin, so as to draw some blood.

The coats of the nerves have apparently a similar effect; for the influence is greater, the nearer the coating is placed to the part on which the nerves are dispersed, where the coats are thinner, or wholly lost. In general, however, galvanism does not seem to resemble accumulated electricity; but a weaker charge diffused over a larger surface. In the operation, the metals are oxidated, and the water between them is decomposed, the zinc apparently yielding the oxygen, and the copper the hydrogen. As the water is seemingly decomposed on each side, it has become a problem to account for the disappearance of the oxygen on the side of the copper, and the contrary. Philosophers have not yet dared to face this difficulty, as it so strongly militates against the modern chemical doctrines. This decomposition of a watery fluid was, however, introduced very early into its medical system; and Galvani, resting on the hypothesis of Cotunnio de Ischiade Nervosa, that sciatica, and many other complaints, arose from the accumulation of a fluid within the nervous sheaths, supposed that it was of service from its influence on the morbid causes. We have no reason, however, to think that it has any effect in this way, though it has been supposed also from this circumstance to change the positive electricity of the healthy body to the negative state.

Galvanism seems chiefly to affect the nervous system, including the muscular fibres, and indeed, in some degree, fibres of every kind, producing even some apparent contraction in the fibrin of the blood. The nerves and muscles, however, it penetrates more actively than the electrical fluid in its usual state; for it produces powerful contractions, and sensations of pricking and burning in parts insensible, from disease, to electrical sparks, and even shocks. The effects are increased by moistening the skin, and wetting it so much as even to penetrate the cuticle; still more, we have found, if the cuticle is divided: but it often happens that one person may be insensible to its influence, and occasionally the pile is a long time in producing its effects, seemingly from some obstacle, which is removed by an apparently inconsiderable change in the apparatus. It appears to penetrate the nervous system in every direction with equal facility, and probably passes through the minutest fibres, as, after a nerve has been cut and re-united by what seems a condensed cellular or ligamentous substance, the galvanic influence is not transmitted. It apparently acts by exciting the nervous power; since, like all powerful exciters, it soon destroys irritability. Animals killed by the destruction of this principle soon become putrid; and this is also the rapid consequence of death by putrid miasmata, electricity, and galvanism.

Galvanism, in consequence of its readily permeating the nerves, has been employed, by Humboldt, to ascertain what parts are nervous, and the real use of some nerves whose office was doubtful. The tendons, probably from the compactness of their structure, are insensible of the galvanic stimulus. By his experiments it also appears that the third branch of the fifth pair of nerves supplies the organs of taste, and the ninth pair gives activity to the muscles of the tongue, as Galen supposed.

This active principle has been employed with success in restoring persons apparently drowned; and by establishing a communication between zinc and silver wires, introduced into the mouth and anus of small birds, Humboldt has recovered them from asphixy. Except, however, in deaths from violence, galvanism is useless; since, in the last struggles, irritability is usually destroyed. It has been recommended to distinguish a case of peculiar difficulty and importance, viz. the existence of amaurosis in cases of cataract. If the two metallic exciters, in a proper position, do not produce the usual sensations in the retina, the operation will probably be useless, as the sentient power of the nerve is apparently lost.

M. Grappengeisser, the first author who seems to have applied galvanism to medical purposes, used it chiefly in palsies, and in various weaknesses of the sentient or moving nervous fibres; it has been certainly useful, though obviously inefficacious in diseases arising from an organic defect. Yet, in a very considerable degree of what may be styled organic defect in the structure of the nerve itself, it seems to have been beneficial where this defect occasioned epileptic symptoms; and from this we are led to expect some advantages from the remedy, where epileptic paroxysms proceed from either extremity, and rise to the head in the form of an aura. In gutta serena, practitioners have not succeeded by means of galvanism; and it ought to be remembered, that the very sensible retina seldom recovers its powers after it has been, for even a short time, in a paralytic state.

In cases of spasmodic contraction, as cramp, contracted fingers, or limbs, galvanism has often relieved; and in lameness from gout it has been successful. In one instance, hydrophobia is said, by Vassalli Eundi, to have been cured by it; but, in sciatica, the same author adds, that it has been occasionally injurious, though in some circumstances he supposes that it may be beneficial. Nervous headachs, and similar symptoms, have been relieved by galvanism; and Aldini thinks, that in two instances of mental derangement it has been highly useful. In the application of galvanism to palsies, a remark of M. Pfaff should be attended to, though we believe it has been confirmed by other practitioners, viz. that the zinc should be applied to the muscles, and the silver to the nerves; for if the arrangement is altered, the irritability of the muscles is diminished rather than increased.

This remedy has been employed in some cases of vitiated secretion. Its effects on the secretions, like those of electricity, are the increase of the discharge; and it is not improbable that where the secreted fluids are diseased from a relaxation of the vessels, galvanism may be useful. It has been employed also, like electricity, in discussing indolent tumours, and in cataracts, but with no very marked or decided success. A few boasted cures have raised our expectations, but the little permanency of the benefit received has again depressed our sanguine hopes. After repeated experiments about the head, inflammations of the eyes, a catarrhal inflammation of the Schneiderian membrane, an insensibility of the organ of taste, headach, or vertigo, have followed; and galvanism has been undoubtedly injurious where there was considerable irritability.

On the whole, then, we have not yet received very encouraging accounts of the success of galvanism in diseases; and we fear that we must resign it, with electricity, as a remedy that promises to be beneficial, but whose advantages have not yet answered the flattering expectations first raised.

We have considered galvanism only as electricity, but it is probably not exactly the same; and we may, with some advantage, add a few observations on this part of the subject, which, though not strictly medical, may perhaps admit of some application to medicine. Galvanism will indeed produce all the phenomena of electricity; but it cannot be accumulated in non-conducting bodies, or excited by any operation on them. The distinction seems to depend on this, that in the electrical machine, the fluid accumulated on the non-conductors is raised from the earth, or drawn from the atmosphere around; in the galvanic pile it is the fluid which formed a component part of the conductor, appearing in consequence of its change of capacity in this respect. In the doubler of electricity it is the same; and the electricity of the air appears to be truly galvanic, since it is owing to the decomposition of water, and consequently a change in the capacity of air that before contained vapour. Conductors of electricity are also conductors of galvanism, and in the same order. In the following series, viz. gold, silver, copper, iron, tin, lead, and zinc, each will become positive when connected with that which precedes, and negative with that which follows. The metal oxidated gives out the galvanic fluid; and it may be produced by a single metal, if one part only is changed in its state. The most and least oxidable metals form the most active combinations; and after the metals, charcoal, muscular flesh, spirits, and beer, are conductors in their order. Charcoal is the most, and beer the least powerful. Various circumstances in common life were little understood previous to the discovery of the galvanic fluid. As it may be excited by two dissimilar fluids, and one metal, the improved taste of porter from a pewter pot, a fact generally acknowledged, may be owing to this principle; nor is it very absurd to suppose, that two persons in a different state of electricity may excite the galvanic fluid by the medium of a single metal, as in the management of the Perkinean tractors.

We are not yet sufficiently informed of the influence of different animal substances as conductors or exciters of galvanism. Galvanic effects probably arise from alternate strata of muscles and nerves; but it is more certain that this fluid acts particularly through the medium of the nerves. This has been denied, because leeches are sensible of this action, and in these animals no nerves have been discovered; but we shall show that they really have a nervous system. Mushrooms are also tolerably good conductors of galvanism.

In the animal economy, the capacity of the fluids for containing electricity is constantly changing. To the facts adduced under that article, of the different states of the electricity of the fluids of the body, may be added, from the observations of Buvina, that in the shivering fit of fever the electricity is negative. In shivering from fear it is the same; and diseased cats are no longer electrical. Vigour, spirit, and activity in the human body, and probably all animals, are therefore connected with the positive, or, as we have been willing to style it, with the excess of electricity; languor and disease with its defect. We find, too, in the electrical organs of the torpedo and gymnotus electricus (for as the only organs in which they differ from other fish, we may presume that they are the seat and source of their peculiar powers,) that the surface is greatly increased by the numerous plates of which they consist, and that a very large proportion of nerves is sent to these plates. When we combine these facts, we shall find reason to conclude that the nerves are the probable sources of the animal, galvanic fluid; and that these and the nervous fluids are the same, or nearly related. If in the animal process the excess of electricity disappears, we must look for some reservoir in which it is collected, some storehouse from which it may be issued; and this appears to be the brain and nerves. Such, at least, are apparently the fair conclusions from the facts before us.

Galvanism, as a source of light and heat.

Batteries of great dimensions, such as contain from 5,000 to 10,000 square inches each, of zinc and copper surface, are capable of furnishing abundance of sensible heat and much light. If the connection between the two ends of the battery be made by a very small wire, such as the fine watch-spring wire, the wire becomes red-hot for a considerable length, and if the power of the battery be great, it becomes white-hot and ultimately fused. Let the end of the wires of the battery be each provided with a pair of tweezers, one pair of which being insulated from the hand by covering the surface with dry cloth; place between each pair of tweezers a small bit of charcoal, made in a close vessel, from box-wood, or lignum vitæ. The moment the contact is formed between the bits of charcoal, a vivid light is produced, much more brilliant than that occasioned by burning in oxygen. If the contact be frequently severed by a sort of tremulous motion, the light may be kept up for some time. The foils and small wires of metals are deflagrated by placing them in the current. Let one of the conducting wires be brought in contact with an iron dish, filled with mercury. Let the foil or small wires be attached to the other conducting wire, and be brought in contact with the surface of the mercury, which constantly presenting a clear surface, is very convenient in these experiments. A very brilliant effect may also be produced, by presenting the foils to the surface of a sheet of tinsel.

In inflaming oils, alcohol, &c. by galvanism, some thin metallic substance, or a small piece of charcoal, should be covered with the substance to be inflamed. The moment the contact is made, as in deflagrating the metal, the oil takes fire. The galvanic spark, with great facility, fires a mixture of oxygen and hydrogen gases.

A very brilliant discovery has lately been made by Mr. Davy, Professor at the Royal Institution, and confirmed by others, which consists in the decomposition of the two fixed alkalies. It is performed by placing a bit of the alkali in the solid state, and a little moistened, upon a plate of platina, connected with one end of the battery, and bringing into contact with it another piece of platina, from the other end of the battery. A portion of black matter is soon formed, in which is found imbedded, small metallic globules; which substance is found to be the base of the alkali, and has been deprived of its oxygen by the galvanic agency. These globules are so inflammable, as to decompose water, with a brilliant flash and slight explosion. This discovery will be of great importance to chemistry, and will probably soon make a serious change in its arrangement and nomenclature.

Gambogia. The tree from which this gummi-resinous juice is obtained, constitutes, according to Kœnig, a physician who resided many years at Tranquebar, a new genus, which is called *Stalagmitis.* Gamboge is brought from the East-Indies, and is generally employed as a drastic purgative medicine in constipation of the bowels, hydrophical affections, and against the tænia or tape-worm. Grs. ii. to viij.

Ganglion. Γαγγλιον. In anatomy it is applied to a knot in the course of a nerve. In surgery it is an encysted tumour, formed in the sheath of a tendon, and containing a fluid like the white of an egg. It most frequently occurs on the back of the hand or foot.

Gangrene. A mortification of any part of the body, before endowed with vitality. It is known by the insensibility, coldness, lividness, and flaccidity of the part, and by the fœtor it exhales. M. M. Scarifications; fermenting cataplasm; sal-ammoniac or tincture of myrrh. Internally cinchona, aromatics and opium.

Gargle. (Gargarismum, i. s. n.) A fluid medicine to wash the throat; from γαργαριζω, to wash the throat.

Gas, (from *geist*, in the German language *spirit.*) *Elastic fluid, aëriform fluid, elastic vapour.* The word gas was first employed by Van Helmont to express the spirit which rises from fermenting liquors. By this term we now mean a permanent aëriform fluid, incapable of becoming fluid by cold, and owing its aërial form to its intimate union with caloric.

Gas, nitrous oxide. This is the gaseous oxide of nitrogen, or of azote of some; a compound of nitrogen with a small proportion of oxygen. It is not to be obtained certainly with any purity, but by the decomposition of nitrate of ammonia. For this purpose nitric acid diluted with five or six parts of water, may be saturated with carbonate of ammonia, and the solution be evaporated by a very gentle heat, adding occasionally a little of the carbonate, to supply what is carried off. The nitrate crystallizes in a fibrous mass, unless the evaporation has been carried so far as to leave it dry and compact. The latter at a heat between 275° and 300° sublimes without being decomposed; at 320° it becomes fluid, and is partly decomposed, partly sublimed; between 340° and 480° it is decomposed rapidly. The fibrous is not decomposed below 400°, but a heat above 450° decomposes it; at 600° a luminous appearance is produced in the retort, and nitric oxide, nitrous oxide, and nitrogen, mixed in various proportions, are evolved; at 700° or 800° an explosion takes place. It is best to perform the operation over an Argand's lamp, as the heat may thus be brought to the requisite degree speedily, and kept from going too far. It should be received over water, and suffered to stand an hour in contact with it, to free it from any nitrate of ammonia that may have been sublimed, as well as from any acid suspended in it. Dr. Pfaff recommends mixing very pure sand with the nitrate, to prevent the hazard of explosion; and observes, that it is particularly requisite it should not be contaminated with muriatic acid. One pound of the compact nitrate yields 4.25 cubic feet of gas, and a pound of the fibrous nearly five cubic feet.

The most singular property of this gas is its action on the animal system. Dr. Priestley had found that it was fatal to animals confined in it. Mr. Davy first ventured to respire it, which he did to considerable extent. When breathed alone for a minute or two, and some have gone as far as four or five minutes, it generally produces a pleasant thrilling, particularly in the chest and extremities, frequently with an inclination to laugh, and sometimes an irresistible propensity to gesticulation and muscular exertion. The mind meanwhile is often totally abstracted from all surrounding objects. Sometimes its effects are not entirely dissipated for some hours; and it is remarkable, that, however strong they may have been, no sense of debility or languor is induced after they have subsided. On a few individuals, however, its effects have been unpleasant and depressing; in some it has produced convulsions, and other nervous symptoms; and on some it has had no sensible effect. Indeed, not only different persons, but the same individual, will be variously affected by it, perhaps, at different times. Similar effects have been produced on those who have tried it abroad.

In debility arising from residence in a hot climate, and intense application to business, this gas has proved a complete remedy. It has given voluntary power over palsied parts while inhaled, and the subsequent application of other remedies has effected a cure. Dr. Pfaff has suggested its use in melancholia: but in some cases of this disease it has done no good, and in one harm.

Gaster, γαστηρ, *Venter*, the belly. It is sometimes taken for the whole abdomen, at others only for the stomach, and sometimes for any other cavity, particularly the uterus.

Gastric Juice, a fluid separated by the capillary exhaling arteries of the stomach, which open upon its internal tunic. The œsophagus also affords a small quantity, especially in the inferior part. Modern philosophers have paid great attention to this fluid, and from their several experiments it is known to possess the following properties. It is the principal agent of digestion, and changes the aliments into a kind of uniform soft paste: it acts on the stomach after the death of the animal. Its effects show that it is a solvent, but of that peculiar nature that it dissolves animal and vegetable substances uniformly, and without exhibiting a stronger affinity for the one than for the other. It is far from being of the nature of a ferment, as many suppose, for it is one of the most powerful antiseptics we are acquainted with: and from the experiments of Spallanzani, Scopoli, Carminati, and others, its nature appears to be essentially different in the several classes of animals, as they have proved by analysis. The gastric juice of the human subject, when healthy, is inodorous, of a saltish taste, and limpid, like water, unless it be a little tinged with the yellow colour of some bile, that has regurgitated into the stomach. In quantity it is very considerable, as must be evident from the extent of the surface of the stomach, and its continual secretion; but it is the most copious when solicited by the stimulus of food. Besides the properties of this fluid before mentioned, it has others which have induced physicians and surgeons to exhibit it medicinally. It cures dyspepsia and intermittent fever. Applied externally, in form of fomentation or poultice, it cures putrid and scrophulous ulcers in a wonderful manner; and it is to be regretted that its utility is not more generally known.

Gastric Artery. The right or greater gastric artery is a branch of the hepatic; the left or lesser, a branch of the splenic.

Gastritis. Inflammation of the stomach; from γαςηρ, *the stomach.* A genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen. It is known by pyrexia; anxiety; heat and pain in the epigastrium, increased when any thing is taken into the stomach; vomiting; hiccup; pulse small and hard; and prostration of strength. There are two species: 1. *Gastritis phlegmonoidea*, with an inflammatory tumour: 2. *Gastritis erysipelatosa*, when the inflammation is of a creeping or erysipelatous nature. M. M. Copious and repeated venesection; emollient fomentations and glysters; a blister on the epigastrium.

Gastrocele. A hernia of the stomach, occasioned by a protrusion of that viscus through the abdominal parieties; from γαςηρ, *the stomach*, and κηλη, *a tumour.*

Gastrocnemius Externus seu Gemellus. An extensor muscle of the foot, which assists in forming the calf of the leg; from γαςηρ, *the belly*, and κνημη, *the leg.*

Gastrocnemius Internus seu Soleus. An extensor muscle of the foot, situated in the calf of the leg. The tendons of both gastrocnemii unite, and form the *tendo Achillis.*

Gastrodynia. Pain in the stomach; from γαςηρ, *the stomach*, and οδυνη, *pain.*

Gastro-Epiploica, an epithet for the arteries and veins that go to the stomach and omentum.

Gastroraphy, γαστροραφια, from γαστηρ, *venter*, *the belly*, and ραφη, *sutura*, *suture;* in *Surgery*, the operation of sowing up wounds of the abdomen.

Gastrotomy, the dissection of the bowels, from γαστηρ and τεμνω, *seco*, *to cut.*

Gelatine, in chemistry, is one of the constituent parts of animal substances. Glue, well known in many of the mechanical and other arts, is gelatine in a state of impurity, and may be obtained by repeatedly washing the fresh skin of an animal in cold water, afterwards boiling it, and reducing it to a small quantity by slow evaporation, and allowing it to cool. It then assumes the form of jelly, and becomes hard and semi-transparent. Gelatine has neither taste nor smell; it is soluble in hot acids and alkalies; but there is no action between any of the earths and this substance. Some of the metallic oxides and salts form precipitates with gelatine in its solution in water, and the compound thus formed is insoluble. Gelatine forms a copious white precipitate with tan, which is brittle and insoluble in water, and is not changed by exposure to the air. It is composed of carbon, hydrogen, azote, and oxygen, with small portions of phosphate of lime and of soda. It is a principal part both of the solid and fluid parts of animals, and is employed in the state of glue, size, and isinglass.

Gelatinous, any thing approaching to the consistence of a jelly. Thus a decoction of bread in water may be reduced into a jelly, for the use of the sick.

Gelatio, freezing. Sometimes it expresses the rigidity of the body which happens in a catoche or catalepsis.

Gemellus. See *Biceps.* Albinus calls the gastrocnemi muscles by this name.

Gemini. From its being composed of two portions. One of the third layer of muscles situated on the outside of the pelvis. Its use is to roll the thigh outwards, and to preserve the tendon of the obturator internus from being hurt by the hardness of that part of the ischium over which it passes; also, to hinder it from starting out of its place while the muscle is in action.

Generation. See *Fœtus.*

Generation. Many ingenious hypotheses have been instituted by physiologists to explain the mystery of generation, but the whole of our knowledge concerning it appears to be built upon the phenomena it affords; as may be seen in the works of *Haller*, *Buffon*, *Cruickshanks*, and *Haighton*. It is a sexual action, performed in different ways in most animals; most of them have different sexes, and require conjunction: such are the human species, quadrupeds, and others. The females of quadrupeds have a matrix, separated into two cavities, *uterus bicornis*, and a considerable number of teats; they have no menstrual flux; most of them bear several young at a time, and the period of their gestation is generally short. The generation of birds is very different. The males have a very strong genital organ, which is often double. The vulva in females is placed behind the anus; the ovaries have no matrices, and there is a duct for the purpose of conveying the egg from the ovarium into the intestines; this passage is called the oviduct. The eggs of pullets have exhibited unexpected facts to physiologists, who examined the phenomena of incubation. The most important discoveries are those of the immortal *Haller*, who found the chicken, perfectly formed, in eggs which were not fecundated. There is no determinate conjunction between fishes; the female deposits her eggs on the sand, over which the male passes, and emits its seminal fluid, doubtless for the purpose of fecundating them; these eggs are hatched after a certain time. The males of several oviparous quadrupeds have a double or forked organ Insects exhibit all the varieties which are observed in other animals: there are some, indeed the greater number, which have the sexes in two separate individuals; among others, the reproduction is made either with or without conjunction, as in the vine-fretter; one of these insects, confined alone beneath a glass, produces a great number of others. The organ of the male, in insects, is usually armed with two hooks to seize the female: the place of these organs is greatly varied; with some it is at the upper part of the belly, near the chest, as in the female dragon fly; in others, it is at the extremity of the *antenna*, as in the male spider. Most worms are hermaphrodite; each individual has both sexes. Polypi, with respect to generation, are singular animals: they are produced by buds or offsets; a bud is separated from each vigorous polypus, which is fixed to some neighbouring body, and grows: polypi are likewise found on their surface, in the same manner as branches issue from plants. These are the principal modes of generation in animals. In the human species, which engages our attention more particularly, the phenomena are as follow: the mode of congress of the man with the woman requires no description; but generation does not consist in that alone; there are certain states or conditions requisite for conception to take place. The ovum must have arrived at a state of maturity. There must be such a determination of blood to the uterus, that, together with the venereal stimulus, shall induce an action in the Fallopian tubes, by which the fimbriæ grasp the ovum that is to be impregnated. During this state of the parts the semen virile must be propelled into the uterus, in order that its subtle and vivifying portion shall pass along the tube to the ovum. Fecundation having thus taken place, a motion is induced in the vivified ovum, which ruptures the tender vesicle that contains it; the fimbriæ of the Fallopian tube then grasp and convey it into the tube, which by its peristaltic motion conducts it into the cavity of the uterus, there to be evolved and brought to maturity, and at the expiration of nine months to be sent into the world.

Generation, male organs of. The parts which constitute the organs of generation in men are the penis, testicles, and vesiculæ seminales.

Generation, female organs of. The parts subservient to generation in a woman are divided into external and internal. The external are the labia majora, nymphæ, clitoris, and, in virgins, the hymen. The internal parts are the vagina, and the uterus, and its appendages.

Genio. Names compounded of this word belong to muscles, which are attached to the chin; from γενειον, *the chin.*

Genioglossi, is a pair of muscles proceeding inwardly from the fore part of the lower jaw, under another pair called *Geniohyoides*, and enlarging themselves, are fastened into the basis of the tongue. These serve to pull the tongue forward, and to thrust it out of the mouth; thus called from γενειον, *mentum*, *the chin*, and γλωσσα, *lingua*, *the tongue.*

Geniohyoidæus, is a muscle of the os hyoides, which, with its partner, is short, thick, and fleshy, arising from the internal parts of the lower jaw-bone, called the chin; and dilating themselves, are soon lessened again, and inserted into the superior part of the fore bone of the os hyoides. These pull upwards and forwards the os hyoides, and assist the genioglossi in thrusting the tongue out of the mouth; from γενειον, *mentum*, *the chin*, the Greek ypsilon, and ειδος, *forma*, *shape.*

Genio-Pharyngæi. These are muscular fibres joined to the side of the genioglossi, and inserted into the sides of the pharynx, continue their conjunction with the genioglossi, all the way to the chin.

Genista. The common broom. The tops and leaves of this indigenous plant, *Spartium scoparium* of Linnæus, are the parts that are employed medicinally; they have a bitter taste, and are recommended for their purgative and diuretic qualities, in hydropic cases.

Genital, is applied to any thing that concerns generation, and particularly to the distinct parts of males and females.

Gentiana. Gentian. The gentian that is met with in the shops is the root of the *gentiana lutea* of Linnæus, and is imported from Switzerland and Germany. It is the only medicinal part of the plant, has little or no smell, but to the taste it manifests great bitterness, on which account it is in general use as a tonic, stomachic, anthelmintic, antiseptic, emmenagogue, and febrifuge. The officinal preparations of this root are the *infusum gentinæ compositum*, and *tinctura gentianæ composita* of the London Pharmacopeia, and the *infusum amarum*, *vinum amarum*, *tinctura amara*, of the Edinburgh Pharmacopeia; and the *extractum gentianæ* is ordered by both.

Genu. The knee; from γονυ, παρα το εις γην νευειν, because by it the body is bent towards the earth.

Geoffræa. The bark so called is the produce of the *Geoffroya inermis* of Swatz, a native of Jamaica, where it is distinguished by the name of Cabbage-bark tree, or Worm-bark tree. It has a mucilaginous and sweetish taste, and a disagreeable smell. According to Dr. Wright of Jamaica, it is powerfully medicinal as an anthelmintic.

Gestatio. *Gestation*, or *pregnancy*, *cyophoria.* It is the progress of the fœtus from the time of conception to that of parturition. The time of a woman's pregnancy is nine solar months, or about two hundred and eighty days ; but the child is sometimes born at seven months, and in a few instances at ten. From the moment in which the fœtus is animated, a change takes place in the mother's constitution. Sometimes this is so striking as to be at once perceptible ; sometimes it is so trifling that months pass on before any obvious change takes place. The change first perceptible is increased irritability. Fancies the most singular and extravagant possess the mind ; objects most cherished lose their interest, and others seem to assume new attractions: the appetite is equally capricious ; the sleep is broken and interrupted. The stomach partakes of this caprice ; and food, the most alimentary, loses its relish, while the most unpleasing, and apparently disgusting diet, is sought after. At the moment of leaving the bed, sickness and faintness come on ; the stomach strains with violence, and nothing, or a little bile only, is discharged. The greater number of these symptoms, however, occur in most instances only about the end of the month or six weeks, and they vary in their number and degree, seldom disappearing till about the middle period, or about two hundred days. In this interval they are often truly distressing. Every kind of food is immediately rejected, faintness follows, and even the night is not free from distressing fancies. In such circumstances art is of little avail. Opiates will sometimes quiet the irregular exertions of the stomach, but it will sometimes fail. The columbo-root, in powder or in tincture, is sometimes useful; and the aqua kali, or ammoniæ puræ, will occasionally relieve the vomiting, or the distressing heartburn. In general, something should be taken into the stomach before the expecting mother rises from bed, and a cup of peppermint or camomile tea is the most effectual means of relieving the usual urging.

The cause of these commotions we know not, but they are evidently neither unnatural nor morbid. They arise probably from the irritation of the uterus, communicated to the stomach, and are the effect of the new unaccustomed motions excited in this very irritable organ. That they are not morbid is sufficiently clear, from their scarcely in any instance producing abortion, and from the child being born healthy and active ; though for at least three months, sometimes through the whole period, the mother has never retained a single meal, and is apparently worn to the lowest state of debility ; a degree of debility under which some delicate women have sunk. The final cause seems to be the necessity of securing a supply for the fœtus. When a woman is first pregnant, all the evacuations are diminished, and a plethoric state occurs. Nature, at that time, requiring no recruit, rejects every addition: secure in what is provided, all adventitious aid is rejected. Were they more accumulated, the embryo might be thrown off by the effort of vessels excited beyond their powers ; and vomiting, which, as we have shown, determines to the surface, prevents the uterine vessels from being too much distended. When the uterus rises above the pelvis, when the fœtus has attained the power of motion, and is felt at first in irregular fluttering, and afterwards by more distinct actions, all the supply which the mother can convey is wanted. The scene is then changed: the appetite returns, the sleep is uninterrupted, digestion rapid and perfect, the spirits free and unruffled. So far from irritation suggesting fancied evils, real ones disappear; and, though she sometimes *talks* of the future delivery being fatal, she *acts* as if she looked forward to a numerous offspring, and even to *their* descendants. In short, if there is a period of greater health and activity than any other, it is from the two hundred and fortieth to the two hundred and eightieth day; interrupted only, at last, by the unwieldy size, and probably, through the whole, by a little constipation.

In other cases the practitioner feels greater difficulties. Pregnancy sometimes is not discovered by its appropriate symptoms, and these are occasionally concealed. In the early weeks, the abdomen is said to be flatter than usual: it is at least not fuller; and if obstruction takes place, with none of the appropriate symptoms of pregnancy, *that* is considered as a disease, and active emmenagogues are employed. Luckily, this discharge, as we shall find, is not much in our power. If a woman is married, not advanced in years, even though in a bad state of health, pregnancy should be always suspected. If she has been before regular, the suspicions are stronger; but, if not so, we must still suspect, and avoid any powerful evacuants, till the period when the state can be ascertained by unequivocal symptoms, or by the touch. If the woman is clandestinely pregnant, every artifice is employed to conceal the real symptoms, and the facts are only ascertained by the greatest address. The look of a chlorotic and a pregnant girl greatly differs. In the former the face is sunk; the skin muddy; the breasts flaccid; and the nostrils dry: in the latter, whatever are the symptoms of debility, the skin is clear, the features retain some animation, the breasts are full, and the nipple ruddy. These appearances cannot be disguised; but the state of menstruation is concealed, for by this means they hope to escape from their inconveniences, by the probability of what they style "forcing medicines" being ordered. In every circumstance, however, where the slightest doubt remains, the prudent practitioner will abstain from active measures, till the period arrives when the tumour, or the touch, will clear all his doubts. The tumour, in these clandestine pregnancies, is attributed to dropsy. The touch is more decisive; and, by this means, real pregnancy may be ascertained, and distinguished from schirrus, or polypus of the uterus. If the woman leans forward on a chair, the surgeon, from behind, introduces his fore or middle-finger into the vagina, and moves it round till the point touches the os tincæ. In the virgin state it is smooth and even; the uterus yields to the finger, and may be moved like a light ball with ease. In the first three months the difference is inconsiderable; but the tubercle at the mouth of the uterus is somewhat enlarged, and the womb itself sinks, seemingly, lower into the vagina. These marks are, however, equivocal; for even in the unimpregnated state, women differ in these respects. But at about the fifth month, the cervix uteri begins to be distended, and the os tincæ to offer a different sensation to the finger. The tubercle shortens, the orifice expands, the uterus itself is moved with difficulty. At last the os tincæ no longer conveys the idea of a fissure, but of an elliptical tube, and is sometimes at that period wholly beyond the reach of the finger. The tumour, at the same time, affords no unequivocal sign. It is not uniform over the whole abdomen. It does not yield, as if its contents were flatus; there is no fluctuation, as if there were water; no unequal hardness, as if any contained part were schirrous. The swelling rises from above the pubes, generally leaning to one, very often the right, side: it is circumscribed above, hard, but not considerably or irregularly so; and from the state of the urinary secretion, cannot be confounded with a distended vesica. In the fifth month the uterus extends about half way between the pubes and navel, and the neck of the womb is sensibly shortened. In the seventh month the fundis uteri reaches to the umbilicus; in the eighth, midway between this and the pit of the stomach; in the ninth, to the scrobiculus cordis. After the fifth month, and more decidedly in the further stages, the breasts are full; the areola round the nipple extends, and from a ruddy assumes a brown or a blackish hue. In reality, however, after the sixth month deception must be at an end: the facts are decisive.

Not to break the continuation of the subject, we omitted mentioning the distinction between pregnancy and schirrus, or polypi of the uterus. In the first the weight of the womb is considerable, but the edges of the os tincæ are hard and irregular: in the second we find also considerable weight in the uterus, but the other symptoms of pregnancy are wanting, and it is very generally the disease of advanced life.

During gestation the uterus enlarges not from distension or pressure, for distended organs become thinner, and compressed ones thicker than natural: the womb preserves its former thickness; and even increases to the usual bulk of the gravid state when the fœtus is in the ovary, the Fallopian tubes, or the abdomen. Its substance, during gestation, becomes softer; its veins enlarge, so as to assume the appellation of sinuses; its arteries run in a serpentine direction, and freely anastomose, especially near the placenta, and open obliquely into this organ. Its fibres are circular, and arise from three distinct sources; the spot where the placenta is attached, and from the orifice of each tube. When the womb rises high, as is usual in a first pregnancy, the ligamenta rotunda are considerably stretched, and pains, striking from the belly downward, are very distressing.

A surgeon is often consulted about the reckoning. It is usual to commence from about the middle of the period between the last return and the suppression; but it is safer to reckon about a week earlier. If the menses return scantily in a woman usually regular, the reckoning should commence about a week before this inefficient recurrence. But the whole should be corrected by the *quickening*, the period when the child's motion is perceived. This is at first indistinct, resembling rather a flatulence in the bowels; but producing sometimes a deliquium. When thus unequivocally marked, somewhat more than the fourth month may be supposed complete, or from one hundred and thirty to one hundred and forty days. When not thus marked, about a week may be reckoned back from the *certain* feeling of a motion, and that may be fixed on as the same period of pregnancy. When, from the irregularity of the menses, the weakness of the child's motion, and the mother's age, generally connected with the two former, we cannot determine from either circumstance, the state of the tumour must decide.

Gingivæ. The gums. See *Gums.*

Ginglymus. The hinge-like joint. A species of diarthrosis or moveable connection of bones, which admits of flexion, and extension, as the knee-joint, &c. from γιγγλυμος, *a hinge.*

Ginseng. The plant from which this root is obtained is the *Panax quinquefolium* of Linnæus. It is imported into this country scarcely the thickness of the little-finger, about three or four inches long, frequently forked, transversely wrinkled, of a horny texture, and both internally and externally of a yellowish white colour. To the taste it discovers a mucilaginous sweetness, approaching to that of liquorice, accompanied with some degree of bitterness, and a sligh aromatic warmth. The Chinese ascribe extraordinary virtues to the root of ginseng, and have no confidence in any medicine unless in combination with it. In Europe, however, it is very seldom employed.—ʒi. or more.

Gland. A small round body that serves for the secretion or alteration of a fluid. Glands are generally larger, in proportion, in infants than in adults: they are composed of nerves and vessels, which are very numerous, and come from, and proceed to, the neighbouring parts: they are connected with one another, and to other parts by a cellular structure. There are several kinds of glands, which the reader will find in their respective places, as folliculose, globate, conglobate, glomerate, and conglomerate glands; these are also variously termed by anatomists, according to the nature of the fluid they separate, as sebaceous, muciparous, lymphatic, lachrymal, salival, billious glands, &c.

Glandulæ Myrtiformes. Carunculæ myrtiformes. The small glandiform bodies at the entrance of the vagina of women. They are the remains of the hymen, which is cleft in several parts during the first coition.

Glans Penis. The very vascular body that forms the apex of the penis. The posterior circle is termed the *corona glandis.* See *Corpus spongiosum urethræ.*

Glass. This substance is sometimes employed by surgeons when roughly powdered, as an escharotic to opacities of the cornea.

Glauber's Salt, a genus of *Neutral Salt*, in the order of alkaline neutral salts. Its crystals are hexaedral, and contain a great portion of water; spontaneously calcining in the open air. It consists of the fossil alkali and the vitriolic acid.

Glaucoma. An opacity of the vitreous humour. It is difficult to ascertain, and is only to be known by a very attentive examination of the eyes.

Gleet. It is commonly understood to be the gonorrhœa benigna; but Dr. Cullen distinguishes it from that, by making it synonymous with gonorrhœa mucosa, which name he gives to the discharge from the urethra, after the virulence of an impure gonorrhœa is destroyed.

Glenoid Cavity. The articular cavity of the scapula; from γληνη, *a cavity*, and ειδος, *resemblance.*

Globate Gland. A lymphatic gland. See *Conglobate gland.*

Globules, are such small particles of matter as are of a globular or spherical figure; as the red particles of the blood, which swim in a transparent serum, and are easily discovered by the microscope; and it is pleasant to see how these will attract one another when they come within a due distance, and unite like the spheres of quicksilver.

Globus Hystericus. In hysteric disorders a globe seems to ascend from the stomach, or from the breast, into the throat, and almost suffocates the patient: this seeming ball is a spasmodic affection, and is produced by a spasm of the upper orifice of the stomach being relaxed, and the air rushing up into the œsophagus, where it is confined in consequence of a spasm in the muscles of this part.

Glomerate Gland. A gland formed of a glomer of sanguineous vessels, having no cavity, but furnished with an excretory duct; as the lachrymal and mammary glands.

Glossa, γλωσσα, the tongue.

Glossagra, a rheumatic pain in the tongue.

Glossocele, and extrusion of the tongue.

Glossocoma, a retraction of the tongue.

Glosso-pharyngæi. These muscles are fibres which come from the tongue, running along its internal edges, from which they are parted backward, and run down on the sides of the pharynx, under the stylo-pharyngæi. Also a name of the cephalo-pharyngæi: from γλωσσα, *the tongue*, and φαρυγξ, *the pharynx*.

Glosso-staphilinus, from γλωσσα, *the tongue*, and σταφυλη, *uvula*. These muscles are fixed in the lower and lateral part of the basis of the tongue, whence they run up obliquely backward, along the anterior half arches of the septum palati, and terminate insensibly on each side near the uvula. The thickness of the two anterior arches of the palatum mollis is occasioned by these.

Glottis, γλωττις, from γλωσσα, *lingua*, *the tongue*, is that chink of the larynx that lies at the root of the tongue, and which is covered by the epiglottis.

Glus. It is a kind of dysuria, called *dysuria mucosa*, purulent urine It consists of a copious discharge of mucus with the urine.

Glutæa Arteria. It is a branch of the hypogastric artery. It passes out of the pelvis in company with the sciatic nerve, through the upper part of the great sinus of the os innominatum, below the musculus pyriformis, and is distributed in a radiated manner, to the three glutæi muscles, and neighbouring parts.

Glutæus, from γλετος, *nates*, *the buttock.* There are three muscles of this name which extend the thigh; the first is the *glutæus major*, or the greater, which arises semicircularly from the os coccygis, the spines of the sacrum, the spine of the ilium, and from a strong ligament that runs between the sacrum and tubercle of the ischium: and descending, it is inserted into the linea aspera, four fingers breadth below the great trochanter. The medius, or the middle, arises from the spine of the ilium under the former, and is inserted into the superior and external part of the great trochanter. And the minor, or lesser, arises from the lower part of the former, and is inserted at the superior part of the great trochanter.

Gluten. With the fecula and saccharine matter which compose the principal part of nutritive grain, is another substance approaching more nearly in its characters to animal matter than any other product of the vegetable system. From the resemblance in its properties to the animal principle formerly called gluten, but now described under the term *Fibrin*, it has received the name of vegetable gluten. It is obtained in largest quantities from wheat, amounting to the twelfth part of the whole grain, by kneading the flour into paste, which is to be washed very cautiously, by kneading it under a jet of water, till the water carries off nothing more, but runs off colourless; what remains is gluten: it is ductile and elastic; it has some resemblance to animal tendon or membrane; it is very tenacious, and may be used as a cement for broken porcelain vessels. It has a peculiar smell, with scarcely any taste. When exposed to the air it assumes a brown colour, and becomes apparently covered with a coat of oil. When completely dry it resembles glue, and breaks like glass. It is insoluble in water, alcohol, and ether; but the acids dissolve it, and the alkalies precipitate it. It has a strong affinity for the colouring matter of vegetables, and likewise for resinous substances. When kept moist it ferments, and emits a very offensive smell; the vapour blackens silver and lead. Its constituent parts are oxygen, hydrogen, carbon, and azote. It exists, as we have observed, most abundantly in wheat, but it is found in large quantities in many other plants. It is gluten that renders wheat so useful in the art of bread making.

Glycyrrhiza. Liquorice. *Glycyrrhiza glabra* of Linnæus, a native of the south of Europe, but cultivated in Britain. The root contains a great quantity of saccharine matter, joined with some proportion of mucilage, and hence it has a viscid sweet taste. It is in common use, as a pectoral or emollient, in catarrhal defluxions on the breast, coughs, hoarsenesses, &c. Infusions or extracts made from it afford, likewise, very commodious vehicles for the exhibition of other medicines; the liquorice taste concealing that of unpalatable drugs more effectually than syrups or any of the sweets of the saccharine kind.

Goldbeater's Skin, is the intestinum rectum of an ox, which goldbeaters lay between the leaves of their metal while they beat it, whereby the membrane is reduced thin, and made fit to apply to cuts, or small fresh wounds, as it is now the common practice.

Gomphosis, γομφωσις, from γομφοω, *clavum impingo*, to drive in a nail, is a species of synarthrosis, or immoveable connection of bones, in which one bone is fixed in another, like a nail in a board, as the teeth in the alveoli of the jaws.

Gonorrhœa. A preternatural flux from the urethra or vagina. It arises from the action of the venereal virus on those parts, producing first an itching, afterwards a discharge like pus, attended with heat on making water; and in men, with *phymosis*, and sometimes *paraphymosis*; from γονη, *semen*, and ρεω, *to flow*, from an erroneous supposition of the ancients that it was a seminal flux. M. M. Sedative and astringent injections; saline purgatives; nitre.

Gordius, the hair-worm. The gordius aquaticus, and the gordius medinensis, produce disease by getting into the feet, &c. of the inhabitants of many hot countries. See *Dracunculi* and *Medinensis Vena.*

Gout. See *Arthritis.*

Gracilis. A muscle of the leg, situated on the inside of the thigh that assists the sartorius in bending the leg obliquely inwards, or bringing one leg across the other.

Gramineous Herbs, amongst botanists are such as have a long, narrow leaf, and no foot-stalk; and these are reckoned frumentaceous whose seed is used for food, either in bread, drink, or broth, such as wheat, rye, barley, &c. According to Linnæus, the gramina constitute one of the seven tribes or families of the vegetable kingdom: they are thus characterized; having the most simple leaves, an articulated culmus, a glumose calyx, and a single seed. This family includes the several kinds of corn as well as grasses.

Granum Pondus, a grain weight. It is the weight of a grain of wheat, or a wheat corn, picked from the middle of the ear.

Granatum. The pomegranate. The fruit of the *Punica granatum* of Linnæus. The rind of the fruit, and the flowers (called Balaustine flowers,) are the parts directed for medicinal use. In their smell there is nothing remarkable, but to the taste they are very adstringent, and have successfully been employed as such in diseases both internal and external.—℈ss. to ʒ ss.

Gratiola. Hedge-hyssop. This exotic plant, the *Gratiola officinalis* of Linnæus, is a powerful and active cathartic, and operates with such violence upon the stomach as generally to induce vomiting. It has been commonly employed as a cathartic and diuretic in hydropical diseases, and instances of its good effects in ascites and anasarca are recorded by many respectable practitioners. German physicians also relate its efficacy in maniacal and venereal cases.—℈ss. to ʒss.

Gravedo, a dull pain in the forehead. It is synonymous in Cullen's *nosology*, with catarrh. It is that weight or listlessness, which accompanies a lessened transpiration, or taking cold, as it is commonly called; and as it is frequently accompanied with a running of the nose and eyes, it is used for a coryza, which expresses the same.

Gravida, gravid. A woman is said to be so whilst with child.

Graviditas, (from *gravida, to be with child.*) *Pregnancy;* and the extraordinary distension of the abdomen in that state. The period of gravidity or gestation is about nine months, or forty weeks, equal to two hundred and eighty days. It is sometimes, however, pretty certainly prolonged to ten months; and the law, we apprehend, allows eleven, as the utmost limits of possible gravidity. On the other hand, a child lives if born at the end of seven months, probably not earlier.

Gravidity Spurious. Water in the abdomen; polypi, or water in the uterus; a mola, or unformed mass; and steatomata in the uterus, or Fallopian tubes, will often produce appearances of gravidity. The uterus itself will enlarge, the breasts swell, and all the appearances of real impregnation take place. No situation in which a physician can be placed requires greater delicacy. In general, he should wait till all probability of impregnation is at an end, and then act according to the prevailing circumstances; but by all means be cautious of declaring his opinion till it be fixed on a secure foundation.

Grutum. Milium. A hard white tubercle of the skin, resembling in size and appearance a millet seed.

Gryphosis. A disease of the nails, which turn inwards, and irritate the parts below. Treatment. Cut the nails square, and press soft lint under their edges.

Guaiacum. Officinal guaiacum. This tree is a native of the West-India islands. The wood, gum, bark, fruit, and even the flowers, have been found to possess medicinal qualities. The wood is brought principally from Jamaica, in large pieces of four or five hundred weight each, and from its hardness and beauty is used for various articles of turnery ware. It scarcely discovers any smell, unless heated, or while rasping, in which circumstances it yields a light aromatic one: chewed, it impresses a slight acrimony, biting the palate and fauces. The gum, or rather resin, is obtained by wounding the bark in different parts of the body of the tree, or by what has been called jagging. It exudes copiously from the wounds, though gradually; and when a quantity is found accumulated upon the several wounded trees, hardened by exposure to the sun, it is gathered and packed in small kegs for exportation: it is of a friable texture, of a deep greenish colour, and sometimes of a reddish hue; it has a pungent acrid taste, but little or no smell, unless heated. The bark contains less resinous matter than the wood, and is consequently a less powerful medicine, though in a recent state it is strongly cathartic. The flowers, or blossoms, are laxative, and in Jamaica are commonly given to children in the form of syrup. It is only the wood and resin of guaiacum which are now in general medical use in Europe; and as the efficacy of the former is supposed to be derived merely from the quantity of resinous matter which it contains, they may be considered indiscriminately as the same medicine. Guaiacum was first introduced into the materia medica soon after the discovery of America; and previous to the use of mercury in the lues venerea, it was the principal remedy employed for the cure of that disease; and its great success brought it into such repute, that it is said to have been sold for seven gold crowns a pound: yet notwithstanding this, its failure was such as to let it be quite superseded by mercury; and though it be still occasionally employed in syphilis, yet it is rather with a view to correct other diseases in the habit, than for its effects as an antivenereal. It is now more generally employed for its virtues in curing gouty and rheumatic pains, and some cutaneous diseases.—℈i. to ʒi.

Gum, a thick transparent tasteless fluid, which exudes occasionally from certain species of trees. It is adhesive, and gradually hardens without losing its transparency. Gum is chiefly obtained from different species of the mimosa, particularly from M. nilotica, a native of Egypt and Arabia, which is known by the name of gum arabic. The specific gravity of gum is about 1.4. It is not changed by exposure to the air, but is deprived of its colour by the action of the sun. By heat it becomes soft, and is speedily reduced to the state of charcoal, which enters largely into its composition. The constituent parts of gum are carbon, hydrogen, and oxygen, with smaller proportions of nitrogen and lime. The oxygen is much less in quantity than the saccharine matter. The existence of lime and nitrogen in gum renders it essentially different from fecula and sugar, to which, in other respects, it bears a near relation; they however are able to undergo the vinous fermentation, which is not the case with gum. Gum readily dissolves in water, and the solution, which is thick and adhesive, is known by the name of mucilage. It is soluble also in the vegetable acids. Sulphuric acid decomposes it, and converts it into water, acetic acid, and charcoal. With the assistance of heat, muriatic acid, and nitric acid, produce a similar effect. It is insoluble in alcohol and ether. Such are the chief properties of gum arabic. There are, besides this, other gums, of which the principal is denominated tragacanth, from the astragalus tragacantha, a native of the island of Crete, which is in the form of vermicular masses; it is less transparent, and more adhesive than gum arabic, but by distillation it yields similar products. In our gardens and orchards we find, in good quantities, gum exuding from the cherry and plumb trees, which differs chiefly from gum arabic in being softer and more soluble. Gum, in a state of mucilage, exists in a number of plants, especially in the roots and leaves. It is most abundant in bulbous roots, and of these the hyacinth seems to contain the largest quantity. A pound of the bulbs of this root, when dried, yields four ounces of a powder, which, when macerated in water, give a mucilage that acts well as a mordant for fixing the colours in calico-printing. Gum is used in medicine, and is considered as a specific against the stranguary occasioned by blisters; it constitutes, under particular forms, a nutritious food, and it is well known as an important article in the manufacture of our ink.

Gum resins, are certain substances that have long been used in medicine. They are all solid, generally brittle and opaque, have a strong smell, and a pungent and bitter taste. They consist chiefly of gum and resin, the proportions varying with the particular substance. They are never obtained by means of spontaneous exudation, but are procured by wounding the plants which contain them. The principal of the gum resins are, 1 *Ammoniac*, which see. 2. *Assafœtida*, obtained from the ferula assafœtida, a plant found in Persia. The gum resin is extracted from the roots by cutting off the extremities; a milky juice flows out, which is dried in the sun. It is brought to Europe in masses; its smell is very fœtid, and its taste acrid. It is partially soluble in water and alcohol. 3. *Euphorbium*, obtained from the euphorbia officinalis, a native of Ethiopia, by making incisions in the plant. It is brought from Africa in the form of tears, is soluble in alcohol. It has no smell; after a time it communicates a burning taste to the tongue. It is regarded as poisonous. 4. *Galbanum*, which see. 5. *Gamboge*, which see. 6. *Myrrh*, which is brought from the East-Indies in the form of tears, is light, brittle, of a reddish colour, and has an unctuous feel; it is bitter and aromatic; it is soluble in water and alcohol in slight degrees. 7. *Opoponax*, obtained from the pastenaca opoponax, a perennial plant which grows wild in the south of Europe. This is extracted by wounding the stock or root, and is known here in the form of round drops or tears, or in irregular masses of a reddish colour. It is bitter and acrid to the taste, and with a peculiar smell. It forms a milky solution with water, and yields an essential oil by distillation. 8. *Sapagenum*, supposed to be had from the ferula persica, and brought in large masses, or distinct tears, from Alexandria. It has a hot taste and disagreeable smell. It is moderately soluble in alcohol, but much more so in water. By distillation it yields a fœtid volatile oil. From some experiments made upon ipecacuanha, it is thought to contain a gum resin. All the gum resins that have been analysed have been found to contain ammonia.

Gum. Mucilage. This substance is very abundant in the vegetable kingdom; it is found in a great number of roots; and the shoots of plants and new leaves contain it in great abundance. It may be known by its viscous and adhesive quality when pressed between the fingers. At the time of the year when the juices of plants are the most abundant, it naturally exudes through the barks of trees, and thickens on the surface into gum. The characters of gum are, 1. Solubility in water, to which it gives a thick and viscous consistence. This solution, known by the name of mucilage, becomes dry, transparent, and brittle, by evaporation. 2. Insolubility in alcohol. 3. Coagulation by the action of weak acids. Mucilages, of the same nature as gums, are obtained also from many plants, as mallows, quince seeds, linseed, &c.

Gum Arabic. It exudes from the *Mimosa Nilotica* of Linnæus.

Gum-bile, or *Gum-boil.* See *Parulis.*

Gummata. Strumous tumours are sometimes thus called, from the resemblance of their contents to gummous substances.

Gums. Gingivæ. The very vascular and elastic substance that covers the alveolar arches of the upper and under jaws, and embraces the necks of the teeth.

Gutta Rosacea. A number of red spots upon the face and nose. M. M. Five grains of calomel once a month, with a cathartic, rhubarb grs. v. and emetic tartar gr. $\frac{1}{4}$, every night for many weeks. Then a mercurial plaister, without turpentine, worn by night. Blistering all over the eruption.

Gutta Serena, i. e. *Amaurosis.*

Gutturalis Arteria. The first considerable branch of the external carotid is the superior *guttural*, which arises just where it parts from the internal, and runs to the thyroid gland, and to the muscles and other parts of the larynx or pharynx. The inferior *guttural artery* is the *Trachealis Arteria*, which see.

Gutturalis Vena. The right goes from the upper part of the bifurcation above the mammaria of the same side, and sometimes from the subclavia. The left from the left subclavian, near its origin.

Gutturis Os, i. e. *Os Hyoides.*

Gymnastic, from γυμναζω, *exerceo, to exercise*, is such a method of cure as is performed by exercise, or that part of physic which treats of the rules that are to be observed in all sorts of exercises, for the preservation of health. This is said to have been invented by one Herodicus, born at Salymbra, a city of Thrace; or, as some say, at Leutini in Sicily. He was first master of an academy, where young gentlemen came to learn warlike and manly exercises; and whom he observing to be very healthful on that account, he made exercise become an art, in reference to the recovering men out of diseases, as well as preserving them from them; and called it *Gymnastic*, which he made a great part of his practice of physic. But Hippocrates, who was his scholar, blames him sometimes for his excesses in this kind of physic. And Plato exclaims against him with some warmth, for enjoining his patients to walk from Athens to Megara, which is about twenty-five miles, and to come home on foot as they went, as soon as ever they had but touched the walls of the city. But to how much soever a blameable excess this might be carried in those times, the province of medicine was some while after so over-run with enthusiasts, chemists, and jugglers, as to turn out all such practices; but by the help of a sounder philosophy, the present age has restored it again.

and in due limitations; insomuch, that there are hopes of seeing a great multitude of nauseous, unprofitable medicines give way to more efficacious and pleasant exercise; especially in chronic cases, where very much may be effected by the *Gymnastic* practice.

The moralists and medical men of antiquity, highly approved of those sports which were calculated to bring health, strength, and grace in their train: but were energetic and vehement in their censures of the athletes, who wrestled and boxed with angry violence, and afterwards indulged in vicious excesses.

Galen classed the *discus* in the medicinal gymnastics, in hurling which he was declared the victor who sent it highest in the air, the greatest distance, and the nearest to the mark. Circular quoits, resembling a broad ring, and made of iron, are still used in England, but it is extremely doubtful whether the most experienced player could rival the inferior discobuli of ancient times. Wrestling was the only exercise of those already mentioned, which could be said to be improper or dangerous. Tertullian reprobated it, and Galen suffered a dislocation of his shoulder when wrestling, which satisfactorily accounts for his enmity to the sport.

H

HABIT, is any particular disposition or temperament of body, obtained by birth, or manner of living. The ancients distinguished εξις, a constant, permanent habit, from διαθεσις, a present disposition, soon liable to alter.

Habitus Plantæ, the habit of a plant, is the outward appearance of plants.

Hæmatemesis. Vomitus cruentus. A vomiting of blood. M. M. Venesection sometimes; neutral salts; laxatives; astringents.

Hæmatocele. A collection of blood in the tunica vaginalis, or cellular membrane of the scrotum; from αιμα, *blood*, and κηλη, *a tumour*. M. M. Ardent spirits, or alum locally; evacuation of the blood by incision.

Hæmatomphalocele, a tumour in the navel, turgid with blood, from αιμα, *blood*, ομφαλος, *a navel*, and κηλη, *a tumour*.

Hæmaturia. Bloody urine: mostly symptomatic. M. M. Venesection sometimes; refrigerants; laxatives; mucilages; opium; astringents.

Hæmitritæa, or *Hæmitritæus*, ημιτριταιος, a species of fever, viz. the *Semitertian*.

Hæmoptysis. A spitting of blood; from αιμα, *blood*, and πτυω, *to spit*. A genus of disease arranged by Cullen in the class *pyrexiæ* and order *hæmorrhagiæ*. It is characterized by coughing up of florid blood, or frothy blood; heat or pain in the chest; irritation in the larynx, and a saltish taste in the mouth. Species, 1. *Hæmoptysis phlethorica*, from fulness of the vessels: 2. *Hæmoptysis violenta*, from some external violence: 3. *Hæmoptysis phthisica*, from ulcers corroding the small vessels: 4. *Hæmoptysis calculosa*, from calculous matter in the lungs: 5. *Hæmoptysis vicaria*, from the suppression of some customary evacuation. M. M. Venesection; cooling laxatives; refrigerants; digitalis; a spoonful of fine salt; spare diet (rice); sulphuric acid; cold; erect posture; rest; opium; astringents; a blister.

Hæmorrhagiæ. Hæmorrhages; from αιμορροις, *an eruption of blood.* An order in the class *pyrexiæ* of Cullen's nosology; characterized by pyrexia with a discharge of blood, without any external injury; the blood on venesection exhibiting the buffy coat.

Hæmorrhoidal Arteries. The external hæmorrhoidal artery is a branch of the internal pudendal, which arises from the internal iliac. The internal hæmorrhoidal is a branch of the inferior mesenteric.

Hæmorrhois. The piles; from αιμορροις, *a flux of blood.* They are known by a discharge of blood with the fæces, attended with pain in the rectum, loins, and head; and by the presence of enlarged veins, which are the piles. M. M. Leeches, sugar of lead; ointment of elder or oak galls; astringent infusions and pressure topically; mild laxatives: 40 to 50 gts. balsam capivi at night and morning; refrigerants; digitalis and astringents internally.

Hair. The hairs of the human body are thin, elastic, dry filaments, growing out from the skin. They receive various names according to their situation: thus they are called *capilli* on the head; *supercilia*, or eye-brows, above the eyes; *cilia*, or eye-lashes, on the margin of the eye-lids; *vibrissæ*, in the nostrils, *pili auriculares*, in the external auditory passage; *mystax*, on the upper lip, and *barba*, on the lower jaw, &c.

Hallucinations. Errors of imagination.

Hamulus. A little hook. A term in anatomy that is applied to any hook-like process, as the hamulus of the pterygoid process of the sphænoid bone.

Harmattan. It is a periodical wind which blows from the interior parts of Africa towards the Atlantic Ocean. Its properties are, that it is so exceedingly drying, that the covers of books shrink, the pannels of doors split, in human subjects thirst is occasioned, the scarf-skin peels off, &c.

Harmonia. Harmony. A species of synarthrosis or immoveable connection of bones, in which bones are connected together by means of rough, but not dentiform, margins; as the bones of the face; from αρω, to fit together.

Haustus, a draught. Draughts differ not from any liquid form, only in their being in single doses; vomits, purges, opiates, and others which require great nicety in determining the dose.

Head-mould-shot, is when the sutures of the skull, generally the coronal, ride, that is, have their edges shoot over one another; which is frequently the case in infants, and occasions convulsions and death.

Health, is justly defined the faculty of performing all the actions proper to a human body in the most perfect manner. And all the effects of these actions are such as regard certain determined motions, or the change and alteration of what is received into the body.

Hearing. An animal function. The sensation by which the sound of sonorous bodies is perceived. The organ of hearing is the soft portion of the auditory nerve, which is distributed in the vestibulum, semicircular canals, and cochlea.

Heart. Cor. This muscular viscus, which is the primary organ of the blood's motion, is situated obliquely, not transversely, in the left side of the thorax, between the lungs and within the cavity of the pericardium. It is distinguished by anatomists into the basis and apex; an anterior and posterior margin; a superior and inferior surface; and into a right and left auricle, and a right and left ventricle. The auricles are muscular cavities, that lie upon the basis of the heart, surrounding almost the pulmonary artery and aorta, and which receive the blood from the veins. The ventricles are two internal cavities of the heart, that are divided from each other by a muscular septum, *septum cordis:* they have, each of them, two openings, the one auricular, through which the blood enters, the other arterial, through which it passes out. These four orifices are furnished with valves that are called *semilunar* at the arterial openings, *mitral* at the right auricular, and *tricuspid* at the left auricular orifice. The vessels of the heart are divided into *common* and *proper*. The *common* are, 1. The *aorta*, which arises from the left ventricle : 2. The *pulmonary artery*, which originates from the right ventricle : 3. The four pulmonary veins, which terminate in the left auricle. 4. The *vena cava*, which evacuates itself into the right auricle. The *proper vessels* are, 1. The *coronary arteries*, which arise from the aorta, and are distributed on the heart : 2. The *coronary veins*, which return the blood into the right auricle. The *nerves* of the heart are branches of the eighth and great intercostal pairs. The heart of the fœtus differs from that of the adult in having a *foramen ovale*, through which the blood passes from the right auricle to the left.

Heat. Caloric is considered as a substance capable of passing from body to body, and subsisting in them in different states. This is the general doctrine of chemical philosophers : many of these, however, as well as others, incline to the hypothesis, that heat may consist in an undulatory or other intestine motion, either in the parts of bodies, or in some subtle fluid, or ether. Among these we may reckon Sir Isaac Newton, Mr. Cavendish, Dr. Young, and Count Rumford.

Heat, animal. The temperature which animals, and even vegetables maintain during life, above that of surrounding objects, is a very striking phenomenon. By general analogies it has frequently been referred to the process of combustion ; and from facts more distinctly pointed, the doctrine, that it depends upon the absorption of oxygen, has been advanced by modern chemists. But it is to Dr. Crawford we are indebted for a direct series of experiments, by which the nature of the process is directly made out. It would carry us too far into physiological disquisition, if we were to proceed to inquire respecting the nature of the parts, and the functions of organized beings. The blood which circulates through the lungs absorbs oxygen in the act of respiration, by means of which a portion of the carbon which it contains is acidified and carried off in the elastic state. After this, and perhaps other changes, the fluid passes through the arteries to the extreme vessels, depositing in some manner the elementary parts or principles of animal matter during the act of nutrition, in which state of still further change the blood returns by the veins, and again passes through the course of circulation. From his experiments on the capacities of arterial and venous blood, Dr. Crawford found the capacity of the former for heat to be 1.030, and that of the latter only 0.892, whence he concludes, that though heat must be given out in consequence of the diminished capacity of the combined oxygen absorbed by respiration, yet the increased capacity of the arterial blood will prevent its becoming sensible immediately in the lungs ; instead of which, it will be given out at the smaller ramifications where the blood becomes changed in its nature, and in its capacity for heat by its conversion to the venous state. It has also been established by the experiments of the same philosopher, that the process of absorption of oxygen is less in a higher than in a low temperature; the difference between the arterial and venous blood being at the same time less, and consequently the augmentation of temperature in the animal less considerable. This law of the animal economy, assisted by the increased evaporation, and by the slow conducting power of an animal body, and perhaps by the permanency of the enlarged capacity, seems sufficient to account for the power which animals possess of maintaining their natural temperature without any remarkable change in an atmosphere greatly heated, as was shown in the experiments of Fordyce and Blagden. (See Philos. Trans. 1775.) It must be confessed, however, that some farther investigations seem wanting on this subject.

Though the lungs appear to be the great organ of oxygenation in the larger animals, it is well ascertained that a process of nearly the same nature is carried on at the skin; and in many of the smaller or less perfect animals there appears to be no other means for effecting this absorption.

Men can live in a much greater *heat* than that of their own bodies, which, in a healthy state, is commonly estimated to be about 97 degrees of Fahrenheit's thermometer. When air is considerably heated, the human body is capable of generating cold: this fact was observed by Governor Ellis, as long ago as the year 1758. The late Professor Cullen has long ago suggested many arguments to show, that living animals have a power of generating *heat*, independently of any common chemical or mechanical means, either of fermentation or friction; and also of generating cold, or of destroying *heat*, when the *heat* of the atmosphere exceeded the proper temperature of their bodies. To ascertain this theory, Dr. George Fordyce instituted several experiments on himself in rooms, heated to various degrees by flues in the floor. In his second experiment, having undressed himself in his shirt, he went into an *heat* of 119 degrees, and in half a minute the water flowed down his whole body in streams; having remained here 15 minutes, he went into the *heat* of 130 degrees; at this time the *heat* of his body was 100 degrees, and his pulse beat 126 times in a minute; in this *heat* he remained 15 minutes, and just before he left the room, his pulse beat 139 times in a minute, but the *heat* under his tongue, in his hand, and of his urine, did not exceed 100 degrees. Dr. Fordyce observes, on this experiment, that there was no evaporation, but constantly a condensation of vapours on his body, and no cold was generated but by the animal powers. In another experiment, Dr. Solander stood in a room heated to 210 degrees, for three minutes, during which time, the quicksilver in the thermometer sunk to 196 degrees; and Mr. Banks remained seven minutes in the *heat* of 211 degrees, in which time the quicksilver had sunk to 198 degrees. The *heat* of their bodies in these experiments rose very little above its usual state. From these experiments, it is concluded that no attrition, fermentation, or whatever else the mechanical or chemical physicians have devised, can explain a power capable of producing or destroying *heat*, and that this power must be referred to the principle of life itself.

Hectic. From ἕξις, *habit.* See *Febris hectica.*

Hedera Terrestris. Ground-ivy, or gill. *Glecoma hederacea* of Linnæus. This indigenous plant has a peculiar strong smell, and a bitterish, somewhat aromatic, taste. It is one of those plants which was formerly much esteemed for possessing virtues that, in the present age, cannot be detected. In obstinate coughs it is a favourite remedy with the poor.

Helcoma. An ulcer upon the external or internal surface of the cornea. M. M. Bleeding both general and local; cathartics; cooling collyria; a blister or seton on the neck; other remedies according to the kind of ulcer.

Helenium, elecampane, or enula campana, is thus called from its great plenty in the island of St. Helena. It is a species of *Inula* in Linnæus's botany.

Helicis Major. A proper muscle of the ear, that depresses the part of the cartilage of the ear into which it is inserted.

Helicis Minor. A proper muscle of the ear, that contracts the fissure of the ear.

Helix. The external circle or border of the outer ear that curls inwards; from ειλεω, *to turn.*

Helleboraster. Fetid hellebore, or bear's foot. *Helleborus fœtidus* of Linnæus. The leaves of this indigenous plant are recommended by many, as possessing extraordinary anthelmintic powers. The smell of the recent plant is extremely fetid, and the taste is bitter and remarkably acrid, insomuch that, when chewed, it excoriates the mouth and fauces. It commonly operates as a cathartic, sometimes as an emetic, and in large doses proves highly deleterious. ʒi. to ʒii.

Helleborus Albus. White hellebore, or veratrum. *Veratrum album* of Linnæus. This plant is a native of Italy, Switzerland, Austria, and Russia. Every part of the plant is extremely acrid and poisonous. The dried root has no particular smell, but a durable, nauseous, and bitter taste, burning the mouth and fauces; when powdered, and applied to issues or ulcers, it produces griping and purging; if snuffed up the nose, it proves a violent sternutatory. Gesner made an infusion of half an ounce of this root with two ounces of water; of this he took two drachms, which produced great heat about the scapulæ and in the face and head, as well as the tongue and throat, followed by singultus, which continued till vomiting was excited. Bergius also experienced very distressing symptoms upon tasting this infusion. The root, taken in large doses, discovers such acrimony, and operates by the stomach and rectum with such violence, that blood is usually discharged: it likewise acts very powerfully upon the nervous system, producing great anxiety, tremors, vertigo, syncope, aphonia, interrupted respiration, sinking of the pulse, convulsions, spasms, and death. Upon opening those who have died by the effects of this poison, the stomach discovered marks of inflammation, with corrosions of its internal coat. The ancients exhibited this active medicine in maniacal cases, and, it is said, with success. The experience of Greding is somewhat similar: out of twenty-eight cases in which he exhibited the bark of the root, collected in the spring, five were cured. In almost every case that he relates, the medicine acted more or less upon all the excretions; vomiting and purging were very generally produced, and the matter thrown off the stomach was constantly mixed with bile; a florid redness frequently appeared on the face, and various cutaneous efflorescences upon the body, and, in some pleuritic symptoms, fever supervened, so as to require bleeding; nor were the more alarming affections of spasms and convulsions unfrequent. Critical evacuations were also very evident: many sweated profusely, in some the urine was considerably increased, in others the saliva and mucous discharges; and uterine obstructions, of long duration, were often removed by its use. Veratrum has likewise been found useful in epilepsy, and other convulsive complaints; but the diseases in which its efficacy seems less equivocal are those of the skin, as itch and different prurient eruptions, herpes, morbus pediculosus, lepra, scrophula, &c. and in many of these it has been successfully employed both internally and externally. As a powerful stimulant and irritating medicine, its use has been resorted to in desperate cases only, and even then it ought first to be exhibited in very small doses, as a grain, and in a diluted state, and to be gradually increased, according to the effects, which are generally of an alarming nature. grs. v. to ℈ss.

Helleborus Niger seu Melampodium. Black hellebore or Christmas rose. *Helleborus niger* of Linnæus. The root of this exotic plant is the part employed medicinally; its taste, when fresh, is bitterish and somewhat acrid: it also emits a nauseous acrid smell, but being long kept, both its sensible qualities and medicinal activity suffer very considerable diminution. The ancients esteemed it as a powerful remedy in maniacal cases. At present it is exhibited principally as an alterative, or when given in a large dose, as a purgative. It often proves a very powerful emmenagogue in plethoric habits, where steel is ineffectual or improper. It is also recommended in dropsies, and some cutaneous diseases. grs. v. to ʒss.

Helminthagogum, from ελμινθες, *worms*, and αγω, *duco, to drive*, is any medicine that expels worms.

Helminthiasis. A disease in which worms, or the larvæ of worms, are bred under the skin, or some external part of the body; from ελμινθες, which signifies any species of worms. It is endemial to Martinique, Westphalia, Transylvania, and some other places.

Helodes, or *Heloides*, ελωδης, the same also as τυφωδης, is a particular kind of fever attended with colliquative sweats, and hath, at the same time, the tongue dry and hard. Some take the Anglicus sudor, which was epidemical, and described by Lord Verulam in his *History of Henry the seventh's reign*, to have been of this kind.

Hemeralopia. Crepusculary blindness. A defect of vision, in which the person sees perfectly well all day; but in the evening or morning perceives little or not at all; from ημερα, *the day*, and ωψ, *an eye.*

Hemicrania. A pain that affects only one side of the head; from ημισυ, *half*, and κρανιον, *the head.* M. M. When the pain is over the eye, extract the dens sapientiæ, and when on the middle of the parietal bone, the first or second grinder in the lower jaw on the same side, if defective. A small bleeding; a strong emetic; a cathartic; opium; cinchona; arsenic; electricity; æther; oil of cloves; camphor and opium; warm vinegar; a blister or mercurial ointment used topically till it salivates. Strong errhines.

Hemiopsia. A defect of vision, in which the person sees the half, but not the whole of an object; from ημισυ, *half*, and ωψ, *an eye.*

Hemiplegia. Palsy of one side; from ημισυ, *half*, and πλησσω, *to strike.* See *Paralysis.*

Hemlock (Spotted). See *Conium Maculatum.*

Henbane. See *Hyosciamus.*

Hepar. Ηπαρ, the liver.

Hepatalgia. Pain in the region of the liver; from ηπαρ, *the liver*, and αλγος, *pain.*

Hepatic, belonging to the liver; from ηπαρ, *the liver.*

Hepatic Flux. It is a bilious diarrhœa, occasioned by an excess of bile.

Hepatic Artery. A branch of the cœliac, which gives off, before it is distributed on the liver, the pyloric, right epigastric, cystic, and the splenic arteries.

Hepatic Duct. The trunk of the pori biliarii, which terminates in the ductus communis choledochus.

Hepatic Vein. The great vein of the liver. See *Vena Portæ.*

Hepatirrhœa. A species of diarrhœa. See *Diarrhœa.*

Hepatitis. An inflammation of the liver; from ηπαρ, *the liver.* A genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen. It is known by pyrexia; tension and pain more or less acute in the right hypochondrium, which is very frequently referred to the top of the right shoulder, and increased by laying on the left side; urine high coloured. M. M. Copious venesection; cathartics; refrigerants; a blister on the right hypochondrium; antiphlogistic regimen; mercury; cinchona and iron.

Herculeus Morbis. The epilepsy is thus called, from the terror of its attacks and difficulty of cure. Some medicines also, upon the same foundation, have been called *Herculean*, in order to denote their uncommon force; but such conceits are now much in neglect.

Hereditary Disease, is such as is transmitted from the parents in the first rudiments of the fœtus, which is the origin of many chronic cases.

Hermaphroditus, ερμαφροδιτος, hermaphrodite, from Ἑρμης, *Mercury*, and Αφροδιτη, *Venus.* Generally understood to be a person where there is a confusion of sexes by a participation of the genital parts of both. But there seems no more of truth in this, than that some females have their clitoris of an uncommon size; and which frequently happens from lascivious titillations and frictions, as in the notorious instance of the two nuns at Rome.

Hermetic Art. Chemistry is thus called from Hermes or Mercury, whom they will have to be the first inventor of it.

Hermetical Seal, or to seal any thing *hermetically*, is to heat the neck of a glass till it is just ready to melt, and then with a pair of hot pincers to twist it close together.

Hernia. A rupture or tumour produced by the falling down of any viscus, covered by the common integuments. A genus of disease arranged by Cullen in the class *locales* and order *ectopiæ.* From the situation of the protruding viscus, herniæ have been divided into *inguinal*, *scrotal*, *femoral*, *vaginal*, *umbilical*, *abdominal*, &c. &c. According to the nature of the hernia, they are termed *intestinal*, *omental*, *vesical*, &c. and when a rupture cannot be reduced, and produces vomiting, colic, and constipation, it is called an *incarcerated hernia.*

Hernia Humoralis. Inflammation of the testicle. See *Orchitis.*

Herpes. Tetters; from ερπω, *to creep.* A genus of disease in the class *locales* and order *dialysis* of Cullen, distinguished by an assemblage of little creeping ulcers, itching very much, and not inclined to heal, but terminating in furfuraceous scales. M. M. Ink; sulphate of iron or zinc; acetite of lead; prepared kali; muriate of mercury; white or yellow mercurial ointment topically. Antimonials and mercurials internally.

Hiera Picra, the holy bitter. It was formely called *Hiera Logadii.* It is a particular composition of aloes and spices, and so called from the supposed excellency of its virtues; the words ιερα, *sancta*, and πικρα, *amara*, signifying the holy bitter.

Hippocastanum. Common horse chesnut. *Æsculus hippocastanum* of Linnæus. The fruit, when dried and powdered, is recommended as an errhine. The bark is highly esteemed on the continent as a febrifuge, and is by some considered as being superior in quality to the Peruvian bark. The bark intended for medicinal use is to be taken from those branches which are neither very young nor very old.

Hippocratica Facies. See *Facies Hippocratica.*

Hippocrates's Sleeve, a woollen bag, made by joining the two opposite angles of a square piece of flannel, in the form of a pyramid, used to strain syrups and decoctions for clarification.

Hippus. A continued and alternate dilation and contraction of the pupil of the eye, caused by a convulsion of the orbicular and ridiated fibres of the iris.

Hirsutites, unnatural hairiness of the body.

Hirudo, the *leech*, in natural history, a genus of the Vermes Intestina class and order. The body moves either forward or backward. There are seventeen species, principally distinguished by their colour. The most remarkable are the two following.

H. medicinalis, or medicinal leech, the form of which is well known, grows to the length of two or three inches. The body is of a blackish-brown colour, marked on the back with six yellow spots, and edged with a yellow line on each side; but both the spots and the lines grow faint, and almost disappear at some seasons. The head is smaller than the tail, which fixes itself very firmly to any thing the creature pleases. It is viviparous, and produces but one young at a time, which is in the month of July. It is an inhabitant of clear running waters, and is well known for its use in bleeding.

H. muricata, or muricated leech, has a taper body, rounded at the greater extremity, and furnished with two small tentacula, or horns, strongly annulated and rugged upon the rings, the tail dilated. It inhabits the Atlantic ocean, and is by the fishermen called the sea-leech. It adheres to fish, and generally leaves a black mark on the spot.

The mouth of the leech is armed with a sharp instrument, that makes three wounds at once, and may be compared to the body of the pump, and the tongue or fleshy nipple to the sucker: by the working of this piece of mechanism the blood is made to rise up to the conduit which conveys it to the animal's stomach, which is a membranaceous skin, divided into twenty-four cells. The blood which is sucked out is there preserved for several months, almost without coagulating, and proves a store of provision to the animal. The nutritious parts, pure and already digested by animals, have no call to be disengaged from the heterogeneous substances: nor indeed is there an anus discoverable in the leech: mere transpiration seems to be all that it performs, the matter fixing on the surface of its body, and afterwards coming off in small threads. Of this an experiment may be tried, by putting a leech into oil, where it keeps alive for several days; upon being taken out, and put into water, there appears to loosen from its body, a kind of slough, shaped like the creature's body. The organ of respiration, though unascertained, seems to be situated in the mouth; for if, like an insect, it drew its breath through vent-holes, it would not subsist in oil, as by it they would be stopped up.

It is only the first species that is used in medicine, being applied to the skin in order to draw off blood.

They have lately become a fashionable remedy in every topical inflammation, in topical pains, and in the greater number of tumours, internal bruises, and obstructions. In schirri and incipient cancers they are highly commended; in the white swelling of the knee, in swellings of the periosteum, in the inflammatory state of buboes, they are supposed to be highly useful. The peculiar advantages which result from their use seem to be owing to their exhaustion. They fill the vessels around, and not only relieve from the quantity of blood which they draw, but from that which they accumulate in the subcutaneous vessels. By this effect they are often singularly useful: but from the same circumstance, the bleeding, if a bone be not subjacent, is with great difficulty stopped. Equal advantages may be often obtained by cupping with scarifications, without the same disadvantages; and this operation should, in many instances, be preferred.

The leech, when full of blood, drops off; but should it not do so in time, a little salt will always induce it to quit its hold. Salt has been thrown on the animal to make it disgorge the blood which it has sucked, but the leech is generally killed in the experiment. A more easy way to discharge the blood, and save the animal, is to hold it in the hand, and gently squeeze it in a napkin from the head downward. The blood flows copiously from what may appear the anus, or through the ruptured extremity of the intestinal canal, and the worm is not essentially injured.

Leeches must be kept hungry, and the part to which they are to be applied must be wetted with warm milk, blood, or syrup. If a sufficient quantity of blood is not drawn, cloths wrung out of warm water must be applied on the orifice, or the part may be put into warm water: in either way the bleeding may be prolonged.

Leeches are sometimes applied to the anus when the hæmorrhoids are suppressed, and to the gums in inflammations from teething. In each case they may escape into the intestine or the throat; but an injection of salt, dissolved in the infusion of tobacco, will destroy them in the former instance, and gargles or draughts of salt water in the latter. In general a healthy leech will suck about an ounce of blood; but warm cloths will continue the evacuation for some time after the animal is satiated.

Homo, *man*, in natural history is ranked by Linnæus under the order Primates, which is characterized by having four cutting teeth in the upper and lower jaw, and two mammæ in the breast. There are two species, I. H. sapiens, including six varieties, *viz.* the wildman, four-footed, mute, hairy. 2. American, copper-coloured, choleric, erect. 3. European, fair, sanguine, brawny. 4. Asiatic, sooty, melancholy, rigid. 5. African, black, phlegmatic, relaxed. II. H. monstrous, including, 1. The mountaineer, small, active, timid. 2. Patagonian, large, indolent. 3. Hottentot, less fertile. 4. American, beardless. 5. Chinese, head conic. 6. Canadian, head flattened.

Honey. A substance collected by bees, perfectly resembling saccharine juices. It has a white or yellowish colour, a soft and grained consistence, a sacharine and aromatic smell. Honey is an excellent food, and a softening and slightly aperient remedy: mixed with vinegar, it constitutes *oxymel*, and is exhibited in various forms in medicine and pharmacy.

Hordeolum. An inflammatory tumour on the eye-lid, the size of a barley-corn. M. M. Promote suppuration, if possible; otherwise cut it off.

Hordeum, barley. A genus in Linnæus's botany. He enumerates eight species besides varieties.

Hordeum Distichon; also called *Hordeum Gallicum;* common and Scotch barley. It is the *Hordeum Vulgare* of Linnæus: the common barley is freed from the husks or shells in mills, and in this state is called *French* or *Scotch barley.* The college have retained this seed in their Pharmacopeia.

Hordeum Perlatum, pearl-barley. A sort of shelled barley is formed into small round grains in Holland and Germany, which, from their pearly whiteness, are called *pearl-barley.*

Horehound. See *Marrubium.*

Horror, from *horreo, to shake with cold.* It strictly signifies such an excess of fear as makes a person tremble; but in physic it signifies such a shuddering or quivering as precedes an ague fit; and is often joined with *Rigores* and *Lumbagines.*

Horse-chesnut. See *Æsculus.*

House-leek, Sedum, and *Sempervivum.*

Humectation, in *Pharmacy*, the moistening or preparing medicines, by steeping them in water, either to soften and relax their solid parts, or to prevent the evaporation of their more subtle contents.

Humeralis Arteria, the humeral artery. It rises from the lower and fore side of the axillaris, and runs backward between the head of the os humeri and teres major, surrounding the articulation, till it reaches the posterior part of the deltoides, to which it is distributed. In its course it gives off several branches to the neighbouring parts.

Humeri Os. Os brachii. A long cylindrical bone, situated between the scapula and fore arm. The eminences on the superior extremity are, the head, neck, and a greater and lesser tubercle. Upon its inferior extremity are, an external, an internal, and a headed condyle, and two depressions, which receive the conoid and coracoid processes of the cubit.

Humours of the Eye. See *Eye,* and *Vitreous Humours.*

Humulus, the hop. A genus in Linnæus's botany. There is but one species, and one variety.

Hunger, a natural action. A sensation in the stomach, caused by the irritation of the gastric juice, inducing a desire for food.

Hyaloid Membrane, the capsule of the vitreous humour of the eye; from υαλος, *glass*, and ειδος, *likeness;* so called from its transparent and glassy appearance.

Hydarthrus. Hydarthron. A colourless swelling of a joint. The name is derived from υδωρ, *water*, and αρθρον, *a joint.* A genus of disease arranged by Cullen in the class *locales* and order *tumores;* and known by an uniform swelling round the joint of the colour of the skin, and extremely painful. It mostly affects the knee joint. M. M. Friction; pouring warm brine on the joint; a covering of flannel; blisters; a roller; opening the joint so as not to admit the air.

Hydatids. An hydatid; from υδατις, *a bladder.* A very singular animal, formed like a bladder and distended with an aqueous fluid. Hydatids are not unfrequently generated in the natural cavities of the body, as the ventricles of the brain, abdomen, pelvis of the kidney, &c. producing disease. Cullen arranges this affection in the class *locales* and order *tumores.*

Hydra, υδρα, *a water-serpent*, from υδωρ, *aqua, water;* an aquatic monster said to have been very destructive to human beings in the neighbourhood of the marsh of Lerna in Argolis, and to have been destroyed by the fire and sword of

Hercules. This ancient allegory has a most instructive physical meaning, and evidently is intended to express the beneficial operation of the axe and of fire in clearing up swamps and their vegetable overgrowth, and thereby contributing to lessen or overcome the virulence of their exhalations. The more detailed explanation of this, by Dr. Mitchill, may be seen in the third volume of the Medical Repository, p. 19, where the knowledge which the Greek philosophers had on this subject is exhibited; showing that the adventure of Hercules and Hydra expresses the progress of agricultural improvement in draining marshes and overcoming their effluvia.

Hydragogue. Medicines are so termed which possess the property of increasing the secretions or excretions of the body, so as to cause the removal of water from any of its cavities; such are tonics, diuretics, cathartics, &c.

Hydrargyrus. Mercury. Quicksilver. Mercury is found in the earth at Adria in Spain, and in America, in a fluid state, possessing a metallic opacity and billiancy, and in combination with other metallic substances. It differs from all other metals by its property of retaining the fluid state, at the ordinary temperature of the atmosphere. It always affects the form of globules when divided, and when it is confined in a bottle its surface appears convex. Mercury has no taste that the nerves of the tongue and palate can perceive: rubbed for a short time between the fingers, it emits a slight peculiar smell. Its utility in the practice of physic and surgery is very great indeed, and there are a considerable number of preparations of it ordered by the London and Edinburgh Pharmacopeias. It is impossible in this place to enumerate its particular virtues, as there is no disease whatever in which it is not exhibited, and every one is acquainted with its efficacy in subduing the venereal virus, and the benefit derived from administering its preparations in diseases of the skin, lymphatic glands, &c. Acetated grs. ii. to vi. calcined gr. ss to ij. muriated grs. 1-10 to ss. mild muriated gr. i. to xii. or more, pills of ℈ss. to ʒ ss. red sulphurated gr. iij. to ℈i. vitriolated gr. ½ to i.

Hydrastis, yellow-root. A genus in Linnæus's botany. There is but one species.

Hydraulics, is that part of mechanics which considers the motion of fluids, and particularly of water. Or, it is the art of raising or conveying water by the help of engines.

Hydrenterocele, υδρεντεροκηλη, from υδωρ, *water*, εντερον, *an intestine*, and κηλη, *a tumour*; a tumour from the dropsy and a hernia together.

Hydrocardia. Hydrocardis. Hydrops pericardii. Dropsy of the heart. Dropsy of the pericardium. A collection of a fluid in the cavity of the pericardium; from υδωρ, *water*, and καρδια, *the heart*. It produces symptoms similar to those of hydrothorax, with palpitations of the heart, and mostly an intermittent pulse.

Hydrocele. Dropsy of the scrotum, or spermatic chord; from υδωρ, *water*, and κηλη, *a tumour*. It is a genus of disease in the class *cachexiæ* and order *intumescentiæ* of Cullen, and is known by a soft, pyramidal, fluctuating, generally pellucid, swelling of the scrotum, increasing slowly, and without pain. B. Bell distinguishes two species: 1st. anasarcous: 2d. the encysted. M. M. The 1st frequently depends on a constitutional affection which should then be removed; punctures. 2d. An incision; a seton; caustic; an injection. In infants, alkohol, or alum.

Hydrocele Peritonæi, i. e. *Ascites.*

Hydrocele Spinalis, i. e. *Hydrorachitis*.

Hydrocelodes, a suppression of urine from a rupture of the urethra into the scrotum.

Hydrocephalus. Watery head; from υδωρ, *water*, and κηφαλη, *the head*. It is distinguished by authors into external and internal. *Hydrocephalus externus* is anasarca of the integuments of the head. *Hydrocephalus internus* is a deposition of a fluid in the ventricles of the brain, producing dilatation of the pupils, apoplexy, &c. See *Apoplexia*. It is sometimes of a chronic nature, when the water has been known to increase to an enormous quantity, effecting a diastasis of the bones of the head, and an absorption of the substance of the brain. M. M. Venesection; cathartics; blisters; mercury.

Hydrocystis, encysted dropsy; or a dropsy in a particular part.

Hydrogen, the base of inflammable air and of water, from υδωρ, *aqua*, *water*, and γινομαι, *fio*, *to become*. When fifteen parts of oxygen are chemically and closely combined with eighty-five of hydrogen, they produce a new compound, which is the oxyd of hydrogen, or water. When water is decomposed, a great quantity of hydrogen is set loose, which, uniting with caloric, is turned to hydrogenous gas, or inflammable air, and flies off. This hydrogen is ever very ready to associate anew with oxygen, and therefore it easily burns. During its combustion it re-associates with a portion of the oxygen of the atmosphere, and forms water again. By this destruction of water in some cases, and its production in others, are some of the most remarkable phenomena of nature effected. Hydrogen is an ingredient in all those bodies which burn with blaze, as distilled spirits, resin, turpentine, oil, fat, tallow, wood, straw, bark, leaves, fossil coal, and the like. The heat to which these bodies are exposed, expels their hydrogen, which, on its escape, rushes into union with a portion of atmospheric oxygen, and forms watery vapour. And it is burning of this separated hydrogen in its aërial form which causes the phenomenon of flame. Hence hydrogen has been called phlogiston, or the blazer, and the reasons therefor may be seen in the project of pacification between the chemists, addressed by Dr. Mitchill to Dr. Priestley. See *Nicholson's Journal for Feb.* 1798. See *Phlogiston*.

Hydrogenous Gas, inflammable air, or the aërial fluid, which turns with flame or blaze, and by so doing forms water, or the oxyd of hydrogen. Often times, bodies which contain hydrogen or phlogiston, suffer it to escape in its proper form. But it is so prone to unite with caloric, that it never appears in a solid form in any known temperature, but always in the condition of a gas. This gas has a strong attraction for oxygen, and therefore burns with great vehemence and rapidity, and with intense heat. As with oxygen it forms *water*, so with carbone it constitutes *oil*, and fatty and oleaginous compounds. Its specific gravity is considerably less than that of any other air, and therefore it ascends readily into the atmosphere; and when collected in considerable quantities, can carry aloft considerable weights along with it. Upon this principle, and with this material, are air-balloons contrived. Hydrogenous gas is seldom found pure, for it generally contains either carbone, sulphur, or phosphorus, in solution, and thereby forms carbonated, sulphurated, and phosphorated hydrogenous gases. These latter, particularly the solutions of sulphur and phosphorus in inflammable air, are remarkable for their disagreeable scents, and are indeed the principal ingredients in most stinking and nauseous odours. It has no vital properties, but, at the same time, seems to have no directly noxious powers. It is believed to be a principal ingredient in such fiery meteors as falling stars, flying dragons, and Jack o'lanthorns.

Hydrolapathum. The water dock. *Rumex hydrolapathum* of Linnæus. The leaves of this plant manifest considerable acidity, and are said to possess a laxative quality. The root is strongly adstringent, and has been much employed both externally and internally for the cure of scurvy, and other diseases of the skin.

Hydromel, υδρομελι, from υδωρ, *water*, and μελι, *mel*, *honey*; a composition of water and honey.

Hydrometra. Dropsy of the womb; from υδωρ, *water*, and μητρα, *the womb.* A genus of disease in the class *cachexiæ* and order *intumescentiæ* of Cullen. It is known by a swelling in the hypogastrium of females not pregnant, with fluctuation, and no suppression of urine. M. M. Emetics; stimulating glysters; cathartics.

Hydrometra Ovarii, dropsy of the ovaries.

Hydromphalon, *Hydromphalos*, υδρομφαλον, from υδωρ, *water*, and ομφαλος, *a navel*; a tumour of the navel containing water.

Hydrophobia. Canine madness; from υδωρ, *water*, and φοβεω, *to dread*; because persons that are bitten by a mad dog dread the sight or falling of water, when they are first seized with the madness. It is a genus of disease arranged by Cullen in the class *neuroses* and order *spasmi*; known by the previous history of the disease, the dread of water, painful convulsions of the pharynx, and putrid fever. M. M. Excision of the bitten parts; cupping, cauterizing and frequently washing it with salt water; mercurial ointment.

Hydrophthalmia. A swelling of the bulb of the eye, from too great a collection of the aqueous or vitreous humour; from υδωρ, *water*, and οφθαλμος, *the eye*.

Hydrophysocele, from υδωρ, *water*, φυσα, a *flatus*, and κηλη, *a hernia*; a hernia proceeding from a mixture of water and flatulence.

Hydrops. A dropsy; from υδωρ, *water.* See *Ascites*, *Anasarca*, *Hydrothorax*, *Hydrocephalus*, *Hydrocele*, &c.

Hydrorachitis. *Spina bifida.* A small, soft, fluctuating tumour, mostly on the lumbar vertebræ of new-born children; from υδωρ, *water*, and ραχις, *the back-bone.* It is a genus of disease in the class *cachexiæ* and order *intumescentiæ* of Cullen.

Hydrostatics, is what relates to the gravities and equilibria of liquors; and also comprehends the art of weighing bodies in water, in order to estimate their specific gravities. There are several parts of the animal mechanism, especially the circulation and secretion, which cannot be understood but by some præcognita from hence; the best writers, therefore, on this subject ought to be consulted.

Hydrothorax. Dropsy of the chest; from υδωρ, *water*, and θωραξ, the *breast.* A genus of disease in the class *cachexiæ*, and order *intumescentiæ* of Cullen; known by dyspnœa; paleness of the face; ædematous swellings of the feet; scarcity of urine; impatience of an horizontal position, with sudden starting from sleep; palpitations of the heart, and fluctuations of water in the chest. M. M. Diuretics; blisters; paracentesis of the thorax.

Hygidion hygeia, *Hygidion hygieia*, (from υγιης, *sound*). *Health* or *soundness.* The name of a plaster called *panacea*, and the *plaster* of the *three brothers*, described in Ætius. Health, however, in a more extensive sense, comprehends a great variety of considerations, which in the Leyden school formed a considerable and important part of the institutions of medicine. We cannot attend to it with equal care; and indeed its doctrines comprehend a variety of subjects treated of under distinct heads. We must not, however, pass it over lightly.

It will be at once obvious that health is a relative term; for the changes consistent with it in some constitutions would be morbid in others. It is equally obvious that there is some latitude in its use, and that many changes may take place, without inducing a lesion of the functions, and, of course, a disease. Authors have, therefore, used the expression, "within the limits of health," to imply some deviation from the most perfect, but not sufficient to constitute a a morbid state.

Health depends on the management of what has been called the *non naturals*, a fanciful term, comprehending air, food, exercise, the passions, retenta and excreta, sleep and waking. Yet the regulation of these depends on the constitution, what has been styled temperament or idiosyncracy: the former a generic term, comprising peculiarities of constitution, common to many persons; the other the peculiarity of each individual's structure. We must not now anticipate the subject of temperaments, but may remark that the ancients, in subservience to their doctrine of humours, distinguished four; the sanguine, the bilious, the phlegmatic, and the melancholic. The distinction is not wholly theoretical. The supposed sanguine temperament is that of youth, where the vessels are full, the fibres firm and active, quickly excited to motion, and often to excessive or irregular action. The bilious is distinguished by equal strength and activity; but by a yellow hue on the skin, red hair, with a constitution often more acutely sensible, always more irritable. The phlegmatic temperament is pale in complexion; languid in its exertions; the vessels, if full, torpid; the constitution inactive; the mind not easily excited to exertion. The melancholic has a greater degree of torpor, with a dark yellow hue; the mind dull, abstracted, but persevering. In such constitutions the plethora is chiefly venous.

The *sanguine* temperament bears evacuations with great ease; but they soon constitute a habit which is seldom broken with impunity. Health, with such persons, is best preserved by low living, avoiding excess of every kind, particularly cold after active bodily exertions. The *bilious* requires the same precautions; but the evacuations best adapted, which are indeed almost indispensable to this kind of constitution, are the free and frequent use of the milder laxatives. The warm cordial diet, and the stimuli, which suit the *phlegmatic temperament*, would induce fever in the sanguine or bilious. Free air, regular and constant exercise, with every means of strengthening, without constriction, are adapted for persons of this class. They will not bear evacuations, particularly loss of blood; and, at the same time, must not indulge too freely in high living or inactivity. In the *melancholic*, every thing which accumulates the blood in the internal organs must be avoided. Exercise, which determines to the skin; purgatives, which can rouse the torpid fibres into active exertions; amusements, which can interest the mind; are peculiarly necessary in such habits. A sameness of exercise and of objects, mental or coporeal, must be avoided; for the bent which the body or mind takes, is with difficulty counteracted.

Health is also a relative to different ages, to different sexes, and different occupations. Infancy is the period of peculiar irritability, and of peculiar sensibility. It is the sanguine temperament of manhood, with the mobility of the female constitution. As the body increases in size and in bulk, the mobility lessens, the strength and the activity of the sanguiferous and nervous systems augment. The power is at its height from about twenty-eight to thirty-five, and then gradually declines, assuming, by slow degrees, some of the more distinguishing appearances of the melancholic temperament, but not so acutely marked. In the early and later periods, the limits of health are more narrow; in the middle period, extensive; and the means of preserving it in both will be sufficiently obvious from what has been already remarked.

Different sexes differ also in the means of preserving health. The constitution of women is that of youth: in advanced age the sexes approach very nearly in temperament. Women are generally distinguished by a plethora, and this is often a cause of apparent debility. The circulation is also balanced with peculiar nicety, so that the equilibrium is soon destroyed. The two distinguishing eras in a woman's life are, when the catamenia first appear, and when they cease. In each, before the equilibrium is established, either a morbid, irregular mobility, or a torpor, takes place. In the latter case the temperament approaches the phlegmatic. We have no appellation for the former; and another temperament should be added to express it, which may have the hackneyed appellation of the *nervous*. The health as adapted to different occupations also differs. The sturdy strength of the husbandman would be torpor in the watchmaker; and the delicate feelings, the acute eye, and minute exactness of the latter, would be morbid sensibility in the sailor. Habit, in these instances, forms the constitution; but the limits of health are in each peculiarly his own. The diet of the one would be injurious to the other: the robust exercises of the sailor would bring on a morbid tremor in the artist. For active exertions and continued labour the diet should be chiefly animal, but not in excess; the vessels must be full, not distended. This is the training of the pugilist and the game cock, whose contests require the most vigorous exertions, and sometimes their continuance.

Health is also relative when there is any constitutional disease. In gouty habits it is necessary often to reduce the stronger state of the constitution; but it must be done with caution, lest the atonic form of the disease should follow. Scrofula, the disease of the phlegmatic constitution, will also not admit of stimulants; and, in each, we must keep to those extreme limits of health, which in many constitutions might be called debility. In nervous complaints we often find plethora, at least a remote cause, and to lower the tone more may increase the irritability, and consequently the disease. We must here also keep to the extreme limits, and cautiously regulate our evacuations, lest the patient sink too low.

Idiosyncracy is, in part, constitutional, but often induced by habit. It can be taught only by observation, and generally by the observation of the individual. No prudent physician will, therefore, employ an active medicine, until, from the patient or his friends, he has attempted to ascertain any peculiarity of constitution, which should render him cautious in this respect, or wholly forbid its being given.

Hygieia, υγιεια, from υγιαινω, *bene valeo, to be well;* is a good state of health. The poets have fancied a goddess under this appellation; and institution writers are almost as fictitious and unintelligible, when they define what is meant hereby.

Hygieine, υγιεινη, is that part of physic which teaches the preservation of health.

Hygieinists, Physicians who only attend people in health, and that in order to preserve the same, and to prevent diseases. The temperaments of the constitution, the air lived in, the food lived on, the houses dwelt in, the changes in the functions of the body, those changes to which different ages, seasons, climes, &c. expose people, were the objects of their attention.

Hygrology. The doctrine of the fluids of the body; from υγρος, *a humour or fluid*, and λογος, *a discourse.*

Hygrometrum, the hygrometer. It is an instrument, by which is shown the different degrees of moisture in the atmosphere. The word is derived from υγρος, *humid*, and μετρον, *a measure.*

Hygroscope, is an instrument to show the moisture and dryness of the air; and to measure and estimate the quantity of either extreme. There are various methods of doing this, but the ordinary contrivances with whipcord are the easiest and best, as they infallibly shorten and lengthen, as the air grows moister and drier. How far the earliest notices of changes of this kind may be made use of by a physician, in many cases, the skilful alone can be judges.

Hylon, a species of *Cotton-tree.*

Hymen, υμην, *a membrane* in general; but by it is usually understood the membrane which appears in the form of a crescent, and is situated at the entrance of the vagina. It naturally shrinks with years, and often disappears before the age of twenty, so can be no proof of virginity.

Hyoglossus, the name of a muscle of the tongue. It rises from the basis, but chiefly from the cornu of the os hyoides, running laterally and forwards, to shorten the tongue. Some divide this muscle into three, and call them *Basio-glossus*, *Chondro-glossus*, and *Cerato-glossus.*

Hyoides Os. A semilunar bone, situated between the basis of the tongue and the layrnx, that serves for the adhesion of the tongue, for deglutition, and for a point of attachment to many muscles. It has two greater and two lesser horns; from υ and ειδος, *resemblance.*

Hyopharyngæus. The *Hyopharyngæi* muscles, in general, are those on each side, which are inserted in the os hyoides; and they may be reckoned three pairs, viz. the *Basio-pharyngæi*, *Kerato-pharyngæus major* and *minor.* They come from the basis and the horns of the os hyoides. Innes calls it, *Constrictor pharyngis medius.* Its use is to compress that part of the pharynx which it covers, and to draw it on the os hyoides upwards.

Hyosciamus. Henbane. *Hyosciamus niger* of Linnæus. The smell of this indigenous plant is strong and peculiar; the leaves when bruised, emit somewhat of the odour of tobacco; to the taste they are mild and mucilaginous. Henbane is a powerful narcotic poison, and many instances of its deleterious effects are recorded by different authors. Nevertheless, the extract of the seeds, under proper management, may be safely employed; and it has this advantage over narcotics in general, that it never renders the bowels costive, but on the contrary, gently opens them.—Gr. ½ to ʒ ss.

Hyothyreoides, from the os hyoides, and θυρεοειδης, *scutiformis*. These muscles are also called *Thyreoidei*. They run from the thyroid cartilage to the os hyoides; they are attached to the knobs of the cartilage, and the line between them. Their use is to bring these knobs nearer to each other.

Hypercatharsis, υπερκαθαρσις, from υπερ, *supra*, *over* or *above*, and καθαιρω, *purgo*, *to purge*; is when medicine has purged to excess. It is a variety of the *Diarrhœa Mucosa*, in Dr. Cullen's *Nosology*.

Hypercrisis, υπερκρισις, from υπερ, *over* or *above*, and κρινω, *to separate*. It is a critical excretion above measure; as when a fever terminates in a looseness, the humours may flow off faster than the strength can bear, and therefore it is to be checked.

Hypericum, St. John's wort. *Hypericum perfoliatum* of Linnæus. This indigenous plant was greatly esteemed by the ancients, but is now very rarely used. The London Pharmacopeia retains the flowers on account of the great proportion of resinous oily matter, in which the medical efficacy of the plant is supposed to reside.

Hyperostosis, the swelling of a whole bone. It is synonymous with *Exostosis* in Cullen's *Nosology*.

Hypnotic, υπνοτικοσ, from υπνος, *somnus*, *sleep*, is any medicine that induces *Sleep*; which see, and *Narcotics*.

Hypocatharsis, υποκαθαρσις, from υπο, *sub*, *under*, and καθαιρω, *purgo*, *to purge*, is when a medicine does not work so much as expected, or but very little; or a slight purging, when it is a disorder.

Hypochondriac regions. They are situated one on each side of the epigastric region, being the spaces in the abdomen that are under the cartilages of the spurious ribs; from υπο, *under*, and χονδρος, *a cartilage*.

Hypochondriasis. Hypochondriac affections: from υποχονδριακος, *one who is hipped*. A genus of disease in the class *neuroses* and order *adynamiæ* of Cullen; characterized by dyspepsia; languor and want of energy; dejection of mind, and apprehension of evil, more especially respecting health, without a sufficient cause; with a melancholic temperament.—M. M. Exercise; emetics; antispasmodics; nervines; bitters; cinchona; cold bath; opium; blisters; cheerful company.

Hypoæma. An effusion of red blood into the chambers of the eye: from υπο, *under*, and αιμα, *blood*; because the blood is under the cornea.

Hypogala. A collection of white humour, like milk, in the chambers of the eye; from υπο, *under*, and γαλα, *milk*; because it is a milk-like effusion under the cornea.

Hypogastricæ Arteriæ. The *hypogastric* or *internal iliac arteries* dip into the inside of the pelvis, just over the shoulder of the sacrum; when it arrives at the side of the pelvis, it throws down branches to the contents of the pelvis, and then goes through the sciatic notch.

Hypogastricæ Venæ. The veins run the same course with their corresponding arteries, except that they do not send off the vena umbilicalis. The *hypogastric veins* are the internal iliac branches.

Hypogastrium, υπογαστριον, from υπο, *sub*, *under*, and γαστηρ, *venter*, *a belly*, is that region of the belly reaching from three inches below the navel to the os pubis and groins.

Hypogastrocele, the ventral hernia.

Hypoglossi Externi vel Majores (Nervi), also called *Gustatorii* and *Linguales*. They are the ninth pair of nerves; they have their origin just above the foramen magnum, and go out at the holes on the sides of the same great hole, above the condyles of the os occipitis. As soon as they are passed out of the cranium, they run betwixt the carotid artery and the internal jugular vein, to the tongue, on the side of the digastric muscle.

Hypopium. A collection of pus in the anterior or posterior chamber, or both chambers of the eye; from υπο, *under*, and υπον, pus; because the pus is under the cornea.

Hypothesis, υποθεσις, from υποτιθημι, *suppono, to suppose*, signifies strictly any conjecture or supposition advanced, but in a large sense. It is a way of reasoning upon somewhat supposed, that cannot of itself be proved; or for despatch, is taken for granted. But this way of reasoning has of late been justly exploded in physic, because that argues from demonstrable principles, which our senses are witnesses to, and will not allow any thing suppositious, unless sometimes for argument sake.

Hyssopus. Common hyssop. *Hyssopus officinalis* of Linnæus. This exotic plant is esteemed as an aromatic and stimulant, but is chiefly employed as a pectoral, and has long been thought useful in humoral asthmas, coughs, and catarrhal affections; for this purpose an infusion of the leaves, sweetened with honey or sugar, is recommended to be drunk as tea.

Hysteria. Hysterics; from υςερα, *the womb.* A genus of disease in the class *neuroses* and order *spasmi* of Cullen. It is characterized by a grumbling noise in the belly; a ball ascending to the throat, with a sense of suffocation; stupor; insensibility and convulsions; involuntary laughing and crying; sleep interrupted by sighs; urine limpid and abundant, previous to the fit; and great sensibility and irritability of the mind. There are four species; 1. *Hysteria chlorotica*, from a retension of the menses: 2. *Hysteria a menorrhagia*, from an immoderate flow of the menses: 3. *Hysteria a leucorrhœa*, from the flour albus: 4. *Hysteria libidinosa*, from sensual desires. M. M. In the paroxysm, fetid volatiles by the nose and mouth; cold air; cold aspersion and glysters, sometimes venesection. In the intervals, as in hypochondriasis. Dr. Hamilton recommends the daily use of purgatives.

Hysteritis, inflammation of the womb. Dr. Cullen places this genus of disease in the class *Pyrexia;* and order *Phlegmasiæ.*

Hysterocele, from υστερα, *the womb*, and κηλη, *a tumour;* an hernia caused by the uterus falling through the perinæum.

Hysterocystica Ischuria, a suppression of urine from the pressure of the uterus on the neck of the bladder.

Hysterotomia, from υστερα, *the womb*, and τεμνω, *to cut*, i. e. *Cæsarea Sectio.*

Hystriciasis. A disease of the hairs, in which they stand erect, like porcupine quills; from *hystrix*, the porcupine. An account of this rare disease is to be seen in the *Philosophical Transactions*, *No.* 424.

I

IBIS, ιβις, was a bird, much like our king-fisher, taken notice of by the Egyptians, because when it was sick, it used to inject with its long bill the water of the Nile into its fundament, whence Langius, lib. ii. ep. ii. says they learned the use of clysters.

Ice. Water made solid by the application of cold. It is frequently employed by surgeons to resolve external inflammatory diseases.

Ichor, ιχωρ, signifies strictly *a thin acrid watery humour*, like serum, but is also sometimes used for a thicker kind that flows from ulcers.

Ichthyocolla. Isinglass. Fish glue. A substance, partly gelatinous, and partly lymphatic, which is prepared by rolling up the air bladder of the sturgeon, and several other fishes, and drying it in the air, after it has been twisted into the form of a short cord, as we receive it. It affords a viscid jelly by ebullition in water, which is used in medicine as an emollient in disorders of the throat, intestines, &c.

Ichthiosis. A disease in which several parts of the body are covered with white and dry scales, lying one over the other like the scales of fishes.

Icterus. The jaundice. A genus of disease in the class *cachexiæ* and order *impetigines* of Cullen, characterized by a yellowness of the skin and eyes; fæces white; and urine of a high colour. Species: 1. *Icterus calculosus*, acute pain in the epigastric region, increasing after eating; gall stones pass by stool: 2. *Icterus spasmodicus* without pain, after spasmodic diseases and passions of the mind: 3. *Icterus mucosus*, without either pain, gall stones, or spasm, and relieved by the discharge of tough phlegm by stool: 4. *Icterus hepaticus*, from an induration of the liver: 5. *Icterus gravidarum*, from pregnancy, and disappearing after delivery: 6. *Icterus infantum*, of infants. M. M. Venesection; gentle emetics and cathartics; opium; soap; mercury; fomentations; saline draught; iron.

Ictus Solaris, a stroke of the sun. It is the effect of too violent an influence of the sun on the head. Dr. Cullen ranks it as a variety of apoplexy, under the name of *Carus ab insolatione*.

Idiopatheia, ιδιοπαθεια, from ιδιος, *proper*, or *one's own*, and παθος, *affection*, or *passion*. Thus the head is affected *idiopathically* in a lethargy, and the lungs in a pleurisy: but when tense parts suffer by consent, that is, by disorders residing in other parts, they are then said to suffer by sympathy.

Idiosyncracy. A peculiarity of constitution, in which a person is affected by certain stimuli, which, if applied to a hundred other persons, would produce no effect: thus some people cannot see a finger bleed without fainting: and thus violent inflammation is induced on the skin of some persons by substances that are perfectly innocent to others; from ιδιος, proper, and συγκρισις, temperament or constitution.

Ignis fatuus. It is supposed to be the inflammable gas which is produced in moist grounds, and kindled by means of electricity.

Ileon Intestinum, ειλεον, so called from ειλεω, *to turn about*, because it makes many convolusions. It is one of the small guts. Where the jejunum ends, the ilium begins. Its convolutions surround those of the jejunum, on the two lateral and inferior sides, and it winds about from the left side, by the hypogastrium, to the right side, where it terminates in a transverse manner at the fleshy brim of the pelvis, and forms the first of the great intestines, called *Cæcum*.

Ileus, ειλεος, ιλεος, the colic; but more particularly the *Iliaca passio*.

Iliac Passion, ειλεος, ιλεος, ειλεὸς, is a kind of nervous colic, whose seat is the ilium, whereby that gut is twisted, or one part enters the cavity of the part immediately below or above: whence it is also called the *Volvulus*, from *volvo, to roll*.

Iliac arteries. The arteries so called are formed by the bifurcation of the aorta, near the last lumbar vertebra. They are divided into *internal* and *external*. The *internal iliac*, also called the *hypogastric artery*, is distributed in the fœtus into six, and in the adult into five branches, which are divided about the pelvis, viz. the little iliac, the gluteal, the ischiadic, the pudendal, and the obturatory; and in the fœtus the umbilical. The *external iliac* proceeds out of the pelvis through Poupart's ligament to form the femoral artery.

Ilium Os. See *Ossa innominata:* from ειλεω, *circumvolo, to roll about;* because the gut which is principally called by this name is long, and lies in folds towards the bottom of the abdomen, and therefore gives many of the adjacent parts these appellations.

Imperatoria. Master wort. *Imperatoria ostruthium* of Linnæus. The roots of this plant are imported from the Alps and Pyrenees, notwithstanding it is indigenous to this island: they have a fragrant smell, and a bitterish pungent taste. The plant, as its name imports, was formerly thought to be of singular efficacy, and its great success, it is said, caused it to be distinguished by the name of *divinum remedium.* At present it is considered merely as an aromatic, and consequently is superseded by many of that class which possess superior qualities.

Impetigines, disorders in which the skin is affected with defedations or blemishes. In Dr. Cullen's *Nosology*, it is the name of an order in the class *Cachexiæ.*

Impetigo. This affection, as described by authors, is a disease in which several red, hard, dry, prurient spots arise in the face and neck, and sometimes all over the body, and disappear by furfuraceous or tender scales.

Imposthume, is a collection of matter or pus in any part, either from an obstruction of the fluids in that part, which make them change into such matter, or from a translation of it from some other, where it is generated.

Impotence. It is the want of any power; but generally applied to an insufficiency in the male to impregnate the female.

Impregnation, is caused by the emission of the male seed in coition, by which the female conceives, or becomes with young It is also hence figuratively used in pharmacy for the sating one body with another; as any menstruum is said to be impregnated with a body that is dissolved in it, as much as its pores are able to receive.

Impuber, is said of such as have not yet hair upon their privy parts, which bespeaks a ripeness for generation; but Helmont, with some others, affirm females capable of conception before such an appearance.

Incarnation, from *in*, and *caro*, *flesh*, is the healing or filling up ulcers and wounds with new flesh; and the medicines which affect this are commonly called *Incarnatives.*

Incisors. The four front teeth of both jaws are so called, because they cut the food. See *Teeth.*

Incubo, or *Incubus*, is called *Asthma Nocturnum*, the night asthma, and night-mare, because there seems a weight upon the breast as if somewhat rode upon it. The causes are nearly the same as in a humoral asthma, and the same means of cure will also herein do service; though it is a case that seldom happens, and very often is only in the imagination, from the impression of dreams, or a distemperature of thought.

Index, the fore-finger, from *indico, to point*, or *direct;* because that finger is generally so used. And hence the extensor indicis is also called *Indicator.*

Indian Rubber. The substance known by the names Indian rubber, Elastic gum, Cayenne resin, Cautchuc, and by the French Caoutchouc, is prepared from the juice of the *Siphonia elastica* of Richard. The manner of obtaining this juice is by making incisions through the bark of the lower part of the trunk of the tree, from which the fluid resin issues in great abundance, appearing of a milky whiteness as it flows into the vessel placed to receive it, and into which it is conducted by means of a tube or leaf fixed in the incision, and supported with clay. On exposure to the air this milky juice gradually inspissates into a soft, reddish, elastic resin. It is formed by the Indians in South-America into various figures, but is commonly brought to Europe in that of spear-shaped bottles. It is prepared also into catheters, bougies, syringes, pessaries, &c.

Indication. An indication is that which demonstrates in a disease what ought to be done. It is three fold: preservative, which preserves health; curative, which expels a present disease; and vital, which respects the powers and reasons of diet. The scope from which indications are taken or determined is comprehended in this distich:

Ars, ætas, regio, complexio, virtus,
Mos et symptoma, repletio, tempus ei usus.

Indicator. An extensor muscle of the fore finger, situated chiefly on the lower posterior part of the fore arm.

Infection, from *inficio*, is that manner of communicating a disease by some effluvia, or particles which fly off from distempered bodies, and mix with the juices of others, which occasion the same disorders as in the bodies they came from. See *Poisons*.

Infection, an unhealthy and poisonous composition, formed during the putrefactive process of dead organic matter, particularly that of animals. When, for instance, clothing and bedding are charged with the excretions of the sick, or of the well, and those (that is to say, the perspired, fœcal, and urinary discharges which they have imbibed), undergo chemical changes in a convenient temperature, noxious fluids may be formed, and these may be called "infectious." During the scarcity of copper coin in the United States, before the establishment of the mint, it became necessary to invent and emit a small paper currency, on the credit of individuals, of private associations, and of corporate bodies. The Common Council of the City of New-York emitted such little bills of credit, of the denominations of one-penny, two-pence, and three-pence. These circulated among all the citizens for the value expressed on them as money. They were made of thick and bibulous paper; and in the course of business, as they passed from hand to hand, became fully impregnated with every thing they could wipe from human fingers. As they became dirty and worn, they were carried to the City Treasurer's Office, to be exchanged for new ones. The Treasurer, as he received them by small parcels, did not cancel them immediately, but threw them into a close desk, to remain until a considerable amount of them should be collected, that he might count them all together. This collection was made during the hot weather of summer. After many weeks confinement, the Treasurer opened the box, and began to unfold and smell the dirty bills. A disagreeable and noxious vapour proceeded from them, which poisoned him, and nearly deprived him of life. In this example, the venom formed from animal excretions, sufficiently *moist* by their own nature, and sufficiently heated by the summer temperature, within the desk was *infection*, and the pestilential gas proceeding from them was *infectious*, or *infected air*.

In like manner, where human nastiness is accumulated in the holds of ships, crowded with passengers, as has often happened to Irish and other emigrants from Europe to America, *infectious air* is formed. The same occurs in jails, where wretched captives and prisoners are confined, and are prevented by the hard necessity of their cases, or their own laziness, from neutralizing the poison which surrounds them, by soap, alkalies, and lime. The like has frequently befallen soldiers in camps, where due care was not taken to remove excrements, offal, and corrupting substances of all kinds from the spots, and to clear away adhesive nastiness from the dwellings and persons of the men.

Infected air may also arise from the putrid slime and mud of receding rivers, laying bare to the sun a surface of black mould which is impregnated with the remains of all the fishes, amphibia, birds, worms, and insects that have died in it, making a mixture of animal and vegetable relicks, easily convertible to infectious air, from a hot and denuded surface. From such sources flows a vast quantity of *infected air*, tainting, in some parts of the world, large districts of country, and rendering them unwholesome.

Experiments have shown, that this kind of air is of an *acid* quality. And it seems to be the offspring of septon (azote) chemically combined with oxygen, and converted to a gas. The *acidity* of infection and infectious air leads at once to their antidotes. These are alkalies, which are endowed by nature with the power of quelling and neutralizing them, wherever they come within the sphere of each other's action. Potash, soda, ammoniac, and lime, are great antiseptic and antipestilential agents, which constantly, and with unremitting effort, are engaged in repressing infection in all its forms. See those articles respectively.

Infection has been very generally confounded with *Contagion*. This, however, is a very unhappy mistake, and has led to serious evils, both in the speculative and practical parts of the medical profession. The difference between them is very plain and natural. For, whereas infection is the offspring of common putrefaction among the particles of inanimate bodies, contagion is the product of living, vascular, and secretory action upon the fluids they convey. Dead, putrefying beef may form infection; but it requires the vascular action of the living cow to produce the contagion of vaccinia. The venereal virus is a contagion formed by the morbid *action of living arteries*; but the poison of plague, or pestilential virus, is only an infection, introduced by *chemical action* among the atoms of bodies or things destitute of every vital movement. See *Contagion*.

Inflammation. Phlogosis. A genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen; characterized by redness, heat, pain, and tumour on the surface of the body. There are two species: 1. *Phlegmone*, known by inflammation of a bright red colour; tumour pointed, throbbing, and tending to suppuration: 2. *Erythema*, which is inflammation of a dull red colour, vanishing upon pressure, spreading unequally, with a burning pain, and tumour scarcely perceptible, ending in desquammation, or vesicles of the skin. Phlogosis often terminates in abscess, gangrene, or schirrhus.

Influenza, the name of a peculiar kind of catarrhal fever, which, when it appears, has generally been remarkably epidemical. In the *London Medical Observations*, &c. it is observed, that whilst it was the general opinion of philosophers, that all things upon earth were governed by the heavens, physicians imputed the epidemical catarrhal semi-pestilential fever to the influence of the stars; whence the Italians gave it the name of *influenza*. This disease is the febris catarrhalis epidemica of Hippocrates, which is the same as the tussis epidemica of Sydenham.

Infundibulum of the Brain. A canal that proceeds from the vulva of the brain to the pituitary gland in the sella turcica.

Infusing. A process that consists in pouring water of any required degree of temperature on such substances as have a loose texture, as thin bark, wood in shavings, or small pieces, leaves, flowers, &c. and suffering it to stand a certain time. The liquor obtained by the above process is called an *infusion*.

Ingredients, from *ingredior*, *to go in together;* are all the simples which go into the composition of any one medicine.

Inguen. The groin. The lower and lateral part of the abdomen, above the thigh.

Injection, from *injicio*, *to cast*, or *throw into;* is any medicine made to be injected by a syringe, clyster-pipe, or any other instrument, into any part of the body. It is a common term likewise for the filling the vessels with wax, or any other proper matter, to show their shapes and ramifications, often done by anatomists.

Innominata arteria. The first branch given off by the arch of the aorta. It soon divides into the right carotid and right subclavian arteries.

Innominatum Os. A large irregular bone, situated at the side of the pelvis. It is divided into three portions, viz. the iliac, ischiatic, and pubic. The iliac portion, commonly called the os ilium, is the uppermost, and presents a *tuberosity*, a *posterior*, an *anterior* and *superior*, and an *anterior* and *inferior spine*, an *external* and an *internal cavity*, and a *niche* between the anterior spines. The ischiatic portion has a *tuberosity* upon which we sit, a *spinous process*, and an anterior and posterior ischiatic niche. The pubic portion affords with its fellow the *arch* and *crista* of the pubis. Besides these eminences and depressions there are the *acetabulum*, that receives the head of the thigh bone, and the *foramen ovale;* which are formed by the union of the three portions. In the fœtus these three portions are distinct bones, and are properly distinguished by the names of os ilium, os ichium, and os pubis.

Inoculation. The insertion of the variolous matter under the skin, in order to communicate the small-pox. It is usually done in the arm or leg.

Inosculation, from *in* and *osculum*, a little mouth or orifice. See *Anastomosis*.

Insania. Insanity, or deranged imagination. A genus of disease in the class *neuroses* and order *vesaniæ*, characterized by erroneous judgment from imaginary perceptions or recollections, attended with agreeable emotions in persons of a sanguine temperament. M. M. Venesection; emetics; cathartics; antispasmodics; opium; camphor; cold water poured upon the head as long as it can be borne.

Insolation, from *in sole*, *in the sun;* an exposing any thing to the sun; infusion in the warmth of the sun. The disease thus named is the same as the ictus solaris.

Insomnium, a dream.

Inspiration, from *in* and *spiro*, *to breathe in;* is that part of respiration which draws the air into the lungs. See *Respiration.*

Institutions, are a system of laws or rules in any particular science; and so physical or medicinal *institutions* are such as teach the necessary præcognita to the practice of medicine, or the cure of diseases.

Integument, is used by anatomists for any common coverings of the body, whether the cuticula, cutis, or the membranes of any particular parts.

Intercostal Arteries. The superior intercostal artery is a branch of the subclavian. The other intercostal arteries are given off from the aorta.

Intercostal Nerve. The great intercostal nerve arises in the cavity of the cranium from a branch of the sixth and one of the fifth pair, united into one trunk, which passes out of the cranium through the carotid canal, and descends by the sides of the bodies of the vertebræ of the neck, thorax, loins, and os sacrum: in its course it receives the small accessory branches from all the thirty pair of spinal nerves. In the neck it gives off three cervical ganglions, the upper, middle, and lower; from which the cardiac and pulmonary nerves arise. In the thorax it gives off the splanchnic or anterior intercostal, which perforates the diaphragm, and forms the semilunar ganglions, from which nerves pass to all the abdominal viscera. They also form in the abdomen ten peculiar plexuses, distinguished by the name of the viscus to which they belong, as the cœliac, splenic, hepatic, superior, middle and lower mesenteric, two renal, and two spermatic plexuses. The posterior intercostal nerve gives accessory branches about the pelvis and ischiatic nerve, and at length terminates.

Intercostal Veins. The intercostal veins empty their blood into the vena azygos.

Intercostales Externi.
Intercostales Interni. These muscles are situated between the ribs, and decussate each other like the strokes of the letter X. It is by their means that the ribs are equally raised upwards during inspiration.

Intercurrent Fevers. Those which happen in certain seasons only are called *stationary;* but others are called by Sydenham, *intercurrents.*

Intermittent Fever, an ague. It is a cessation of any particular action for some time, and that time is called the interval: thus fevers which go off, and soon return again, as also any other distempers, are called *intermittents*, in opposition to those which are always continued; and a pulse which, after so many strokes, stops, or loses one in its due time, is also thus called. See *Febris Intermittens.*

Interosseus Auricularis. An internal interosseal muscle of the hand, that extends and draws the little finger outwards.

Interspinales Colli. The fleshy portions between the spinous processes of the neck, that draw these processes nearer to each other.

Interspinales Dorsi et Lumborum.
Intertransversales Dorsi.
These are rather small tendons than muscles that connect the spinal and transverse processes.

Intertransversales Lumborum. Four distinct small bundles of flesh, which fill up the spaces between the transverse processes of the vertebræ of the loins, and serve to draw them towards each other.

Intertrigo. An excoriation about the anus, groins, axilla, or other parts of the body, attended with inflammation and moisture. It is most commonly produced by the irritation of the urine, from riding, or some acrimony in children. M. M. Cleanliness; mild dry powders; the soft skin of a veal kidney.

Intervertebrales Musculi. They arise from the body of one vertebra laterally, and are inserted after an oblique progress, into the back part of the other vertebra, immediately above it. They draw the vertebræ nearer to one another, and a little to one side.

Intestines. The convoluted membranous tube that extends from the stomach to the anus; receives the ingested food; retains it a certain time; mixes with it the bole and pancreatic juice; propels the chyle into the lacteals, and covers the fæces with mucus, is so called. They are situated in the cavity of the abdomen, and are divided into the small and large intestines, which have, besides their size, other circumstances of distinction. The small intestines are supplied internally with folds, called *valvulæ conniventes*, and have no bands upon their external surface. The large intestines have no folds internally, and are supplied externally with three strong muscular bands, which run parallel upon the surface, and give the intestines a saccated appearance; and they have also small fatty appendages, called *appendiculæ epiploicæ*. The first portion of the intestinal tube, for about the extent of twelve fingers' breadth, is called the *duodenum;* it lies in the epigastric region; makes three turnings, and between the first and second flexure receives, by a common opening, the pancreatic duct and the ductus communis choledochus. It is in this portion of the intestines that chilification is chiefly performed. The remaining portion of the small intestines is distinguished by an imaginary division into the jejunum and ileum. The *jejunum*, which commences where the duodenum ends, is situated in the umbilical region, and is mostly found empty; hence its name: it is every where covered with red vessels, and about an hour and a half after a meal, with lacteals. The *ileum* occupies the hypogastric region and the pelvis; is of a more pallid colour than the former, and terminates by a transverse opening into the large intestines, which is called the *valve of the ileum, valve of the cæcum, or the valve of Tulpius.* The beginning of the large intestines is firmly tied down in the right iliac region, and for the extent of about four fingers' breadth is called the *cæcum*, having adhering to it a worm-like process, called the *processus cæci vermiformis*, or *appendicula cæci vermiformis.* The great intestine, the *colon*, then commences ascends towards the liver, passes across the abdomen under the stomach to the left side, where it is contorted like the letter *S*, and descends to the pelvis; hence it is divided in its course into the *ascending portion, the transverse arch*, and the *sigmoid flexure.* When it has reached the pelvis it is called the *rectum*, it proceeding in a straight line to the anus.

The intestinal canal is composed of three membranes or coats, a *common* one from the peritoneum, a *muscular coat*, and a *villous coat*, the villi being formed of the fine terminations of arteries and nerves, and the origins of lacteals and lymphatics.—The intestines are connected to the body by the mesentery; the duodenum has also a peculiar connecting cellular substance, as has likewise the colon and rectum, by whose means the former is firmly accreted to the back, the colon to the kidneys, and the latter to the os coccygis, and, in women, to the vagina. The remaining portion of the tube is loose in the cavity of the abdomen. The arteries of this canal are branches of the *superior* and *inferior mesenteric*, and the *duodenal*. The veins evacuate their blood into the vena portæ. The nerves are branches of the eighth pair and intercostals. The *lacteal vessels*, which originate principally from the jejunum, proceed to the glands in the mesentery.

Introsusception. Intus susceptio. A disease of the intestinal tube, and most frequently of the small intestines; it consists in a portion of gut passing for some length within another portion.

Inula, elacampane. A genus in Linnæus's botany. He enumerates twenty-nine species besides varieties.

Ipecacuanha. Ipecacuan. The plant from which this valuable root is obtained, is still unknown. There are three sorts of ipecacuan to be met with in our shops, viz. the ash-coloured or grey, the brown and the white. The ash-coloured is brought from Peru, and is a small wrinkled root, bent and contorted into a great variety of figures, brought over in short pieces full of wrinkled and deep circular fissures, down to a small white woody fibre that runs in the middle of each piece: the cortical part is compact, brittle, looks smooth and resinous upon breaking: it has very little smell; the taste is bitterish and subacrid, covering the tongue as it were with a kind of mucilage. The brown is small, somewhat more wrinkled than the foregoing; of a brown or blackish colour without, and white within: this is brought from Brazil. The white sort is woody, has no wrinkles, nor any perceptible bitterness in taste. The first, the ash-coloured or grey ipecacuan, is that usually preferred for medicinal use. The brown has been sometimes observed, even in a small dose, to produce violent effects. The white, though taken in a large one, has scarce any effect at all. Experience has proved that this medicine is the safest emetic with which we are acquainted, having this peculiar advantage, that if it does not operate by vomit, it readily passes off by the other emunctories. Ipecacuan was first introduced as an infallible remedy against dysenteries and other inveterate fluxes, as diarrhæa, menorrhagia, leucorrhæa, &c. and also in disorders proceeding from obstructions of long standing; nor has it lost much of its reputation by time: its utility in these cases is thought to depend upon its restoring perspiration. It has also been successfully employed in spasmodic asthma, catarrhal and consumptive cases. Nevertheless its chief use is as a vomit, and, in small doses, joined with opium, as a diaphoretic. The officinal preparations are the *pulvis ipecacuanhæ compositus* and the *vinum ipecacuanhæ*—grs. $\frac{1}{2}$ to ℥ss.

Iris. The anterior portion of the choroid membrane of the eye, which is perforated in the middle by the pupil. It is of various colours; hence blue, black eyes, &c. The posterior surface of the iris is termed the *uvea.*

Iris Florentina. Florentine orris, or iris. The root of this plant, *Iris florentina* of Linnæus, which is indigenous to Italy, in its recent state is extremely acrid, and when chewed excites a pungent heat in the mouth, which continues several hours: on being dried, this acrimony is almost wholly dissipated; the taste slightly bitter, and the smell agreeable, and approaching to that of violets. The fresh root is cathartic, and for this purpose has been employed in dropsies. It is now chiefly used in its dried state, and ranked as a pectoral and expectorant, and hence has a place in the *trochissi amyli* of the London Pharmacopeia—℈i. to ℈ij.

Iris Palustris. This indigenous plant is common in marshes, and on the banks of rivers. It formerly had a place in the London Pharmacopei, under the name of *gladeolus luteus.* The root is without smell, but has an acrid styptic taste, and its juice, on being snuffed up the nostrils, produces a burning heat in the nose and mouth, accompanied by a copious discharge from these organs; hence it is recommended both as an errhine and sialagogue. Given internally, when perfectly dry, its adstringent qualities are such as to cure diarrhœas. The expressed juice is likewise said to be an useful application to serpiginous eruptions and scrophulous tumours.

Iron. Ferrum. An imperfect metal, of a white livid colour, inclining to grey, internally composed of small facets. It is very abundant in nature, being found in almost all coloured stones, bitumens, and in almost all metalic ores. The utility of iron in the practice of physic is very considerable. It is the basis of many important medicines which are frequently employed with the happiest success. It may be said to be the only metal which is not noxious, and whose operation is not to be feared. The effects of this remedy upon the animal economy are various. It gives energy to the nerves and muscles, excites the action of the secretions in general, especially the menstrual discharge; and increases the action of the heart and arteries. Nor is its action less effectual on the fluids; it is readily carried into the blood, combines with it, renders it of a more healthy colour, and imparts to it a more healthy consistence; it is therefore tonic and alterative, and unites in its action the properties of a great number of other medicines. Like adstringents it increases the motion of the parts, and has the advantage of being more constant and durable in its effects than many other remedies which possess the same virtue, because it combines with the organs themselves, by means of the fluids which serve for their nutrition. It appears, therefore, that in every case wherein the muscular and nervous fibres are feeble in their action, in debilities of the stomach and intestines, and diseases dependent thereon; in short, in every case wherein the blood has not a sufficient quantity of cruor, or has not its healthy degree of consistency, steel medicines may be administered with success. The officinal preparations in the Pharmacopeias are very numerous. Iron, possessing the magnetic property, is said to produce very singular effects upon the animal economy; and it is affirmed that, when applied to the skin, it mitigates pain, diminishes convulsions, excites redness, sweat, and often a small eruption. How far these assertions are to be depended upon is doubted; but that the magnet has very sensible effects is proved by *Thouret*, in the Transactions of the Royal Society of Medicine of Paris—℈ss. to ʒss. Rust of grs. v. to ʒss. Ammoniacal grs. ij. to x. Tartarized grs. v. to ʒss. Vitriolated gr. i to x. Muriated tincture of grs. x. to xl.

Irritability. A property, inate in every muscular fibre, by which it contracts upon the application of a stimulus. It is not known, in the present day, what is the cause of this singular property: many have asserted that it depended upon elasticity, the mind, the nerves, &c &c.; but experiments have proved their fallacy. The parts of our body that are composed of muscular fibres, and which consequently possess this property, are termed irritable, as the heart, arteries, veins, absorbents, all the muscles, the primæ viæ, vesica urinaria, vagina, uterus, &c. &c. to distinguish them from those parts which have no muscular fibres, and are called contractile parts, as the nerves, common integuments, membranes, &c. &c. With regard to the degree of this property peculiar to various parts, the heart is the most irritable, then the stomach and intestines, the diaphragm, and at length the various muscles follow; but the degree of irritability depends upon the age, sex, temperament, mode of living, climate, state of health, idiosyncrasy, and nature of the animal; and, likewise, upon the stimulus, which may also vary in its nature, and depend upon the part to which it is applied. The use of this principle is very considerable, for upon it depends all muscular motion, and the function of every viscus except that of the nerves.

Irritation. The action produced by any stimulus.

Ischias. Sciatica. A rheumatic affection of the hip joint; one of the terminations of acute rheumatism.

Ischiadicus, ισχιαδικος, *Morbus*, the sciatica. This disorder hath three seats: first, the tendinous expansion, which covers the muscles of the thigh: secondly, the coat of the sciatic nerve; and here the pain is more acute and violent, attended with a numbness: thirdly, the capsular ligament: the depth and severity of the pain lead us to judge of this part being the seat.

Ischias ex Abscessu, the same as *Arthropuosis.*

Ischiatocele, intestinal rupture thro' the sacro-sciatic ligaments.

Ischiocele, rupture between the os sacrum and the tuberosity of the os ischium.

Ischium. A bone of the pelvis of the fœtus. See *Innominatum os.*

Ischuria Ισχυρια, a suppression of urine. A genus of disease in the class *locales* and order *epischeses* of Cullen. There are four species of ischuria: 1. *Ischuria renalis*, coming after a disease of the kidneys, with a troublesome sense of weight in that part: 2. *Ischuria uretrica*, after a disease of the kidneys, a sense of pain or uneasiness in the course of the ureters: 3. *Ischuria vesicalis*, a frequent desire to make water, with a swelling of the hypogastrium, and pain at the neck of the bladder: 4. *Ischuria urethralis*, a frequent desire to make water, with a swelling of the hypogastrium, and pain of some part of the urethra. M. M. When caused by inflammation, venesection, laxatives, anodyne glysters, warm bath and the antiphlogistic regimen; when by spasm or debility, liniment of ammonia, or anodyne balsam on the perinæum, anodyne glysters; when by caruncles or strictures of the urethra, bougies. The catheter or trocar.

J

JALAPIUM. Jalap. The plant from which this root is obtained is the *Convolvulus jalapa* of Linnæus, a native of South-America. It is said to have taken its name from Xalapa, a town in New Spain. In the shops the root is found both cut into slices and whole, of an oval shape, solid, ponderous, blackish on the outside, but grey within, and marked with several dark veins, by the number of which, and by its hardness, heaviness, and dark colour, the goodness of the root is to be estimated. It has scarcely any smell, and very little taste, but, to the tongue and to the throat, manifests a slight degree of pungency.

The medicinal activity of jalap resides principally, if not wholly, in the resin, which, though given in small doses, occasions violent tormina. The root powdered is a very common, efficacious, and safe purgative, as daily experience evinces; but according as it contains more or less resin, its effects must of course vary. In large doses, or when joined with calomel, it is recommended as an anthelmintic and hydragogue. In the Pharmacopeias this root is ordered in the form of tincture and extract, and the Edinburgh college directs it also in powder with twice its weight of crystals of tartar—grs. xv. to ʒ ss. or more.

Jatropha, Cassava. A genus in Linnæus's botany. He enumerates nine species.

Jatros, *ιατρος*, *medicus*, a physician.

Jaw (Falling of the). See *Trismus Nascentium.*

Jecur, the liver. This viscus lies in the right hypochondrium. Its convex and upper side reaches a little beyond the cartilago ensiformis, and touches the diaphragm. Its concave and lower side covers the pylorus and part of the stomach, as also a part of the colon, all the duodenum, a part of the jejunum, and of the omentum; when we stand, its extremity goes near to the navel. It is almost round, and pretty thick. Its upper side is convex, smooth, and equal. In its middle and fore part it is divided into two by a fissure, where the umbilical vessels enter. The gall-bladder is fastened to its under side, where there are three eminences, that the ancients called *Portæ*, of which one passes for a little lobe: when it is full of blood, it is of a hard red colour; when the blood is washed out of it, it is pale and soft.

It is fastened in the body by two ligaments; the first, which is large and strong, comes from the peritonæum that covers the diaphragm, and penetrating the substance of the *liver*, it joins the capsula of the vena portæ. The second is the umbilical vein; it comes from the navel, and enters by the great fissure of the *liver* to join the vena portæ: after the birth it degenerates into a ligament, but is of little use for the fastening of the *liver:* it is covered with a common membrane from the peritonæum, besides that every lobe and gland has its proper membrane.

The common membrane of the *liver* being raised, its substance appears to be composed of small glands, of a conic figure, not easily to be perceived in a human *liver*, and bound together by a proper membrane into several heaps or lobes, which, like branches of grapes, hang to the branches of the vessels, from which each small gland receives a twig; and the lobes are tied to one another by small membranes, which fill up the spaces between them. The vessels of the *liver* are the vena cava, and the vena portæ; they are accompanied with many small branches of the arteries, which come from the cæliaca, and mesenterica superior. The vena portæ brings the blood full of bile for secretion, and the cava carries back the blood that remains. The vena portæ and the cava enter the *liver* by its concave side, and are equally distributed through all its substance; wherever there is a branch of the one, there is a branch of the other; so that each lobe, and each gland in the lobe, whether on the convex or concave side, receives the same vessels. The vena portæ performing the office of an artery, brings the blood full of bile, which being strained off by the glands, the rest of the blood is carried back by the branches of the vena cava to the heart. Its nerves it receives from the plexus hepaticus of the intercostal nerve. Besides these vessels, the *liver* has lymphatic vessels, most of which open into the conglobated glands, near the vena portæ, or the concave side of the *liver;* from thence the lympha is carried by other lymphatics to the receptaculum chyli.

The excretory vessels of the *liver* are the vesicula fellis and porus biliarius; the vesicula fellis, or gall-bladder, is fixed to the concave side of the *liver*, into which its back part makes a small dent; its figure is like that of a pear; it is of a different bigness almost in every subject; the biggest is about the bigness of a little hen's egg. For new and modern doctrines on the functions of the liver and on the bile, see Dr. Mitchill's remarks, in page 292 of vol. ii. and page 117 of vol. v. of the Medical Repository.

Jejunum. So called because it is generally found empty. It is one of the small intestines. Where the duodenum ends it begins. See *Intestines.*

Jelly. Modern chemists have given this name to the mucilaginous substance very soluble in water, and not at all in spirit of wine, that is obtained from all the soft and white parts of animals, such as the membranes, tendons, aponeuroses, cartilages, ligaments, and skin, by boiling them in water. If the decoction or jelly be strongly evaporated, it affords a dry, brittle, transparent substance, known by the name of glue.

Jesuit's Bark, i. e. *Peruvian Bark.*

Jesuit's Powder. The Peruvian bark, when powdered, was thus named, because that father de Lugo, a Jesuit, first brought it to Rome, and the Jesuits there powdered it, and kept it among themselves as a lucrative article.

Jet. A black bitumen, hard and compact, like certain stones, found in great abundance in various parts of France, Sweden, Germany and Ireland. It is brilliant and vitreous in its fracture, and capable of taking a good polish by friction: it attracts light substances, and appears to be electric, like amber; hence it has been called *black amber:* it has no smell; but when heated acquires one like bitumen judaicum.

Jonthi. Ιονθος. *Vari.* Small red, hard, and indolent tubercles that appear about the face of young persons before or about the time of puberty.

Jugale Os. Os malæ. Os zygomaticum. The cheek bone. It is a quadrangular shaped bone, situated at the side of the face, forming the bottom part of the orbit. It has a frontal, orbital, malar, and zygomatic process, a zygomatic depression, and two foramina.

Juglans. The walnut. The tree which bears this fruit is the *Juglans regia* of Linnæus, a native of Persia, but cultivated in this country. The unripe fruit, which has an adstringent bitterish taste, and has been long employed as a pickle, is the part directed for medicinal use by the London college, on account of its anthelmintic virtues. An extract of the green fruit is the most convenient preparation, as it may be kept for a sufficient length of time, and made agreeable to the stomach of the patient by mixing it with cinnamon water.

Jugular Veins. These veins run from the head down the sides of the neck, and are divided from their situation into external and internal. The *external* or *superficial jugular vein* receives the blood from the frontal, angular, temporal, auricular, sublingual, or ranine, and the occipital veins. The *internal* or *deep seated jugular vein* receives the blood from the lateral sinuses of the dura mater, the laryngeal and pharyngeal veins. Both jugulars unite, and form the superior vena cava, which, with the inferior or ascending cava, form the common cava that terminates in the right auricle of the heart.

Julap, from the Persian word *Juleb*, which signifies a sweet potion. This is an extemporaneous form of medicine, made of simple and compound water, sweetened, and serves principally for a vehicle to other forms, not so convenient to take alone.

Juniperus. Common juniper. *Juniperus communis* of Linnæus. Both the tops and berries of this indigenous plant are directed in our Pharmacopeias, but the latter are usually preferred, and are brought chiefly from Holland and Italy. Of their efficacy as a stomachic, carminative, diaphoretic, and diuretic, there are several relations by physicians of great authority: and medical writers have also spoken of the utility of the juniper in nephritic cases, uterine obstructions, scorbutic affections, and some cutaneous diseases. Our Pharmacopeias direct the essential oil, and a spirituous distillation of the berries, to be kept in the shops.

Juvantia. Whatever relieves under a distemper, whether it is aliment, medicine, or either of the non-naturals, are thus named.

K

KALI, i. e. *Salsola*. Also the prickly glasswort, a species of *Salsola*. See *Alkali*, *Barilla*, *Natron*.

Kalmia, American laurel. A genus in Linnæus's botany.

Kelp, the rough or unpurified mineral alkali. It is the soda obtained from marine plants by burning, not yet filtered, purified and crystallized, but blended with ashes and carbone.

Kelp-wort. See *Salsola*.

Kermes Mineral. It is produced by throwing into boiling alkaline ley, by small quantities, the crude antimony, finely levigated. Thus the *kermes* forms instantly; the liquor is filtered, and the same process is repeated for the rest.

Keyser's Pills. According to an account in the Edinburgh *Medical Commentaries*, they consist of quicksilver reduced to a red calx, which, being dissolved in vinegar, is mixed with manna, and made into pills.

Kidneys. *Renes*. Two abdominal viscera, shaped like a kidney-bean, that secrete the urine. They are situated one in each lumbar region, near the first lumbar vertebra, behind the peritonæum, and are composed of three substances; a cortical, which is the external, and very vascular; a tubulose, which consists of small tubes, and a papillous substance, which is the innermost. The kidneys are generally surrounded with more or less of adipose membrane, and they have also a proper membrane, *membrana propria*, which is closely accreted to the cortical substance. The renal arteries, called also emulgents, proceed from the aorta. The veins evacuate their blood into the ascending cava. The absorbents accompany the blood vessels, and terminate in the thoracic duct. The nerves of the kidneys are branches of the eighth pair and great intercostals. The excretory duct of this viscus is called the *ureter;* at the middle or pelvis of the kidney, where the blood-vessels enter it, is a large membranaceous bag, which diminishes like a funnel, and forms a long canal or ureter, that conveys the urine from the kidney to the bladder, which it perforates obliquely.

Kina, or *Kini-kina*, i. e. *Cort. Peruv.* This name is taken from the Countess of Cinchon, whose cure by its means first occasioned it to be known in Europe.

Kino. *Gummi rubrum adstringens gambiense.* The tree from which this resin is obtained, though not yet botanically ascertained, is known to grow on the banks of the river Gambia, in Africa. On wounding its bark the fluid kino immediately issues drop by drop, and by the heat of the sun is formed into hard masses. It is very like the resin called *Sanguis draconis;* is much redder, more firm, resinous, and adstringent than catechu. It is now in common use, and is the most efficacious vegetable adstringent, or styptic, in the materia medica—℈ss. to ʒss.

L

LABIA, or *Labra*, strictly signifies the lips; but it is used figuratively to express many other parts of a human body, that, by their figure, have any resemblance thereunto; as the *labia pudenda*, are the exterior parts of a woman's privities, &c. and the lips of wounds are also thus called. See *Mouth.*

Labium, or *Labia*, a lip. The *lips* are all that are loose before the gums: the red part is called *Prolabium:* when the cuticula is taken off, there is a villous appearance, as in the glans penis.

Labyrinth. A cavity in the ear is thus named. It is that part of the internal ear behind the cavity of the tympanum, which is constituted by the cochlea, vestibulum, and semicircular canals.

Lac, milk. See *Breasts.*

Lac Amygdalæ, milk of almonds. So the almond emulsion is called.

Lac calcis, milk of lime. So some call the water which is whitened by lime suspended in it. It is an excellent remedy in many cases of eruption and ulceration, neutralizing the acids into which the humours degenerate after secretion. It is also a good eye-wash, and is excellent in the stone and other internal diseases

Lac. The improper name of gum-lac is given to a resinous substance of a deep red colour, that is deposited by a species of ant, peculiar to the East-Indies, upon the small branches of trees. In this state it is called stick-lack, which, when broken, is observed to be full of small cavities. Seed-lac is nothing more than the resinous substance taken off the branch, and broken into small granules, which is melted for use, and formed into flat plates called shell-lac. Lac is the basis of sealing-wax; and tinctures, dentifrices, and troches, are prepared from it by the dentists, who esteem it as a good bracer for lax and spongy gums.

Lacertus, that part of the arm from the shoulder to the elbow.

Lacerum Foramen. It is one of the inner holes in the head, through which the third, fourth, first branch of the fifth, and the sixth pair of nerves pass.

Lachrymæ. The tears or limpid fluid secreted by the lachrymal gland, and flowing on the surface of the eye.

Lachrymal Ducts. The excretory ducts of the lachrymal gland, which open upon the internal surface of the upper eye-lid.

Lachrymal Gland. A glomerate gland, situated above the external angle of the orbit, in a peculiar depression of the frontal bone. It secretes the tears, and conveys them to the eye by its excretory ducts, which are six or eight in number. See *Lachrymal ducts.*

Lactats. (*Lactas, tis, s. m.*) Salts formed by the union of the acid of sour whey, or lactic acid, with different bases; thus *aluminous lactat, ammoniacal lactat,* &c.

Lactation, from *lac*, *milk*, giving suck; and signifies the time a woman does that office to a child.

Lacteals. The absorbents of the mesentery, which originate in the small intestines, and convey the chyle from thence to the thoracic duct.

Lactic Acid. The acid of sour milk; from *lac*, *milk.*

Lactiferi Ductus. The glandular body of the breast contains a white mass, which is merely a collection of membraneous ducts; they are narrow at their origin, broad in the middle, and contract again as they approach the papillæ, near which they form a kind of a circle of communication. These are *lactiferous ducts.*

Lacunæ, any drains or furrows; from *lacus*, *a standing pool;* any small holes within another cavity; but particularly those in the urethra, or vagina uteri. They are the excretory orifices of certain glands situated there.

Ladanum. This resinous juice exudes upon the leaves of the *Cistus ladanum* of Linnæus, in Candia, where the inhabitants collect it by lightly rubbing the leaves with leather, and afterwards scraping off and forming it into irregular masses for exportation. Three sorts of ladanum have been described by authors, but only two are to be met with in the shops. The best, which is very rare, is in dark coloured masses, of the consistence of a soft plaster, growing still softer on being handled; the other is in long rolls, coiled up, much harder than the preceding, and not so dark. The first has commonly a small, and the last a large admixture of fine sand, without which they cannot be collected pure, independently of designed abuses; the dust blown on the plant by winds from the loose sands among which it grows, being retained by the tenacious juice. The soft kind has an agreeable smell, and a lightly pungent bitterish taste: the hard is much weaker. Ladanum was formerly much employed internally as a pectoral and adstringent in catarrhal affections, dysenteries, and several other diseases; at present, however, it is wholly confined to external use, and is an ingredient in the stomachic plaster, *emplastrum ladani* of the London Pharmacopeia.

Lædentia, those things which do injury to the living frame; the counterpart of the juvantia, or those which do it good. The doctrine of these two classes of agents constitutes the most valuable part of practical medicine.

Lagophthalmus. A want of power to close the eye-lid. It may arise from spasm, palsy, atony, or fissure of the muscles of the eyelids, and a variety of other causes. The name is derived from λαγως, *a hare*, and οφθαλμος, *an eye;* because it is credited that hares sleep with their eyes open.

Lamboidal Suture. Occipital suture. The suture that unites the occipital bone to the two parietal bones: from Λ, and ειδος, *resemblance*, because it is shaped like the letter Λ.

Laryngotomy. From λαρυγξ, *the larynx*, and τεμνω, *to cut.* See *Bronchotomy.*

Larynx. Λαρυγξ. A cartilaginous cavity, situated behind the tongue, in the anterior part of the fauces, and lined with an exquisitely sensible membrane. It is composed of the annular or crycoid cartilage, the scutiform, or thyroid, the epiglottis, and two arytænoid cartilages. The superior opening of the larynx is called the *glottis.* The *laryngeal arteries* are branches of the external carotids. The *laryngeal veins* evacuate their blood into the external jugulars. The nerves of the la-

 LA

rynx are from the eighth pair. The use of the larynx is to constitute the organ of voice, and to serve also for respiration.

Latissimus Dorsi. A muscle of the humerus, situated on the posterior part of the trunk, that pulls the arm backwards and downwards, and rolls the os humeri.

Laudanum, from *laus*, *praise*. The name implies that the medicine is worthy of praise; it is generally confined to the preparations of opium. According to the opinion of the Scotch physician, Bruno, or Brown, it ought to have been called κεντρον, stimulus, as being the most active of all the diffusible stimulants.

Laurus. Sweet-bay. *Laurus nobilis* of Linnæus. This tree is a native of Italy, but cultivated in our gardens and shrubberies as a handsome evergreen. The leaves and berries possess the same medical qualities, both having a sweet fragrant smell, and an aromatic adstringent taste. The laurus of honorary memory, the distinguished favourite of Apollo, may be naturally supposed to have no inconsiderable fame as a medicine; but its pharmaceutical uses are so limited in the practice of the present day, that this dignified plant is now rarely employed, except in the way of enema, or as an external application; thus, in the London Pharmacopeia, the leaves are directed in the *decoctum pro fomento*, and the berries in the *emplastrum cumini.*

Laurus, a name for the camphor and cinnamon trees, for the sassafras, and also several other trees, as the New-York spice-wood.

Lavendula. Common lavender. *Lavendula spica* of Linnæus. A native of the southern parts of Europe, but cultivated in our gardens on account of the fragrance of its flowers. Their taste is bitter, warm, and somewhat pungent; the leaves are weaker and less grateful. The essential oil, obtained by distillation, is of a bright yellow colour, of a very pungent taste, and possesses, if carefully distilled, the fragrance of the lavender in perfection. Lavender has been long recommended in nervous debilities, and various affections proceeding from a want of energy in the animal functions. The College directs an essential oil, a simple spirit, and a compound tincture, to be kept in the shops. ℈i. to ʒi. Oil of gts. i. to v. Compound spirits of gts. x. to c.

Laxator Tympani. A muscle of the internal ear, that draws the malleus obliquely forwards towards its origin; consequently the membrana tympani is made less concave, or is relaxed.

Lazaretto. Regulations for preserving the health of men against foreign contagions make so considerable a part of the code of several European nations, that it is very interesting to know in what state of society, and under what circumstances, they arose, that we may thereby the better judge of their value and usefulness. It will appear, on investigation, that they were originally adopted before the principles of science on which they depend had been unfolded, and in times of fanaticism and terror, when the human mind was not in a condition to judge calmly about them, if they had been unfolded.

These regulations refer to three great objects: 1. Quarantines: 2. Lazarettoes: and 3. Areas and stores for unladed goods and merchandize. On examining the history and actual condition of each of these, it will be found, that in most cases they are instrumental in engendering and perpetuating that pestilence which it is their professed object to avoid. They all take it for granted, that malignant and pestilential diseases are contagious—a supposition utterly groundless; and then undertake, with vast parade, to prevent the importation of this imaginary contagion. But a concise review of their history will set these establishments in the clearest light.

A quarantine, from "quarante," the French word for "forty," in its simple sense, means a duration of "forty" days. As a term of the common law, it means the time a widow is permitted to remain in the mansion-house of her deceased husband, and this is called her "quarantine." This was a reasonable regulation, that the widow might not be turned out of doors immediately by the heir; but, after funeral rites were performed might be allowed time to make deliberate arrangements for removal, and to receive an assignment of dower.

But what could have been the reason of fixing upon "forty" days for the detention of ships suspected to be already too dirty to live in, and, consequently, to be admitted into port? The direction of plain sound judgment, in such cases, would be to hoist out the cargo as fast as possible at some convenient station, rather remote from thick population, and to remove the nuisances, corruption and poison engendered on board with all speed. The mode of removing these, and of cleaning and sweetening a room so as to make it habitable and healthy, is so perfectly and practically understood, that scarcely a washer-woman or a chamber-maid is ignorant that *lime*, *alkaline leys*, and *soaps*, will destroy every particle of infection there. And as the pestilential poison could be thus destroyed in a *habitation on shore*, there can be no possible reason to doubt their efficacy in destroying it on board a ship, which is but a *human habitation afloat*. But it has been the misfortune of American and English navigators to adopt a mode of cleaning ships different from the method of cleaning houses; and great sickness and mortality have been the consequence.

Christendom is beyond a doubt the most intelligent portion of the globe. How, then, came the Christians to fix upon "forty" days as the expiatory period? It proceeded, probably, from a religious or superstitious veneration for the number "forty:" for "forty" is a very remarkable number, as well as "three," "seven," and "twelve." In the days of Noah the rain was upon the earth *forty* days and *forty* nights (Gen. vii. 12). Moses remained on Mount Sinai *forty* days and *forty* nights (Deut. x. 10.) If a wicked man was to be beaten, the number of stripes to be given, by order of the judge, was not to exceed *forty* (Deut. xxv. 3.) The men sent by Moses to search the land of Canaan were engaged in that employment *forty* days (Num. xiii. 25.) And the Jews who murmured on hearing the report of the spies, were denounced to wander in the wilderness, and bear their iniquities (a year for a day) *forty* years (Numb. xiv. 33, 34.) Christ fasted *forty* days and *forty* nights in the wilderness (Mat. iv. 2). And was seen by the apostles *forty* days after his resurrection (Acts i. 3.) And, in the Christian Church, the season of Lent, or penitentiary abstinence between Shrove Tuesday and Easter, was continued for *forty* days.

Thus we find a term of *forty* days had been frequently noticed in sacred history. Even an opinion of sanctity had been attached to it both among Jews and Christians. It was associated with various events and usages of their religions, and had been employed as an expiatory and penitentiary period for uncleanness and sin.

The expeditions of the Franks,

or Christians of the west, who, in the spirit of crusading, poured into Palestine to rescue it from the Mahometans, gave rise to quarantines for ships and sea vessels. The readers of these expeditions well know what misery, want, uncleanness and mortality accompanied them as they marched or sailed. There was an incredible destruction of the human species by diseases, independent of the numbers who fell by way-faring accidents, or perished by the sword of the enemy.

After severe and costly exertions, the faithful accomplished their purposes, and established the kingdom of Jerusalem. But they held it uneasily, and they held it not long: for, forced at length to abandon their dear-bought conquest, the infidels once more took possession of the Holy Land. During the wars which had been waged between the Christians and Mahometans for the possession of Judea, the religious animosity of the two parties had been carried to the utmost violence of opposition and hatred, by every species of private as well as public aggravation. And the Franks, as they reluctantly quitted the country of the patriarchs and apostles, charged the Turks with all their disasters, and accused them as the authors of almost every evil which they suffered. Among other miseries, and that not the least in the enumeration, the returning Europeans affirmed that the Asiatics had infected them with the PLAGUE.

They forgot that the desolation of their armies by this disease had been so great that their line of march from their places of rendezvous could be traced through Hungary, and along the route to Constantinople, by the bones of the unburied dead. On this the Orientals might have affirmed that these invaders had imported the plague from Europe. Perhaps they did; but because similar sickness attended the Franks on their return from the Levant, produced by their customary uncleanness, bad management, exposure to hardships and want of necessaries, they roundly asserted the distemper was contagious, and the contagion catched from the infidels. To countenance this notion, they affirmed the Turks were fatalists; and, as they took no pains to destroy or avoid the contagion of this horrible disease, it was always alive and active among them. They persuaded themselves this contagion, if introduced, would spread like fire, and consume as a conflagration. A prudent government, therefore, should guard against it by every precaution.

An interdiction of all intercourse with the infected cities of the Archipelago and the Levant promised the most perfect security from the contagion. But the policy and commerce of nations forbade so strict a prohibition. It was therefore agreed, that travelling and trade might be carried on, provided voyagers, merchants, and every thing they carried with them, were subjected to certain salutary restraints; and one of these restraints was a QUARANTINE, or detention of *forty days* and *nights*, to conquer the pestilential contagion, or to let it die for want of something to feed upon. Latterly "quarantines" have been shortened to *fourteen*, *eight*, or even *three* days, according to circumstances.

Thus a dirty or sickly vessel, in a hot climate, with corrupting and perishable things on board, became more foul and intolerable from inbred mischief working within her during her quarantine in one of the Mediterranean harbours, than she had been during her voyage; and by the most preposterous interpretation, all this local and domestic infection, hatched and reared by bad management in ships, and increased under quarantine regulations among the Christians, is ascribed to a *plaguy* contagion imported from Turkey, Syria or Egypt! And so, because quarantines were established in days of ignorance, prejudice, rancour and intolerance, between the Franks and the Turks, they have been adopted as matters of course by the Christian nations in their intercourse with each other: in consequence of which the ships of New-York are compelled to perform a quarantine at Cuxhaven, those of Baltimore at Cadiz, and those of Naples at Philadelphia, for fear of mutually importing yellow fever and plague. Surely these things are worthy of being better understood.

Quarantines thus arose from a desire of stopping a supposed contagion, catched, as was erroneously believed, from the Asiatics, and were tinctured with superstitious notions or ideas of religion badly interpreted. During the *forty* days detention of a ship and cargo, the persons who were actually sick, or suspected to have contagion lurking about them, were removed to an hospital, to remain until the period of danger was supposed to be past. This hospital was called by one of the most odious and disgusting names that could be thought of. It was derived from Lazarus, the decrepit beggar, who lay covered with sores, and starving at the rich man's gate. The *Lazar-house*, or *Lazaretto*, was the place of reception for those who were suffering from pestilential nastiness and venom, and for those that were supposed to be in immediate danger of sickening by it, or of rendering others sick. Being constructed frequently of very durable materials, these Lazarettos were the receptacles of all the newly arrived persons who were thought proper subjects of detention, for a great number of years in succession. Hence they became remarkably foul and pestilential. The chambers were often much neglected, and abounded in uncleanness and corruption. From an accumulation of all manner of impurity from year to year, those hospitals themselves became the *nurseries of the plague;* not arising from contagion here any more than on ship-board, but proceeding from animal excretions, corrupting provisions, and the like, undergoing putrefaction in a hot climate. The plague, engendered and perpetuated in these direful hospitals too, was most uncharitably ascribed to the Turks!

The local and domestic origin of pestilential distempers, and of alkalies to quell their exciting cause, is strikingly proved in the benevolent Howard's account of his quarantine at Venice, contained in his book on Lazarettoes, p. 11. And if he had written nothing but this, he would have deserved the approbation of all classes of men. "Soon after unloading the boat," he writes, "the sub-prior came, and showed me my lodging in the new Lazaretto, *which was a very dirty room, full of vermin, and without a table, chair or bed.* That day and the next morning I employed a person to wash my room; *but this did not remove the offensiveness of it, or prevent that constant headache which I had been used to feel in visiting other Lazarettoes, and some of the hospitals in Turkey.* This Lazaretto is chiefly assigned to Turks and soldiers, and the crews of those ships which have the plague on board. In one of the enclosures was the crew of a Ragusan ship which had arrived a few days before me, after having been driven from Ancona and Trieste. My guard sent report of my health to the office; and, on the representation of our consul, I was conducted to the OLD Lazaretto, which is nearer the city. Having brought a letter to the prior from the Venetian ambassador at Constantinople, I hoped now to have had a comfortable lodging: but I was not so happy. The apartment appointed me (consisting of an upper and lower room) was no less disagreeable and offensive than the former. I preferred lying in the lower room, on a brick floor, where I was almost surrounded with water. After six days, however, the prior removed me to an apartment in some respects better, and consisting of four rooms. Here I had a pleasant view; but *the rooms were without furniture, very dirty, and no less offensive than the sick wards of the worst hospital. The walls of my chamber, not having been cleaned probably for half a century, were saturated with infection.* I got them washed repeatedly with boiling water, to remove the offensive smell, without any effect. *My appetite failed, and I concluded I was in danger of the slow hospital fever*," &c. Strong prejudices were opposed to his having the room *white-washed with lime*. He, however, with great difficulty, got it done at last; and the consequence was, the noxious vapours were neutralized, and it was immediately rendered so fresh and sweet, that he was able to drink tea in it in the afternoon, and to sleep in it the following night. The other inhabitants of the Lazaretto admired these strange proceedings. Mr. Howard observes, that he left his successors an agreeable and wholesome room, instead of a nasty and contagious one.

Lead. Plumbum. An imperfect metal, of a dull white colour, inclining to a blue. It is very soft, and easily cut with a knife; has a peculiar and remarkable smell, which becomes stronger by friction. Its taste is scarcely sensible in the mouth, but its effect is very manifest in the stomach and intestines, whose nerves it irritates, producing pain, convulsions, stupor, and palsy. Lead is rarely found native, but mostly in the earthy, saline, or mineralized form, united with sulphur, and forming galena. It is made into utensils and vessels for various economical purposes, but not without danger in their use; for its noxious qualities are soon communicated to the substance they contain. Those who work in manufactories where this metal is concerned, are continually attacked with colics (see *Colica pictonum*,) often accompanied with vomiting, and not unfrequently with palsies. The various preparations of lead, directed in our Pharmacopeias, should therefore be very cautiously administered internally; nor should they, in very delicate habits, be very freely employed externally. Most of the preparations are esteemed as resolvent and anodyne applications to external inflammatory affections.

Leipothymia, Fainting; from λειπω, *to leave*, and θυμον, *the mind*. See *Syncope*.

Lemon (Common.) Citrus Limon, Linn. The college have retained the juice, the exterior rind of the fruit, and its oil called Essence: the exterior rind enters the Infusum Gentianæ Compositum, formerly called Inf. Amar. Simp. the essential oil enters the Spiritus Ammoniæ Compositus, formerly called Spir. Volat. Aromatic.

Lens, is a term in optics for a convex or concave glass that is made to throw the rays of vision into a point; whence also the crystalline humour of the eye, from its performance of the same office, is by some anatomists so called.

Lenticular, a lenticular. It is also called a *Rugine*.

Lenticulare Os, a name of the fourth bone in the first row in the wrist. It is also called *Orbiculare*, and *Pisiforme*. The bone in the ear called *Os Orbiculare* is part of the incus.

Lenticulares (Glandulæ.) They are the small glands of the intestines, and are so called on account of their size.

Lenticularis Febris. So called, because of the many eruptions that appear on the skin about the size of lentils. It is the same as *Petechialis Febris*.

Lentigo. A brown spot upon the skin, resembling, in size and colour, a lens or tare.

Lentor, hath been used by some ancient writers, to purposes now in neglect, and at present is chiefly retained from the example of Bellini, to express that sizy, viscid, coagulated part of the blood, which, in malignant fevers, obstructs the capillary vessels, and is the chief instrument of all those mischiefs which then happen. See Bellini *De Febribus*; particularly prop. 19 and 20, but chiefly the introduction to an English translation of Bellini on that subject.

Leontodon, dandelion. A genus in Linnæus's botany. He enumerates ten species.

Leporina Labia, is when the upper lip hath a natural defect in the middle, like a slit towards the nose, resembling that of an hair, whence it is commonly called an hair-lip.

Lepra, λεπρα, the leprosy. A disease in the class *cachexiæ* and order *impetigines* of Cullen, characterized by the skin being rough and chapped, with white furfuraceous scales and crusts, under which is frequently a moisture, with itching. M. M. Mercurials; antimonials; opium; camphor; guacum. The leprosy seems to have been a distemper much more common among the ancients, and in warmer climates, than among us in this part of the world; or else they have been nicer in distinguishing it into several kinds than it deserved; as may be seen in most of the commentators upon the ancients, and especially the lexicographers. The greatest difference of it seems mostly to be owing to the difference of climates, and ways of living: hence the *Lepra Græcorum*, and *Lepra Arabum*, appear differently described: but it concerns us little to know of those matters, or their method of cure, these northern leprosies requiring a more efficacious management, as they will not give way but to the most powerful mercurials; though the addition of bathing is a greater help than most by their practice seem to be sensible of.

Lethargy, λεθαργος. So called, αποτης ληθης, from *oblivion*, or *forgetfulness*, and αργος, *lazy*, or *slothful*. A heavy and contant sleep, with scarce any intervals of waking; when awakened, the person answers, but, ignorant or forgetful of what he said, immediately sinks into the same state of sleep. It is symptomatic of fever, apoplexy, &c. M. M. As in Apoplexy.

Leucoma, λευκωμα, the albugo of some. See *Albuginea Oculi*. It is a variety of *Caligo Corneæ* in Cullen's *Nosology*.

Leucophlegmatic. A term applied by the older medical writers to a dropsical habit of body; from λευκος, *white*, and φλεγμα, *phlegm*.

Leucorrhœa. *Fluor albus*. The whites. An increased secretion of white mucus from the vagina of women, arising from debility, and not from the venereal virus; from λευκος, *white*, and ρεω, *to flow*. M. M. An emetic; rhubarb 6 to 10 grs. with one of opium every night; flannel shirt; mucilage;

amber; cinchona; iron; astringent injections.

Leucorrhois. It is that species of *Diarrhœa*, in which there is a too copious discharge of mucus. Also when in cases of the piles the discharge is not bloody, but mucous.

Levator Anguli Oris. A muscle situated above the mouth, which draws the corner of the mouth upwards, and makes that part of the cheek opposite to the chin prominent, as in smiling.

Levatores Ani. They arise from the symphysis of the os pubis, the internal part of the ileum, and the sharp process of the ischium, directing their course towards the sphincter, and bending part of their fibres with those of it; wherefore they partly serve to expel the fæces, but do not (as generally supposed) compress the vesiculæ seminales in coition.

Levatores Com. Labiorum. These muscles arise from the cavity on each side under the os jugale, in the os maxillare, and are inserted with the zygomaticus major and others into the angle of the lips.

Levatores Costarum. These muscles arise from the transverse processes of the vertebræ, and are inserted into the ribs: they are divided into two classes, viz. the longiores and the breviores. The breviores are those which arise from the transverse processes, and are inserted into the next rib; the longiores run over one rib, and are inserted into the next.

Levatores Labii Inferioris. They arise from the sockets of the incisores, and are inserted into the lower lip.

Levatores Labii Superioris. They arise from the os maxillare, and descend obliquely under the skin of the upper lip.

Levator Palati Mollis. This muscle arises from the basis of the skull, near the articulation of the lower jaw, runs down the fauces, passes inwards and forwards, spreads itself on the palatum molle, and goes to the uvula.

Levator Palpebræ Superioris. It arises (on each side) from the bottom of the orbit, by a small tendon, and as the fleshy fibres of this muscle pass over the globe of the eye, they gradually spread, and afterwards terminate by a broad tendinous expansion, in the superior part of the tarsus belonging to the upper lid.

Levator Scapulæ, is a muscle which rises from the second, fourth, and fifth of the transverse processes of the neck, by so many distinct beginnings, which unite, and are inserted into the superior angle of the scapula, which it draws upward, the word *levator* importing a lifter up. It is also called *Musculus Patientiæ*, because it is used to express grief.

Levigation, from *lævis*, *smooth*, is reducing hard ponderous bodies, such as coral, tutty, and the precious stones, into a light subtile power, by grinding upon a marble stone with a muller, as painters do their colours. This is much used in *Pharmacy;* but unless the grinding instruments are extremely hard, they will so much wear away, as to double sometimes the weight of the medicine so managed.

Levisticum. Lovage. The odour of this plant, *Ligustrum levisticum* of Linnæus, is very strong and peculiarly ungrateful; its taste is warm and aromatic. It abounds with a yellowish gummy resinous juice, very much resembling opoponax. Its virtues are supposed to be similar to those of angelica and masterwort in expelling flatulencies, exciting sweat, and opening obstructions; therefore it is chiefly used in hysterical disorders and uterine obstructions. The leaves eaten in salad are accounted emmenagogue. The root, which is less ungrateful than the leaves, is said to possess similar virtues, and may be employed in powder.

Lichen, liver-wort. A genus in Linnæus's botany, of the order of *Algas* or *Thongs*. He enumerates one hundred and thirty species, and several varieties. In surgery *Lichen* is a species of *impetigo*, that appears in form of a solitary, red, dry, rough, and somewhat purient spot, that gives off very small furfuraceous scales.

Lientery, λειεντερια, from λειον, *læve*, *smooth*, εντερον, *intestinum*, *gut*, and ρεω, *fluo*, *to flow;* is a particular looseness or diarrhœa, where the food passes so suddenly through the stomach and guts, as to be thrown out by stool with little or no alteration. Its cure is performed by the warm astringents.

Ligament, from *ligo*, *to bind;* is a white and solid body, softer than a *Cartilage*, but harder than a membrane. Ligaments have no conspicuous cavities, neither have they any sense, lest they should suffer upon the motion of the joint. Their chief use is to fasten the bones, which are articulated together for motion, lest they should be dislocated with exercise.

Light. It is at present universally acknowledged that light is a body of fluid, existing independent of all other substances, and possessing its own characteristic properties, or phenomena, which are as follow: 1. The motion of light is so rapid that it passes through nearly eight thousand leagues in a second: 2. The elasticity of the rays of light is such, that the angle of reflection is equal to the angle of incidence: 3. The fluid of light is ponderous; for if a ray of light be received through a hole, and a blade of a knife presented to it, the ray is diverted from a right line, and is reflected towards the body. This circumstance shows that it obeys the law of attraction, and sufficiently authorizes its being classed among other ponderous bodies: 4. The great NEWTON succeeded in decomposing the solar light into seven primitive rays, which present themselves in the following order: red, orange, yellow, green, blue, indigo, violet. Dyers present us with only three colours, which are red, blue, and yellow; the combinations and proportions of these three principles form all the shades of colour with which the arts are enriched.

The generality and importance of the atoms of *light*, like other substances, appear to derive their fluidity from the repulsive operation of anticrouon (Caloric.) Possessing a constitution capable of being more easily acted upon by this agent than any thing we know, their usual condition is that of an extremely subtile and active fluid. Light has been generally considered as a fluid *per se*, or as being *essentially so* after the manner that anticrouon is supposed to be. This, however, seems to be a mistake; for, besides the analogy of all other cases of fluidity being caused by the repulsive principle, late experiments have shown a nearer connection between light and anticrouon than has been commonly understood. The just interpretation of these leads to a belief that the sun-beam is composed of anticrouon and light; and whenever, by any means, light is attracted or fixed by another body, the repulsive principle is disengaged. From this constitution of light, abundance of the phenomena relative to the connection between heat and light can be well understood.

Lignum Campechense. Logwood. The wood of this tree, *Hæmatoxylum campechianum* of Linnæus, is of a solid texture, and of a dark red colour. It is imported from Campeachy, in the bay of Honduras, principally as a dying drug, cut into junks and logs of about three feet in length; of these pieces the largest and thickest are preferred, as being of the deepest colour. Logwood has a sweetish subadstringent taste, and no remarkable smell; it gives a purplish red tincture both to watery and spirituous infusions, and tinges the stools, and sometimes the urine, of the same colour. It is employed medicinally as an adstringent and corroborant. In diarrhœas it has been found peculiarly efficacious, and has the recommendation of some of the first medical authorities; also in the latter stages of dysentery, when the obstructing causes are removed, to obviate the extreme laxity of the intestines, usually superinduced by the repeated dejections. An extract is ordered in the Pharmacopeias.—Decoction of ℥ij. to ℥iv. Extract of ℈ss. to ʒi.

Lilium Album. The roots of the common white lily, *Lilium candidum* of Linnæus, are directed by the Edinburgh Pharmacopeia; they are extremely mucilaginous, and are chiefly used, boiled in milk and water, in emollient and suppurating cataplasms.

Lime. Calcareous earth. A substance obtained by decomposing calcareous matters by the action of fire, which deprives them of their acid. Stones composed of shells, marbles, and most calcareous spars are the substances which afford the best lime; but the hard calcareous stone, called lime-stone, is more commonly used. These are arranged in a furnace or kiln, so as to form a kind of vault, beneath which a wood fire is lighted, and kept up until a strong flame, without smoke is raised about ten feet above the furnace, and till the stones become very white. Good quick lime is hard, sonorous, becomes quickly and strongly heated by the addition of water, and emits a dense vapour during its extinction. It is usually in the form of a stone of a dirty white colour; its taste is burning, acrid, and urinous; and it is sufficiently strong to cause inflammation when applied to the skin. It is found native in the vicinity of volcanos. Lime exposed to the air, swells, breaks, and is reduced to powder, its bulk being considerably increased: it is then termed slack-lime. Quick-lime is employed by surgeons in combination with soap or other substances as a powerful caustic: and lime-water is of considerable utility both in the practice of physic and surgery. Water of ℥iv. to lbj.

Limon. The lemon. The tree which affords this fruit is the *Citrus aurantium* of Linnæus, a native of the upper parts of Asia, but cultivated in Spain, Portugal, and France. The juice, which is much more acid than that of the orange, possesses similar virtues. It is always preferred where a strong vegetable acid is required. Saturated with the fixed vegetable alkali, it is in frequent extemporaneous use in febrile diseases; and by promoting the secretions, especially that of the skin, proves of considerable service in abating the violence of pyrexia. As an antiscorbutic, the citric acid is also very generally taken on board of ships destined for long voyages; but even when well depurated of its mucilaginous parts, it is found to spoil by long keeping. To preserve it in purity for a considerable length of time, it is necessary that it should be brought to a highly concentrated state; and for this purpose it has been recommended to expose the juice to a degree of cold sufficient to congeal the aqueous and mucilaginous parts. After a crust of ice is formed, the juice is poured into another vessel; and by repeating this process several times, the remaining juice, it is said, has been concentrated to eight times its original strength, and kept without suffering any material change for several years. The exterior rind of the lemon is a very grateful aromatic bitter, but less hot than orange-peel, and yields in distillation a less quantity of oil; which is extremely light, almost colourless, and is generally brought from the southern parts of Europe, under the name of Essence of Lemons. The lemon-peel, though less warm, is similar in its qualities to that of the orange, and is employed with the same intentions. The Pharmacopeias direct a syrup of the juice, and the peel enters into vinous and aqueous bitter infusions; it is also ordered to be candied; and the essential oil is an ingredient in the *spiritus ammoniæ compositus*, and other formulæ. The juice ʒi. to ℥ss. The peel ℈ss. to ʒss.

Linctus. A term in pharmacy that is generally applied to a soft and somewhat oily substance, of the consistence of honey.

Linea Alba. An aponeurosis that extends from the scrobiculus cordis straight down to the navel, and from thence to the pubis. It is formed by the tendinous fibres of the internal oblique ascending and the external oblique descending muscles, and the transversalis, interlaced with those of the opposite side.

Lingualis. A muscle of the tongue, that contracts its substance and brings it backwards.

Liniment. An oily substance, of a mediate consistence between an ointment and oil, but so thin as to drop.

Linum. Common flax. *Linum usitatissimum* of Linnæus. The seeds of this useful plant, called linseed, have an unctuous, mucilaginous, sweetish taste, but no remarkable smell; on expression they yield a large quantity of oil, which, when carefully drawn, without the application of heat, has no particular taste or flavour: boiled in water they yield a large proportion of a strong flavourless mucilage, which is in use as an emollient or demulcent in coughs, hoarsenesses, and pleuritic symptoms, that frequently prevail in catarrhal affections; and it is likewise recommended in nephritic pains and stranguaries. The meal of the seeds is also much used externally in emollient and maturating cataplasms. The expressed oil is an officinal preparation, and is supposed to be of a more healing and balsamic nature than the other oils of this class: it has therefore been very generally employed in pulmonary complaints, and in colics and constipations of the bowels.

Lippitudo. An exudation of a puriform humour from the margin of the eye-lid.

Liquiritia, or *Liquorice*, i. e. *Glycyrrhiza.*

Liquor Amnii. A turbid and serous fluid contained in the cavity of the membranaceous ovum, surrounding the fœtus in utero.

Liriodendrum, tulip-tree. A genus in Linnæus's botany. He enumerates two species.

Litharge, λιθαργυρος. Massicot, exposed to a more intense heat, suffers a semivitrification; its particles concrete into small thin scales, which still preserve their red colour, and it then bears the name of *Litharge.*

Lithagogus, from λιθος, *a stone*, and αγω, *to bring away;* an epithet for a medicine that expels the stone.

Lithiasis, λιθιασις, from λιθος, *a stone*, i. e. the gravel in the kidneys, and stone in the bladder.

Lithiats, *(Lithias, tis, s. m.)* Salts formed by the union of the lithic acid with different bases, or acid of the stone, sometimes found in the human bladder; thus, *lithiat of alumine*, *lithiat of ammoniac*, &c.

Lithontriptics. From λιθος, *a stone*, and θρυπτω, *to break:* hence, from the strict sense and common acceptation of the word, this class of medicines should comprehend such as possess a power of dissolving calculi in the urinary passages. It is, however, a question, whether there be in nature any such substances. By the term, then, is meant those substances which possess a power of removing a disposition in the body to the formation of calculi. Those in the highest esteem are, *aqua calcis*, *alkali causticum*, and *uva ursi.*

Lithotomia, λιθοτομια, from λιθος, *a stone*, and τεμνω, *to cut; Lithotomy*, or cutting for the stone.

Lixivium, is a liquor made by the infusion of ashes, or any burnt substances, which is more or less pungent and penetrating, as it is impregnated with the salts. And what is left, after the evaporation of such a liquor, is called a

Lixivial, or,

Lixiviate Salt; such as all those are which are made by incineration.

Lobe, signifies any body of a roundish shape. In *Anatomy*, divers parts of the body are thus distinguished; as the *lobes* of the ears, lungs, liver, and the like; which parts see.

Lobelia. Blue lobelia, or cardinal flower. The root of this plant, *Lobelia syphilitica*, is the part directed by the Edinburgh Pharmacopeia, for medicinal use; in taste it resembles tobacco, and is apt to excite vomiting. It derived the name syphilitica from its efficacy in the cure of syphilis, as experienced by the North-American Indians, who considered it a specific in that disease, and with whom it was long an important secret, which was purchased by Sir William Johnson, and since published by different authors. The method of employing this medicine is stated as follows: a decoction is made of a handful of the roots in three measures of water. Of this half a measure is taken in the morning fasting, and repeated in the evening; and the dose is gradually increased till its purgative effects become too violent, when the decoction is to be intermitted for a day or two, and then renewed until a perfect cure is effected. During the use of this medicine a proper regimen is to be enjoined, and the ulcers are also to be frequently washed with the decoction, or if deep and foul, to be sprinkled with the powder of the inner bark of the New-Jersey tea-tree, *Ceanothus Americanus.* Although the plant thus used is said to cure the disease in a very short time, yet it is not found that the antisyphilitic powers of the lobelia have been confirmed in any instance of European practice.

Locales. The fourth class of Cullen's nosology, which comprehends morbid affections, that are partial, and includes eight genera, viz. dysæsthesiæ, sysorexia, dyscinesiæ, apocenoses, epischeses, tumores, ectopia, and dialyses.

Lochia. Λοχια. The cleansings. The serous, and for the most part green couloured, discharge that takes place from the uterus and vagina of women, during the first four days after delivery.

Lochiorrhœa. An excessive discharge of the lochia; from λοχια, and ρεω, *to flow.* M. M. Cool air; refrigerants; sulphuric acid; digitalis; cold vinegar to the pudenda and hypogastrium.

Locked Jaw, or *Trismus.* A species of tetanus. See *Tetanus.*

Longevity, signifies long life, to procure which, abstinence and regularity are supposed to be highly conducive.

Longus Colli. A muscle situated on the interior part of the neck close to the vertebræ, that bends the neck gradually forwards, and to one side.

Lozenges, is a form of medicine, made into small pieces, to be held or chewed in the mouth till melted or wasted.

Lues Venerea. The venereal disease. See *Syphilis* and *Gonorrhœa.*

Lujula. Wood-sorrel. *Oxalis acetosella* of Linnæus. This delicate indigenous plant is totally inodorous, but has a grateful acid taste, which is more agreeable than the common sorrel, and approaches nearly to that of the juice of lemons, or the acid of tartar, with which it also corresponds in a great measure in its medicinal effects, being esteemed refrigerant, antiscorbutic, and diuretic. Its principal use, however, is to allay inordinate heat, and to quench thirst; for this purpose a pleasant whey may be formed by boiling the plant in milk. An essential salt is prepared from this plant, known by the name of Essential Salt of Lemons, and commonly used for taking ink-stains out of linen.

Lumbago. A rheumatic affection of the muscles about the loins; from *lumbi, the loins*, and *ago, to act;* because the pains generally act very powerfully.

Lumbricales. The four small flexors of the fingers, which assist the flexion of the fingers when the long flexors are in full action; so called from their resemblance to the *lumbrici* or *round worms.*

Lumbricales Pedis. Four muscles like the former, that increase the flexion of the toes, and draw them inwards.

Lumbrici, the round-worms.

Lumbrici Lati, tape-worms.

Lunare Os, the second bone of the first row in the wrist. It is so called, because one of its sides is in the form of a crescent.

Lunatic, signifies being mad, from *Luna, the moon;* because it has anciently been an established opinion, that such persons were much influenced by that planet; and a much sounder philosophy has taught us, that there is something in it, but not in that particular manner as the ancients imagined, or otherwise than what it has in common with other heavenly bodies, occasioning various alterations in the gravity of our atmosphere, and thereby affecting human bodies.

Lungs. Pulmones. Two viscera, situated in the cavities of the chest, by means of which we breathe. The lung in the right cavity of the chest is divided into three lobes, that in the left cavity into two. They hang in the chest, attached, at their superior part, to the neck by means of the trachea, and are separated by the mediastinum. They are also attached to the heart by means of the pulmonary vessels. The substance of the lungs is of four kinds, viz. vesicular, vascular, and bronchial, and a parenchymatous substance. The vesicular substance is composed of the air cells. The vascular invests those cells like a network. The bronchial is throughout the lungs, having the air cells at their extremities. And the spongy substance that connects the spaces between these parts is termed the *parenchyma.* The lungs are covered with a fine membrane, a reflexion of the pleura, called *pleura pulmonalis.* The internal surface of the air cells is covered with a very fine, delicate and sensible membrane, which is continued from the larynx through the trachea and bronchia. The arteries of the lungs are the pulmonary, which circulate the blood through the air cells to undergo a certain change, and the bronchial artery a branch of the aorta, which carries blood to the lungs for their nourishment. The pulmonary veins return the blood, that has undergone this change, by four trunks, into the left auricle of the heart. The bronchial veins terminate in the vena azygos. The nerves of the lungs are from the eighth pair and great intercostal. The absorbents are of two orders; the superficial and deep-seated: the former are more readily detected than the latter. The glands of these viscera are called bronchial. They are muciparous, and are situated above the bronchia.

Lupia, is a small, soft, round tumour, seated in a tendinous part of the joints of the fingers or toes, moveable every way, but unattended with pain; being of much the same nature with a ganglion.

Luxatio, } i. e. *Luxation*, is a
Luxatura, } slipping of any thing out of its place, and is used to signify the disjointing the bones in any parts whatsoever; which is done various ways, and they are to be reduced by as many, according to the particular formation and articulation of the joint; for which see the *Books of Practical Surgery*.

Lycoperdon Vulgare. It is the *Lycoperdon Bovista*, Linn. the dusty mushrooms, or common puff-balls. Dr. Bisset says, this is the most powerful vegetable styptic yet known, when externally applied. Gooch prefers it to the agaric of the oak. It is softer and more absorbent than lint.

Lymph. A crystalline tasteless fluid contained in all the absorbent vessels, except the lacteals. It is absorbed from the cellular structure of the whole body, from all the viscera and cavities of the viscera, and conveyed to the thoracic duct, there to be mixed with the chyle.

Lymphatic Glands. See *Conglobate Glands*.

Lymphatics. Absorbents that carry a transparent fluid or lymph. See *Absorbents*.

Lymphatic Diseases. The *diseases of the lymphatics* are not numerous. They are undoubtedly irritable, and in an inflamed state, at least, acutely sensible; but they never seem to be affected with inflammation from any cause but the acrimony of their contents. In hydrophobia, in lues venerea, and similar complaints, a hard, tender cord may be often traced from the wound previous to the inflammation of the gland. On the other hand, they seem sometimes deficient in irritability; a circumstance on which *Scrofula* apparently depends.

Amongst these disorders, however, Mr. White properly places the *depôt laiteux sur la cuisse* of Puzos; *ischias a spargonosi* of Sauvages. Most writers have attributed this complaint to a redundancy of milk, and it hence has been often called *œdema lacteum*; by others *phlegmatia dolens*; but it might be more appropriately denominated *ecchymomia lymphatica*. Mr. White describes this disorder more accurately than any other writer, and is the first author who escaped from the trammels of the former doctrine. In about twelve or fifteen days after delivery, he observes, the patient is seized with a great pain in the groin of one side, accompanied with a considerable degree of fever, seldom preceded by a shivering fit and cold rigor. This part soon becomes affected with swelling and tension, which extend to the labia pudendi of the same side only, and down the inside of the thigh, to the ham, the leg, the foot, and the whole limb: the progress of the swelling is so quick, that in a day or two the limb becomes twice the size of the other, and is moved with great difficulty; is hot and exquisitely tender, but without external inflammation. The pain in the groin is generally preceded by a pain in the small of the back, sometimes by a pain at the bottom of the belly, on the same side; and the parts which suffer the most pain are the groin, the ham, and the back part of the leg, about its middle. The pain indeed extends over the whole limb, owing to the sudden distension; but in a day or two it becomes less considerable. It is very hard, smooth, shining, pale, and equable, except where the conglobate glands are situated, which in some cases are knotty and hard, as in the groin, the ham, and about the middle of the leg, at its back part; neither pitting on pressure, nor discharging water when punctured. This disorder generally comes on about the second or third week after delivery; but in one instance it occurred to Mr. White so early as twenty-four hours after delivery, and in another so late as five weeks; but each is uncommon. The first parts that begin to mend, both as to pain and swelling, are the groin, and the affected labium; the thigh next subsides, and lastly the leg. The fever, which is apparently hectic, in some patients declines in two or three weeks, in others it continues six or eight. It sometimes, though rarely, attacks both the extremities. After the disorder has subsided, it is not uncommon for the sound leg to swell towards evening, and become œdematous; but the groin and thigh of that side are not affected; the leg is much softer than the other, and pits when pressed.

It attacks women of all ranks, and of different habits, and is not influenced by the discharge of the lochia, suckling, the nature and duration of the labour, or the mode of delivery, but rather attacks the side on which they lay during labour. The healthy and the diseased; the strong and the weak; the lean and the corpulent; the sedentary and the active; the young and the middle aged, equally suffer; but it seldom happens after a miscarriage, nor to a woman more than once, though she has afterwards more children. It occurs at all seasons and situations; but neither attacks the arms, or other parts of the body; never suppurates, or proves fatal.

The period of the attack, and the elasticity of the swelling, distinguish it from every other disease; and Mr. White supposes it to arise from the child's head pressing the lymphatic vessels, which arise from one of the lower extremities, against the brim of the pelvis, during a labour pain, so as to stop the progress of the lymph, and produce a rupture with a consequent effusion. The extravasation in some habits is re-absorbed readily, in others with difficulty; and by lying out of the course of its circulation, it will press against the uterus and bladder, and occasion forcing pains, and even suppressions of urine. When the orifice made in the ruptured vessel is healed, and the diameter of the tube is contracted or closed, the lymph is retained in the lymphatics, distending the glands of the limb and parts around, and the swelling always begins in that part next to which the obstruction is formed. When the obstruction is in part or wholly removed, or the lymph has found a fresh passage, the part next to it is consequently first relieved. This opinion has been opposed by different authors. Mr. Trye, in his work, published in 1792, considered the disease as owing to an inflammation of the lymphatic gland; Dr. Ferriar, in the third volume of his Medical Histories (1798), thinks its cause an inflammation of the lymphatics of the side affected. Dr. Hall, in an essay on this disease, which he styles *phlegmatia dolens*, published in 1800, supposes it to arise from inflammation and an effusion of coagulable lymph.

We strongly suspect that the nature of the disease is not understood. The fever is apparently idiopathic, and the swelling seems to be a critical deposition, not of pus or of water, but of coagulable lymph. Were Mr. White's opinion correct, it should always appear within a few days, and the fever should be the consequence of obstruction. Were Mr. Trye in the right, the gland should first inflame; and was Dr. Ferriar's system true, pain should be previously felt in the course of the lymphatics. Dr. Hall seems to approach nearer the fact; but the nature of the fever, and the circumstances which influence the deposition, are obscure. Milky depositions, as they have been called, are not uncommon after delivery, particularly in the peritonæum, in the peritonitis puerperarum, and other parts; but these are, perhaps, rather depositions of gluten than of milk, or are observable when the milk is checked. In this case the disease is not connected with the suppression of milk; and the only use we can make of the fact is, to show that in such cases the effusion of gluten is not uncommon. If, from fever, such effusion should take place in the legs, we know that, from its density, it cannot be readily absorbed; and it is probable also, that the lymphatics, by the pressure which usually occasions œdematous swellings in the latter months, may be weakened, so as to be still less equal to the conveyance of the glutinous lymph to the thoracic duct. The circumstances of the delivery, or of the position of the child in utero, may have an effect of determining to one side rather than another.

According to Mr. White, in the first or inflammatory stage, antiphlogistics are necessary, in the degree which the patient's strength will permit. The bowels should be kept lax, the pains alleviated by opiates internally, by anodyne fomentations, and by the warm and vapour bath; blisters on the upper part of the thigh, and emollient injections into the vagina, have been found useful; antimonials, the saline draughts given in the act of effervescence, cool acidulated liquors, and cool air, are supposed useful in relieving fever. In the second stage, when the pain abates, the swelling and tension of the parts lessen, though the quickness of the pulse and some degree of fever remains, the patient may be allowed a little wine and a fuller diet. A dose or two of calomel, of two grains each, given at proper intervals, have seemed useful in this stage. Fifteen grains of myrrh two or three times a-day, in a neutral draught in the act of effervescence, may be taken; or to a saline draught, with myrrh, two grains of the ferrum ammoniacale may be added. The limb may be chafed with warm oil, and bathed at first in water of 82 degrees of Fahrenheit, and afterwards of 76. In the third stage, when no complaint remains, except the swelling of the limb, and perhaps a general relaxation, the bark, with or without steel, will be necessary, dipping the limb in cold water, or embrocating it with spirit of wine and camphor. A circular calico bandage applied to the limb will also assist in the recovery: and if the swelling is confined to the small of the leg, the bandage may be changed for a straight or laced stocking, or for a half-boot. Exercise on horseback, and gentle friction, will be of advantage; but walking, or whatever promotes a greater secretion of lymph, will be injurious in every stage of the disease.

Mr. Trye endeavours at first to relieve the fever by evacuants, and then, according to his doctrine, attempts to relax the inflamed vessels by fomentations, leeches, and blisters; to promote absorption by emetics, and in the latter stage by friction with mercurial ointment. Dr. Ferriar applies leeches, with cooling remedies; and Dr. Hull, like Mr. White, treats the complaint at first as inflammatory, and at last as asthenic. In our hands it has appeared an intractable disease, though relieved at last by the efforts of nature. If the patient is truly such, and the practitioner so unprincipled as to continue medicines which he must know will have little effect, he will at last gain the credit of the cure which nature effects. In our hands the fever has yielded to emetics, evacuants, and opiates. The deposition, which soon assumes a chronic form, scarcely yields to any remedies. The Dover's powder, at night, with occasional laxatives, and at last the bark and the squills, have appeared as serviceable as any of the boasted remedies.

Lyra. Psalterium. The prominent medullary fibres that give the appearance of a lyre, at the inferior surface of the anterior crus of the fornix of the cerebrum.

Lyssa, λυσσα, or λυττα, strictly signifies the madness of à dog, which is communicable by his bite, but is more laxly applied to the bite of any venomous creatures; whence the *Pulvis Antilyssus* in the former *London Dispensatory* takes its name, as being accounted good against such evils.

M

THIS letter in prescription is frequently used to signify an *handful*, and is sometimes also put at the end of a recipe for *misce*, *mingle*, or *mixtura*, *a mixture*. Thus *m. f. Julepum*, signifies mix and make a julep.

Maceration, is an infusion either with or without heat, wherein the ingredients are intended to be almost wholly dissolved.

Machaon, is the proper name of an ancient physician, said to be one of the sons of Æsculapius; whence some authors have fancied to dignify their own inventions with his name, as particularly a collyrium described by Scribonius, entitled, *Asclepias Machaonis*; and hence also medicine, in general, is by some called *Ars Machaonia*.

Macies, diseases in which the body, or particular parts, waste or wither.

Macis, mace. It is the middle bark of nutmegs. It is of a lively red colour when fresh, but grows paler with age; it envelopes the shell which contains the nutmeg. Its qualities are similar to those of nutmeg, both as the subject of medicine and pharmacy; but the *mace* sits easier on the stomach.

Madarosis, Μαδαρωσις, from μαδος, without hair. A defect, or loss of eye-brows, or eye-lashes, causing a disagreeable deformity, and painful sensation of the eyes, in a strong light.

Madder. See *Rubia*; also a name of several species of *Galium*.

Madness. See *Mania*.

Mador, such a sweat as arises during faintness.

Magna Arteria, i. e. *Aorta*.

Magnes, μαγνης, the load-stone, the wonderful properties of which have greatly puzzled and employed the inquiries of many great men; but their opinions thereupon are of no great use in medicine. It is an ore of iron.

Magnesian Earth. Magnesia. Magnesia is usually obtained from Epsom salt; that which is found in the earth being almost always in combination with an acid. It is in form of very fine powder, considerably resembling flour in its appearance and feel; it has no sensible taste on the tongue; it gives a faint greenish colour to the tincture of violets, and converts turnsole to a blue. It is employed medicinally as an absorbent, antacid, and purgative. ℈i. to ʒij.

Magnesia, when pure, is white, loose, and light, of the specific gravity of 2.330 nearly. It is perfectly infusible in the focus of the most powerful mirror, except when it contains particles of flint, which, if the alkali is impure, sometimes happens. When the volatile alkali is employed in the process, no flinty particles are found in it. Magnesia melts, however, with borax, and with some of the earths, though more certainly when the earths and alkalis are united. A new manufactory of china, resembling the sève, is established at Berlin, in which, instead of the kaolin, a magnesian earth, containing flint and an alkali, is the chief ingredient. Magnesia is nearly insoluble in water, but retains a small portion of this fluid within the interstices of its particles with some obstinacy. When, however, the carbonic acid gas is previously united with the water, the magnesia dissolves readily.

Magnesia contributes to the diffusion and suspension of many resinous substances, and, triturated with camphor, renders this medicine more miscible with water. It is supposed also to increase the solubility of bark in water, if triturated with it previous to infusion or decoction; but it seems to produce some chemical change in the constituent principles of the medicine, as the colour is not only deeper but more red. Whether it is more active as a medicine than the common decoction has not, we believe, been ascertained.

As magnesia contains about seven twelfth parts of fixed air, it should be calcined before it is administered, at least when flatulence abounds. The air, however, which is expelled by heat, is greedily recovered by exposure to the atmosphere, so that it should be kept in a phial carefully closed. The magnesia contracts no acrimony by calcination.

Like all absorbents, it corrects acidities in the stomach, relieves the heart-burn and pain in the stomach, colics and convulsions in children, with every other complaint arising from acidity. It is preferred to other absorbents, on account of its laxative quality, when united with an acid. If mixed with rhubarb, it is said to prevent the rhubarb from leaving a costive habit. If the magnesia does not meet an acid, it is inert, and is sometimes supposed to load the stomach as a heavy cold mass. It has been doubted whether it is proper in bilious or putrid fevers, and much idle disquisition has been employed on this subject; for a prudent practitioner will be led, in such cases, to employ medicines of very different qualities. Magnesia can do no good in either disease.

Magnetism. The property which iron possesses of being attracted by the magnet.

Magnetism, Animal. Not many years have elapsed since what is called *animal magnetism* was supposed to cure every disease, and to free the mind from the trammels of the body, the load of earth which confines its active excursions, enabling it to pervade, at will, through distant regions, unlimited by time or space. This imposition has had a variety of professors in different countries; and, at one time, seems to have fascinated minds even of a superior order. It affected chiefly the imagination; and the delusion was, in general, confined to the female world, and the weaker classes of mankind. An hysteric paroxysm was produced, and the wanderings of a disturbed imagination were received as the dictates of inspiration. In these wanderings, medical questions were proposed and answered; but all the answers, like those of the ancient oracles, were vague and indecisive. The gesticulations of the professors were directed to particular parts, and supposed to remove the complaints of those organs. While the fancy was inflamed, the effects were thought supernatural. When that cooled, the power lost its influence. The professors have published their secret, which is a strange mixture of absurdity and fanaticism. They are powerfully to excite the attention, to will an end, with views strictly benevolent, moral, and religious. They were not conscious of any means, and this all-powerful influence was to be excited by the volition of the weakest, meanest, sometimes the most infamous, of mankind. The bubble is now burst, and the experience of this age will, for a time, prevent its revival.

Magnum Os. Thus the third bone of the second row in the wrist is named. It is the largest of all the bones there.

Maize, i. e. *Zea*.

Majorana. Sweet marjoram. *Origanum majorana* of Linnæus. This plant has been long cultivated in our gardens, and is in frequent use for culinary purposes. The leaves and tops have a pleasant smell, and a moderately warm, aromatic, bitterish taste. The medicinal qualities of the plant are similar to those of the wild plant. (*see Origanum*) but being much more fragrant, it is thought to be more cephalic. It is directed in the *pulvis sternutatorius* by both Pharmacopeias, with a view to the agreeable odour which it diffuses to the asarabacca, rather than to its errhine power, which is very inconsiderable. In its recent state it is said to have been successfully applied to schirrous tumours of the breast. ℈i. to ʒss. Oil of grs. ii. to iv.

Mala, the prominent part of the cheek

Mala Assyria, the citron.

Mala Aurantia, the orange.

Mala Aurea, the orange; also the amoris poma.

Mala Cotonea, the quince.

Malachite, a species of copper ore, found in Siberia.

Malacia, μαλακια, is a depraved appetite, when such things are coveted as are not proper for food; but the etymology of the term seems doubtful, unless it be from μαλασσω, *mollio, to soften*, because too lax a tone of the stomach is generally the occasion of indigestion and unusual cravings.

Malarum Ossa, the cheek-bones. They are the irregular square bones placed on the outside of the orbits.

Malats, (*Malas, tis, s. m.*) Salts formed by the union of the malic acid, or acid of apples, with different bases; thus, *malat of copper*, *malat of lead*, &c.

Malic Acid. This acid is obtained by saturating the juice of apples with alkali, and pouring in the acetous solution of lead, until it occasions no more precipitate. The precipitate is then to be edulcorated, and sulphuric acid poured on it, until the liquor has acquired a fresh acid taste, without any mixture of sweetness. The whole is then to be filtered, to separate the sulphate of lead. The filtered liquor is the malic acid, which is very pure, remains always in a fluid state, and cannot be rendered concrete. The union of this acid with different bases constitutes what are called malats.

Malignitas, (from *malignus*, *evil.*) Malignity, when applied to fevers, means a high degree of putridity; and its signs are, a slight coldness and shivering, quickly followed by a great loss of strength, a small, quick, and contracted pulse, fainting, if in an erect posture, drowsiness without sleep, or the sleep not refreshing but followed by a greater decay of strength and delirium. There is little pain, thirst, or other troublesome symptom, and yet the patient is uneasy, the features contract and sink, the extremities become cold, the pulse intermits, and death soon terminates the scene.

Malis, a disease of the skin produced by an insect lodging underneath. It is very common in Persia, where the disease is produced by the worms called *Gordius medinensis*, or *Dracunculus persicus;* in America, by the *Pulex;* and it is sometimes produced in Europe by the *Pediculus.*

Malleable, *Malleability*, from *Malleus*, *a hammer*, signifies any thing that is capable of being spread by beating; and is a quality possessed in the most eminent degree by gold, that being more ductile than any other metal; and is opposite to friability or brittleness.

Malleolus, the ankle, distinguished into external and internal, or *malleolus externus* and *internus.*

Malleus, signifies a hammer, or mallet, and is applied to one of the bones of the ear, from its resemblance thereunto.

Malum Mortuum, a disease that appears in the form of a pustule, which soon forms a dry, brown, hard, and broad crust. It is seldom attended with pain, and remains fixed for a long time before it can be detached. It is mostly observed on the tibiæ and os coccygis, and very seldom on the face.

Malva, common mallow. *Malva sylvestris* of Linnæus. This indigenous plant has a strong affinity to the althæa, both in a botanical and a medical respect. See *Althæa.* It is principally used in fomentations, cataplasms, and emollient enemas.

Mammæ, (from μαμμα, *mamma*, plural *mammæ*). The Breasts. In the breasts we distinguish the mammillæ, or nipples, the areola, the brownish circle around the nipples and the lactiferous vessels. The breasts are composed of a glandular substance and fat; the glandular part is hard, white, and irregularly mixed with fat, seemingly composed of tubes called *tubi lactiferi.*

Though the breasts are usually spoken of as single glands, they are in reality a congeries of glandular bodies, of a small size, and a somewhat flattened shape. Mr. Cruickshanks has described them as acini; but other authors, with more reason, have supposed these small bodies to be merely convoluted vessels. From these small glands tubes emerge, which enlarge and anastomose freely; but, when approaching the nipple, near the areola, contract and open by distinct apertures. Fifteen of these are often counted on a small nipple, though other anatomists lessen the number. The areola is covered with a skin much more soft and fine than that of the general surface, resembling rather the ephelion of the lips and mouth, and interspersed with sebaceous glands, obvious even to the sight, to defend this tender covering from the pressure and the saliva of the child's mouth. The nipple itself is formed of a congeries of these small tubes. The different vessels, either lactiferous or secretory, are minutely divided by fat, and thus give the roundness, the fulness, and firmness of a well-proportioned mamma.

The colour of the areola greatly differs even in different women; and, in some, it is so brown, as even in the natural state to give a suspicion of impregnation. (See *Medicina Forensis.*) In chlorotic and unhealthy women it is pale; in the Samoeids and negresses black; and in brown persons of a deeper colour. The hue is evidently derived from a fulness of the arteries, though in what manner it is modified we cannot easily say; probably by the colour of the rete mucosum; for all the sexual organs have a brownish tint. In women of the most brilliant and delicate complexions, the colour of the areola resembles that of a rose.

The female mamma sympathises very pointedly with every part of the genital system, generally with the clitoris, more sensibly and strictly with the ovaria and the uterus. At the approach of the menses the breasts enlarge; at their cessation they wither. After the lochia cease, the milk begins to flow, and this connection is so intimate, that it has been attributed to the anastomosis of the extreme branches of the epigastric and mammary arteries on the abdomen. This is, however, highly improbable; for their union is inconsiderable, and not peculiarly distinct at any particular periods. The sympathy, however, is so striking, that the Hottentots and the Scythians (Herodotus) irritate the vagina to increase the flow of milk from their cows and mares. It is highly probable that the milk is carried to the nipple, and often discharged from it by the action of its own vessels, and that the child drains the breast, not so much from its own powers, as by exciting the action of the lactiferous tubes. Thus a sensation is felt, when the child approaches, of some internal commotion of the mamma, of which females distinguish by the term *warping*, and they are excited so much by the irritation of the vagina, as to render it doubtful if it is always prudent to deprive the hireling nurse of the company of her husband. A sentimental feeling also influences the secretion: thus the milk does not flow so freely on the application of a strange child as of a woman's natural offspring; and exciting the attention, especially if this is accompanied with a little terror, will wholly suspend the discharge.

The connection of the secretion of milk with the general state of the nervous system is also strongly marked. The maternal office of suckling is always attended with a calm serenity of mind, scarcely felt in other situations, and the suppression of the milk, on its first appearance, with irritability, languor, or despondence. The last, indeed, sometimes attends the period of suckling, though the milk continues to flow, from causes that cannot be ascertained. It seems to affect the young and the strong, rather than those of the middle period of life, or of weaker constitutions; the first lyings-in rather than future ones. The apprehensions of death, in those rare and inexplicable cases, are however, so strong, that nothing can conquer them; the dejection so firmly fixed as to bid defiance to medical aid. In some cases it has continued for some years, but another pregnancy is usually an infallible cure.

Though the final cause of the connection of the uterine with the lactiferous system is obvious, yet, as usual, nature acts by general laws. Thus a false conception is attended with a fulness of the mammæ, and the want of ovaria, as we have seen, has occasioned the breasts to remain in the state of the earliest periods. The irritation of a cancerous tumour in the uterus has, however, no effect of this kind, for it seems of a sedative nature; or perhaps the principium and fons of the irritation must be in the ovary.

It is a circumstance singular and inexplicable that men should have all the organs which produce and convey milk like women. Is it that the sex is determined after the rest of the body is formed, or that, in cases of necessity, men should be able to supply the office of the woman? The first is highly improbable; and though we have one instance of a man affording his motherless offspring this sustenance, the experiment has not been again tried, or not succeeded. Yet, on birth, when all the fluids begin to circulate freely, male children, as well as females, have often milk in the breasts. On the whole, were men subject to a partial plethora like that which takes place in menstruation, and were there an established sympathy between the breasts and genital organs, it is probable that they might become nurses. But neither the plethora nor the sympathy exist; and though we have found tumours in the breasts of men, we have never heard of their becoming cancerous. Girls of the best character, by the irritation of a child sucking, have become able to support it. A woman of sixty-eight is recorded in the Philosophical Transactions to have suckled a grand-child; and one of eighty, in a Swedish Journal, is said to have performed the same office. Russel mentions a similar fact respecting a barren sheep, in his treatise De Tabe Glandulari, p. 64.

The number of teats in different animals correspond to the usual number of their young; but it is singular that, however the numbers differ, they are always even. Animals that do not give suck are generally oviparous, but some of the vipers, and some reptiles styled viviparous, are not strictly such; for their young are enclosed in eggs, which are hatched some time previous to the birth. A step between these and animals who are really viviparous may be observed in the didelphis, of which the kangarou is a species. These animals produce their young in an unformed, imperfect state; but they are for a long time concealed, and protected in a second uterus, formed under the belly by a duplicature of the skin, in which the nipples are found. While thus speaking on comparative anatomy, we may add, that the horse was supposed to have no nipples; but Daubenton discovered them under the prepuce.

The arteries and veins are ramifications from the arteriæ and venæ subclaviæ, and from the axillares. The nerves are principally from the costales, which communicate with the nervi sympathetici. The lymphatics pass through the axillary glands, though Meckel suspects that he has traced them into the subclavian veins.

Mammary Arteries. The internal mammary artery is a branch of the subclavian, and gives off the mediastinal, thymal, and pericardiac arteries. The external mammary is a branch of the axillary artery.

Mammary Veins. These vessels evacuate their blood into the subclavian vein.

Mammiformis Processus, the mastoid, or breast-like process. See *Mastoid.*

Mandibula, from *mando, to chew*, a jaw. See *Maxilla*.

Manducation, signifies the action of the lower jaw, in chewing the food, and preparing it in the mouth before it is received into the stomach.

Manducatorii Musculi, are the same as the *Masseters*, which see.

Manganese, a grey dark coloured mineral, which soils the fingers, and is employed in glass-houses in different proportions, either to colour, or to take away colour from glass. It ought to be considered as a peculiar semimetal, because its analysis has not yet been made, and it is found to possess properties common to no other metallic substance.

Mania, raving or furious madness. A genus of disease in the class *neuroses* and order *vesaniæ* of Cullen, characterised by a conception of false relations, and an erroneous judgment, arising from imaginary perceptions or recollections, exciting the passions, and producing unreasonable actions or emotion, with a hurry of mind in pursuing a train of thought, and in running from one train of thought to another; attended with incoherent and absurd speech, called raving, and violent impatience of either contradiction or restraint. M. M. See *Insania*.

Manihota, i. e. *Cassava*, a species of *Jatropha*.

Maniodes, maniacal.

Manipulus, a handful.

Manna, the condensed juice of the *Fraxinus ornus*, or flowering ash of Linnæus, a native of the southern parts of Europe, particularly Sicily and Calabria. Many other trees and shrubs have likewise been observed to emit a sweet juice, which concretes on exposure to the air, and may be considered of the manna kind, especially the *Fraxinus rotundifolia* and *excelsior*. In Sicily these three species of fraxinus are regularly cultivated for the purpose of procuring manna, and with this view are planted on the declivity of a hill with an eastern aspect. After ten years growth the trees first begin to yield the manna, but they require to be much older before they afford it in any considerable quantity. Although the manna exudes spontaneously upon the trees, yet in order to obtain it more copiously, incisions are made through the bark by means of a sharp crooked instrument, and the season thought to be most favourable for instituting this process is a little before the dog-days commence, when the weather is dry and serene. Manna is generally distinguished into different kinds, viz. the manna in tear, the canalated and flaky manna, and the common brown or fat manna. All these varieties seem rather to depend upon their respective purity, and the circumstances in which they are obtained from the plant, than upon any essential difference of the drug. The best manna is in oblong pieces, or flakes, moderately dry, friable, very light, of a whitish or pale yellow colour, and in some degree transparent: the inferior kinds are moist, unctuous, and brown. Manna is well known as a gentle purgative, so mild in its operation that it may be given with safety to children and pregnant women. ℥ss. to ℥iij.

Marasmus, a wasting away of the flesh; μαρασμος, from μαραινω, to grow lean.

Marcores, universal emaciation. The first order in the class *cachexiæ* of Cullen's nosology.

Margaritæ, pearls. They are small morbid excrescences, of a calculous kind, formed on the inside of the shell of the concha margaritifera, or mother-pearl-fish, and other shell-fish. The oriental are the best, and have a shining silver-like hue.

Marine Acid. It is obtained by decomposing sea-salt, by means of the vitriolic acid. With a basis of soda, it forms culinary or common salt. It is also called muriatic acid, and is a very agreeable, healthy, and antiseptic substance. It is excellent both in food and medicine. It is always fluid, and cannot be procured under a concrete form. The most concentrated weighs nine drams and a half, in an ounce measure of water. (Beaumé.) Or, according to Dr. Farr, its specific gravity is to water, as 12 to 10. The vapours which fly off from this acid are white. For a theory of the manner in which sea-salt acts in preserving animal substances from putrefaction, see Dr. Mitchill's letter to Dr. Woodhouse, inserted in the *Med. Rep.* vol. ii. p. 274.

Marine Salt. Common culinary salt. This salt is more abundant in nature than any other; it is found in prodigious masses in the internal parts of the earth, in Calabria, in Hungary, in Moscovy, and more especially at Wieliczka, in Poland, near Mount Capax, where the mines are very large, and afford immense quantities of salt. It is also obtained, by several artificial means, from sea water.

Marmalade, is the pulp of quinces, oranges, or any other fruit, boiled into a consistence with sugar.

Marrow. The fat substance secreted by the small arteries of the internal periosteum, and contained in the medullary cavities of the long cylindrical bones.

Marrubium. Common white horehound. *Marrubium vulgare* of Linnæus. The leaves of this indigenous plant have a moderately strong smell of the aromatic kind, but not agreeable, which by drying is improved, and in keeping for some months is in great part dissipated; their taste is very bitter, penetrating, diffusive, and durable in the mouth. That horehound possesses some share of medicinal power may be inferred from its sensible qualities, but its virtues do not appear to be clearly ascertained. It is a favourite remedy with the common people in coughs and asthmas.

Marum Syriacum. Marum germander, or Syrian herb mastich. This shrub, *Teucrium marum* of Linnæus, grows plentifully in Greece, Ægypt, Crete, and Syria. The leaves and younger branches, when recent, on being rubbed betwixt the fingers, emit a volatile aromatic smell, which readily excites sneezing; to the taste they are bitterish, accompanied with a sensation of heat and acrimony. Judging from these sensible qualities of the plant, it may be supposed to possess very active powers. It is recommended as a stimulant, aromatic, and deobstruent; and Linnæus, Rosenstein, and Bergius speak highly of its utility. At present, however, marum is chiefly used as an errhine, and is an ingredient in the *pulvis asari compositus* of the London Pharmacopeia.

Martial, is sometimes used to express preparations of iron, or such as are impregnated therewith; as the *Martial Regulus* of antimony, &c.

Massa, applied generally to the compositions out of which pills are to be formed. It is likewise, in a figurative sense, applied to some collections of fluids, and particularly that of the blood; for which it is frequently used.

Masseter. A muscle of the lower jaw, situated on the side of the face, that pulls the lower jaw to the upper one; from μασσαομαι, *to chew,* because it assists in the action of chewing.

Mastication. Chewing. A natural function. The mixing together and dividing of the particles of the food in the mouth, by the action of the jaws, tongue, lips, and cheeks. By means of this function the food is lacerated and mixed with the saliva and the mucus of the mouth and fauces, and thus made into a bole of such a consistence as to be formed into a convenient size to be swallowed. See *Deglutition.*

Masticatories, are such medicines as are intended for chewing, in order to evacuate more than ordinary by the salival glands.

Mastiche. Mastich. The tree which affords this resin is the *Pistachia lentiscus,* a native of the south of Europe. In the island of Chio the officinal mastich is obtained most abundantly, and, according to Tournefort, by making transverse incisions in the bark of the tree, from whence the mastich exudes in drops, which are suffered to run down to the ground, when, after sufficient time is allowed for their concretion, they are collected for use. Mastich is brought to us in small, yellowish, transparent, brittle tears or grains; it has a light agreeable smell, especially when rubbed or heated; on being chewed it first crumbles, soon after it sticks together, and becomes soft and white, like wax, without impressing any considerable taste. It is considered to be a mild corroborant and adstringent; and as possessing a balsamic power it has been recommended in hæmoptysis, proceeding from ulceration, leucorrhæa, debility of the stomach, and in diarrhœas and internal ulcerations. Chewing this drug has likewise been said to have been of use in pains of the teeth and gums, and in some catarrhal complaints; it is, however, in the present day, seldom used either externally or internally. ℈i. to ʒss.

Mastodynia. Phlegmon of the breast of women; from μαστος, *the breast,* and οδυνη, *pain.* It is characterized by all the symptoms of acute inflammation, and mostly terminates in abscess. M. M. At first venesection; cathartics; refrigerants and antiphlogistic regimen; opium; externally sugar of lead and cooling ointments. When these fail, promote suppuration by a full diet and warm emollient poultices.

Mastoid. Those processes of bones are so termed that are shaped like the nipple of the breast; from μαστος, *a breast or nipple,* and ειδος, *resemblance.*

Masturbatio; manustrapatio, Onanismus, the sin of Onan, from a perverted passage in the Pentateuch. The discharge of semen from a preternatural stimulus; the vice, it is said, of the solitary monk, and, perhaps, of other recluses, to whom more natural enjoyments are denied. It is a habit of the most destructive tendency, enervating, in the highest degree, both the body and mind. Nature seems to have fixed a strong mark on those disposed to every unnatural enjoyment, and however secret their practices may be, so indelible is this mark, that they cannot escape detection from that *tact* which has been peculiarly distinguished by the term of *sensus medicus.* In general, the countenance is sallow, with a peculiar dejection in the look. The voice is hurried and unsteady; the face often covered with dark coloured pustules, hard in the skin, and the whole frame displaying peculiar debility. The dejection, at times, almost amounts to insanity, and every complaint appears to threaten instant death. The tremor and apprehension prevent the natural enjoyments, by which they might be otherwise weaned from this destructive habit; and the whole life is alternated with doubts, apprehensions, and despair. Unfortunately, the practice is never forsaken, at least, notwithstanding every assurance, we have reason to think so.

The apprehensions of discovery and the despair render those unfortunate persons the dupes of quacks, and it may be remarked, that every quack bill holds out delusive hopes to those who experience the bad effects of such indulgences. Regular practice exhausts the whole tribe of tonics and stimulants with little effect. The warm balsams, of which the quack medicines consist, are either rejected from the hands of the physician, or not continued a sufficient time; and even cold bathing, the best remedy, does not fix the imagination so strongly as the solar tincture, or the balm of Gilead. If not too long continued, a prudent marriage may recover the patient; but it would be unjust, cruel, and impolitic, to condemn a healthy young woman to the shadow of a man. This remedy, however, we have often found effectual in cases where the constitution was not wholly exhausted.

Mater, μητηρ, *a mother*. In *Anotomy*, two membranes take this name, viz. the dura and the pia mater. They were so called by the Arabians, because they thought them the origin of all the other membranes of the body.

Mater Tenuis. So called from its thinness, i. e. *Pia Mater*.

Materia Medica, the whole collection of remedies; in a more limited sense, it is the pharmaceutic remedies commonly called *Drugs*.

Matrix, Μητρη. The uterus. See *Uterus*.

Maturation. A term in surgery, signifying that process which succeeds inflammation, by which pus is collected in an abscess.

Maxilla Inferior. Os maxillare inferius. Mandibula. The lower jaw. A bone shaped like a horse shoe, forming the chin, and containing half the teeth of the mouth. Its principal prominences are, the condyloid, by which it is connected with the temporal bone; the coronoid, which is opposite to it; the symphisis of the jaw; the alveolar margin; the angles of the jaw; and an external and internal spine of the chin. Its cavities are, a semilunar niche between the condyloid and coronoid processes; an anterior and posterior foramen, between which is a canal in the bone, called the mental canal; and sixteen alveoli for the teeth.

Maxilla Superior. Os maxillare superius. The superior maxillary bone is situated in the middle of the face, forms part of the face, palate, nose, nostrils, and orbits, and with its fellow the part that is opposed to the lower jaw. Its figure is very irregular: its principal eminences are, the nasal, orbital, jugal, and palatine processes, the alveolar arch, maxillary tuberosity, nasal spine, and orbital margin. Its cavities are, a large pituitary sinus, in the middle of the bone called the antrum of Highmore, a depression for the lachrymal sack, the nasal canal, the infra-orbital foramen and canal, an anterior and posterior palatine foramen, and an opening which leads to the antrum of Highmore.

Maxillary Arteries. These are branches of the external carotid. The *external maxillary* is the fourth branch of the carotid; it proceeds anteriorly, and gives off the fascial or mental, the coronary of the lips, and the angular artery. The *internal maxillary* is the next branch of the carotid; it gives off the *sphæno maxillar*, the inferior alveolar, and the spinous artery.

Maxillary Nerves. The superior and inferior maxillary nerves are branches of the fifth pair or trigemini. The former is divided into the spheno-palatine, posterior alveolar, and the infra-orbital nerve. The latter is divided into two branches, the internal lingual, and one more properly called the inferior maxillary.

Maxillary Glands. The glands so called are conglomerate, and are situated under the angles of the lower jaw. The excretory ducts of these glands are called Warthonian, after their discoverer.

Mayze, Indian corn.

Mean, expresseth the middle of any two extremes.

Measles. See *Rubeola.*

Meatus Auditorius, opening of the ear. See *Auditorius Meatus.*

Meatus Urinarius, the passage of the urine, &c.

Mecca, Balsam of. See *Balsam of Gilead.*

Mecon, μηκων, the Greek name for a poppy.

Meconium, μηκωνιον, from μηκων, *papaver, a poppy;* is properly the condensed juice of poppies, or opium; but it is used also for the excrements of a fœtus which adhere to the intestines after birth, because they have been imagined to have some resemblance to opium in colour.

Median Nerve. The second branch of the brachial plexus.

Median Veins. The situation of the veins of the arm is extremely different in most individuals: when a branch proceeds near the bend of the arm, inwardly from the basilic vein, it is termed the *basilic median;* and when a vein is given off from the cephalic, in the like manner, it is termed the *cephalic median.* When these two veins are present, they mostly unite just below the bend of the arm, and the common trunk proceeds to the cephalic vein.

Medianus, the median nerve. See *Cervicales.*

Mediastina, inflammation of the mediastinum.

Mediastinæ Arteriæ, the arteries of the mediastinum. They arise from the subclavian arteries, and are spread about the mediastinum.

Mediastinæ Venæ, the veins of the mediastinum. The right comes out from the trunk of the superior vena cava anterior, a little above the azygos: the left from the subclavia.

Mediastinum, *quasi in medio stare*, to stand in the middle. This is a double membrane, formed by the continuation of the pleura, which comes from the sternum, and goes straight down through the middle of the thorax to the vertebræ, dividing the cavity in two. It contains in its doublings, the heart in its pericardium, the vena cava, the œsophagus, and the stomachic nerves. The membranes of the *mediastinum* are finer and thinner than the pleura, and have a little fat. The *mediastinum* receives branches of veins and arteries from the mammillary and diaphragmatic, and one proper called *Mediastina;* its nerves come from the stomachic; it has also some lymphatics, which open into the thoracic duct. The *mediastinum* divides the thorax into two parts, to the end that one lobe of the lungs may officiate, if the other be hindered by a wound on the other side. Sometimes there is matter contained betwixt its membranes immediately under the sternum, which may occasion the trepanning of this place.

Mediastinum Cerebri, is the same as *Septum transversum*, which see.

Medicamentaria, pharmacy. It is the art of making and preparing medicines.

Medicaster, a false pretender to the knowledge of Medicine; the same as *Quack.*

Medicina Forensis et Politica. Medicine has for ages been the guide of the police and of justice, without ostensibly mingling in their contests. When Acron of Agrigentum is said to have kindled fires to promote the circulation of air in order to check the plague of Athens, or Numa constructed sewers to keep the imperial city from the noisome stench of impurities, they acted as able politicians and judicious philosophers; and an early work of Hippocrates on a kindred subject should have particularly fixed the attention of physicians. Many similar regulations are indeed the result of good sense, reduced to practice by an active mind and well-directed views; but many years elapsed before regulations of this kind were digested by a regular scientific publication, professedly on the subject. The Criminal Constitution of Carolina was the earliest work in which the rudiments of forensic medicine were developed, and the first edition of this work appeared in the beginning of the 16th century. The origin of political medicine in modern times may be dated about forty years later, and its first publication by Joach. Struppe, at Frankfort, appeared in 1573. His work in quarto contains the necessary precepts for preventing the air from contamination by filth, by injurious occupations, and by sepulture in the midst of cities. He adds regulations respecting the occupations of millers, bakers, butchers, &c. on the proper instructions necessary for midwives, on the establishment of infirmaries, on the propriety of visiting the shops of apothecaries, and of guarding against the arts of quacks. In the same year he published his Anchor of the Hunger, Thirst, and the Health of Mankind; in which he particularly treats of the substances which may occasionally supply bread, and the means of preserving meat from putrefaction. At the end of the same century, Fortunatus Fidelis of Sicily published his work on the department of forensic medicine, De Relationibus Medicorum; and, under the name of Reinesius, his Schola Ictorum Medica. The subject was still further pursued by Paul Zacchias, principal physician to the pope, who published his Quæstones Medico Legales in 1621, &c. in nine volumes, quarto, at Rome. About the end of the same century Paul Amman, a native of Breslaw, and a professor at Leipsic, published the Medicina Critica seu decisoria, as well as the Irenicum Numæ Pompilii cum Hippocrate; and, in the same century, G. Welsck of Leipsic published his Rationale Vulnerum Lethalium Judicium. We may just add, as objects of curiosity, that this author first described the purple miliary fever of child-bed women, as a new disease, in 1655; and, about the same time, a German clergyman first described the method of recovering persons apparently drowned.

To pursue the history through the 18th century would be useless, and almost impracticable. We engaged in it chiefly from curiosity, and need only add, that the minor works on this subject are collected by J. C. Traugott Schlegel, published in six small volumes at Longosalissa; but we must remark, that of this city and some others we have found it impossible to discover the vernacular name. The obscure towns in Germany have not found a place in any Latin or geographical dictionary to which we have access.

To account for the numerous German and French publications on this subject, we must observe that the laws of these countries are much more minute in their distinctions respecting crimes than the criminal code of Britain. This may be one reason why the subject has been so much neglected, that it has not formed any portion of a course of lectures; and very lately only has a professor of forensic medicine been established in a British university. To treat of this branch of medicine therefore, with all the subtilty of a German lawyer, will be unnecessary, and we must confine ourselves to the outline of those topics, which must be the subject of inquiry in our courts of justice.

We must first consider forensic medicine as it is a branch of medical investigation, and next as it is connected with the conduct of the surgeon.

Mania is one of the most frequent subjects of forensic inquiry, in which the physician is called on to decide; and, to the disgrace of science, we find the most opposite opinions adduced by practitioners of eminence. Much depends on the period during which the physician sees the supposed lunatic, and more on a few necessary distinctions, which we fear are sometimes designedly neglected. It is possible for an interested relation to fix on a day when the patient is calm and rational, an hour when he is usually collected, to introduce the physician who pronounces him sane. Another, in different circumstances, might pronounce him mad. It is necessary therefore to guard against such deceptions, to visit him frequently at different times, and at the most unsuspected hours. If this is refused, a collusion will be evident. We remember seeing a man, who was confined for a crime and defended on the plea of idiotic insanity. We visited him frequently, while unsuspecting any such examination, and found the plea strictly true. Yet, when called into court for the purpose of acquittal, when cleaned and dressed, roused also perhaps by the novel appearance of the scene, his look assumed a meaning, and he was almost rational.

In the general relations of life, a man may be thoughtless, ridiculous, and extravagant, yet these errors will not be sufficient to fix the charge of insanity, which consists either in false perceptions or erroneous reasoning, on objects distinguished in their true colours. Many individuals of this kind require guardians for their property as much as persons really insane; but the law intrusts no practitioner with such discretionary power. The difficulty arises when this wild absurd conduct is attended with such inconsistencies as lead to the suspicion, that the perceptions or the reason are affected. This situation is a question of prudence, rather than of jurisprudence, or medicine. The reflecting physician will not fix, unnecessarily, the stigma of insanity on a whole race; nor will he expose a family to ruin by a too great delicacy. In this difficulty, he will rather take the opportunity of a calmer moment to induce the patient to adopt such plans as may prevent the ruin of the family, and may properly make use of the alternative as an argument, in case of refusal. But this, as we have said, is not a medical question.

There is another doubtful state, in which the physician is called on to decide, viz. when from disease, from general weakness, or any constitutional cause, the mind is so much enfeebled as to render it uncertain whether the patient can judge of the proper disposition of his affairs. This too is a question of discretion, for the afflicted person may be taught to answer common questions readily, or may be awed by some interested attendant.

In this case, if the physician, when alone with his patient, talks to him of his affairs, suggests, for the sake of a reply only, some objections to his arrangements, he will soon find whether the testator has judged properly, or only repeats a lesson. The circumstances themselves often suggest doubts; and when an infirm old man disinherits obedient or near relations, for the sake of those connected with him only by accident, the presumption is, that his mind is not sound.

By a fiction of the law every mania is supposed to be relieved by occasional lucid intervals, and if the act of a madman is reasonable and proper, it is a proof that the interval was a lucid one. Thus in the case, which has just been considered, whatever be the apparent state of the patient's mind, if his will be judicious and proper, there is no reason why the physician should not pronounce him in a sound state. Yet, in criminal cases, the law is not equally indulgent, nor has it always, perhaps, been equally humane. Lucid intervals, in cases of murder, are not allowed, and the man who has been proved to be mad on the Monday and Wednesday, is not allowed to be sane on the intervening day; yet decisions have occurred of a different kind; and an art in planning, a coolness in executing, a deliberation in the conduct, have been supposed to constitute soundness of mind. On these grounds lord Ferrers and Mr. Oliver were executed. Yet, if the *motive* is at any time connected with the hallucination, the subsequent action should certainly be considered as a part. In later trials the opinions have leant more on the side of humanity.

The question of confirmed insanity must be decided by a comparison of the patient's state with the pathognomonic symptoms. Yet there are many sources of doubt, and often room for hesitation. In many instances the mind wanders, at first, on one subject only; and, when the madman has any point to gain, he will, with great success, counterfeit a calm reasonable state. Each point must be carefully guarded; yet the experienced physician will not be easily baffled. A wildness of the eye, a tension of the skin of the temples, a dry furred tongue, often a hurried pulse, will explain the real state. The madman is also a coward, and we have drawn from this a good pathognomonic symptom. If threatened with some vehemence with any punishment, however wild and impracticable, he will shrink and tremble, forgetting all his art, or returning to his original deviation of mind.

Returning sanity is another point of doubtful distinction; nor do we see that it is possible to lay down any rules, except the absence of the pathognomics of the disease. Yet we have often witnessed the return of persons from the appropriate receptacles, with a wildness of the eyes, a quickness of utterance, rapid unsteady motions, which showed corporeal disease, though the mind was calm. Such persons should not be pronounced secure; and, though confinement may not be necessary, the most pointed caution should be continued.

Dissembled insanity might more properly belong to another head, morbi simulati; but we may more easily speak of it in this place. An experienced practitioner will soon detect the absurdities which assume the form of insanity; for, though incoherencies, wildness, and obscenity, may be imitated, the hurried look, the rapid pulse, the dry tongue, and the sleepless nights, cannot be assumed. Above all, the cowardice, the apprehension of punishment, the influence of threats, are seldom to be discovered. A French author details the symptoms of madness, for the purpose of this distinction, so elegantly as to induce us to copy the picture.

"Thus to neglect what most deserves attention, and to value what is least deserving of it; to rejoice or weep without an adequate reason; to despise what is terrible, and to fear what is ridiculous; to admire trifles, and to reject what is excellent; to love the objects of hate, and to hate those of love; to hope without an object, and to despair while in security; to be pleased with things which excite no agreeable sensations in others, and to fly from what every one would anxiously seek; to be timid with those who demand no deference, and bold to those whom they ought to respect; such are the infallible marks of a wandering mind."

In either of these cases, an excellent criterion may be found by inducing the supposed lunatic or the pretended convalescent to write. If engaged in a correspondence, particularly respecting his own affairs, he will soon betray insanity, should it remain. In the servile war, the slaves who opposed the spears of their former masters yielded, when they saw them armed with whips; so the most furious maniac will often submit on presenting him a pair of handcuffs, which will only irritate the counterfeit.

Morbi simulati. Dissembled diseases sometimes claim attention in a court of justice, but perhaps more frequently in an infirmary. The latter is, as usual, the school. Insanity, of which we have already treated, is the most frequent, and, next to it, are the different nervous and spasmodic complaints. We must not, however, always accuse the patient. The timid girl will have the catchings and the gesticulations of chorea more frequent on the access of a stranger; and the disease, to the attendants apparently cured, will appear to return. On the contrary, these and some other diseases will occasionally seem to lessen on the approach of the physician. The wanderings of delirium will cease, and the wildness of the eye be converted to an expression of meaning. These are circumstances which must be kept in view, as tending to explain the opposite course. The diseases counterfeited are catalepsy (commonly styled ecstacy) and convulsions. Some patients possess even a command of the features, and others, it is said, of the pulse; but, in general, an unchanged expression of countenance and an unaltered pulse will explain the deceit. Boerhaave is reported to have cured real fits by threatening, eâ quâ pollebat gravitate, to burn the next patient seized with a hot iron. To heat a poker with the same gravity has cured pretended ones, especially if they felt the heat approaching. Plunging the suspected patient in cold water is still more effectual, and it will not injure if the disease be real. Dashing cold water in the face, unsuspectedly, will succeed; but, as the bathing requires preparation, it will not be necessary, in case of deception, to proceed to extremities.

Pains in the limbs, which sometimes happen without fever, is a fertile source of deception, and blisters will often have little effect in detecting the fallacy. We have not, however, found patients of sufficient constancy to endure a few smart electrical shocks; and the galvanic, if the skin is punctured, will be probably still more effectual. In cases where fever must necessarily attend, the detection is easy. No one can counterfeit the febrile symptoms; though by topical stimulants inflammation and fever may be brought on.

In the time of Galen, tumours were produced in the knee by the semen thapsi; and Zacchæus, in his numerous quartos, has copied many tales of this kind. We have seen abscesses produced by inserting splinters under the skin, continued ulcers by stimulating dressings, and even hæmoptoe occasionally returning by artificially exciting cough. Yet while we awaken suspicion, we would not silence the feelings of humanity. We have seen cases where no deception could exist, where no motive could be found for fallacy, that appeared at the first sight fictitious. We have known the urine retained six weeks without any remarkable vicarious discharge: we have known a nail of no inconsiderable size, such an one as fastens the hoops of small barrels, retained in the throat till it formed an abscess: yet in each case no deception *could* exist.

The mendicant with his ulcers counterfeits both deafness and dumbness; but these deceptions are best detected by the beadle, or by a little address. "How long have you been dumb, my good friend?" says a passenger, with the most insiduous humanity.—"Three weeks, sir," replied the incautious deceiver.

Impotentia. This disease rarely requires the interposition of a physician in a court of justice. The complainants, who are commonly females, can relate their grievances in terms sufficiently guarded and clear. The extirpation of the testicles is an operation obviously designed to prevent generation. But in the human species, as we have seen, they are originally seated in the abdomen, and fall through the rings of the muscles into the scrotum. If they do not appear in the scrotum it is no evidence of their absence, and it has been said that their influence on the genital powers are more conspicuous while they remain in their original seat. It is at least certain that this influence is not less, so fallacious is the logical maxim, when applied to medicine, De non apparentibus & non existentibus, eadem est ratio. If they did not exist, or were not evolved, the beard, the graver tone of voice, and every mark of virility would be absent. If they had been extirpated, the cicatrix would remain. It has been said that one, three, and even four, testes have been discovered. One has certainly been lost by accident, has decayed, or been extirpated, without injuring the generative power: sometimes the other has enlarged, but more often continued of the same size, with little apparent diminution of the powers. The stories of three and four testes we cannot disprove; but there is much reason to suppose that many of these have arisen from an enlargement of one or each epidydimis. They at least furnish no grounds for a legal process.

From what has been said, the physician will be sufficiently directed in his judgment; nor need we enlarge with the disgusting indecency with which the old authors expatiate on this subject, nor on the public display of the active powers in the venereal act, which some of the canons enjoined. The original authors seem plainly to hint that this indecency was only the prelude, like the modern actions for crim. con. to a divorce, and designed as a justification of the most licentious conduct; for divorces, they add, were less frequent since such exhibitions were abolished. This practice began, it is said, early in the thirteenth century, and ended about a hundred and fifty years afterwards.

Poisons. This frequent cause of violent and premature death is often the subject of inquiry in courts of judicature, and the physician is usually called on for his opinion. Science has been often disgraced by the crude, the injudicious, and often the opposite, opinions offered on these occasions; nor has humanity had less cause to regret the sacrifice of lives on the most vague and inconclusive evidence. Poisons may be accidental or designed. We shall begin with the latter.

The marks that poison has been administered are the sudden appearance of extraordinary and unsuspected symptoms, as uneasiness, nausea, an acute pain in the stomach, palpitations, faintings, disagreeable and fetid eructations, vomiting of blood, and bile, hiccough, sudden debility, smallness and inequality of the pulse, cold and clammy sweats, coldness of the extremities, paleness, livid nails, general œdematous swellings, windy distension of the abdomen, sudden relief with an equally rapid return of pains, blackness and swelling of the lips, burning thirst, loss of voice, a livid countenance, vertigo, convulsions, rolling and starting eyes, loss of sight, with a dilated pupil, lethargy, suppression of urine, a fetid smell of the whole body, purple eruptions, livid gangrenous spots, and an alienation of mind. All these symptoms are undoubtedly equivocal, and occasionally attend other diseases. They are marks of poison only when they come on suddenly, without any known cause; when the food, if unsuspected as the vehicle, sudden cold, violent affections of mind, or deleterious vapours, cannot be accused; for these will induce many of the symptoms, though seldom in so considerable a degree as arises from poison.

If the patient be not a suicide, and still retains his senses, he can explain the taste of the food, or medicine, which has induced these symptoms, so as to direct the future inquiries. When no satisfactory explanation can be obtained, we must depend on the evidence collected on dissection. Poisons, so far as they are the object of our present inquiry, are violent inflammatory stimulants, or sedatives. The pungent stimulants betray themselves by the taste, the pain in swallowing, and the inflammation of the fauces; and they must be treated under the head of accidental poison, as they cannot be given without suspicion. The chief substance to be considered here is arsenic, which is nearly tasteless, and violent in its action, even in trifling doses. Its power is shown by violent inflammation and gangrene in the stomach; and it is discovered by calcining the contents of the stomach with the black flux, when the smell of garlic will betray even such an impregnation as will not often be fatal Some of the saline mercurials show no very decided action on the tongue or fauces, and will produce similar effects. These may be discovered by adding ammonia, and heating the whole in a close vessel, when the mercury will be so far revived as to whiten copper on rubbing. In this way mercury can be often discovered in those quack medicines where its existence is utterly denied; for the ammonia contributes to precipitate the mercury, reduced in part to its metallic state, and enables it to appear on the copper. The suspected substance, if arsenical, heated between plates of copper, will give a whitish tinge to the part of the plates in contact with it. Independent of these trials, when the stimulant poisons have been the cause of death, the abdomen is greatly inflated, becomes rapidly putrid, dark spots appear on the body, erosion, inflammation, and gangrene are found in the fauces and stomach, the blood is black and collected in the veins; above all, the villous coat of the stomach is destroyed. One other discriminating appearance, on dissection, is mentioned by a respectable author on jurisprudence. If, after a body has been long buried, should gangrened spots be found in the stomach, surrounded by a reddish circle, these were effects of changes during life. Should the colour of the whole be uniform, the putrefaction took place after death.

There are other poisons which kill by a partial stimulus. The chief of these is cantharides; but their peculiar action on the bladder will point out the cause. The violent inflammation, the rapidity with which it hastens to gangrene, will at once betray the crime, and, at the same time, point out the culprit. No such can escape.

The colocynth, the elaterium, and the tithymali, betray themselves by their taste, as well as by their local action, and can neither escape the detection of the person himself who is the subject of the crime, nor the attendant physician.

The narcotic poisons, like the others, produce vomiting; but the faintness which is the effect of the vomiting in the former cases is the apparent cause of it in the present. The rapidly sinking strength, the dilated pupil, convulsions, stupor, sleep, vertigo, swelling veins, and cold extremities, point out the cause. Fortunately there are few such substances that do not betray themselves by their taste; but there *are* such, though we shall not point them out; nor shall we mention any poison that *can* be secretly administered. It is incumbent, however, on the practitioner to be cautious in these instances respecting his decisions; for no chemical analysis will assist him, and his only guide will be the discharge of substances which the powers of the stomach cannot change. He must compare with anxious attention the appearance of the symptoms after the supposed cause; trace with diligent circumspection every *other* circumstance that might have produced the effect; examine with care the patient's usual habits, his predispositions, his complaints, and at last remember that every medical conclusion is doubtful. Should he then be positive when the life of a human creature is at stake? One trial has been falsely considered to be decisive, viz. the effects of what might remain of the supposed fatal beverage on animals. This will hold true of the stimulant poisons; but by no means of the narcotic. The most innocent substances of this kind are occasionally fatal to animals; the narcotics, most injurious to man, are to many animals innocuous; and the human fluids changed by putrefaction are themselves poisonous.

Accidental poisons are received in the food, or are hastily swallowed by mistake instead of a medicine, before the taste betrays their nature. The former are chiefly copper, arsenic, and lead; the latter, nitre, camphor, ammonia, or the mineral acids.

Copper is greatly dreaded, and has frequently been accused with little reason. Copper culinary vessels, bell-metal mortars, and all the various means by which this metal can be introduced to the system, have received an indiscriminate sentence of banishment. Injuries have undoubtedly arisen from them, and we would earnestly join in deprecating their use. When, however, we have said this in the way of caution, we may be allowed to add, that the dangers have been greatly magnified. The taste of copper is so peculiar that it can scarcely be disguised, and it will not generally fail to give the alarm in doses far distant from dangerous ones. Hunger, or eagerness to taste a luxurious dish, may, however, hastily impel us, and such vessels should be avoided. The effects are chiefly on the stomach, and the quantity taken must be considerable to endanger life.

Arsenic has been swallowed accidentally when joined with any sweet substance to poison flies, or with other substances to destroy rats. The effects are so marked and discriminating as not for a moment to mislead, and they have been sufficiently detailed. It has been supposed that this metal may be accidentally introduced into the system when employed in fining wine; but for this purpose it is now wholly disused.

Lead has been accused of producing the Poitou colic when united with cyder, either as this metal is presented to it in the instruments employed in pressing the apples, or as added to correct the acidity of either wine or cyder. We cannot deny that in each instance it has produced the effect, since it is the peculiar consequence of swallowing any saturine preparation. But these are by no means the constant, or indeed the most frequent, causes of the disease. Another source is said to be the glazing of the common earthen vessels, since lead is used in the process, and in such vessels pickels are usually kept. Lead is not, however, always the substance employed, or it is not dissolved by the acetous acid. We have kept vinegar in such vessels for many days in a warm place, without its discovering the presence of lead on the addition of the most delicate tests. The alarm, therefore, we think unfounded. In these circumstances caution is almost as necessary as in the former, where the life of an individual is at stake. The credit of a house, the character of a professional man, are involved; and the feelings of those whose want of caution may have occasioned the mistake may be so excessive as to endanger their lives. Though their negligence may merit punishment, yet that punishment may be too severe.

Ignorant druggists have sold camphor and nitre instead of neutral salts; and by mistaking the vials, the aqua ammoniæ, some mineral acid, or other stimulating substance has been swallowed. The eagerness to escape from the taste of a disagreeable medicine hastens the act of deglutition, and the error is sometimes not discovered till the whole has been swallowed. The medical treatment is not our object in this place. The only connection this subject has with medical jurisprudence, is to ascertain the cause of death when such substances prove fatal. If taken as a medicine, the effects of the poison must be compared with the symptoms of the disease; and should the latter be highly dangerous, the feelings of the mistaken attendant may perhaps be relieved by the humanity of the physician's declaration, in which, if he offers truth in her fairest and most favourable hue, he will do no injury to any individual.

The symptoms which distinguish camphor swallowed in large doses are, giddiness, vertigo, delirium, and convulsions. Nitre produces, with the common symptoms of narcotic poisons, bloody discharges from the bowels and the urinary organs. The mineral acids and ammonia do not greatly differ in their effects, which are those of violent stimuli, rapidly exhausting irritability. Inflammation in the mouth or fauces, with a burning heat at the scrobiculus cordis, are followed by vomiting, by the sense of a heavy load in the stomach, and a consequent diminution of all its powers. From these symptoms, the remains of the medicine, and the report of the patient's feelings when it was swallowed, if he is able to report them, the nature of the deleterious draught may be ascertained.

The case of the *suicide* is deplorable; yet he often repents before the termination of the scene, and can lead us to form a judgment of the treatment necessary. The physician's testimony may be called for, and no rule of morality can, we think, be violated by softening the most offensive circumstances. The feelings of the relatives may be essentially hurt by marks of disgrace to the body, which we believe never once deterred a determined suicide.

Apparent death has been the subject of much discussion, and premature interment the object of universal apprehension. Numerous are the tales told on this subject, many of which are exaggerated, and the greater number probably false. It is, indeed, possible that a person not yet dead may be interred; but it is highly improbable that any one should, in such a situation, recover their senses and recollection; for before these returned they must be suffocated by the want of air. The complaints, in which such apparent dissolution is most common, are the spasmi and comata of Dr. Cullen, drunkenness, excessive evacuations, narcotic poisons, strangulation, drowning, breathing deleterious gases, excessive cold, sudden and violent terror, and violent passions.

The want of motion, of feeling, of respiration and pulsation in the arteries, are neither singly nor in conjunction signs of death The motion of the carotids, in the greater number of instances, continues longest, and their state should be most carefully examined. The experiment proposed by M. Bruhier is, to draw down the lower jaw, and if it approaches spontaneously the upper jaw, he thinks it a conclusive sign of some life remaining; but this may happen from the elasticity of the ligaments and other causes. It is certainly an equivocal proof The eyes furnish the most certain signs, independent of putrefaction. If their transparency is lost, the eyeball sunk and wrinkled, and the pupil dilated so as not to contract by the strongest light, resuscitation is no longer in our power. The sunk features, in the eyes of experience, are a proof almost equally satisfactory; but putrefaction furnishes the only unequivocal symptom. Yet this we cannot always wait for. If any legal question depends on the state of the internal parts, dissection must be attempted at an earlier stage, since putrefaction changes every appearance by which we are enabled to decide. In cases of the slightest doubt, it is recommended to commence the dissection in the parts less essential to life, that if the stimulus of the wound excite the action of the remaining powers, no considerable injury may ensue.

Violent death is apparently ascertained without difficulty; and when the cause proceeds so far as to destroy the organization of a part essential to life, little hesitation can be felt. Hæmorrhages, and the appearance of contusions, are often fallacious. The former certainly take place from a variety of causes independent of violence, and the latter may arise from petechiæ, or similar causes. We can scarcely, however, conceive a question to come before a court of judicature, where the difficulty would arise whether death was occasioned by a putrid fever or by blows; and we think the decision of the father of forensic medicine, Zacchias, decisive in this respect. In case of violence, he observes, there is an extravasation under the skin: the lividness from other causes only discolours the surface by a change in the skin itself. We know that Stoll in two cases discovered a considerable extravasation under petechiæ; but these instances are rare, and the danger of mistake very trifling. On the other hand, considerable extravasations may take place internally, without the surface being affected, as where the bruise consisted of a large heavy weight, which gave a considerable shock without making an impression on any particular part. This cause of death may, however, be discovered by dissection; though, undoubtedly, bruises after death may, before the blood has coagulated, occasion similar appearances. This source of error must be carefully investigated in the particular cases.

One very important subject of inquiry arises, however, out of these discussions. If a man, in an accidental or premeditated struggle with another, by any extraordinary exertion break a blood vessel and die, though the struggle occasioned the death, yet it is deemed accidental. If this struggle be a pugilistic contest, where personal animosity is unsuspected, and the person thrown dies on the spot, a doubt will arise how far his antagonist was the cause of his death. Again, if in the violence and heat of a quarrel a person strike another with an inconsiderable weapon, and death follows as much from the passion as the blow, the doubt will be increased. In each instance the physician and surgeon are called on to decide; and we know no cases in which such contradictory evidence has been given. The principles on which the decision should rest appear to be these. When, from prior complaints, any weakness or predisposition to disease, hereditary or otherwise, can be discovered; when the violence is such that, in a sound healthy body, it would not probably produce any dangerous effect, the blow or the fall should not be accused. If a man subject to a spitting of blood in a struggle should break a blood-vessel; if a person with a full florid complexion, and a short neck, whose parent had died of apoplexy, and perhaps about the same age, should fall down dead in a trifling contest, where the exertion was inconsiderable, we should certainly not convict his antagonist of any thing but imprudence and misfortune.

When any contest has taken place, independent of personal animosity, and some slight injury has been seemingly received, the subsequent conduct of the patient should have great influence on the judgment of the practitioner. If he has received injury in his side or head, and, instead of a cautious mode of diet, should indulge in every irregularity, the pleurisy or phrenitis that might ensue should not, in justice, be attributed to the antagonist; nor, when the proper distinction is made, will the law, we believe, condemn him. This is not, however, the place to discuss a legal question, but to point out the foundation for the physician's opinion. The case is somewhat different when an abscess has followed external injury, independent of any irregularity of the patient's conduct. The physician must then decidedly attribute death to the *consequences* at least of the accident; and the legal distinctions will regulate the degree of criminality, and, of course, the punishment.

We have for some time been trenching on the province of the surgeon; but to introduce those parts of our subject which are more peculiarly his object, we must offer some remarks on the DISSECTION OF BODIES, with a view to discover the disease which has proved fatal, or the nature of the wound, in complicated cases, which has been destructive.

Dissections are opposed on many grounds. We shall notice only the objections which urge that by this means we discover effects rather than causes, and that complaints may have occurred either in the minuter parts, which cannot be detected, or in the nervous system, which are not cognizable by our senses. Undoubtedly we more often observe effects rather than causes; but the objection will only apply when the anatomist, from ignorance, cannot detect the difference, or, from haste, will not wait to examine. The source of great error has been the partial examination of the part apparently most affected. We remember the dissection of a person supposed to be starved. The stomach was empty and full of wind, but not contracted. Some doubt remained; for the mesentery had not been examined, in which the conglobate glands were afterwards discovered in an enlarged and schirrous state. Many similar instances might be adduced; and we may here add, that, in general, every cavity of the body should be examined with care, particularly the head. Complaints also may undoubtedly occur in parts of the body which even an exact anatomist may not think of examining; but these, we believe, will seldom prove fatal: nor, except from deleterious gases, is there any probability that the nervous system will be so much affected as to produce death, without leaving evident corporeal traces.

In medical jurisprudence, however, dissection is absolutely necessary, as the law requires the best evidence that can be procured, and various cases may be stated in which it is essential. A man, for instance, is found dead in a close apartment, in which charcoal has been burning, or which is in part consumed. The cause will appear evident: but dissection may discover traces of poison or of blows; and the fire may have been lighted to prevent suspicion.

When the dissection is determined on for the discovery of the cause of death, it should be attempted early, before putrefaction can have changed the appearance of the parts, and with as little motion as possible, that the relative situation of the viscera be not disturbed. The whole body, particularly the head, sternum, and abdomen, should be cautiously examined by gentle pressure. All the natural openings should be carefully sounded, and each part opened in succession, beginning with that which is most probably injured. The order of the examination is of more consequence than has been supposed. If, for instance, in the dissection of the body of a new-born infant, to ascertain the cause of its death, the heart and lungs be first opened, the copious discharge of blood will drain the large vessels, which will be found empty, and a strong suspicion will consequently arise that the child died of a hæmorrhage, by neglecting the ligature on the funis. So, in examining a wound and its direction every thing must be avoided which can disturb the relative situation of the parts; for to establish the cause of death it is necessary that the direction of the instrument should be accurately ascertained. In ruptures of internal vessels this caution is of less importance; yet, when there is any suspicion of the cause, it should be traced with as little disturbance of the relative situation of the parts as circumstances will permit

The mode of examination is known to every surgeon; but it is highly necessary that he should be acquainted with the natural bulk and colour of the parts, and with the changes which fermentation, inflammation, and putrefaction will successively, at different periods, produce. The swelled abdomen and livid spots on the side may give suspicion of poison; but they are the effect of a separation of air, and the necessary changes in consequence of a warm season. If an inconsiderable wound, from its place or its direction, proves fatal only after some time, the previous inflammation will close it so that it shall appear too inconsiderable to be the cause of death.

Rape. The ancient authors on forensic medicine are full on this subject, and unnecessarily minute a d indecent. The examination and marks of violence will alone determine the judgment of the practitioner; and for this purpose the English law has wisely determined that the complaint should be immediately made, since the injury can then only be best ascertained The existence of the membrane closing the entrance of the vagina, deified under the name of Hymen by the ancients, has occasioned some controversy. The moderns have wisely cut the knot, and admitted, that though it is a sign of virginity, yet its absence is no proof of violation, since it may be destroyed in a variety of ways without suspicion of impropriety. An observation of Buffon, which we believe to be correct, will explain some of the apparent contradictions on this subject. He observes that this membrane is seldom found in young children, or in girls long previous to puberty. It is at that early period folded in wrinkles, and expands, as the custos horti, only near the age of womanhood. It is certain that its existence has been denied by anatomists of eminence, who, in order to "make assurance double sure," in such a doubtful point, have sought it in girls from four to ten years of age. The marks of violence, and the evidence of the young woman, according to our laws, alone decide, and these require no farther medical discrimination than we have stated. The swelling of the neck, which the "hesternum monile" can no longer surround, the blackness under the eye, the sullied whiteness of the cornea, must be referred to the list of old women's stories, which sounder science spurns at.

Suspected Pregnancy. On this subject a surgeon is often consulted, and we shall here give a general connected view of the subject.

If a woman, who has been previously regular and in good health, at once complains of obstruction, without any well-founded cause, as cold, fright, &c. suspicion must be kept alive, and active medicines be avoided. The complaints which arise from pregnancy, though of a similar nature from those owing to suppression, yet greatly differ. In the first weeks the pregnant woman feels no inconvenience, and then only from sickness, and chiefly in the morning. In the intervals of sickness the spirits are free, and in the evening the appetite is also good ; while, from obstruction, vomiting is an uncommon symptom, the languor comes on more slowly, and the symptoms are by no means worse in the morning. In the former case the complexion is clear, in the latter pale and dark ; in the former the eyes often lively, in the latter uniformly dull. Not many weeks elapse before the breasts swell, and a pink or brown areola appears round the nipple. The former state of the breasts may not be known, and the areola in many women is naturally dark. Yet in a thin woman it will be at once seen, if the breasts are disproportionally full ; and even in a more lusty one their firmness will betray an increased bulk, while in suppressed menses the breasts are much extenuated. The areola in a pregnant woman is also unusually extensive. After the fourth month the swelling rises above the pelvis in the form of a round, circumscribed ball, and the sickness usually goes off, while the spirits become peculiarly free and cheerful. At this period the state of the os tincæ may be discovered by the finger, and will at once preclude all hesitation.

We have not mentioned the sensation of motion in the uterus, because we proceed on the supposition of concealment. The same cause may prevent our knowing the state of the menstrual discharge ; but the vomiting, the tumour of the breasts, the darker areola, cannot be concealed, and the tumour of the abdomen at the subsequent period will be decisive. At this time also, and often more early, a slight pressure will produce a flow of serum or milk from the nipple. Hebenstreit indeed observes, that many women, not pregnant, can bring on a discharge of milk at will ; but we have no reason to think that moderate pressure, independent of long continued irritation, or suction, can produce it in this climate.

Medical authors, kind to the fair sex, have been anxious to point out the fallacy of all these proofs ; and we shall so far join with them in urging the practitioner not to hasten the decision. Certainty is at no great distance, and it is prudent not to endanger driving the woman to despair. This may occasion the worst of crimes ; and if, though guilty, she escape, she may live to repent, and repair to society the injury which her former errors have occasioned.

It sometimes happens that women pretend to be with child, either to impose a fictitious offspring on a credulous companion, or to avoid punishment. The determination is in this case more easy ; but should it be prudent to delay the decision, a most unremitted vigilance is necessary.

Suspected delivery very often claims the attention of the surgeon. The signs, however, though singly equivocal, are, together, certain. The very considerable relaxation of the vagina, the laxity of the teguments of the abdomen, the want of the fourchette, the thin membrane which unites the labia below, the peculiar swelling of the breasts, the extended areola, milk peculiarly thin and serous, with the unequivocal smell of the lochia just going off, will decide. Exceptions may be made to all these as well as to the signs of pregnancy ; but the experienced eye cannot be deceived.

Retarded or premature delivery. Nothing can be conceived more ridiculous than the discussions of medical jurisconsults on this subject. The ancients contended that every animal had a fixed period of gestation except the human female; but this is by no means true: and the moderns have tortured their invention to explain why delivery should be retarded. We need not enlarge on the subject; for our laws speak plainly, that if a woman lies in within eleven months after the death or the possibility of the access of the husband, the child shall still be his; and the axiom *pater est quem nuptiæ demonstrant*, be uncontroverted. It is not our business to oppose the law, but to explain it, though we may still remark that it is peculiarly complaisant or indulgent. On the other hand, the law, we believe, recognises only a living child of seven months to be legitimate, if former access can be denied: a circumstance which can seldom happen.

Abortion. This is a subject which by our laws, can scarcely be considered as an object of medical jurisprudence; for no statute is in force to punish the means of procuring it. The civil law made many unscientific, and even ridiculous, distinctions on this point, resting on the period when it was supposed the fœtus began to live. We have now reason to think that life commences from the moment of impregnation. There is, however, a nice distinction in the English laws, which can never be applied without the most rash, unwarrantable decision of the physician or surgeon. If, says Dr. Burn, whom we quote, by a medicine given the child is killed in the womb, "it is great misprison, but no murder;" but "if the child be born alive and dieth of the potion, *or other cause*, this is murder." The opinion, we say, is inapplicable; for where is the physician who will decide that a weakly child might not have been so without the potion? and the vague clause distinguished by italics must make the whole "words of sound signifying nothing." There is, however, another view which we must take of the subject. An author of the purest morality, the most extensive benevolence, and the soundest religion, Dr. Percival, has dropped a hint, that it may not be unlawful to procure abortion where the size of the pelvis is not adapted for the birth of a living child. This is a latitude which we cannot sanction. A more recent (we *believe* a more recent) proposal of a celebrated accoucheur, who suggests in such circumstances, the propriety and advantage of bringing on labour at the end of the seventh month, is greatly preferable. In this case, though the attempt is peculiarly difficult, and can only succeed in the most experienced hands, the health of the mother is less endangered, and the child may be preserved; nor, on the whole, does humanity so strongly revolt at the attempt. Yet as we have said, the whole should only be under the conduct of a man who unites resolution with discretion, and judgment with humanity.

Infanticide. We know not when we have found greater difficulty in speaking on any subject than on the present. The weight of arguments seem often to bear hard on those who are the objects of the greatest compassion; on unhappy women, deluded to their ruin, struggling with remorse, with the apprehension of disgrace, acting from a momentary phrensy in self-defence, often inconsistently and improperly subjected to suspicion from circumstances wholly beyond their power, and to conviction from the fortuitous occurrence of events not within their calculation. On this subject particularly, and indeed in every branch of medical jurisprudence, we strongly advise the practitioner to be cautious. He may reason as a physiologist, but he should act as a man of feeling and reflection, who knows that no medical conclusion is certain, and that the life of a perhaps innocent individual may be sacrificed to his hasty oracular decision, perhaps to his inadvertency. The punishment of a crime, says Beccaria, cannot be strictly called just or necessary, while the law has not employed the best possible means of preventing it. The law is indeed silent; but modern refinement, the precision of outrageous virtue, which admits not of the penitence of a sinner, urges the unhappy culprit to the worst of crimes.

In such circumstances the woman, from the causes already stated, is alone, her mind agitated, her resolution weak, herself spiritless and indecisive. The labour is perhaps rapid, the child born during fainting or convulsions, and lost from want of that attention which no law enforces, and which the apprehension of disgrace prevents her calling for. A state of this kind may be ascertained by subsequent faintings, peculiar debility, a low fluttering pulse, paleness, and subsequent œdema. Should these symptoms not occur, let us not yet decide without hesitation; for other circumstances should be also considered.

The first question must be, was the life of the child so perfectly established as to be probably continued after its birth? This is answered by its appearance, and the perfect, the complete developement of its organs. It may be again asked, was it not dead before delivery? According to Alberti, if dead previous to delivery, the limbs are flexible, the skin wrinkled or soft, the colour yellow or livid, the abdomen sunk, with marks of commencing putrefaction, particularly about the navel, and the umbilical cord empty, yellow, livid, and apparently dissolved. The appearance of the cord is, however, equivocal; for the access of the air will, in a short time, produce the same changes. Indeed all these appearances are the result of putrefaction, and the child may have died only a very short time previous to its birth; nor are authorities wanting to show that, while the access of the external air is prevented, putrefaction does not soon take place. The marks of apparent violence on the body are by no means decisive.

If an infant has breathed, it is supposed to have lived; but how many weakly infants are born alive, without breathing for many minutes? and how often, on the other hand, after a hard labour, does the child breathe once or twice, and then die? That the child may breathe before the delivery is complete, and die before it is fully born, is a fancy within the verge of possibility only, but too improbable to induce us to enlarge on it. A child, indeed, wholly perfect, may be strangled in its birth by the twisting of the umbilical cord round its neck; and it has been doubted whether, in this case, it is suffocated or dies apoplectic. It is probable that death is rather the consequence of the stoppage of the circulation through the cord itself; but this is of little moment, as the mark remains. May not this mark, however, be the effect of violence? It certainly may be so; and the famous experiment of the lungs sinking in water is adduced to determine the doubt.

In a child that has not breathed the lungs occupy the upper part of the chest, so as to leave the heart and pericardium exposed to view. But when the lungs are distended by respiration they fill the chest, and become specifically lighter than water. The English courts do not admit this experiment as evidence, and we are unwilling to disturb their decisions. We shall, therefore, add a few words on it as philosophers rather than as forensic physicians.

Heister observes, that the experiment is indecisive, because schirri in the lungs will make them specifically heavier than water; but who would be so weak as not to examine whether the experiment was tried on a morbid or a sound part? for the morbid lungs even of an adult will sink in water. He adds, that he has seen a child who had breathed twenty hours, whose lungs sunk in water; but he here speaks of the whole viscus, not of any particular portion, on which the experiment ought to be made. Again it is contended that when putrefaction has taken place, the lungs of a child who has never breathed will swim. This fact is positively denied by at least equal authority; and, in reality, the lungs are scarcely susceptible of putrefaction, even when it has taken place in a considerable degree in the other parts of the body. If there were, however, any ambiguity, it may be at once removed by a slight attention. The air, separated by putrefaction, may be observed in the water passing along the divisions of the lobules, while air within them is invisible.

It is certainly possible that the mother, in attempting to revive a still-born child, may endeavour to inflate the lungs by her own breath. Anatomists of eminence have differed on the possibility of success; and we own that it appears to us impracticable, since the force of the expiration must be sufficiently great to expand the thorax, and the nostrils must be at the same time closed. Humanity will, however, take this source of expanded lungs into consideration, when the life of an individual is at stake.

The colour of the lungs, which is of a bright red previous to inspiration, their situation in the thorax, and the situation of the liver and stomach, as well as the shape of the diaphragm, will afford more decisive proofs; but we will not accumulate what may be adduced to criminate.

Suppose it, however, ascertained that an infant is born alive, does it follow that the mother has been its murderer? The English law allows the concealment of pregnancy, and the want of provision for the infant, to be presumptive proofs of her guilt; though this has been most wisely and humanely put out of view by constituting it a distinct crime, with its appropriate punishment. But if children die soon after birth, when the most anxious attention is exerted to preserve them, is it not probable that, in circumstances like those we speak of, the fatal event will be more common? Is it not rather surprising that any should live? The dangers that attend this first state of existence are numerous, and the neglects which may prove fatal are equally so. It is not our present business to point out these; and, indeed, we have, through the whole discussion, purposely avoided giving information that may be abused. The foreign authors on forensic medicine seem to aim at assisting criminal intentions, by industriously pointing out the means of their execution.

Wounds. The surgeon is often called to decide on the degree of injury sustained by these, and on the cause of death which follows them. When not mortal, and mutilation only is the consequence, the recompense which the law awards is proportioned to the injury sustained. The English law, however, makes the lying in wait, to *maim*, a capital offence, and with great propriety, as the lurking assassin is far more dangerous than an open enemy; and when it was alleged in a criminal's defence that the design was to kill, not to maim, the objection was over-ruled, on the principle that *omne majus continet in se minus.* It is not easy to kill without maiming.

Wounds are fatal either in consequence of the effusion of blood, or the destruction of the organisation of some part essential to life. It is not here our business to enter into the legal distinctions in this very complicated subject; but to point out to the surgeon, for his observation, the various circumstances on which these distinctions are founded. The divisions of the civilians, and of the older forensic physicians, into wounds mortal or indifferent, necessarily or absolutely mortal, &c. we shall not enlarge on, as they are not applicable to the system of English jurisprudence. Wounds may, however, be fatal by accident, as a bone at some part of the skull may be penetrated, if peculiarly thin, by a slight blow; a part essential to life may be in a preternatural situation, as a blow on the groin, which would do no injury, may bring on a fatal inflammation in case of a previous hernia; or a fever, which a slight blow has occasioned, may excite an indolent vomica to suppuration. In all these instances the English law inquires *quo animo* the injury was inflicted. Again, a trifling wound may become fatal during the prevalence of a malignant epidemic, in a constitution deeply tainted with scurvy, syphilis, &c. or in one of great nervous irritability, by inducing tetanus, or its lesser degree, a locked jaw. A state of pregnancy, infancy, or old age, will also render trifling injuries dangerous or fatal.

The event is equally influenced by obstinacy or cowardice, which prevents the treatment necessary to preserve life; by intemperance, violent passions, or despair; by neglecting the proper precautions enjoined; the want of necessary assistance, its delay in inclement seasons, or the unskilfulness of the practitioner. It was a truly judicious remark of a judge in a late cause, that he could not try the skill of a surgeon; and we would here add, that in every case where the opinion of a professional man is called on the conduct of another, he should reflect that his judgment is enlightened by the subsequent circumstances. In the situation in which the first practitioner was at the early era of the accident or complaint, the question must be, could he, with propriety, have acted differently? If that question is answered in the affirmative, another will arise; and should a man, himself liable to error, be forward in criminating a brother?

Wounds of the brain are seldom mortal, except the base, the cerebellum, or the spinal marrow at its commencement, are injured. A large portion of either hemisphere has been evacuated without injury, and even without the slightest (apparent) diminution of the faculties. Depressions of the skull are much more dangerous; and compression, from a fractured skull or extravasated fluids, as well as that torpid inflammation which concussion, after some time, brings on, are almost equally fatal. It is not the present object to point out the symptoms of each; but we must add the strongest injunctions in case of apparent compression, to examine with the strictest anxiety the part affected, in order to the application of the trepan. This is often very difficult to ascertain.

Wounds of the nerves are not always dangerous; but if a nerve is partly wounded it may bring on a fatal tetanus, when, from its situation, the nerve cannot be divided. Bohnius remarks, that wounds of a nervous plexus are usually mortal, and bruises on a nervous part, particularly where its nerves are connected with the vital organs, are generally dangerous. Michaelis mentions bruises on the pit of the stomach, in the English pugilistic combats, as frequent causes of death; and indeed all wounds of the stomach and intestines are highly dangerous, though many miraculous stories are related in which the patients were cured. Wounds of the liver, spleen, kidneys, bladder, and uterus, are also usually fatal, from the access of the air or the internal hæmorrhages. In experiments made on animals each is carefully avoided; but, with every precaution, the Cæsarian section is usually mortal.

Injuries in the vital organs, and indeed all wounds of the larger vessels, must necessarily be fatal. The stoppage of respiration, from any cause, must also soon terminate in death. A question sometimes occurs, whether the person may not have been suspended or drowned after life had been extinguished? This question can only be answered satisfactorily by dissection. Indeed, when life is destroyed by suffocation, the mark of the injury is conspicuous in a much greater degree than by common suspension; and, in cases of drowning, the pale livid colour of the face, with froth round the mouth, may determine the question; but each sign is equivocal. In either case, however, the venous system, particularly of the vena cava, and of the head, is greatly distended; and in strangulation the pulmonary artery is unusually full. Whether death has proceeded from deleterious vapours, in which the body has been confined, to avoid the suspicion of former violence, is not so easily discovered. The application of galvanism would, however, show the extraordinary diminution of irritability, which is usually the effect of such vapours; and, in each case, other marks of violence, and the injury of organs essential to life, will give strong suspicions, which dissection will confirm.

To pursue, with forensic physicians, the wounds of every different part, would extend this article beyond its proper limits; nor, indeed, could we add any thing which a knowledge of anatomy and physiology will not supply. We must not suppose our readers ignorant of either.

Shocks and bruises. Shocks impair the irritability of the vessels, and produce chronic inflammation in the brain or liver, which, after some time, is often the cause of death. Each cause here mentioned will also produce internal effusions, generally from a rupture of arteries, which may be fatal. A late instance has occurred, in which the radial artery was broken through its whole substance, by the shock only of a fall from a horse; and Pilatre de Rozier, the victim of æronautic folly, fell on his feet, and died immediately from the shock, which was found to produce internal effusions. Blows with a stick, without inflicting any wound, will occasion internal, and sometimes neighbouring, accumulations; and military punishments, when not fatal from gangrene, are sometimes so from abscesses forming *below* the bruised part. It is necessary, therefore, in forensic medicine, to look beyond the immediate injury, and examine the effects of what may arise from the shock or its consequences. In three instances we have heard from practitioners of credit decided testimonies that the blows were not the causes of death, because no mortal appearance attended the wounds. It was unlucky for the cause of justice that they were so ignorant; but humanity might smile through her tears, and charitably hope that the escape would prove a warning.

Medicina Politica. Medical interposition, according to our laws, is seldom necessary in questions of police. Yet there are many cases where an intelligent physician might afford satisfactory information. Perhaps the neglect has arisen from that dogmatism which is the effect of ignorance, or of imperfect science, as in the instance mentioned by Dr. Percival, where two physicians contradicted each other respecting the dangers from a copper work. One swore positively it was dangerous, because copper ores usually contained arsenic; the other had ascertained, by experiment, that the ore in question contained none.

In the article *Aër* we showed that weather, and a state of atmosphere apparently the most insalubrious, were sometimes found healthy; and that neither reasoning *a priori*, nor experiment with the eudiometer, would always point out situations where the health can be preserved. The vicinity of marshes certainly renders situations unwholesome; but this is liable to exceptions. If the prevailing winds blow from a marsh to a town, at the season when the marsh is covered with water, little danger arises from it; but if the wind passes over it when in a moist state, diseases often follow. Dilution of the miasma, we have said, is the best security, and, therefore, at a certain distance its power is lessened or destroyed; but, unfortunately, this distance is not ascertained, nor is it certain that every marsh produces deleterious vapours. Those covered with salt water at each returning tide, or even at each spring, are not always dangerous. We cannot ascertain the innocence of any other kind, except of those very generally covered with water or herbage. Stagnant water has indeed been accused; but we suspect without reason: it certainly is not eminently injurious, and, from the "green mantling," known to exhale oxygenous gas, it may probably be salutary.

Towns, it may be said, cannot be removed; but if unhealthy, they will be gradually forsaken. A house may be removed to a healthier spot; but the more temporary situation of a camp or a barrack which may be chosen should be fixed with peculiar care. The reports of army surgeons frequently point out the fatal effects of inattention to this important circumstance; and it has been said that barracks have been heedlessly erected in spots peculiarly unhealthy; nor should we be surprised to find the same carelessness respecting health that we have found of expenditure. A medical topography should be published of every district, comprehending the particulars of its situation, its prevailing winds, usual temperature, and reigning diseases. This plan, which has been adopted in France, would truly merit the attention of the legislature; and it might easily have been appended to the agricultural surveys, were we as attentive to the lives and health of mankind as of the shape or breed of cattle.

Nuisances often claim the attention of courts of justice, and physicians are sometimes called on to decide. Their object is, however, to determine only what manufactures are injurious to health. A brick-kiln, a lime-kiln, a pottery, and an iron-foundery, are unpleasant neighbours; but can we say either is unwholesome? Smelting-houses for lead, and, in general, for copper; dye-houses and tan-yards, erected so near the water as to corrupt the stream, are certainly injurious. The manufacture of the mineral acids, the oxygenation of the muriatic acid for bleaching, the singeing of velvets, currying of leather, are processes always offensive, and generally injurious; for the workmen are usually pale and weak, subject to nervous diseases, and seldom long-lived. Yet it is said, that the improved methods of burning the smoke prevent much of the inconvenience. The process of making candles is offensive, but apparently not unwholesome. It has been admitted into towns, but with reluctance; and the manufacture is discouraged in populous cities when complained of. The business of the dyer or the butcher is certainly not injurious to the health of those who practise or who live near either, nor can we recollect, in a large populous and trading town, any peculiar complaint that could be traced to their quarters. The breath and the dung of the cows have been thought salutary; but should they be so, the vicinity of pigs is certainly otherwise, and these should not be fed in populous cities.

Were the police to interfere in buildings, one circumstance should be indispensable, viz. that every house should have a free ventilation from the front to the back part: the smallest court behind would be sufficient, if not shut up by houses rising gradually higher on a hill. We have found no circumstance so injurious to the general health of a family as a situation where free ventilation is impeded.

The foreign authors on the medicina politica are full of numerous disquisitions, in which our laws speak positively, and require no medical aid. One of these points is the age proper for marriage; others are cohabitation, the Cæsarian operation, punishments during pregnancy, &c. One of these subjects calls, we think, for medical interposition, viz. the danger of propagating the most dreadful diseases, as mania, scrofula, phthisis, &c. Yet we see not how physicians can interfere; for the child sometimes partakes of that parent's constitution which is perfectly sound. Must that child, or such children, then, be deprived of existence because the life of others may be short or suffering? Humanity, reason, and religion, will at once forbid. A stronger case is, where a woman, from deformity, cannot have a living child. Must her marriage be prevented? Neither law nor religion will decide in the affirmative, though the child and the mother may be sacrificed; and such is the circumstance lately mentioned, where the civilians have thought the procuring abortion justifiable. This, for numerous reasons, we must oppose, though we think bringing on labour at the seventh month a humane and judicious expedient: the impossibility of the woman's bearing a living child should, however, be first ascertained, without any doubt.

When the testimony of a physician is called for in a court of justice, his evidence should be clear, divested of technical language, and in modest, decent terms. He is sworn to tell the truth, the whole truth, and nothing but the truth; yet we have spoken of giving truth in her fairest garb, of softening what is harsh, and leaning to the side of humanity. We must explain. It is not our design to recommend prevarication, much less concealment: yet in the most decided cases there must be doubts, there must be views, which will carry with them alleviations It is neither prevarication nor concealment to give each their full force ; to point out how far they may bear on circumstances the most apparently positive. It has been said that it is better ten criminals should escape than one innocent person suffer by insufficient evidence. Yet criminals are confessedly punished for the sake of example ; and the frequency of escapes, we fear, encourages new attempts. The maxim, therefore, though humane and benevolent, has been carried to an extreme ; yet, as involving some intricate disquisitions not applicable to medical evidence, we can only add, that as the extreme of justice is the extreme of injury, so excess of humanity may be the excess of cruelty.

We have now finished a subject, new in our language, and in which, though we have anxiously avoided error, we may have often committed it. The extent of our article is comparatively short, for we have endeavoured to compress volumes into pages; and as English forensic disquisitions on medical subjects must relate to English laws, many bulky inquiries were foreign to our purpose.

Medicina Statica. During the prevalence of the mechanical systems, when *pondere mensura et numero Deus omnia fecit* was the conduct held out to our imitation, the body was constantly weighed, and the salubrity of food was estimated by its perspirability This plan, pursued at some lengths by Sanctorius, was soon found to give unsatisfactory results ; for the valetudinarian, in his statical chair, though the balance was carefully preserved, lost his strength and spirits ; and he saw, with surprise, that he was "truly found wanting." Many circumstances were not taken into the account, which would greatly alter the result ; but these we need not stay to enumerate, as the folly has had its day, and is now forgotten.

Medicine. The ordinary use of this term needs no explanation ; but it is also frequently used to express the whole art of healing, and includes all the parts belonging thereto. By the schools it is divided into, 1. *Physiologia ;* 2. *Pathologia ;* 3. *Semeiotice ;* 4. *Hygieine ;* 5. *Therapeutice ;* which see under their respective names.

Meditullium, is that spongy substance between the two plates of the cranium, and in the interstices of all laminated bones.

Medius Venter, the middle venter ; the thorax, or chest.

Medulla. See *Marrow.*

Medulla Cerebri, is the white soft part of the brain, covered on the outside with the cortical substance, which is of a more dark or ashy colour. See *Brain.*

Medulla Oblongata, the medullary substance, of the same use as the cerebrum, that lies within the cranium upon the basillary process of the occipital bone. It is formed by the connection of the crura cerebri and crura cerebelli, and terminates in the spinal marrow. It has several eminences, viz. pons varolii, corpora pyramidalia, and corpora olivaria.

Medulla Spinalis, the spinal marrow ; a continuation of the medulla oblongata, which descends into the species vertebralis from the foramen magnum occipitale, to the third vertebra of the loins, where it terminates in a number of nerves, which, from their resemblance, are called *cauda equina.* The spinal marrow is composed, like the brain, of a cortical and medullary substance: the former is placed internally. It is covered by a continuation of the dura mater, pia mater, and tunica arachnoidea. The use of the spinal marrow is to give off through the lateral or intervertebral foramina thirty pairs of nerves, called cervical, dorsal, lumbar, and sacral nerves.

Megrim, i. e. *Hemicrania*.

Meibomius's Glands, i. e. *Ciliary Glands*.

Mel, honey.

Melæna, *Melaina*, μελαινα, } black bile, or the disease the matter of which is black bile. The same as *Melaina Nosos*, or *Morbus Niger*.

Melaina Nosos, the black disease. Hippocrates applies this name to two diseases. In the first the patient vomits black bile, which is sometimes bloody and sour; sometimes he throws up a thin saliva, and at others a green bile, &c. In the second the patient is as described in the article *Morbus Niger*.

Melampodium, black hellebore. So called from Melampus, who first used it in medicine.

Melanagogues, are such medicines as are supposed particularly to purge off black choler; from μελας, *niger*, *black*, and αγω, *duco*, *to lead*; but there is no such distinction of choler now much regarded, and, consequently, this term is but little used.

Melancholia. Melancholy madness. Μελαγχολια, from μελας, *black*, and χολη, *bile*; because the ancients supposed that it proceeded from a redundance of black bile. A disease in the class *neuroses* and order *vesaniæ* of Cullen, characterized by erroneous judgment, but not merely respecting health, from imaginary perceptions or recollection influencing the conduct, and depressing the mind with ill-grounded fears; not combined with either pyrexia or comatose affections; often appearing without dyspepsia, yet attended with costiveness, chiefly in persons of rigid fibres and torpid insensibility. See Dr. Crichton's late and valuable publication on *Mental Derangement*.

Melas. *Vitiligo nigra*. *Morphæa nigra*. *Lepra Maculosa nigra*. Μελας, *black*. A disease that appears upon the skin in black or brown spots, which very frequently penetrate deep, even to the bone, and do not give any pain or uneasiness. It is a disease very frequent in and endemial to Arabia, where it appears to be produced by a peculiar miasm.

Melasma, a disease that appears, not unfrequently, upon the tibiæ of aged persons, in form of a livid black spot, which, in a day or two, degenerates into a very foul ulcer.

Meliceris, an encysted tumour, whose contents resemble honey in consistence and appearance; from μελι, *honey*. M. M. Excision.

Melilotus, from μελι, *honey*, and λωτος, *a kind of lotus*; melilot. It is the *Trifolium Melilotus* of Linnæus.

Melissa. Balm. *Melissa officinalis* of Linnæus. A native of the southern parts of Europe, but very common in our gardens. In its recent state it has a roughish aromatic taste, and a pleasant smell of the lemon kind. It was formerly much esteemed in nervous diseases, and was very generally recommended in melancholic and hypochondriacal affections; but in modern practice it is only employed when prepared as tea, as a grateful diluent drink in fevers, &c.

Membrane. A thin expanded substance, composed of cellular membrane, whose elastic fibres are so arranged and woven together as to allow of great pliability. The membranes of the body are various, as the skin, peritoneum, pleura, dura mater, &c. &c.

Membrana Tympani. See *Ear*.

Membranosus Musculus, is a muscle of the leg, so called from the large membranous expansion it is continued with, enclosing all the muscles of the tibia and tarsus; whence it is also called *Fascia lata*. It hath a sharp fleshy beginning from the fore part of the spine of the os ilium, between the origination of the sartorius, and tendinous beginning of the glutæus magnus; and being dilated to a fleshy belly, which fills the interstice made by the first of the two last named muscles, and upper part of the rectus, and fore part of the glutæus medius, in its oblique descent becomes tendinous four fingers' breadth below the great trochanter, whence it passes directly over the vastus externus to its proper termination at the superior appendix of the fibula; but in its progress thither it is conjoined with the tendinous expansion of the glutæus magnus, which ariseth from the spine of the ilium, covering the external part of the glutæus medius, and all the external muscles of the tibia, as those of the thigh-bone; and descending over the patella, comprehends all the muscles of the tarsus, and joins with the ligamentum anulare, which retains the tendons of the toes and feet. When this muscle acteth, the leg and thigh are drawn outwards.

Membrum, a member or limb.

Menagogues, are such medicines as promote the flux of the menses.

Meninges, μηνιγγες, } meninges,
Meninx, μηνιγξ, } or matres,
from being the supposed origin of all the other membranes. Both these words are used particularly for the dura and pia mater.

Meningos Arteriæ, i. e. *Arteriæ Duræ Matris.*

Menorrhagia. An immoderate flow of the menses; from μην, a *month*, and ραγας, a *rupture*. A genus of disease in the class *pyrexiæ* and order *hæmorrhagiæ* of Cullen. Species: 1. *Menorrhagia rubra*, proper; from women neither with child nor in childbirth: 2. *Menorrhagia alba*, serous; the fluor albus (see *Leucorrhœa*:) 3 *Menorrhagia vitiorum*, from some local disease: 4 *Menorrhagia lochialis*, from women after delivery. See *Lochiorrhœa*. M. M. Laxatives; refrigerants; acids; recumbent posture; cold; digitalis; opium; astringents; iron; sugar of lead; sulphate of copper.

Menses, (from *mensis*, *a month*,) *catamenia*, *menstrua*, *emmenia*, *gynæcia*, periodical discharges of blood from the uterus, vagina, or both, from about the age of fourteen to about fifty. In warm climates they appear at about eight or nine years of age; in temperate ones at thirteen to fourteen, and in the arctic regions not till nineteen or twenty. The quantity discharged is from four to ten ounces; but in this there is much variety, and the discharge continues from two to eight or ten days. In some relaxed constitutions there is occasionally not more than a week's interval, and in general the more lax the constitution the larger is the discharge, and the longer its continuance. The indolent, the sanguine, and the luxurious, have generally a large periodical evacuation. Usually, the earlier the period when they first appear, the sooner they disappear. In this country they disappear about the forty-fifth year, though, from accidental circumstances, the cessation may happen in the thirty-sixth, or be protracted to the fiftieth year. We have known instances of their continuing to the fifty-second, when they have *not* appeared at a late period. The tales so frequently detailed, of their returning at the ages of sixty, and even of eighty, do not merit any particular attention, though often well founded;

for in these cases the discharge is truly hæmorrhagic, generally temporary, and often critical.

The menses flow chiefly from the uterus, and occasionally from the vagina alone, as happens sometimes during pregnancy. When the natural discharge is stopped, a vicarious bleeding takes place from the nose, the lungs, the nipple, the hæmorrhoidal veins, the stomach, the bowels, and even the gums, without any particular inconvenience.

Before that peculiar state of irritability which disposes to an irregular balance of the circulation, and consequently to topical congestion, had its full weight in our physiological and pathological inquiries, a discharge of blood implied, in the opinion of pathologists, plethora. That a general fulness was the cause of the menstrual discharge was scarcely doubted by the soundest physiologists, for the fancies of the lunar influence and of fermentation were soon rejected. This opinion had undoubtedly many observations to support it The access of the catamenia was marked by general load and oppression; the breasts swelled; the stomach was often disordered; and their suppression was followed by other sanguine discharges. Yet the acuteness of modern philosophers soon discovered that these views would not explain all the various phenomena. They saw that the catamenia continued to recur, notwithstanding the system was exhausted; that the fullest habits had not, invariably, the most copious or frequent discharges; for, on the contrary, these were usually observed in the weak and irritable. They perceived also, that a copious general bleeding would not stop their appearance, and the most copious discharge would not always relieve any internal inflammation. If also this view was correct, why did not the catamenia occur at other ages, when the vessels were distended? why not in the intermediate periods, if the arterial system was unusually full? The partial congestions, suggested by the writers of the Stahlian school, came therefore to their aid. The topical load, in a system so irritable and so generally sympathizing as that of the uterus, would produce equal uneasiness; from the peculiar sympathy between the uterus and the breasts, the mammæ would swell; and, when any the most purely topical discharge was suppressed, other irregular determinations were known in other instances to come on. Nothing appeared, therefore, to be inconsistent with topical plethora; and this satisfactorily explained all the difficulties of the former system. The idea had loosely floated in the minds of many physiologists before the time of Dr Cullen; but to him we are indebted for its expansion into a system at once elegant and correct.

The genital systems of either sex experience a change about the same time, and as the vessels of the uterus easily admit of considerable dilatation, congestion is the consequence, which is relieved by the exhaling arteries yielding to the impulse. No rupture of the veins or arteries takes place, for the discharge is steady, regular, and seldom considerable in a given time. After it has continued for even a short period, every inconvenience is removed, the previous load is no longer felt, and the fulness of the mammæ subsides. The continuance of the discharge is different in different constitutions, but it usually continues from three to five days, when it ceases, sometimes leaving a serous discharge for a day or two, sometimes a mucous one, which, if it continues, constitutes the disease called *leucorrhœa*, or *fluor albus*.

The *recurrence* of the catamenia is with more difficulty explained. Women, from the sedentary life which they lead, and from a looser contexture of vessels, are more subject to plethoric congestions than men, and the uterus is, from its structure, more likely to receive these accumulated fluids. By degrees these topical congestions become habitual, and recur independently of any real general plethora. This explanation appears to be supported by the irregular returns of the catamenia in the earlier periods, and the irregular continuance of the discharge before the habit is established. Why the accumulation should require a lunar month before it is equal to produce the effect, it is impossible to ascertain, as why the period of fourteen days should be most commonly required to produce the crisis of fever, or why the seventh and the fourteenth year should be marked by striking changes in the constitution. Such is the determination of Him "in whom we live, and move, and have our being."

This view of the subject will explain equally the pathology and practice in all their varieties. When the changes, which successively take place in the determinations to the different parts, commence, a great degree of irritability occurs, and sometimes considerable debility. This is particularly the case with the changes in organs so peculiarly irritable as those connected with generation. At this period, in young women, we find a pallid languor, want of appetite, terrors, tremors, and even convulsions. Where the constitution is more robust and plethoric, violent pains, flushings in the face, and even feverish attacks. In the first instance, the determination is unequal to the task; in the second, some obstruction occurs in the exhalents; and, like every other impediment to the free circulation, excites a vis a tergo to overcome it. Similar symptoms follow obstruction, joined with the inconveniences which arise from the stoppage of an habitual discharge, added to those which result from the altered determination, which is the consequence.

Menses deficientes, the amænorrhæa of Dr. Cullen, including also, with less accuracy, the dysmenorrhœa, difficilis menstruatio of authors, constitute a disease divided into the *emansio* and *suppressio mensium*. The difficult menstruation may be a variety of the latter, as the discharge is temporarily suppressed.

The *emansio mensium* consists of a retention of the discharge at the period when it should take place, independent of pregnancy. To constitute a disease it must be attended with pain, uneasiness, or a disturbance of the functions, for, whatever time may be fixed as the usual one, this period is protracted in some constitutions, without inconvenience. Much depends on the climate, the mode of life, the structure of the body, and the peculiarities of the constitution. Thus in a warm climate the period may be accelerated to the age of ten or eleven, and, in a cold one, retarded to eighteen: a girl, indulged in all the luxuries of modern fashionable life, and the sedentary seamstress, or the laborious peasant, experience equal prematurity, or retarded expansion: a full-bosomed plethoric girl, and a thin attenuated one, with small delicate limbs and a torpid circulation, are respectively in the same circumstances. Somewhat depends also upon structure. In the case recorded in the Edinburgh Journal, where the menses never appeared, the ovaria were wanting. In similar circumstances, the form, the manners, and general appearance, resemble that of a man; so that, when we see the masculine manner and growth, it is highly probable that the menses, if they appear at all, will be scanty, and impregnation improbable, as the female structure is in some important respect defective.

When the discharge does not take place, the whole system becomes languid, the complexion pale, the mucous secretions are defective: and, in consequence, the fœculent discharges are impeded, and the nose is dry. The appetite is bad, or fanciful, often requiring substances not alimentary, though not, as has been said, always antacid, nor in such circumstances does acid abound in the stomach. The mind is whimsical and variable, the voluntary muscles convulsed; the sleep disturbed, the urine pale. In fact, the animal functions are almost wholly suspended, and the vital ones feebly carried on, for the pulse is low and quick, the breathing laborious; consumption, or palsy, seems to impend, and the patient appears to sink rapidly to the grave. In the worst stages of these complaints, a little mucous or serous discharge, perhaps somewhat coloured, changes the scene, and gives some appearance of returning health: it recurs at distant and irregular intervals, attended, each time, with some amendment of all the symptoms, till at last, colour, appetite, spirits, &c. return; and the palid, chlorotic girl becomes a blooming, healthy young woman.

While we are ignorant of the first principles by which nature acts, we know not the impediments to her action. We recognize, in the case before us, either a want of energy, or some resistance in the exhalent arteries; each attended by an apparent sinking of the more active powers. If we observe the progress, the change at last appears to take place from the vessels yielding, in consequence of debility, rather than from increased impetus, for the first appearances, the serous or mucous discharges are complaints, which, at future periods, arise from debility only. The change, though imperfectly taking place, is attended with beneficial consequences; and the powers of nature, thus reanimated, gain additional force, to complete the more perfect state. The regular return however is not yet observed, for this is the consequence of habit.

In this weak state young women often continue for many years; but we know not that the complaint has ever been fatal, for, if the discharge does *not* take place, they recover some share of strength and activity. The complant is often taken for consumption, and many remedies of a secret kind have acquired credit from the efforts of nature alone. Many old women's remedies have, on the same ground, been highly praised; and the numerous female pills, so often advertised, have appeared to succeed, when nature has done the work. We mean not to deny that this often happens in regular practice, but the foundation of the plans, in this disease, we shall proceed to explain.

The most obvious idea in these circumstances is to give strength and activity to the circulating system: another, though a subordinate one, is to relax either a supposed constriction, or to stimulate, topically, the neighbouring vessels.

To give strength and activity to the circulation is attempted generally by tonics and stimulants. Such however of the former as combine astringency, are supposed to be injurious. The simple bitters are therefore often employed, particularly the camomile flowers, and the columbo root. The myrrh is a medicine of a more doubtful nature; and, as a narcotic bitter, may appear to combine a sedative power. It seems, very certainly, to lessen hectic exacerbations. Whether it has a peculiar power in promoting the menstrual discharge we dare not say. We never have observed such power, but have suspected, in hectics, where there is a tendency to hæmorrhage from the lungs, that it has contributed to promote hæmoptysis: it may, therefore, have a similar effect. Astringents have been accused of checking the discharge, and we believe with reason. They have been certainly injurious when employed too freely in critical menstruations, and in puerperal profluvia.

The tonics most generally beneficial are the metallic. Of these the most useful, or rather the most used, are the iron and mercury. We have said, that perhaps, with the exception of lead, all the metallic bodies were tonics, but that the two just mentioned, seemed to give a more decided activity to the circulation, and that the former even occasioned inflammatory action. Iron, or rather, as it is styled inaccurately, steel, is the foundation of the more common boasted panaceas for this complaint, and is often highly useful. Every form has been in turn extolled, and each has perhaps succeeded. We know not that art has contrived a better preparation than the scales found around the anvil, in a blacksmith's shop, or the green vitriol; and whatever iron can effect will be found to result from these remedies. The chalybeate mineral waters are also frequently used with success. Zinc has been occasionally employed, but we believe no other metal in the later periods, since the cordial and diaphoretic powers of gold and silver have been distrusted. Perhaps arsenic might succeed; but the long time required for the continuance of remedies for this complaint will suggest the most suspicious caution respecting this metal. Cold bathing has been sometimes employed for this purpose, but not so frequently as it might, and probably would have been, were not cold considered among the causes which retard menstruation. We have, however, often found it an useful remedy.

The chalybeate mineral waters have been, as usual, rendered more effectual by exercise, change of scene, cheerful society, and pleasing objects; for all assist greatly in producing the change in the constitution which facilitates the discharge. Indeed, every thing which establishes the general health, and gives vigour to the constitution, contributes to the same salutary object.

The stimulants employed to give energy and activity to the circulation must be those which act steadily and with moderation, so as not to exhaust the excitability they are designed to support. The chief of these is warmth, rather of climate than the artificial warmth of fires, though these are sometimes of use when combined with exercise; and the patients in an hospital, who soonest receive relief, are those employed in the kitchen. In other forms, heat has been employed as in warm bathing, particularly in the waters at Bath; and more partially in the semicupium and pediluvium; but this remedy is, in general, better adapted to cases of suppression. The exciting passions, as joy, particularly from an object attained, exercise of every kind, warm generous food, with the moderate use of wine, frequent friction, particularly of the lower extremities, electricity generally employed by sitting on the stool, and perhaps Galvanic shocks, may be useful. Breathing oxygen air seems not to have been employed; yet, as increasing the activity of the circulation, and giving the blood a more florid colour, it promises success.

The internal stimulating remedies are various. Of these the most useful are emetics. The ammonia, the animal oil of Dipple, the petroleum, the balsam of Peru, guaiacum, and the more irritating cathartics, are employed.

The cathartics, however, most advantageous are those which act on the rectum, and *topically stimulate* the organs adjoining the uterus. The chief of these is the aloes; and, as costiveness is among the symptoms, so it is best relieved by this medicine: in fact, aloes has a great share in all the secret remedies. Cantharides, as stimulating the bladder of urine, turpentine, as affecting, in the same way, the kidnies, and perhaps the urinary organs through their whole track, and black hellebore, which strongly irritates the whole of the intestinal canal, are useful remedies of the same kind. Shocks of electricity, passed through the pelvis, are said to have succeeded; and cupping-glasses have been applied to the sides, and the thighs, to invite a larger proportion of the circulating fluids to these parts. The effects of the rubia tinctorum we do not know: it is enough to mention, in any part of this article, that it has been recommended.

We mentioned, among the exciting passions, the attainment of any object; and if this be the object of love, the effects are stronger; and matrimony is generally supposed to be an effectual cure. Yet this disease checks every warmer passion; and, except in peculiar circumstances, the chlorotic girl scarcely looks forward to the wedded state as an object of desire.

In our description of the symptoms, we remarked, that the uterine vessels yielded apparently from debility, and there are many circumstances which concur in proving, that some degree of spasm in the weak chlorotic state prevents the discharge. There are several medicines recommended in the *emansio mensium*, which must chiefly act in this way; among the rest, sitting over the steams of warm water is considered as highly useful. We shall find this remedy particularly so in suppressions, where spasm is more decidedly obvious. The fetid gums are of this kind, and other fetids, as rue, savine, castor, musk, and ambergris, have been recommended. Camphor, which is highly useful, where spasm is certainly the cause, has been recommended in the chlorotic state, and perhaps the myrrh, with some other narcotic bitters, will be chiefly useful as antispasmodics.

Though these are the usual symptoms of that variety of deficient menses, attended with debility, and usually styled the chlorotic state, yet, in some instances, there is considerable fulness and pain, returning at irregular intervals, with vicarious discharges of blood from other organs. As such cases are, however, more common from suppression, or difficult menstruation, we shall speak of the proper remedies under these heads.

Suppressio Mensium. When the habit is established, and the discharge continued monthly from this cause, it cannot be broken with impunity. The most frequent causes of suppression are exposure to cold, frights, falls, sometimes fever, anxiety of mind, or confinement. Suppression from falls is a peculiarly obstinate disorder, and the discharge is seldom restored; for, as in other shocks, the irritability of the vessels is apparently injured. The attack of fever is often attended with the appearance of the catamenia, and this, if at or near the regular period, is a favourable symptom. If at the intermediate part of the interval it is less favourable, though it affords no dangerous or fatal prognostic, as some practitioners have alleged: suppression in consequence of long fevers is from weakness only, but the return is often protracted. We have thought, that when the menses appear, on the attack of fever, out of their usual period of recurrence, the following suppression has been more obstinate. In general, the return of the discharge, after any violent degree of either cause, must not be soon expected. Suppression in weak delicate habits differs little, either in symptoms or remedies, from the species of emansio first described. In plethoric habits the symptoms are very different. If the cause occurs during the discharge a feverish attack often supervenes, the face is flushed, the eyes red; pains in the head and back come on, with sometimes a bleeding from the nose. If a similar cause, occurring in the intervals, is continued in its effects to the usual period of its appearance, symptoms of the same kind are observable; and they recur at each expected return, gradually however declining, till the chlorotic state comes on. In general, the sudden causes bring on the inflammatory, those more slow in their action the chlorotic, suppression.

It has been usual, in cases of inflammatory suppression, to bleed copiously, and this is sometimes necessary, to prevent a vicarious hæmorrhage either in the brain or lungs; but if it can be avoided, we shall also avoid the danger of establishing a new and dangerous habit. We gain much, in such complaints, by determining the fluids to the skin, by the relaxing diaphoretics; and the sedative or antispasmodic power of camphor renders it a valuable medicine in this complaint. With either the antimonials, or with camphor, opium is also highly useful; nor should the practitioner neglect to invite the circulating fluids to the hypogastric region, by interposing active purgatives. About the period of the expected return, a smart emetic will prevent the recurrence of the spasm, especially if followed by the camphor, with opium; and the discharge will appear with its former regularity. It sometimes happens, that at the usual period of the return a fever comes on, which, as none of the causes of suppression had preceded, or at least been observed, is usually considered as a common fever. If, however, it is at the period of menstruation, a circumstance which every prudent physician will keep in view, and the fever is of the inflammatory kind, it is highly probable that it proceeds from some spasmodic obstruction in the uterine vessels, and must be treated according to the directions already detailed.

The *Dysmenorrhœa*, or *menstruatio difficilis*, is a similar disorder, and a very important one, as it prevents the completion of the anxious wishes of those "who love their lords." The pain, on the occurrence of the discharge, is peculiarly violent; accompanied often with an obstinate constipation, or a suppression of urine. In fact, until the spasm of the uterine vessels is relieved, neither the kidnies nor the bowels yield, however powerful the medicine; and the violence with which each returning discharge is attended, loosens the hold of any embryo, which, in the interval, may have been attached. No disease is more distressing in its symptoms or its consequences: and the regularly returning confinement is disguised by a variety of ingenious inventions, while the consequences in advanced life are all the diseases of celibacy. The remedies are those of suppression, attended with violent pains, but the dysmenorrhœa does not require bleeding. An active laxative at the expected period of the return, followed by a full dose of camphor and opium, will often succeed; and, if repeated at the next period, seldom fails to induce the discharge without the preceding pains. When these have been once and again conquered they seldom recur. In the inflammatory suppression and dysmenorrhœa, pediluvia, and sitting over the steams of warm water, are highly useful. The warm bath, raised to the heat of 94° or 96°, and continued so long as to produce slight faintness, will be often successful; but the laxatives, joined with the relaxants, are not only conducted with more ease, but are more certainly effectual.

In the whole of this consideration it will be obvious, that the great object is to correct the deviations from health. When the healthy state is restored, the discharge will return. Medicines therefore should not be too frequently nor too constantly employed; and, on the other hand, too much should not be trusted to nature. It requires a minute discrimination to determine when art should interfere, and how long artificial means should be continued. If our exertions are too violent, the constitution will sink under the double powers of the disease and the medicine; if we are too remiss, the obstruction gains force, and years are required to restore the tone and the general health.

There is, however, a period when the discharge will naturally cease. It is not that the constitution does not supply the fluids as before, but that the diminished irritability of the vessels, or the diminished resistance of the veins, no longer permits the hæmorrhagic effort This critical period of the female life, *menses cessantes*, must be attended to with care. The future health depends in a great degree on our conduct at this time; and we are required to be peculiarly attentive, as female prejudices lead them to attribute every future complaint to some error at this time. The disappearance of the catamenia is preceded by a temporary suppression, continuing perhaps for two or three months, followed by an increased, and unusually continued, discharge. The discharge will sometimes recur at very short intervals, and in profuse quantities, leaving, when absent, a considerable degree of leucorrhœa. The increased evacuation is not always attended with proportional debility, nor the temporary suppression with the symptoms already described. The blood, in these instances, is apparently poured from ruprtued veins, without any hæmorrhagic effort. In this way the change is effected, often without disease, and almost unobserved; but the suppression is sometimes attended with general load, with head-ache and wandering pains; and the excessive discharge with considerable debility. Generally speaking, however, art should seldom interpose. The whole is the work of nature, which, as we cannot imitate, we cannot always assist. Experience, however, in the former variety, goes hand in hand with popular prejudice, and the general fulness is successfully relieved by laxatives. The domestic remedies are not however usually well chosen. Women, attached to their early experience, prefer the aloes, in their warmest preparations; but the object is to lessen the proportion of fluids in the abdominal vessels, and whatever effects this purpose with the least irritation, succeeds best. The salts alone are in general too cold, but they may be warmed with the tinctures of the more active purgatives, as of sena, rhubarb, or jalap. These, with the relaxant diaphoretics at night, particularly camphor and opium, will restore the circulation to its proper balance without inconvenience.

The task is more difficult when the discharge is immoderate; for female prejudice demands our active interference to check it, but this is always injurious. Young practitioners are commonly alert to show their skill; but it is wiser to rest, and to observe with care. In general, we have seldom known a more healthy old age than in those where the menses have disappeared with these profuse evacuations. If the woman has confidence in her medical attendant, she will remain at rest, in free air, lightly clothed, without exciting the circulation by aliment too rich, or drinks too stimulating; keeping with anxious care the bowels free by the most cooling laxatives. This conduct should, we think, be pursued, even when the debility is considerable, nor should even opiates be interposed, except the pain is violent. In such cases, powerful astringents are highly injurious, and we have more than once seen apoplectic attacks from their imprudent use. In a few instances we have found it necessary to *regulate* the discharge, but seldom with advantage, and have had reason to suspect schirrosities of the uterus, ulcers, and cancers from the imprudent use of styptics. If called on, it is necessary to attempt relief in some way; and we have generally found, that though no hæmorrhagic effort is perceivable, we have done more service by cooling and sedative medicines, than by bitters and astringents. Bitters may indeed be frequently allowed, and they will please, because an astringency is supposed to accompany every medicine of this kind.

The *Mænorrhagia*, *Menses Immodicæ*, or an excessive menstrual discharge, independent of the pregnant or puerperal state, is truly an hæmorrhage, and may be either active or passive. The active mænorrhagia arises from cold, from blows or shocks, and almost exclusively occurs in strong robust habits. The passive mænorrhagia arises from debility of the vessels, too fluid blood, from frequent miscarriages or labours, which occasion local debility. There is, however, an intermediate kind, viz. the excessive discharges, which occur in the indolent and luxurious females of polished life. In these the vessels yield to excessive fulness, in part from debility, but generally with the assistance of some hæmorrhagic effort. In the first variety bleeding is sometimes necessary, though, as usual, a suspicious and uncertain remedy. It must, however, be often used, to prevent immediate bad consequences; but, in general, rest, in a cool free air, with nitre and camphor, very generally with opium, often in large and repeated doses, interposing cooling saline purgatives, will relieve the complaint. The treatment of the second variety differs in no respect from that of other passive hæmorrhages; but the third often baffles our best endeavours. It is difficult to induce the patient to avoid the principal causes, indolence and luxury; and to constringe distended vessels is the surest means of increasing their debility. If, however, she be obedient, lessening considerably the quantity and quality of her aliment, using, at the same time, free exercise in the open air, she will soon find a degree of languor and debility superior to what she before experienced; and it will be difficult to persuade her to continue a disagreeable plan, when her feelings tell her that increased weakness is the consequence. The fact is, that the diminution of the fluids lessens the tension of the vessels ; and, as in the paracentesis, and numerous other cases, the diminution of tension produces faintness, and sometimes even convulsions. It will require then no little confidence in the physician, and no common resolution to persevere ; yet, with perseverance, relief is certain. To steer between opposing prejudices and the best means of relief is difficult ; nor do we know what rules to offer. The disposition of the patient must be consulted, and every address employed to lessen the powers of the aliment, to increase the discharge of the bowels by cooling laxatives, to lessen the activity of the circulation by opiates and refrigerants, while by every artifice bodily exercise is promoted. In the summer, sea-bathing, and in the proper season, Cheltenham, and other saline chalybeate waters, may be advised, as change of scene will lead to more frequent exercise in the open air. The fashionable physician, who is contented with receiving his daily fee, while he humours the fancies of his patient by some useless placebo, has the best chance of gaining credit in these cases ; as usual, not by assisting, but by pleasing.

Yet some political advice will not be without its advantage. Women look to the period of the access and departure of the catamenia, as well as the monthly recurrence, as times of peculiar delicacy. They are unwilling to take any medicine unless it be consistent with their present circumstances, and are apt to attribute any disappointment to the medicine that they may have been prevailed on to employ. The discharge is, however, an occurrence which we cannot always produce, and which we can seldom prevent, or supply by any vicarious evacuation. In general it requires no peculiar care ; but while popular prejudices exist against the use of any medicine at this time, a prudent physician will forbear to press it, unless absolutely necessary. If it be so, the inconvenience, whatever it may be, must be met, and every bad effect may be obviated by caution. Even a copious bleeding will often not stop the discharge ; purgatives will assist it ; and opium, though it may occasionally retard, will be ultimately injurious. When, however, the discharge is fully established, and has continued twenty-four or forty-eight hours, the danger of checking it, even in female apprehension, is inconsiderable.

Menstruum. All liquors are so called, which are used as dissolvents, or to extract the virtues or ingredients by infusion, decoction, &c. The principal *menstrua* made use of in *Pharmacy*, are water, vinous spirits, oils, acid and alkaline liquors.

Mensura, a measure, in *Botany.* Plants are generally so various in their dimensions, that their parts can only be measured relatively to each other ; Tournefort, however, introduced positive geometrical *mensuration :* but Linnæus, thinking it inconvenient for a botanist to carry an artificial scale in his pocket, makes a natural scale of the human body, the degrees of which are these: *capillus*, *linea*, *unguis*, *pollex*, *palmus*, *dodrans*, *spithama*, *pes*, *cubitus*, *brachium*, *orgya*.

Mentagra. An eruption about the chin, that forms a tenacious crust, like that on scald heads.

Mentales, alienation of the judgment, in which the functions of the mind are disturbed.

Mentha Piperitis. Peppermint. *Mentha Piperita* of Linnæus. The spontaneous growth of this plant is said to be peculiar to Britain. It has a more penetrating smell than any of the other mints; a strong pungent taste, glowing like pepper, sinking as it were into the tongue, and followed by a sense of coolness. The stomachic, antispasmodic, and carminative properties of peppermint, render it useful in flatulent colics, hysterical affections, retchings, and other dyspeptic symptoms, acting as a cordial, and often producing an immediate relief. Its officinal preparations are an essential oil, a simple water, and a spirit. Oil of gt. i. to iii. Spirit of ℈i. ʒ. ij. Water of ℥i. to ℥ij.

Mentha Sativa. Spearmint. *Mentha viridis* of Linnæus. This plant grows wild in many parts of England. It is not so warm to the taste as peppermint, but has a more agreeable flavour, and is therefore preferred for culinary purposes. Its medicinal qualities are similar to those of peppermint; but the different preparations of the former, though more pleasant, are, perhaps, less efficacious. The officinal preparations of spearmint are an essential oil, a conserve, a simple water, and a spirit. Oil of gt. i. to iv. Spirit of ʒi. to ℥ss. Water of ℥i. to ℥ij.

Mentula, a name for the penis.

Mentum, is so much of the lowest part of the face as we distinguish by the name of *Chin*.

Mephites, μεφιτις, and

Mephitical Exhalations, are poisonous or noxious steams, issuing out of the earth, from what cause soever. The most remarkable place of this kind is in the Grotto del Cani, near Puzzuoli, about two miles from Naples, in Italy; the steams of which kill dogs or other animals, when brought within its reach: a very curious account of which, and the manner of its efficacy, is given by Dr. Mead, in his essay on Poisons. The Saratoga springs in New-York afford a similar vapour. Both here and at Naples the noxious gas is carbonic acid. See *Poisons*. The word *mephiticus* signifies stinking, particularly such a smell as arises from brimstone and water, or from corrupt water mixed with earth and brimstone. It is applied to fixed air also.

Mercury. Quicksilver. *Hydrargyrus.* See *Hydrargyrus.*

Mercurials, are all medicines prepared with quicksilver.

Merocele. A femoral hernia; from μερος, the *thigh*, and κηλη, a *tumour*.

Mesaraica Vasa, and

Mesenterica, μεσεντερικα, *Vasa*, all signify the same thing, from the situation and fabric of those parts.

Mesaraica Minor Vena, i. e. *Hæmorrhoidalis Interna.*

Meseraic. The same as mesenteric. See *Mesenteric.*

Mesenteric Arteries. Two branches of the aorta in the abdomen are so called. The superior mesenteric is the second branch; it is distributed upon the mesentery, and gives off the superior or right colic artery. The inferior mesenteric is the fifth branch of the aorta; it sends off the internal hæmorrhoidal.

Mesenteric Glands. These are conglobate, and are situated here and there in the cellular membrane of the mesentery. The chyle from the intestines passes through these glands to the thoracic duct.

Mesenteric Plexus of Nerves. The superior, middle, and lower mesenteric plexuses of nerves are formed by the branches of the great intercostal nerves.

Mesenteric Veins. They all run into one trunk, that evacuates its blood into the vena portæ. See *Vena portæ*.

Mesenteritis. An inflammation of the mesentery. A species of peritonitis of Cullen. See *Enteritis*.

Mesentery. The membranaceous viscus in the cavity of the abdomen, attached to the vertebræ of the loins, and to which the intestines adhere; from μεσος, the *middle*, and εντερον, an *intestine*, because it is in the middle of the intestines. It is formed by a duplicature of the peritoneum, and contains within it adipose membrane, lacteals, lymphatics, lacteal glands, mesenteric arteries, veins and nerves.

Mesocolon, the portion of the mesentery to which the colon is attached; from μεσος, the *middle*, and κολον, the *colon*.

Metacarpal Bones, the five longitudinal bones that are situated between the wrist and fingers; they are distinguished into the metacarpal bone of the thumb, fore finger, &c.

Metacarpus. That part of the hand between the wrist and fingers; from μετα, *after*, and καρπος, the *wrist*.

Metallurgy, stands for the art of working metals, or separating them from their ore.

Metals. They form a class amongst fossils. *Metals* are the heaviest bodies in nature; they are always opaque: they all have a brilliancy and splendour peculiar to themselves, which chemists have termed *Metallic Lustre*; they are ductile and malleable; they resist the action of fire, without being dissipated or volatilized; they are fusible in the fire, and after being cooled, they concrete in the same form as before.

Metals, (unnamed Colour of.) There is a colour frequently occurring in *metals* and their ores, which has never yet been named. It is not blue, it is not white, it is not black. Its different shades sometimes nearly approach to the different shades of the three colours above mentioned, but they really are perfectly distinguished and separated from them. This colour is present in lead, whose colour cannot be said to be black, blue or white. The *unnamed colour of metals*, on exposure to the air, frequently becomes tarnished, but re-appears upon cutting afresh.

Metamorphosis, μεταμορφωσις, is applied by Harvey to the changes an animal undergoes, both in its formation and growth; and by several to the various shapes some insects in particular pass through, as the silk-worm, and the like.

Metastasis. Μεταστασις, from μεθιστημι, to *change*, to *translate*. The removal of a disease from one place to another.

Metatarsal Bones. The five longitudinal bones between the tarsus and toes; they are distinguished into the metatarsal bone of the great toe, fore toe, &c.

Metatarsus. That part of the foot between the tarsus and toes; from μετα, *after*, and ταρσος, the *tarsus*.

Methodica Medicina, signifies that practice which was conducted by rules, such as are taught by Galen, and his followers, in opposition to the empirical practice; and therefore,

Methodici, methodists, were those who followed such rules; and,

Methodus, method, was the means such rules directed to.

Metra, μετρα, the womb.

Metritis, inflammation of the womb.

Metro-mania, a rage for reciting verses. In the *Acta Societatis Medicæ Havniensis*, published 1779, is an account of a tertian attended with remarkable symptoms; one of which was the *Metro-mania*, which the patient spoke extempore, having never before had the least taste for poetry; when the fit was off, the patient became stupid, and remained so till the return of the paroxysm, when the poetical powers returned again.

Metropolis, μετροπολις, signifying properly a chief city, castle, or the like, is, by some, applied to the head, as the principal part of an animal.

Metroptosis. *Prolapsus uteri*. The descent of the uterus through the vagina; from μετρα, the *uterus*, and προπιπτω, to *fall down*. M. M. Cinchona; iron; astringents internally and topically; laxatives; a pessary.

Metrorrhagia, excessive menses.

Mexicanum Bals. i. e. *Bals. Peruv.*

Mezereum. Mezereon. This plant, *Daphne mezereum* of Linnæus, is extremely acrid, especially when fresh, and if retained in the mouth excites great and long continued heat and inflammation, particularly of the mouth and fauces; the berries also have the same effects, and, when swallowed, prove a powerful corrosive poison, not only to man, but to dogs, wolves, and foxes. The bark of the root is the part employed medicinally in the *decoctum sarsaparillæ compositum*, to assist mercury in resolving nodes and other obstinate symptoms of syphilis. From gr. i. upwards.

Miasma, (from μιαίνω, *to pollute*.) *Miasmata* have lately claimed the attention of Pathologists, as they are the causes of some of the most fatal fevers to which mankind are subject. In the more strict pathological investigations of modern authors they are distinguished from contagion, which is confined to the effluvia from the human body, when subject to disease; yet this contagion, when it does not proceed immediately from the body, but has been for some time confined in clothes, is sometimes styled *miasma*. Another kind of miasma is putrid vegetable matter, and indeed every thing of this kind which appears in the form of air. Miasma, then, strictly speaking, is an aërial fluid, combined with atmospheric air, and not dangerous, except the air be loaded with it; for diffusion, as we have seen, renders it harmless. It is not always discoverable by the smell, and scarcely ever by the nicest eudiometrical tests: it is not therefore hydrogen or azote, though there is great reason to suppose that it is a modification of these; for, from marshes hydrogen generally arises, and, from the human body, the chief injurious exhalation is azote. Hydrogen and azote also destroy irritability, or induce sudden debility, effects generally found from the miasmata which produce fever. As we know not the nature of miasmata, therefore we cannot discover their corrector. Diffusion however renders them harmless, and it is sufficient for us that free air will prevent their deleterious effects.

What the variety of miasmata may be we cannot say. Each infectious disease has its own, diffused round the person which it has attacked, and liable to convey the disease at different distances, according to the nature of the complaint, or to the predisposition of the object exposed to it. This part of the inquiry rather belongs to contagion, and to the particular disease. A patient in the small-pox seems to diffuse an infectious atmosphere to the distance of from ten to fourteen feet; measles and scarlatina are less active in this respect, and even the plague seems not to be infectious, except from fomites, but from actual contact.

The miasmata of marshes, those only whose effects we can more distinctly perceive, produce intermittents, and remittents of the worst kind. They produce also dysentery and the epidemic catarrh, of which the infection is usually conveyed by the air. The bilious fever of America we have supposed to be the natural autumnal remittent, and therefore may be referrible to the same source; nor can we avoid concluding that every endemic disease must have its origin in the peculiar exhalations of the country.

The putrid vegetable matter which has been accused as the cause of many fevers may be truly such, for we know that many parts of vegetables produce azote. Yet their effects in this respect have not been traced with accuracy. Continued fevers are chiefly referrible to contagion: but the causes of intermittents in some constitutions seem to produce fevers of the more continued form; and the miasmata of marshes, when they have excited their peculiar fever, may certainly, through the medium of the human body, produce continued fevers. Human effluvia confined, independent of a morbid state, becomes undoubtedly the cause of fevers the most continued in their form, and are then truly miasmata.

Ancient ideas on this subject corresponded to the ruder state of philosophy, when the term was brought into use.

But since that remote era the constitution of *permanently elastic fluids* has been explored; the volatilization and solution of bodies by heat has been investigated; and the weight and measure of *aerial* compounds detected, though their perfect transparency eludes all examination by the eye. These invisible compounds, of which the ancients had no proper conception, are the result of *chemical agency*, and they indicate or accompany an intestine alteration among the constituent ingredients of the substance.

Microcosm, μικροκοσμος, from μικρος, *parvus*, *little*, and κοσμος, *mundus*, *world*. Man is thus called, in regard to the excellency and symmetry of his make, bearing as great and remarkable testimonies of the wisdom of his Maker, as does the whole visible world, called the *Macrocosm*, or greater world.

Midriff. See *Diaphragm*.

Mictio, or *Mictus*, signifies excretion by urine; from *mingo*, *to make water*.

Miliary Glands. See *Cutis*, and *Sebaceous Glands*.

Miliaria. Miliary fever. A genus of disease in the class *pyrexiæ* and order *exanthemata* of Cullen, characterized by synochus; cold stage considerable; hot stage attended with anxiety and frequent sighing; perspiration of a strong and peculiar smell; eruption preceded by a sense of pricking, first on the neck and breast, of small red pimples, which in two days become white pustules, desquamate, and are succeeded by fresh pimples. For the eruption similar to miliaria, but unattended with fever, see *Sudamina*. M. M. Cool air and drink; light clothing; if the fever be inflammatory, refrigerants and the antiphlogistic regimen; if typhoid, wine, nutrative diet and cinchona; if convulsions supervene, camphor, musk and opium; if delirium or coma, sudorifics, cordials, volatiles, and blisters; if nausea, camphorated mixture.

Miliaris Nautica, a kind of typhus, called by Huxham *Febris Nautica Pestilentialis*. It is caused by the nastiness which is suffered to accumulate and grow pestilential on ship-board.

Miliaris Purpurata. It is a kind of typhus.

Miliolum, a small tumour in the eye-lids, of the size of a millet-seed.

Milium. Grutum. A very white and hard tubercle, in size and colour resembling a millet-seed. Its seat is immediately under the cuticle, so that when pressed it escapes, the contents appearing of an atheromatous nature.

Milk. A fluid secreted by peculiar glands, and designed to nourish young animals in the early part of their life. It is of an opaque white colour, a mild saccharine taste, and a slightly aromatic smell. It is separated immediately from the blood in the breasts or udders of female animals. Man, quadrupeds, and cetaceous animals are the only creatures which afford milk. All other animals are destitute of the organs which secrete the fluid. Milk differs greatly in the several animals; in the human species it is very sweet or saccharine; the milk of the cow is mild, and its principles are well connected; that of the goat and ass have a peculiar virtue, as they are often slightly adstringent. The variable properties of milk depend usually on the food of the animal. With respect to its virtues, it is an agreeable food, and of considerable use in many cases, as phthisis, macies, &c. and applied externally to inflammatory tumours it is emollient, anodyne and maturative.

Millefolium, common yarrow, or milfoil. The leaves and flowers of this indigenous plant, *Achillea millefolium* of Linnæus, have an agreeable, weak aromatic smell, and a bitterish, rough, and somewhat pungent taste. They are both directed for medicinal use in the Edinburgh Pharmacopeia; in the present practice, however, it is wholly neglected.

Millepedes, wood-lice. These insects, though they obtain a place in the Pharmacopeias, are very seldom used medicinally in this country: they appear to act as stimulants and slight diuretics, and for this purpose they ought to be administered in a much greater dose than is usually prescribed. The expressed juice of forty or fifty living millepedes, given in a mild drink, is said to cure very obstinate jaundices. Grs. v. ℥ss.

Mimosa, sensitive plant. A genus in Linnæus's botany. He enumerates fifty-three species; the terra Japonica is obtained from the Mim. Catechu.

Mineralogy. That part of natural history which relates to minerals is so called.

Mineral Waters. Waters which contain minerals in solution are distinguished by the appellation of mineral water: but as there is no water found in nature, even among those reckoned the purest, which is not impregnated with some of these substances, the name of mineral water ought to be confined to such as are sufficiently impregnated to produce a sensible effect on the animal economy. For this reason the name of medicinal waters would be much more applicable. All mineral waters may be arranged into acidulous, saline, sulphureous, and ferruginous waters. *Acidulous waters* are those in which the cretaceous acid predominates; they are known by their sharp taste, the facility with which they boil, and afford bubbles with simple agitation; such are those of Seltzer, Bristol, Bard, Langeac, Chateldon, &c. *Saline* or *salt waters*, are such as contain a sufficient quantity of neutral salt to act strongly on the animal economy, so as most commonly to purge; such is sea-water, the water of Selditz, Egra, &c. The name of *sulphureous waters* has been given to those mineral waters that appear to possess some of the properties of sulphur, such as the smell and property of discolouring silver; under this head are arranged the waters of Harrowgate, Bereges, and Cauteres, St. Amant, Aix la Chapelle, and Montmorency. *Ferruginous waters* are those, as the term expresses, that abound with iron: of this nature are the Spa and Pyrmont waters.

Minerals. Minerals are inorganized or inanimate bodies, that increase in volume by the juxtaposition of parts and the force of attraction. The early naturalists divided minerals into a great number of classes, but by the moderns they are divided only into three sections. Under the first are arranged earths and stones which have no taste, and do not burn when heated with contact of air; under the second, saline matters, having more or less taste, which melt in water, and do not burn; and under the third, combustible substances, not soluble in water, and exhibiting a flame more or less evident when exposed to fire with access of air.

Minima Naturalia, is by some made use of to express the last possible division of matter, and out of which all bodies are compounded; the same as *Atoms.*

Minium, red lead.

Minium. Massicot, calcined in a reverberatory furnace, with a heat not sufficient to melt it, has its colour continually heightened, and acquires at length a fine red, approaching to that of vermillion. It is then called *Red Lead*, or *Minium.*

Minium Græcorum, native cinnabar.

Minorativa, are the lesser or weaker purges, such as manna, lenitive electary, and the like.

Mint. See *Mentha.*

Miserere mei. This is applied to some colic, where the pains are so exquisite as to draw compassion from a bye-stander; the term importing so much.

Mispickel, a white, brilliant, granulated iron ore, composed of iron in combination with arsenic.

Mistura, a mixture. It differs from juleps in not being transparent, having some powders, or other substance, dissolved or mixed with it, as a part of the whole.

Mitchella. A genus in Linnæus's botany. It was so named in honour of John Mitchell, the celebrated physician and diligent botanist of Virginia. This is an American plant, and grows near Powles-hook. It is an ever-green, is very delicate, and creeps on the ground: hence called *M. repens.* Had it not been that the name was thus forestalled by Linnæus, it was the intention of Professor Wildenow to have named a new genus after Samuel L. Mitchill of New-York, in a new edition of the Linnæan writings he was preparing for the press.

Mithridatium, the electary called *Mithridate*, from Mithridates, king of Pontus and Bithynia, who experiencing the virtues of the simples separately, afterwards combined them; but then the composition consisted of but few ingredients, viz. twenty leaves of rue, two walnuts, two figs, and a little salt; of this he took a dose every morning, to guard himself against the effects of poison.

Mitrales Valvulæ, the mitral valves. See *Heart.*

Moderni, (quasi *hodierni*, *of today).* The æra of modern learning, according to the best chronologists, is that of the capture of Constantinople by the Turks, when the Greeks fled to Italy, carrying with them their literary treasures. This was on the 27th of May, 1453. This æra will not however be accurate in the history of medicine, for in tracing the progress of our science we have seen it gradually progressive from east to west, and sometimes even in a contrary direction; and were we to fix the limits with respect to medicine, we should place them at the decline of the Grecian physic, in the court of Byzantium, and the last of the ancients would be Actuarius. The comparative knowledge and skill of the ancients and moderns have occasioned great controversy. It is pleasantly, though not with great impartiality, treated by Swift in his Battle of the Books. Duten's work "on the Discourses of the Ancients attributed to the Moderns," contains many curious and important facts on this subject; but this author, like some others, catches too anxiously at casual hints, and expressions, seeming to mistake a lucky but a loose conjecture for a discovery. Pancirollus, in his work De Rebus perditis et inventis, and Bæckmann in his History of Inventions, offer many curious facts respecting the science of the ancients, and often respecting medical opinions and the use of remedies. Two volumes have been added by the latter author to those already translated, which would be a valuable acquisition to the English reader.

Modiolus. The nucleus, as it were, of the cochlea is so termed. It ascends from the basis of the cochlea to the apex.

Moisture. See *Water.*

Mola, a mole, or a formless concretion of extravasated blood in the uterus, without a placenta. It hath a fibrous appearance on its outside, from the compression of the womb, but this fibrous appearance is not within also.

Molares, the double teeth; from *molaris, a grindstone*, because they grind the food. See *Teeth.*

Molar Glands, two salival glands situated on each side of the mouth, between the masseter and buccinator muscles, and whose excretory ducts open near the last dens molaris.

Molecules, little masses of matter, formed by the attraction termed *Cohesion.*

Mollities Ossium, a softness of the bones.

Mollities Unguium, a preternatural softness of the nails, that often accompanies chlorosis.

Molybdena. This substance is found in Iceland, Saxony, France, and Spain. It is very frequently confounded with black lead, although the characteristic differences are sufficiently evident. Molybdena is composed of scaly particles, either large or small, and slightly adherent to each other. It is soft and fat to the touch, soils the fingers, and makes a trace of an ash grey colour. Its aspect is blueish, nearly resembling that of lead. The mark it makes on paper has an argentine brilliancy; whereas those of plumbago or black lead are of a darker and less shining colour. Its powder is blueish: by calcination it emits a smell of sulphur, and leaves a whitish earth.

Molybdats, (Malibdas, tis, s. m.) Salts formed by the union of the molybdic acid with different bases: thus, *molybdat of alumine*, *molybdat of antimony*, &c.

Monoculus. Modopia. A very common species of monstrosity, in which there is but one eye, and that mostly above the root of the nose; from μονος, *one*, and *oculus*, an *eye.*

Monorchis, an epithet for a person that has but one testicle;

from μονος, *one*, and ορχις, a *testicle*.

Mons Veneris, the triangular eminence, immediately over the os pubis of women, that is covered with hair.

Monstrum, is generally applied to preternatural productions amongst animals, with instances of which some writers very much abound, as Schenckius, Parry, and others.

Morbi Organici, diseases of particular organs of the body. It is synonymous with Dr. Cullen's *Locales*.

Morbid, is rather said of an unsound constitution, or one inclinable to diseases, than of any actually under a distemper.

Morbilli, the measles. See *Rubeola*.

Morosis, μωρωσις, from μωρος, *folly, stupidity;* stupidity, idiotism, defect of imagination. The Greek word *morosis* corresponds most with our English word *foolishness*, which is, when reason is rendered somewhat defective. See *Amentia*.

Morositates, diseases which render it difficult to please, to gratify, or to satisfy. Dr. Cullen makes it synonymous with *Dysorexia*.

Morphæa, morphew, is that freckle or scurf which breaks out sometimes on the skin, particularly about the forehead.

Morpiones, crab-lice. They are so called from their resembling crab-fish. They are in the armpits, eye-lids, eye-brows, and pudenda of grown persons.

Mortality, bills of, registers of the number of deaths or burials in any parish or district. The establishment of bills of mortality in Great-Britain, originated in the frequent appearance of the plague, which formerly made great devastations in this country, and an abstract of the number of deaths was published weekly, to show the increase or decrease of the disorder, that individuals might not be exposed to unfounded alarms, but have some means of judging of the necessity of removal, or of taking other precautions, and government be informed of the propriety or success of any public measures relating to the disorder. Since the disappearance of the plague, these registers have been continued from the convenience found in ascertaining by them the precise time of the birth or death of individuals, and for the information they furnish respecting the rate of human mortality, and the state of population.

The first directions for keeping parish registers of birth and burials were given in 1538, when Thomas Cromwell was appointed the King's vicegerent for ecclesiastical jurisdiction, and in that capacity issued certain injunctions to the clergy, one of which ordains, that every officiating minister shall, for every church, keep a book, wherein he shall register every marriage, christening and burial; and the injunction goes on to direct the manner and time of making the entries in the register book weekly, any neglect of which is made penal. In 1547 all episcopal authority was suspended for a time, while the ecclesiasticalvisitors then appointed went through the several dioceses to enforce divers injunctions, among which was that respecting parish registers. This injunction was again repeated in the beginning of the reign of Elizabeth, who also appointed a protestation to be made by the clergy, in which, among other things, they promised to keep the register book in a proper manner. One of the canons of the church of England prescribes very minutely in what manner entries are to be made in the parish registers, and orders an attested copy of the register of each successive year, to be annually transmitted to the bishop of the diocese, to be preserved in the bishop's registry. This canon also contains a retrospective clause, appointing that the ancient registers, so far as they could be procured, but especially since the beginning of the reign of Elizabeth, should be copied into a parchment book, to be provided by every parish; which regulation was so well obeyed, that most of the ancient parish registers now extant commence with that Queen's reign, and some of them earlier, quite as far back as the date of the original injunction.

The London bills of mortality are founded upon the reports of the sworn searchers, who view the body after disease, and deliver their report to the parish clerk. The parish clerks are required, under a penalty for neglect, to make a weekly return of burials; with the age and disease of which the person died; a summary of which account is published weekly; and on the Thursday before Christmas-day, a general account is made up for the whole year. These general accounts of christenings and burials, taken by the company of parish clerks of London, were began December 21, 1592; and in 1594 the weekly account was first made public, as also the general or yearly account, until December 18, 1595, when they were discontinued upon the ceasing of the plague; in 1603, they were resumed, and have been regularly continued ever since The original bills comprehended only 109 parishes, but several others were afterwards included, and in 1660 the bills were new modelled, the twelve parishes in Middlesex and Surry being made a division by themselves, as were likewise the five parishes in the city and liberties of Westminster. Several other parishes have been added to them at subsequent periods, but many of them have been merely new parishes formed out of larger ones which were before included, and the total number of parishes now comprehended in the London bills of mortality is 146. They are divided into the ninety-seven parishes within the walls, sixteen parishes without the walls, twenty-three out-parishes in Middlesex and Surry, and ten parishes in the city and liberties of Westminster. They give the ages at which the persons die, and a list of the diseases and casualties by which their death was occasioned; but little dependence can be placed on the list of diseases, except with respect to some of the most common and determinate.

These bills would afford the means of ascertaining the state of population with sufficient precision, if the proportion of annual deaths to the number of the living could be accurately determined. This, however, previous to the enumeration of 1801, could not be easily found, even in the metropolis, the population of which, as deduced from the bills of mortality, was very differently stated by different writers. Mr. John Graunt, who first published observations on the London bills of mortality in the year 1662, made the proportion dying annually about 1 in 27, Sir William Petty and Dr. Brakenridge afterwards stated it as 1 in 30, and Mr. Maitland 1 in 24½, but Dr. Price, who bestowed much attention on this subject, has shown, that about the year 1769, at least 1 in 22½ of all the inhabitants of London died annually. In fact, the proportion appears to have varied considerably at different periods, and of late years, in consequence of the houses being less crowded with inhabitants, the widening of streets, and other improvements, the metropolis has become more healthy, and consequently the proportion dying annually less than formerly. In the "Observations on the results of the Population Act," it is stated that the proportion of annual deaths in London in the year 1750 appears to have been 1 in 23, and in the year 1801 only 1 in 31.

The following statement of the average of each five years from 1730, will show a considerable decrease in the annual number of burials, and an increase of the christenings, which strongly indicate the progressive increase of the population of the metropolis: the proportion of annual deaths to 100 christenings likewise shows that they have approached so nearly to an equality that the population of London can now nearly support itself without an annual supply from the country.

5 Years ending	Burials	Christenings	Proportion to 100 Christenings
1735	25,490	17,517	145
1740	27,494	16,144	170
1745	25,350	14,419	175
1750	25,352	14,496	174
1755	21,080	15,119	139
1760	19,837	14,459	137
1765	23,992	15,931	150
1770	22,888	16,440	139
1775	22,177	17,284	128
1780	20,743	17,256	120
1785	18,880	17,263	109
1790	19,657	18,465	106
1795	20,228	18,800	107
1800	19,131	18,708	102

The bills of mortality in many parts of Great-Britain are known to be materially defective; the deficiencies are ascribed chiefly to the following circumstances. 1. Many congregations of dissenters inhabiting towns have their own peculiar burying grounds; as have likewise the Jews, and the Roman Catholics who reside in London. 2. Some persons, from motives of poverty or convenience, inter their dead without any religious ceremony; this is known to happen in the metropolis, in Bristol, and Newcastle-upon-Tyne, and may happen in a few other large towns. 3. Children who die before baptism are interred without any religious ceremony, and consequently are not registered. 4. Many persons employed in the army and in navigation die abroad, and consequently their burials remain unregistered. 5. Negligence may be supposed to cause some omissions in the registers, especially in those small benefices where the officiating minister is not resident. Whatever may be the total number of deaths and burials, which from these several circumstances are not brought to account, it has been estimated that about 5000 of them may be attributed to the metropolis, and a large portion of the rest may be ascribed to the other great towns, and to Wales, where the registers are less carefully kept than in England. In Scotland, registers of mortality have not yet been generally established; and those which are kept, are in many instances very incomplete.

The total annual amount of burials, as collected pursuant to the population act, authorizes a satisfactory inference of diminishing mortality in England since the year 1780; the number of marriages and baptisms indicates that the existing population of 1801, was to that of 1780, as 117 to 100, while the amount of registered burials remained stationary during the same period, as will be seen in the following account.

Total number of burials in England and Wales.

Years.	Males.	Females.	Total.
1700	65,752	66,976	132,728
1710	70,606	69,702	140,308
1720	81,156	79,268	160,424
1730	89,085	87,408	176,493
1740	83,706	83,267	166,973
1750	77,149	77,537	154,686

Years.	Males.	Females.	Total.
1760	77,750	77,887	155,637
1770	85,952	88,431	174,383
1780	95,845	95,891	191,736
1781	94,505	94,867	189,372
1782	90,189	90,725	180,914
1783	90,606	91,383	181,989
1784	92,851	95,070	187,921
1785	91,548	93,922	185,470
1786	88,330	90,728	179,058
1787	88,123	90,595	178 718
1788	89,227	92,118	181,345
1789	88,411	90,973	179,384
1790	87,954	90,777	178,731
1791	90,895	89,557	180,452
1792	90,963	91,646	182,609
1793	98,560	98,305	196,865
1794	95,511	95,638	191,149
1795	102,086	101,242	203,328
1796	92,289	92,245	184,534
1797	92,292	92,637	184,929
1798	90,657	90,656	181,313
1799	92,078	91,189	183,267
1800	101,686	99,442	201,128

Total number of baptisms and of burials in the twenty-nine years above specified.

	Males.	Females.	Total.
Baptisms	3,285,188	3,150 922	6,436,110
Burials	2,575,762	2,590,082	5,165,844

The proportion of births therefore appears to be $104\frac{1}{4}$ males to 100 females; of the deaths $99\frac{1}{2}$ males to 100 females. The average number of burials during the last twenty-one years was about 186,000 per annum.

Mortificatio, a mortification, from *mors*, *death*, and *facio*, *to make*, is when, in any part, the natural juices quite lose their proper motions, so that they fall into a fermentative one, and corrupt and destroy the texture of the parts.

Mortiferous, is said of any thing that forebodes death, as the Facies Hippocratica, or the like.

Morum, an excrescence on the surface of the skin in any part of the body, resembling a mulberry.

Morum, the mulberry. The tree that affords this fruit is the *Morus nigra* of Linnæus, a native of Italy. Mulberries abound with a deep violet-coloured juice, which, in its general qualities, agrees with that of the fruits called *acido dulces*, allaying thirst, partly by refrigerating, and partly by exciting an excretion of mucus from the mouth and fauces; a similar effect is also produced in the stomach, where, by correcting putrescency. a powerful cause of thirst is removed. The London college directs a *syrupus mori*, which is an agreeable vehicle for various medicines. The bark of the root of this tree is said by Andrée to be useful in cases of tænia.

Moschus, musk. A substance whose strong and permanent smell is peculiar to it. It is contained in a bag placed near the umbilical region of a ruminating quadruped, resembling the antelope, from which it does not differ sufficiently to form a particular genus. The medicinal and chemical properties of musk and castor are very similar: the virtues of the former are generally believed to be more powerful, and hence musk is preferred in cases of imminent danger. It is prescribed as a powerful antispasmodic in convulsive diseases, hydrophobia, &c. and is by many said to be a violent aphrodisia—Grs. vi. to ℥ss.

Motorii Oculorum, the third pair of nerves of the brain; they arise from the crura cerebri, and are distributed on the muscles of the bulb of the eye.

Mouth. The cavity of the mouth is well known: the parts which constitute it are the common integuments, the lips, the muscles of the under and upper jaw, the palate, two alveolar arches, the gums, the tongue, the cheeks, and salival glands. The bones of the mouth are the two superior maxillary, two palatine, the lower jaw, and thirty-two teeth. The arteries of the external parts of the mouth are, branches of the infra-orbital inferior alveolar, and fascial arteries.

The veins empty themselves into the external jugulars. The nerves are branches from the fifth and seventh pair. The use of the mouth is for mastication, speech, respiration, deglutition, suction, and taste.

Moxa, signifies a certain actual caustic, recommended chiefly in fits of the gout; though Dolæus would also have it applied in the apoplexy, epilepsy, mania, and convulsive asthma. The thing of itself is no more than a dry, light, downy, vegetable substance, obtained from a certain plant, not unlike our common mugwort, which, being applied to the skin, is there set on fire, and suffered to act as a caustic.

Mucilage, a solution of gum. See *Gum*.

Mucilaginous Extracts. Extracts that readily dissolve in water, scarcely at all in spirit of wine, and undergo spirituous fermentation.

Mucor, mould, a genus in Linnæus's botany, of the order of *Fungi*. He enumerates fifteen species.

Mucosum Ligamentum. It is betwixt the nature of a ligament and a cartilage, and full of glairy matter. It is situated betwixt each of the vertebræ, and admits them to recede from, or approach nearer to each other. To this is owing, that at night a man is half an inch shorter than in the morning.

Mucous Glands. Muciparous glands. Glands that secrete mucus, such as the glands of the Schneiderian membrane of the nose, the glands of the fauces, œsophagus, stomach, intestines, bladder, urethra, &c.

Mucus, vegetable. See *Gum* and *Mucilage*.

Mucus, animal. Animal mucus differs from that obtained from the vegetable kingdom in not being soluble in water, swimming on its surface; nor capable of mixing oil with water, and being soluble in mineral acids, which vegetable mucus is not. The use of this substance is to lubricate and defend the parts upon which it is secreted, as the nose, œsophagus, stomach, intestines, urethra, vagina, &c.

Multifidus Spinæ, a muscle situated along the spine of the back. When different portions of this muscle act on one side, they extend the back obliquely, or move it laterally; but, if they act together on both sides, they extend the vertebræ backwards.

Mumps, a disease of the parotid gland. See *Cynanche*.

Muria, brine. It is made of common salt, and is of the same nature and use. An acrimony in the juices resembling that of brine, is called a *muriatic acrimony*.

Muriates, oxygenated, are combinations of the oxygenated muriatic acid with pot-ash and soda.

Muriats (Marias, tis, s. m.) Salts formed by the union of the muriatic acid with different bases; thus, *muriat of ammoniac*, *muriat of copper*, *&c.*

Muscles. Muscles are the organs of motion. The parts that are usually included under this name consist of distinct portions of flesh, susceptible of contraction and relaxation; the motions of which, in a natural and healthy state, are subject to the will, and for this reason they are called *voluntary* muscles. Besides these, there are other parts of the body that owe their power of contraction to their muscular fibres; thus, the heart is a muscular texture, forming what is called a hollow muscle; and the urinary bladder, stomach, intestines, &c. are enabled to act upon their contents, merely because they are provided with muscular fibres; these are called *involuntary* muscles, because their motions are not dependent on the will. The muscles of respiration, being in some measure influenced by the will, are said to have a *mixed* motion. The names by which the voluntary muscles are distinguished, are founded on their size, figure, situation, use, or the arrangement of their fibres, or their origin and insertion; but, besides these particular distinctions, there are certain general ones that require to be noticed. Thus, if the fibres of a muscle are placed parallel to each other, in a straight direction, they form what anatomists term a *rectilinear* muscle; if the fibres cross and intersect each other, they constitute a *compound* muscle; when the fibres are disposed in the manner of rays, a *radiated* muscle; and when they are placed obliquely with respect to the tendon, like the plume of a pen, a *penniform* muscle. Muscles that act in opposition to each other are called *antagonists;* thus every extensor has a flexor for its antagonist, and *vice versa.* Muscles that concur in the same action are termed *congeneres.* The muscles being attached to the bones, the latter may be considered as levers, that are moved in different directions by the contraction of those organs. That end of the muscle which adheres to the most fixed part is usually called the *origin;* and that which adheres to the more moveable part, the *insertion* of the muscle. In almost every muscle two kinds of fibres are distinguished; the one soft, of a red colour, sensible, and irritable, called *fleshy* fibres; the other of a firmer texture, of a white glistening colour, insensible, without irritability or the power of contracting, and named *tendinous* fibres. They are occasionally intermixed, but the fleshy fibres generally prevail in the belly, or middle part of a muscle, and the tendinous ones in the extremities. If these tendinous fibres are formed into a round slender chord, they form what is called the *tendon* of the muscle; on the other hand, if they are spread into a broad flat surface, it is termed an *aponeurosis.*

Mutitas, dumbness. Dr. Cullen places this genus of disease in the class *Locales*, and order *Dyscinesiæ.* He distinguishes three species; 1. *Mutitas Organica*, as when the tongue is taken away or injured. 2. *Mutitas Atonica*, as when the nerves of the tongue are wounded, or paralytic. 3. *Mutitas Surdorum*, as when children are born deaf.

Mydriasis, a disease of the iris. Too great a dilatation of the pupil of the eye, with or without a defect of vision. It is known by the pupil always appearing of the same latitude or size in the light.

Mylo. Names compounded with this word belong to muscles which are attached near the grinders; from μυλη, a *grinder tooth:* such as,

Mylo-Hyoideus, a muscle situated between the lower jaw and os hyoides, that pulls the os hyoides forwards, upwards, and to a side.

Myodesopsia, a disease of the eyes, in which the person sees black spots, an appearance of flies, cobwebs, or black wool, before his eyes; from μυια, a *fly*, and οψια, *vision.*

Myologia, from μυων, *musculus, a muscle*, and λεγω, *dico, to tell*, is a description of the muscles.

Myopia, and *Myops*, from μυς, *a mouse*, and ωψ, *oculus, an eye;* mouse-eyed, or purblind, is when the eye is so convex, that the rays unite before they come to the retina, which makes the eye also look small.—Those who by a natural defect have the cornea and crystalline humour too convex, are called *myopes.* This figure, which increases the quantity of refraction, tends to render the rays of such pencils as are formed in the eye more convergent, so that the point where these same rays meet is on this side of the retina. Myopes see distinctly those objects only which are near, which send towards the eye rays more divergent, and thereby less disposed to converge, through the effect of refraction in the crystalline and other humours This imperfection being the reverse of that which affects the eye of presbytæ, is remedied by the use of a glass slightly concave; which, increasing the divergence of the rays received by the eye, prolongs the pencils that are formed in the organ, and causes their summits to fall more exactly on the retina. Myopes seem to have a fondness for minute objects; in general they write a very fine hand, and read in preference works that are printed in a small type, because by choosing dimensions suited to the narrow scope of their sight, they continue to embrace a greater number of objects at once. They have the habit also of closing, in a certain degree, the eyelids, when they wish to see objects distinctly that are otherwise distant from them. Two advantages have been ascribed to this natural motion. On the one hand, by contracting the lid, access is given to a smaller portion of light. Now those who are myopes see objects that are situated at a distance indistinctly, merely because the cones that are formed in the eye, as we have observed in the preceding paragraph, have their summit on this side the retina; so that the prolongations of the rays of which these cones are the assemblage, give rise to new cones, whose base meeting the bottom of the eye depicts a small circle there, instead of a simple point. Accordingly, when the number of rays introduced into the eye is diminished, that small circle is contracted, and the vision becomes less confused. On the other hand, the eye-lids, by closing, exert a pressure on the organ that diminishes its convexity, and in part restores it to the form most favourable to the clearness of vision.

Myosis, a contraction or too small perforation of the pupil; it is known by viewing the diameter of the pupil, which is smaller than usual, and remains so in an obscure place, where naturally, if not diseased, it dilates.

Myositis, inflammation of a muscle. It is the term given by Sagar to accute rheumatism.

Myotomy, the dissection of the muscles; from μυων, *a muscle*, and τεμνω, *to cut*.

Myrrh. The tree that affords this gum-resin, by incision, grows on the eastern coast of Arabia Felix. Good myrrh is of a foul black red colour; solid and heavy; of a peculiar smell, and bitter taste. Its medicinal effects are warm, corroborant, and antiseptic; it has been successfully employed in pythisical cases as a pectoral, and although allied to some of the balsams, it is found to be more efficacious and less irritating to the system. There are several preparations of this drug in the London and Edinburgh Pharmacopeias.—Grs. v. to ʒss.

Myrtiform Glands. See *Glandulæ Myrtiformes*.

Myurus, an epithet for a sort of sinking pulse, when the second stroke is less than the first, the third than the second, &c. Of this there are two kinds; the first is when the pulse so sinks as not to rise again; the other, when it returns again, and rises in some degree. Both are esteemed bad presages.

N

No. in prescription, is often used to signify the number of things. *Caryophyllorum*, No. vi. is six cloves.

Nævi Materni, mother's marks. These marks are upon the skin of children, at birth, and are various in their nature, depending upon the longing or aversion of the mother; hence they resemble mulberries, grapes, bacon, &c. The seat is mostly in the rete muscosum, or cellular membrane.

Nails, *ungnes*, horny laminæ, situated on the extremities of the fingers and toes.

Naphtha, a very fluid species of petroleum, found chiefly in Italy.

Narcosis, ναρκωσις, *stupor*, *numbness*, a stupefaction.

Narcotics, ναρκωτικα. Under this term is included all that part of the *Materia Medica*, which any way produces sleep, whether called by this name, or *Hypnotics*, or *Opiates*.

Nares, the nostrils. The cavity of the nostrils is of a pyramidal figure, and is situated under the anterior part of the cranium, in the middle of the face. It is composed of fourteen bones, viz. the frontal, two maxillary, two nasal, two lachrymal, two inferior spongy, the sphænoid, the vomer, the ethmoid, and two palatine bones, which form several eminences and cavities. The eminences are the septum narium, the cavernous substance of the ethmoid bone, called the superior conchæ, and the inferior spongy bones. The cavities are three pair of pituitary sinusses, namely, the frontal, sphænoid, and maxillary; the anterior and posterior foramina of the nostrils; the ductus nasalis, the sphæno-palatine foramina, and anterior palatine foramina. All these parts are covered with periosteum, and a pituitary membrane which secretes the mucus of the nostrils. The arteries of this cavity are branches of the internal maxillary. The veins empty themselves into the internal jugulars. The nerves are branches of the olfactory, ophthalmic, and superior maxillary. The use of the nostrils is for smelling, respiration, and speech.

Nasi Ossa, the two small bones of the nose that are so termed, from the bridge of the nose; in figure they are quadrangular and oblong.

Nasturtium Aquaticum, water cresse. This indigenous plant, *Sisymbrium nasturtium* of Linnæus, grows plentifully in brooks and stagnant waters. The leaves have a moderately pungent taste, emit a quick penetrating smell, like that of mustard seed, but much weaker. Water cresses obtain a place in the materia medica for their antiscorbutic qualities, which have been long very generally acknowledged by physicians. The most pleasant way of administering them is in form of sallad.

Nasus, the nose.

Nates, the buttocks.

Nates Cerebri, a name of two prominences of the brain, which are also called *Testes*. See *Brain*.

Natron, *Soda*, mineral alkali. This alkali is chiefly imported from Spain and France. The best kind of the former is in dark coloured masses, of a bluish tinge, very ponderous, sonorous, dry to the touch, and externally abounding with small cavities, without any offensive smell, and very salt to the taste; if long exposed to the air, it undergoes a degree of spontaneous calcination. The best French natron is also dry, sonorous, brittle, and of a deep blue colour, approaching to black. The natron which is mixed with small stones, gives out a fetid smell on solution, and is white, soft, and deliquescent, is of the worst kind. The method of purifying this alkali is directed both in the London and Edinburgh Pharmacopeias The medicinal properties of natron are various ; it is much esteemed by many in scrophulous diseases, given with bark ; in combination with the vitriolic acid it forms Glauber's salt, *natron vitriolatum*, which is purgative ; with nitrous acid, cubic nitre ; with marine acid, common salt ; and with cream of tartar, Rochelle salt, or sal saignette ; and with expressed vegetable oils, or animal fats, the different kinds of soaps.

Naturalia, the pudenda.

Natural Actions, those actions by which the body is preserved, as hunger, thirst, &c.

Natural Faculty, is that power arising from the blood's circulation, which is conspicuous in all the secretions performed within the body, that secretion alone excepted which is made at the origin of the nerves.

Natural Functions, are those which convert the aliment into the substance of the body, and, therefore, depend upon the viscera, vessels, and humours, that receive, detain, move, change, mix, separate, apply, discharge, and consume.

Natural History. Natural history, taken in its most extensive sense, signifies a knowledge and description of the whole universe. Facts respecting the heavenly bodies, the atmosphere, the earth, and indeed all the phenomena which occur in the world, and even those which relate to the external parts, as well as the actions of man himself, so far as reason can discover them, belong to the province of natural history. But when we leave the simple recital of effects, and endeavour to investigate the causes of such phenomena, we overstep the boundaries of natural history, and enter on the confines of philosophy. This science. it must be evident, according to the above definition, is as extensive as nature itself; but in a more appropriate and limited sense, it treats of those substances of which the earth is composed, and of those organized bodies, whether vegetable or animal, which adorn its surface, soar into the air, or dwell in the bosom of the waters.

In this restricted sense natural history may be divided into two heads; the first teaches us the characteristics, or distinctive marks of each individual object, whether animal, vegetable, or mineral; the second renders us acquainted with all its peculiarities, in respect to its habits, its qualities, and its uses. To facilitate the attainment of the first, it is necessary to adopt some system of classification, in which the individuals that correspond in particular points may be arranged together; and with this view we have preferred that of Linnæus, as being the most simple and perfect of any that has yet been presented to the public. A knowledge of the second head can only be acquired by a diligent and accurate investigation of each particular object.

The study of natural history consists in the collection, arrangement, and exhibition of the various productions of the earth. These are divided into three great kingdoms of nature, the boundaries of which meet in the ZOOPHYTES.

Minerals occupy the interior parts of the earth, in rude and shapeless masses. They are concrete bodies, destitute of life and sensation.

Vegetables clothe its surface with verdure, imbibe nourishment through their bibulous roots, respire by means of leaves, and continue their kind by the dispersion of seed within prescribed limits

They are organized bodies, possessing life, but not sensation.

Animals inhabit the exterior parts of the earth. respire, and generate eggs; are impelled to action by hunger, affections, and pain, and by preying on other animals and vegetables, restrain within proper limits and proportions the numbers of both. They possess organized bodies, enjoy life and sensation, and have the power of loco-motion.

Man, who rules and subjugates all other beings, is by his wisdom alone capable of forming just conclusions from such natural bodies as present themselves to his senses. Hence an acquaintance with these bodies, and the capability from certain marks imprinted on them by the hand of nature, to distinguish them from each other, and to affix to each its proper name, constitute the first step of knowledge. These are the elements of this science ; this is the great alphabet of nature, for if the name be lost, the knowledge of the object must be lost also.

The method pursued in natural history indicates that every body may, on inspection, be known by its peculiar name, and this points out whatever the industry of man has been able to discover respecting it, so that amid apparent confusion, the greatest order and regularity are discernible.

The Linnæan system is divided into classes, orders, genera, species, and varieties, to each of which their names and characters are affixed. In this arrangement the classes and orders are arbitrary, the genera and species are natural.

Of the three grand divisions of the imperium naturæ, above referred to, the animal kingdom stands highest in the scale, next to it the vegetable, and lastly the mineral kingdom.

With regard to the animal kingdom we may observe, that animals enjoy sensation by means of a living organization, animated by a medullary substance, perception by nerves, and motion by the exertion of the will. They are furnished with members for the different purposes of life, organs for their different senses, and faculties or powers for the application of their different perceptions. They all originate *ab ovo*

The following is a brief abstract of the arrangement pursued by Linnæus in his division of the animal kingdom.

CLASS I. MAMMALIA.

ORDER.

Primates	Pecora
Bruta	Belluæ
Feræ	Cete
Glires	

CLASS II. AVES.

ORDER.

Accipetres	Grallæ
Picæ	Gallinæ
Anseres	Passeres

CLASS III. AMPHIBIA.

ORDER.

Reptilia	Serpentes

CLASS IV. PISCES.

ORDER.

Apodes	Abdominales
Jugulares	Branchiostegi
Thoracici	Condropterygii

CLASS V. INSECTA.

ORDER.

Coleoptera	Hymenoptera
Hemyptera	Diptera
Lepidoptera	Aptera
Neuroptera	

CLASS VI. VERMES.

ORDER.

Intestina	Zoophyta
Mollusca	Infusoria
Testacea	

Nature, is a word used in divers significations. More strictly it is taken for a peculiar disposition of parts in some particular body ; as we say, it is the nature of fish to live in water. And again, it is taken more largely for the universal disposition of all bodies, and in this sense it is nothing else but the Divine Providence; for as much as that governs and directs all things by certain rules and laws, accommodated to their several conditions of existence. Sometimes it is taken for the essential properties of some things, with the attributes belonging thereunto; as we say, it is the nature of God to be good, of a soul to think, or of a stone to gravitate. And, lastly, it is sometimes used for the system of the universe, and the whole visible and created world.

Nausea, from ναυς, *navis*, *a ship*; the sickness induced by tossing at sea in a vessel; and is properly the sickness perceived on sailing; but it is used to express all sorts of sickness, and propensities to vomit, whether called *sickness*, or *nausea*, *qualm*, *loathing*, or whatever else. Though, strictly, *nausea* may be defined to be an approach to sickness, it is such a subversion of the stomach, as that it rests not in its natural easy state.

Nauticus, i. e *Tibialis Posticus*. It is so called from the use which sailors make of it in climbing

Naviculare Os, or *Naviforme*, from *navicula*, *a little vessel*. See *Scaphoides*.

Neapolitanus Morbus, the Neapolitan disease; a name of the venereal disease.

Neck. The parts which form the neck are divided into external and internal. The external parts are the common integuments; several muscles; eight pair of servical nerves, the eighth pair of nerves of the cerebrum, and the great intercostal nerve; the two carotid arteries; the two external jugular veins, and the two internal; the glands of the neck, viz. the jugular, submaxillary, cervical, and thyroid. The internal parts are the fauces, pharynx, œsophagus, larynx, and trachea. The bones of the neck are the seven cervical vertebræ.

Necrosis, νεκρωσις, from νεκρος, *dead;* a sort of mortification commonly called the *dry gangrene* It gradually takes place without much preceding inflammation, the dead part becoming hard and dry.

Nepenthe, νηπενθης, was a name first given to an opitate or laudanum, by Theodorus Zwingerus, from the great opinion he had of its giving ease in all manner of pain, the word importing as much.

Nephralgia, pain in the kidney; from νεφρος, the *kidney*, and αλγος, *pain*.

Nephralgia Rheumatica, the rheumatism in the muscles of the loins. The same as *Lumbago*.

Nephrelminthica Ischuria, suppression of urine from worms in the kidneys.

Nephritica Ischuria, a suppression of urine from inflammation of the kidneys.

Nephritics, are those medicines which are good against such a distemper, by their power in dissolving or breaking stony concretions in those parts.

Nephritis, inflammation of the kidney; from νεφρος, *the kidney*. It is a genus of disease in the class *pyrexiæ*, and order *phlegmasiæ* of Cullen; known by pyrexia, pain in the region of the kidneys, and shooting along the course of the ureter; drawing up of the testicles; numbness of the thigh; vomiting; urine high coloured, and frequently discharged; costiveness, and colic pains. Nephritis is symptomatic of calculus, gout, &c. M. M. Venesection; cooling purgatives; refrigerants; diuretics; mucilages; warm bath; opium. When it terminates in suppuration, balsam capivi, nitre and rhubarb.

Nephrolithica Ischuria, suppresson of urine from calculi in the kidneys.

Nephrophlegmatica Ischuria, suppression of urine from phlegmatic or mucous matter in the kidneys.

Nephroplegica Ischuria, suppression of urine from a paralytic state of the kidneys.

Nephroplethorica Ischuria, suppression of urine from plethora.

Nephropyica Ischuria, suppression of urine from pus in the kidneys.

Nephros, νιφρος, *a kidney.*

Nephrospastica Ischuria, suppression of urine from a spasm in the kidneys.

Nephrotomia, nephrotomy. It is the extraction of a stone from the kidneys, by a wound made for that end.

Nephrothromboides, suppression of urine from concrèted blood in the kindeys.

Nerve. Nerves are long white medullary cords that serve for sensation. They originate from the brain and spinal marrow; hence they are distinguished into cerebral and spinal nerves, and are distributed upon the organs of sense, the viscera, vessels, muscles, and every part that is endowed with sensibility. The cerebral nerves are the olfactory, optic, motores, oculorum, pathetici or trochleatores, trigemini or divisi, abducent, auditory or acoustic, par vagum and lingual. Heister has drawn up the uses of these nerves in the two following verses:

Olfaciens, cernens, oculosque movens. patiensque,
Gustans, abducens, audiensque, vagansque, loquensque.

The spinal nerves are thirty pair, and are divided into eight pair of cervical, twelve pair of dorsal, five pair of lumbar, and five of sacral nerves. In the course of the nerves there are a number of knots; these are called *ganglions;* they are commonly of an oblong shape, and of a greyish colour, somewhat inclined to red, which is perhaps owing to their being extremely vascular. Some writers have considered these ganglions as so many little brains. Lancisi fancied he had discovered muscular fibres in them, but they certainly are not of an irritable nature A late writer, Dr. Johnson, imagines they are intended to deprive us of the power of the will over certain parts, as the heart, for instance; but if this hypothesis were well founded, they should be met with only in nerves leading to involuntary muscles; whereas, it is certain that the involuntary muscles receive nerves through ganglions. Dr. Munro, from observing the accurate intermixture of the minute nerves which compose them, considers them as new sources of nervous energy. The nerves, like the blood-vessels, in their course through the body, communicate with each other, and each of these communications constitutes what is called a *plexus*, from whence branches are again detached to different parts of the body. The use of the nerves is to convey the principles of motion and sensibility to the brain from all parts of the system, and from the brain to every part of the system. The manner in which this operation is effected, is not yet determined. The inquiry has been a constant source of hypothesis in all ages, and has produced some ingenious ideas, and many erroneous positions, but without having, hitherto, afforded much satisfactory information. Some physiologists have considered a trunk of nerves as a solid cord, capable of being divided into an infinite number of filaments, by means of which the impressions of feeling are conveyed to the common sensorium. Others have supposed each fibril to be a canal, carrying a volatile fluid, which they term the *nervous fluid*. Those who contend for their being solid bodies, are of opinion that feeling is occasioned by vibration; so that, for instance, according to this hypothesis, by pricking the finger, a vibration would be occasioned in the nerve distributed through its substance; and the effects of this vibration, when extended to the sensorium, would be an excitation of pain; but the inelasticity, the softness, the connection, and the situation of the nerves are so many proofs that vibration has no share in the cause of feeling.

Nervines, remedies for disorders of the nerves.

Nervous Fever, a species of typhus. See *Typhus mitior*.

Nervous Fluid. The vascularity of the cortial part of the brain, and of the nerves themselves, their softness, pulpiness, and natural humid appearance, give reason to believe that between the medullary particles of which they are principally composed, a fine fluid is constantly secreted, which may be fitted to receive and transmit, even more readily than other fluids do, all impressions which are made on it. See *Nerves*.

Neurology, the doctrine of the nerves; from νευρον, *a nerve*, and λογος, *a discourse*.

Neuron, νευρον, *a nerve*.

Neuroses, from νευρον, *a nerve*; nervous diseases. These form a class in Dr. Cullen's *Nosology*; and under this title he comprehends those preternatural affections of sense or motion, which are without fever, as a part of the primary disease; and all those which do not depend upon a topical affection of the organs, but upon a more general affection of the nervous system, and of those powers on which sense and motion more especially depend.

Neutral Salts, secondary salts. Under the name of neutral or secondary salts are comprehended such matters as are composed of two primitive saline substances combined together. They are called neutral, because they do not possess the characters of acid nor alkaline salts, which are primitive salts; such are Epsom salts, alum, nitre, &c.

Nickle, a mineral mostly found united with sulphur and arsenic. Its ores have a coppery red colour, and are almost always covered with a greenish grey efflorescence. It is very plentiful in Saxony.

Nicotiana, tobacco. The Virginian tobacco, *Nicotiana tabacum* of Linnæus, is the plant employed medicinally. It is a very active narcotic and sternutatory. A decoction of the leaves is much esteemed in some diseases of the skin, and it is by some said to be a specific against the itch. The fumes and the decoction are employed in obstinate constipations of the bowels, and very frequently with success; it is necessary, however, to caution the practitioner against an effect mostly produced by its exhibition, namely, syncope with cold sweats; and, in some instances, death. If ℥i. be infused in ℔i. of water, gts. lx. to lx. may be given internally, or ℥i. in an enema.

Nictitans Membrana, the winking membrane, is a thin membrane which several creatures have to cover their eyes with, to shelter them from dust, and guard them from thorns, or exclude part of the light when it is too strong; for it is so thin that they can see indifferently through it.

Nidor, the smell of burnt animal substances. Hence eructations which have a flavour like putrefied flesh, are called *Nidorous*.

Nitrates, are salts formed by the

combination of the nitric acid, with the different alkaline, earthy, and metallic bases.

Nitrites, are salts formed by the combination of the nitrous acid, i. e. with spirit of nitre, containing less oxygen than nitric acid.

Night Mare. Incubus. See *Oneirodynia gravans*.

Nitre. Salt petre. A perfect neutral salt, formed by the union of the nitrous acid with the fixed alkali of tartar. Its taste is cooling, and it does not alter the colour of syrup of violets. Nitre exists in large quantities in the earth, and is continually formed in inhabited places; it is found in great quantities upon walls which are sheltered from the rain. It is of great use in the arts; is the principal ingredient in gun-powder; and burned with different proportions of tartar, forms the substances called fluxes. It is of considerable importance in medicine, as a febrifuge, diuretic, and antiphlogistic remedy.—Grs v. to ʒi.

Noctambulatio, walking in the night, or when asleep. It is a species of *Oneirodynia*.

Noli me Tangere. A species of herpes that is very difficult to cure, is so termed by authors, because it is exasperated by most applications.

Noma, νομη; from νεμω, *to eat.* A disease that sometimes attacks the cheek or vulva of young girls. It appears in the form of a red and somewhat livid spot; is not attended with pyrexia, pain, or tumour, and in a few days becomes *gangrenous*.

Nomenclatura. It was the opinion of a poet of the middle ages, *Nomina si pereunt, perit & cognitio rerum;* and the history of science shows, in the strongest light, that no impediment has so powerfully arrested its progress as a vague, imperfect, or a fanciful nomenclature. The list of synonyms has been thus unreasonably extended; and the student, misled by a name, has often found it difficult to recover the proper track. As this subject has lately engaged the particular attention of philosophers, a somewhat fuller account of their improvements, than would otherwise be necessary, may be required.

The nomenclature of a science implies its peculiar and technical terms. These have been generally kept distinct from the language of common life, perhaps at first from a wish to preserve an air of mystery, and give to the author a fancied pre-eminence above the world in general. There are, however, better reasons. In medicine we thus avoid the indelicacy of common appellations, and, in general, we escape the varying caprices of fashion; *quem penes arbitrium & jus & norma loquendi.* Some authors have adopted arbitrary appellations, particularly Van Helmont and Paracelsus, as we have seen in various articles; though it is not improbable that they had some fanciful allusion to the sources and action of the diseases and the remedies they designated. Later and more rational pharmaceutists have sometimes also adopted these arbitrary terms. Modern botanists, in their appellations of new genera, have equally employed them in honour of different cultivators of their science, though probably without giving that perspicuous lustre to it which an opposite conduct might have afforded. How much superior, for instance, is the generic term *epilobium*, επι λοβον ιον, a violet on a siliqua, to Linnæa, Thunbergia, and Commersonia? Mineralogists have in general preferred announcing the quality and appearance by an euphonous appellation; and we hope to make some advances in the same way in the neglected doctrine of nosology. Such descriptive appellations have been preferred by anatomists, though not always formed with the most accurate precision, and more lately in the improved nomenclature of the chemists.

The object of a scientific nomenclature is to convey in one word a sufficiently distinct idea of the body or organs, to preclude a repetition of the description whenever it is mentioned. When, however, objects are numerous, and the discriminating points with difficulty seized, one word is not sufficient. This induces us, in botany, to adopt the first natural associations, styled genera, and the appellation of the genus must accompany that of the species. In nosology it is generally less necessary; in pharmacy it would be perhaps useless, as the form itself supplies the place of a genus, which in anatomy is understood from the part described.

As nomenclature has received the last polish from philology, in the chemical department, we shall first notice the improvements in its language lately introduced. We there find, among some absurdities, the descriptive language laboured with no common care, and the numerous synonyms of former systems are only retained as keys to the works of the elder chemists. The genus is, in this case, preserved in the epithet. It is vitriolated kali, arsenical soda, sulphurated ammonia; and though we may dispute the propriety of some terms, as hydrogen or azote, they must be considered as constantly discriminating substances of distinct properties. One great difficulty arises from some of these being indeclinable. There is a want of euphony in oxygen gas, which disgusts the nicer ear; and these harshnesses pervade every branch of pneumatic chemistry. Another error in this part of the subject is a want of uniformity: thus the azote generally implies a substance in a gazeous form; but though we use the term azotic gas, oxygenated or nitrogenated gas are not allowable. Was chemistry more peculiarly our object, we might point out other anomalies which require correction. It is enough to notice those already adduced to lead chemists to a still farther reform. Dr. G. Pearson has laboured successfully in this field, and to his attention we would willingly leave it. The subject cannot be in better hands.

The improvements in the nomenclature of pharmacy have not kept pace with those of chemistry. The awkwardness arising from the indeclinable substances, kali and natron, might have been easily avoided by adopting the terms lixiva and trona; the former adopted in one of the older editions of the Edinburgh Dispensatory, and the other by Dr. Black. Many errors in nomenclature might be noticed, of which a prominent one is the *aquæ*, when applied to salts and earths in a liquid form. These are strictly solutions; and a distinction is necessary between these and the distilled waters, which are properly aquæ. The wines are also anomalies, which should have been avoided. They are properly infusions or solutions; but if a distinction was necessary, the old word elixir would have been applicable. Botanists employ single names as genera, and very generally a single epithet as a trivial distinction. These, as we have remarked are sometimes descriptive, and the latter generally such. Single words strike the mind at once, and convey the idea unimpaired. When such single words, therefore, are sanctioned by custom, and readily understood, science is, we think, injured by a change. Thus philonium, theriaca, cinnabar, and some other appellations which had become denizens in the language of pharmacy, might have been, like alcohol, ether, and some others, properly retained, or at least, if changed, might have received euphonous titles, *græco fonte parce detorta ;* nor is it easy to say why we should deny to the pharmaceutists what has been so liberally granted to the botanists, the honour of giving an appellation from a name. We might consequently have retained the confectio Fracastorii and the pillulæ Rufi, when the nature of these compositions are generally understood, without any injury to science. The Edinburgh College, peculiarly eager and zealous in reform, have made their titles descriptions. We in general want only the vehicle and the proportions to supply the whole formula from them ; and we have sometimes not only the nature of the formula, but often the means of preparing it. Another redundance in their nomenclature is, the introduction of the trivial as well as the generic names of plants. In pharmacy, the pharmaceutical term is only necessary. The botanical appellations are taught in other systems. The London College seems also to have refined too far, in adopting the genitive case of the substantive instead of the adjective, according to the sound principles of the new chemical nomenclature, as tinctura scillæ, instead of tinctura scillitica. It is, in fact, a tincture possessing the nature and qualities of squills. Pharmacy is, however, a science in which method has not been introduced ; but its objects are so few that arrangement is less necessary. We may, however, make some attempts to give it a more regular form in that article.

In anatomy the nomenclature is still very defective, and the synonyms, particularly of the muscles, consequently numerous. The terms superior and inferior, anterior and posterior, are fixed with little precision, and their meaning varies in different systems. Muscles are named from their shape, from their action, or the occupations in which they are used. Were the whole of the nomenclature reformed, much of minute and uninteresting description might be avoided. Vicq. d'Azyr made some unsuccessful attempts to attain greater accuracy. Chaussier's improvements were more judicious, and in osteology they merit great, though not unreserved, commendation. The same principle, however, viz. expressing by the terms the relations of proximity and connection, does not succeed so well in the myology ; and the nomenclature of Chaussier, and his coadjutor Dumas, when applied to the muscles, exhibits an inelegant unharmonious combination of unpleasing sounds. The error is not in the principle, but in the authors' pursuing it with too great rigour. If they had aimed at less exactness they would have succeeded better.

Mr. Barclay, of Great-Britain, has attempted to reform the anatomical nomenclature with more success ; and though the change cannot be rapidly made, we trust it will be gradually introduced. We at first intended to have employed it in the present work ; but language so singular to the student would have perplexed, and might have misled him.

The terms superior and inferior are generally used with relation to the different parts of the human body in an erect position. Their force is, however, lost in a reclined one, and neither is peculiarly applicable to the relative organs in other animals. In the TRUNK, therefore, for these Mr. Barclay proposes the terms *atlantal* and *sacral*, from the two extremities of the spine; for anterior and posterior, which are subject to similar ambiguities, *sternal* and *dorsal;* for internal and external, *dermal* and *central;* or, with respect to an organ, *peripheral* or *central*. When external and internal signify the side and middle of a surface, suppose a plane, styled *mesion*, to pass along the middle of the neck, the *mediastinum* and *linea alba*, through the body parallel to the surface, then *lateral* and *mesial* may be the terms employed. Instead of right and left, Mr. Barclay employs *dextral* and *sinistral*, as less equivocal in some parts of comparative anatomy, or, when there is no occasion for distinction, *lateral* will be sufficient. In the HEART, what anatomists have styled the right and left ventricles are neither; and the terms anterior and posterior, though more correct, are not always applicable to comparative anatomy. Mr. Barclay's distinction in this case, perhaps less simple than the others, is to term the vessels which convey the blood *from* the lungs to the whole body, viz. the pulmonary veins, the left sinus, auricle, and ventricle, with the aorto and its branches, *systemic;* those which carry it *to* the lungs, the *pulmonic;* and in marking their relative situation to the trunk, or to each other, the terms *atlantal*, *sacral*, &c. already mentioned, may be employed.

The EXTREMITIES are termed *atlantal* or *sacral;* the ends of the bones nearest or farthest from the trunk, *proximal* and *distal*. In the *atlantal* extremities the two lateral parts are, with Winslow, styled *radial* and *ulnar*, the two others *anconal* (from *ancon*, the Greek word for *olecarnon)* and *thenal* (from *thenar*, the Greek appellation of the *palm);* but the peculiar term for the palm, in Mr. Barclay's system, is *vola*. The distinguishing aspects of the sacral extremities will, by similar reasoning, be *proximal* and *distal; dermal* and *central; tibial* and *fibular; popliteal* and *rotular*. Planta is the term for the sole on the popliteal side of the foot.

The usual terms of superior and posterior, &c. when applied to the HEAD, become very equivocal in those general discussions where the heads of animals, as well as men, are described. Mr. Barclay, therefore, proposes that the axis of the vertebral column should be, in imagination, prolonged till it meet some bone in the head or face. This bone he would call the *atlantal;* those opposite to them, at the basis of the skull, *sacral*. The terms *sternal* and *dorsal*, when applied to the *head*, are those parts in the same plane, or in planes parallel to the sternum and dorsum. Where these are parallel, the planes on the sternal side will always be *sternal*, and the contrary. In the human species the whole face and lateral sides of the head will be sternal; in sheep and oxen, the maxillary curves will be so only: and in frogs and serpents the basis of the skull will be sternal, and the maxillary curves dorsal.

With respect to the particular bones of the FACE, *dermal*, *central*, *distral*, *sinistral*, and *mesial*, are applicable; but five new ones are required; for the base and crown, the hind fore part of the cranium, and for the face. The two first are to be styled the *basilar* and *coronal* aspects; the occiput, the *inial*, from ινιον, its Greek name. The opposite side to the inial, where the bones of the nose are united to the os frontis, he styles *glabellar*, from its Latin appellation *glabella*. The part of the face, at the greatest distance from the occiput (*inion*), in a straight line, is styled the *antinion*. If lines are drawn through these aspects, or from the right and left, they will form the *corono-basilar*; the *inio-glabellar*, the *inantilial*, and the *dextro-sinistral* diameters. The measure of these different diameters will show the varying proportions of the heads of different animals, of the same species, or of others in the lower scales. The facial angle and its variations we have already noticed. These terms, by altering the termination, may be used adverbially so as to signify a direction towards either aspect, and this termination is in *ad*, instead of *ab* and *ar*; and by changing it to *en*, it may express connection. Thus a radial artery or muscle may be either with a radial aspect, while a radien artery enters the radius itself.

Such is the plan of Mr. Barclay, which, it may be observed, is in embryo only, neither co-extensive with what anatomy has demonstrated, nor with the great variety of animated nature in its different branches. Yet, in its present state, this nomenclature merits particular commendation; and, if divested of some refinement, particularly the mesion, which should perhaps be rendered more simple and familiar, might with great advantage be adopted. We know nothing less easily comprehended by the untutored mind than the doctrines of planes.

The nomenclature of muscles he has only slightly noticed in his introduction. We have already remarked, that the fixed point is named the origin, and the muscle is "*inserted*" into the bone to be moved. This, however, is at times with difficulty ascertained; nor is the motion usually performed by a single, or by a few, muscles. Many concur in fixing the origin; others in giving force and direction to the motion. Mr. Barclay proposes that the muscles should be classed from their origin and their insertion, and the name fixed from the most obvious distinction, neglecting the origin of the minuter bundles of fibres. Thus the sterno-humeral can mean nothing but the pectoralis major, which, in the nomenclature of Chaussier, is the *sterno-costo-clavio-humeral*. In the blood-vessels he points out the necessity of an uniformity of language; for the appellations of arteries often differ, as the names of the organs to which they are distributed vary. This, of course, requires an uniformity in the appellations of the organs themselves. The same name is at present often employed also to express two different relations, as the artery which runs along the humerus, and that which enters it is equally called *humeral*. Branches of arteries, and often minute branches, are sometimes honoured with a name, while the trunk from which they proceed is not distinguished by any. Such anomalies require a remedy; and we should be happy to find the language of anatomy freed from its great uncertainty and barbarous language.

Non-Naturals. Under this term physicians comprehend air, meat and drink, sleep and watching, motion and rest, retention and excretion, and the affections of the mind.

Nose. *Nasus*. See *Nares*.

Nosocomium, *Nosodochium*, (from νοσος, *a disease*, and κομεω, *to take care of*, or δεχω, *to receive*); an HOSPITAL.

The institution of hospitals, coeval probably with the æra of Justinian, was the first effort of Christian charity taught by its great master, who commanded us to love one another, and that HE was our neighbour who showed mercy. It is impossible to conceive a more pure philanthropy than the institution of a receptacle where the only claim to admission is the immediate necessity of relief; where to want is the only requisite to demand a supply. Ancient philosophy offers nothing so exalted; and even the benevolent host of Homer, who sat by the way-side to assist travellers, παντες γαρ φιλεεσκε, can scarcely exceed it. With regret, however, we learn, that the mortality of hospitals exceeds even the calculation that can be made from the state of the objects admitted. We allude not to the mortality of the Hotel-Dieu, which may literally be said to contain the victims of the Almighty, but to modern institutions, where perhaps ancient regulations are still too strictly followed. To consider the subject carefully, we shall first add some remarks on the construction of hospitals generally, and then apply them with those modifications which their particular object may seem to suggest: nor will this attempt be thought presumptuous in one who has been physician in a large hospital for thirty-three years.

Were a situation to be chosen for an hospital, it should be an elevated, dry spot, facing, as near as possible, east and west, for the sake of alternate changes of air and warmth. The building, at least the wards, should be single, so as to admit of transverse ventilation, and the windows should be from the top to the bottom, open at either extremity, carefully secured, however, at the bottom, to prevent air from crevices. The length of the ward should not exceed thirty feet, and it should be rather more than half that breadth. The beds should be placed at right angles to the wall, and there should be a window between every second bed. If the door is at one end, and the fire-place at the other, one fire will be sufficient; if in the middle, there should be two. In this way the ventilation will be complete. The windows may be opened on either side, in different degrees, according to the state of the wind or weather, either above or below. The under windows should be opened for a short time every day, on either, or on both, sides, according to external circumstances; for carbonic acid gas is heavy. A ward, when open, cannot always smell fresh and pure; but it should not be offensive or close. If the beds are parallel and close to the sides, the floor cannot be ventilated; if more numerous, the air cannot be admitted to each patient. We have not mentioned ventilators on the top; for if the temperature be moderate, they will be useless, and they cannot be applied to a ground floor.

The privies should be at each extremity of the ward; but if that is impracticable, there should be one in each, and always separated from the ward by a short passage, in which there should be a ventilator or a window. If possible, each should be a water closet; but the dressings and the contents of the night boxes should be always immediately immersed under water.

The separate apartments for particular complaints should not be small, but should never contain more than two beds on the opposite sides of the room, while the door and the window on the two other sides will contribute to the ventilation. The chimney, if one is necessary, may be in the angle. If required for patients who may be occasionally in violent pain, in convulsive paroxysms, and delirium, they should be separated from the ward by a short passage. For the sake of attendance, they must be contiguous.

The offices containing the baths,

the brew and bake-houses, the elaboratory, &c. should be separated from the principal building, that they may not render it too warm; and the apartments for hectic and asthmatic patients should be also separated. These may be in pavilions, joined to the house by a colonade, which the architect may render ornamental, though this is of less importance. If any apartments are connected with the offices, it should be those adapted for chronic rheumatism, for siphilis, and for amœnorrhæa. The colonade may furnish covered walks open to the north and south, and over these the apartments just mentioned may be situated. From this sketch it will be easy, we think, to construct an hospital, which will unite every advantage to be expected from such an institution.

In the arrangement of the house every impurity should be immediately removed, and every noxious matter immediately immersed in water; and, after the dressing of the sores, the upper and lower windows should in turn be for a short time opened, while the patients are secured from their effects by their bed-clothes. The linen should be changed, not from the regulations of time, but of circumstances, under the directions of a judicious apothecary. Air and cleanliness will make all aspersions with vinegar and all fumigations useless.

Ointments afford an offensive smell; for the axunge cannot long be preserved free from rancidity. It is, therefore, highly proper that those plasters only which are employed in peculiar circumstances should be spread in the ward; and Dr. Percival's advice of using mucilage with neatsfoot oil, occasionally united with Gowland's extract instead of the common plasters, is judicious. If lintseed meal be used, even the oil will be unnecessary.

The diet of hospitals is regulated by custom, which it is heresy to attack; nor is it indeed necessary to notice it particularly, since any occasional errors may be corrected by the physician. Perhaps, according to Dr. Percival's advice, salep may be occasionally substituted for rice, and malt infusion for beer; but his other observations in this respect rest too strongly on a disputable foundation, experiments out of the body.

Iron bedsteads will neither retain infection nor bugs; and their upper ends should be raised with a screw. It would be always proper to have supplementary wards; for nothing should hinder each ward from being white-washed, thoroughly cleaned, and the window-frames painted, *in distemper*, every year. The beds also should be repeatedly ripped, and their contents aired.

Nosology, the doctrine of the names of diseases; from νοσος, *a disease*, and λογος, *a discourse*. Modern physicians understand by nosology the arrangement of diseases in classes, genera, species, &c.

Nosos, νοσος, *a disease*.

Nostalgia, a vehement desire of revisiting one's country; from νοστεω, *to return*, and αλγος, *pain*. A genus of disease in the class *locales* and order *dysorexiæ* of Cullen, known by impatience, when absent from one's native home, and a vehement desire to return, attended with gloom and melancholy, loss of appetite, and want of sleep.

Nothus, νοθος, *spurious*, *counterfeit*, or *bastard*. It is also sometimes used for the best part of the chest.

Nucha. It is an Arabic term: the hind part or nape of the neck; properly the region upon the first vertebra of the back.

Nutricatio, (from *nutrico, to nourish*). *Accretio, alitura. Nutrition, accretion*, or *growth*.

Two opinions have prevailed as to the manner in which nourishment is applied to the increase of the body; one, that it is applied by the extremities of the arteries; the other, that it is a fluid secreted from the vessels of the brain, and conveyed by the nerves. Dr. Cullen was so much struck with the glandular appearance of the brain, that he seemed to want an object for the application of its secreted fluid; and the fact, that when the nerve leading to any part was divided, the latter was emaciated, seemed to assist the conjecture. It was no more, for he never rested on it, nor did it form any part of his system. We shall now, therefore, in a few words, give a view of the whole subject, without concealing its weaker parts.

The germ contains in miniature the whole body. The organs are gradually expanded by the successive filling of the arteries, and the extent of which the parts will admit of expansion is the "internal mould," which forms the shape, and limits the bulk. The food taken in differs from the fluids in the proportion of many of its ingredients; but the great change is in the very great diminution of carbone, and increase, often the formation, of azote. The process of digestion consists partly of separation, in part of solution, but most essentially in the assimilation of the aliment to the nature of the animal fluids. The latter is apparently affected by the remains of the former meal, acting as a kind of leaven; for the gastric fluid appears to be nearly a common mucus, and to possess no qualities but what it derives from the relics of former aliment. We cannot explain the gradual change of carbone to azote; the only part of the problem unexplained till chemistry lends us farther aid, which we are on the point perhaps of receiving; when we shall probably also see the connection between the muriatic and the phosphoric acids, since the latter also is apparently of animal formation.

The azote is not, however, exclusively the creature of the animal process. It has been found that some portion of this principle is occasionally absorbed from the atmosphere, and, even in the most strictly vegetable diet, some portion of azote is contained. This will not, however, account for the whole change, and there is some probability that the hydrogen, by some play of affinity, is changed to azote; but, as we have just remarked, chemistry has not yet afforded us sufficient light to enable us to perceive the source of the change.

The animal fluids then, distending the vessels, expand the convoluted fibres, and deposit in their interstices, dilated perhaps into a cellular substance, the peculiar matter of which they consist. Every appearance of the animal economy seems to show that the state of the exhalent arteries forms or changes the nature of the fluid which they pour out, and the whole mystery of secretion consists probably in the various states of these vessels. Physiologists have supposed that fibres are not enlarged, but only elongated. They seem to be neither; but we believe that what we style fibres are only the larger fasciculi; and this we gather from finding in the extremities of nerves which are evidently fibrous, a structure which eludes even the assisted sight. When we speak then of the interstices of fibres, and the cellular substance, we do not mean that grosser kind which we see and handle, but that interposed between fibres, which escapes our glasses: animal matters of different natures are thus deposited in different organs, favouring or assisting their separate functions; and this matter is progressively absorbed, and again deposited. It is absorbed, say physiologists, when it becomes effœte, a term without a meaning: in fact, the change from carbone to azote is continually going on, and the oxygen gradually disappearing. When the proportion of the azote is too great, threatening dissolution to the system by the putrefaction which it favours, it is absorbed, and again supplied by the arteries. The nourishment is deposited in a fluid form, and this fluid seems to have a greater affinity to the azotic animal matter than to the recent substance. The former then becomes fluid, and is taken up by the lymphatics; for we know that nothing is adapted to their orifices but a fluid, or what approaches in consistence to it. This is not fanciful or hypothetical. Putrid matter of every kind shows its attraction for watery fluids, and assumes this soft consistence. When madder is mixed with the food of animals, it gives a red colour to the bones, for an obvious reason, it has been said, because its affinity to the calcareous phosphat occasions it to be deposited with this salt. It occasioned, indeed, some surprize, that so hard a substance as bone should be so soon deposited and absorbed, till the difficulty was explained by a French chemist, who confirmed the former affinity; but found that the colouring part of madder had a greater attraction to the serum of the blood than even to the earthy neutral. This observation confirms also, in a striking manner, the successive deposition and absorption of the fresh and azotic animal matter; while it explains what has been thought a difficult problem, how the matter to be absorbed attains fluidity.

The parts of the body are thus successively renewed, and it has been conjectured that in seven years the whole was changed. This suspicion, for it is no more, must, of course, vary in infancy, more in advanced life, and in old age; but, if our conjectures respecting the primordial germ are right, the added matter is only changed; the original fibrous structure remains the same, and with it the metaphysician will say *personal identity*. It will be obvious, that to supply nourishment the power of the exhalents must be unimpaired; and this will sufficiently explain the reason why, on destroying a nerve, or impeding its influence by a ligature, the limb which it supplies is emaciated. In general, nutrition appears wholly conveyed by the arteries.

Every nutricious substance must be capable of some change in the stomach, must be susceptible, not of fermentation in the strict chemical sense of the term, but of assimilation from the influence of the remaining leaven. When reduced to its principles, and these are again combined, they form a simple fluid called chyle, which is conveyed to the arterial system, and, by its access to the air in successive circulations, forms blood. From hence the nutricious matter is secreted. Its nature is uncertain; and various have been the opinions on this subject. Lorry thinks it a mucous substance; Cullen a saccharine one; Halle an hydrocarbonated oxide, differing from the oxalic acid by having a smaller proportion of oxygen. He explains, with some propriety and force, the disappearance of the carbone and oxygen by their forming carbonic acid gas, which is carried off in respiration. In the same process the azote is, he thinks, separated from the venous blood, to combine with the newly assimilated chylous matter. The remaining carbone, mixing with the oxygen of the air, at the surface, is still farther separated, leaving the blood, *sit venia verbo* azotised. This explanation is however more ingenious than true. The azote is an excrementitious fluid; instead of wanting it to animalise the chyle, the latter is necessary to correct the azote. The nutricious fluid, whatever it may be, is apparently simple; and we could, were this a place to build systems, give striking reasons for supposing it pure albumen.

Nux Moschata. The nutmeg is the seed or kernel of the *Myristicha moschata.* It is a spice that is well known, and has been long used both for culinary and medical purposes. There are three kinds of unctuous substances, called oil of mace, that are really expressed from the nutmeg. The best is brought from the East-Indies in stone jars; this is of a thick consistence, of the colour of mace, and has an agreeable fragrant smell; the second sort, which is paler coloured, and much inferior in quality, comes from Holland in solid masses, generally flat, and of a square figure; the third, which is the worst of all, and usually called common oil of mace, is an artificial composition of suet, palm oil, and the like, flavoured with a little genuine oil of nutmeg. The medicinal qualities of nutmeg are supposed to be aromatic, anodyne, stomachic, and astringent, and hence it has been much used in diarrhœas and dysenteries. The officinal preparations of nutmeg are a spirit and an essential oil, and the nutmeg in substance, roasted, to render it more astringent: both the spice itself and the essential oil enter several compositions, as the *confectio aromatica, spiritus ammoniæ compositus*, &c.—Oil of, gts. i. to vi. Spirit, ℥ss. to ℥ij.

Nux Vomica, a species of *Strychnos.*

Nux Vomica Serapionis, St. Ignatius's bean.

Nyctalops, νυκταλωψ, from νυξ, *night*, and ωψ, *an eye;* night-blindness. Some have said it is those who see by night, others say it is those who cannot see by night; however, it is by the moderns generally understood to signify that disorder in which, as the night approaches, the patient loses his sight, and remains blind until the morning, at which time the sight returns, and continues all the day.

Nymphæ. Labia minora. Two membranous folds, situated within the labia majora, at the sides of the entrance of the vagina uteri.

Nymphomania. Furor uterinus. A genus of disease in the class *locales* and order *dysorexiæ* of Cullen, characterized by excessive and violent desire for coition in women; from νυμφια, *nympha*, and μανια, *madness.* M. M. An emetic; milk; sulphuret of antimony, or mercury; animal food and wine, but in small quantity; cinchona; iron; cold bath, general and topical; exercise.

Nymphotomy, the operation of removing the nympha when too large; from νυμφια, *the nympha*, and τεμνω, *to cut.*

Nystagmus. Νυςαγμος, from νυςαω, *to sleep.* A twinkling of the eyes, such as happens when a person is very sleepy. Authors also define nystagmus to be an involuntary agitation of the oculary bulb.

O

OAK *(Poison.)* See *Toxicodendrum.*

Oak Tree. See *Quercus*, and *Robur.*

Obesitas, corpulence, or fatness, from *obesus.*

Obliquus, a name for several pairs of muscles.

Obliquus Ascendens Internus. A muscle of the abdomen, situated on its anterior part, that assists the obliquus descendens, but bends the body in the reverse direction.

Obliquus Capitis Inferior. A muscle of the head, situated below the posterior part of the occiput, that gives the rotatory motion to the head.

Obliquus Capitis Superior. A muscle of the head, situated below the occiput, that draws the head backward.

Obliquus Descendens Externus. This muscle forms a broad layer, and is situated on the anterior part of the abdomen. Its use is to support and compress the peritonæum and abdomen; to assist the evacuations of the fæces and urine, and likewise in the exclusion of the fœtus; to thrust the diaphragm upwards, and draw down the ribs in expiration; to bend the body obliquely when the ribs are fixed, and to raise the pelvis obliquely.

Obliquus Inferior Oculi. An oblique muscle of the eye, that draws the globe of the eye forwards, inwards, and downwards.

Obliquus Superior seu Trochlearis. An oblique muscle of the eye, that rolls the globe of the eye, and turns the pupil downwards and outwards.

Observation, in *Medicine*, requires the observer to give an accurate history of the disease he would describe, with regard to its causes, nature, and effects; to give an exact account of the several things which appeared either beneficial, or disadvantageous; which distemper is either left to nature, or treated by the rules of art; and, lastly, he ought to give the phænomena which present themselves upon dissection of the body, if the disease proves mortal.

Obstetric, belonging to midwifery; from *obstetrix*, a nurse.

Obstipation, costiveness; a genus of disease in the class *locales* and order *epischeses*, comprehending three species: 1. *Obstipatio debilium*, in weak and commonly dyspeptic persons: 2. *Obstipatio rigidorum*, in persons of rigid fibres and a melancholy temperament: 3. *Obstipatio obstructorum*, from obstructions. M. M. 1. Animal food; calomel; senna; aloes and soap; going to stool at the same hour daily. 2. Tamarinds; prunes; cassia; manna; castor oil. 3. See *enteritis, colica*, and *nephritis.*

Obturator Externus; also called *Marsupialis.* This muscle covers the foramen magnum ischii, and rising from the bone before the foramen, runs backward under the head of the os femoris, covered by the quadratus femoris, and is inserted into the trochanter major, contiguous to the internus, and is, like it, a rotator.

Obturator Internus, or *Marsupialis.* This muscle takes its origin from the inner circumference of the foramen magnum ischii, and goes out playing round the ischium, as on a pulley, and is inserted into the trochanter major, contiguous to the pyriformis, and is a rotator of the thigh.

Obturator Nervus. This nerve is a branch of the crural; it passes through the foramen ovale, and is lost in the inner muscles of the thigh.

Obturatrix Arteria. It is a branch of the hypogastric. It perforates the obturator muscle, whence its name It goes out of the pelvis at the upper part of the ligament of the foramen ovale, and sends out various branches about the neck of the thigh-bone.

Obturatrix Vena. It is a branch from the hypogastric vein, and receives this name when it enters into the internal obturator muscle.

Occipitalis Arteria. It is the first external or posterior branch of the external carotid. It passes obliquely before the internal jugular vein, and having sent out twigs to the adjacent muscles, it runs between the styloid and mastoid apophyses, along the mastoid groove, and goes to the muscles and integuments which cover the occipital bone. It communicates with the temporal, vertebral, and cervical arteries.

Occipital Bone. Os basilare. An oblong quadrate bone, situated in the posterior part of the cranium. It has several processes, as the external occipital tubercle, the basillary or cuneiform, and condyloid process, and internally a crucial spine. Its cavities are two niches, which, with the corresponding ones of the temporal bone, form the foramina lacera ; the great occipital foramen ; two anterior, and two posterior condyloid foramina ; and internally two superior fossæ, that receive the posterior lobes of the brain ; two inferior fossæ, that contain the cerebellum, and a depression in the basillary process, in which the medulla oblongata is situated.

Occipitalis, and its partner, are short, but broad, thin, fleshy muscles, situated on the occiput, from whence they derive their names. When they act, they pull the hairy scalp backwards.

Occipitalis Nervus, a branch from the tenth pair of nerves which proceed from within the skull : they run on the upper and lateral parts of the head.

Occipitalis Posterior Arteria. It is a branch from the vertebral. It spreads on the occiput.

Occipitalis Vena, a branch from the posterior or upper external jugular ; but it sometimes proceeds from the vertebralis, or axillaris. It spreads on the occiput.

Occipitis Os. See *Occipital Bone.*

Occipito-frontalis, from the occiput and the skin of the os frontis. Albinus calls it *Epicranium.* It rises from the posterior part of the occiput, goes over the upper part of the os parietale and os frontis, and is lost in the eye-brows. It is a very thin muscle ; its office is to raise the eye-brows, and wrinkle the forehead. It is antagonist to the corrugator coiteri.

Occiput, the hinder part of the skull. See *Cranium.*

Octana, an erratic intermitting fever, which returns every eighth day.

Oculi Cancrorum, crab's eyes. They are earthy concretions of what was at first but a milky juice, found in the head of the river craw fish. Two of them are in the head of each. They are a species of calcareous earth.

Odontalgia, οδονταλγια, from οδυς, *a tooth*, and αλγος, *pain* ; the tooth-ache. M. M Opium ; Camphor, or oil of organum to the tooth ; a blister behind the ear.

Odontiasis, οδοντυασις, from οδυς, *a tooth* ; dentition.

Odontica, remedies for pains in the teeth.

Odontoides, οδοντοειδης, from οδυς, *a tooth*, and ειδος, *form* ; the tooth-like process of the second vertebra of the neck ; also such processes of the bones as resemble the shape of a tooth.

Odontolithos, from οδυς, *a tooth*, and λιθος, *a stone.* It is that stony concretion which grows upon the teeth.

Odoratus, the sense of smell.

Odoriferæ Glandulæ. These are about the pudenda, arm-pits, &c. They are of the same kind as the sebaceous glands.

Œconomy, from οικ☉, *domus*, *a house*, and νεμω, *distribuo*, *to distribute*; is strictly the management of family concerns; but, in a figurative sense, is frequently enlarged, among other things, to the mechanism and functions of the human body: so that animal œconomy includes all that concerns the human structure in a state of health.

Oedema. Οιδημα; from οιδεω, *to swell*; a synonym of Anasarca. See *Anasarca*.

Oesophagus. The membranous and muscular tube that descends in the neck from the pharynx to the stomach; from οιω, *to carry*, and φαγω, *to eat*; because it conveys the food into the stomach. It is composed of three tunics or membranes, viz. a common, muscular, and mucous. Its arteries are branches of the œsophageal, which arises from the aorta. The veins empty themselves into the vena azygos. Its nerves are from the eighth pair and great intercostal; and it is every where under the internal or mucous membrane, supplied with glands that separate the mucous of the œsophagus, in order that the masticated bole may readily pass down into the stomach.

Officinal, from *officina*, *a shop*. Any medicine directed by the colleges of physicians to be kept in the shops is so termed.

Oil, *oleum*, the fat or greasy part of animal and vegetable substances. It is supposed to consist of carbone and hydrogen chemically combined. By fire it is resolvable into carbonic acid gas, and water. Sometimes when lean animal substances putrefy, the azote escapes in the form of azotic air, and the residuary carbone and hydrogen coalesce into a sort of tallow, or thick fat, resembling spermaceti. The presence of azote seems to be the peculiar circumstance which makes the difference between *fat* and *lean*. Some oils, as ol. olivar, butter, suet, and lard, are good articles of diet; some, as castor oil, are good medicines; others, as petroleum, oil of terpentine, &c. are good external remedies Late experiments have shown, that sweet oil rubbed warm upon the whole surface of the skin relaxes it, and is a good sudorific. Oils are excellent ingredients to abate the causticity of naked alkaline salts, and are therefore used in soaps. They are highly valuable in mingling with the oxyds of lead, iron, copper, and other metals into paints.

Olea, the olive-tree. A genus in Linnæus's botany. He enumerates four species. The olive oil is the produce of the *Olea Europæa*, Lin.

Oleaginous, from *oleum*, *oil*, and *ago*, *to compel*; is such a substance as is oily, or of a consistence approaching thereunto.

Olecranon, the elbow or head of the ulna, upon which a person leans; from ωλενη, *the ulna*, and κρανον, *the head*.

Olfactory Nerves. The first pair of nerves are so termed, because they are the organs of smelling. They are very numerous, arise from the corpora striata, perforate the ethmoid bone, and are distributed on the pituitary membrane of the nose.

Olfactus, the sense of smelling.

Olibanum. *Thus*. Frankincense. The gum resin that is so called is the juice of the *Juniperus lycia*. It is said to ooze spontaneously from the bark of the tree, appearing in drops or tears of a pale yellowish, and sometimes of a reddish colour. Olibanum has a moderately strong and not very agreeable smell, and a bitterish, somewhat pungent taste; in chewing it sticks to the teeth, becomes white, and renders the saliva milky. It is esteemed as an adstringent, and though not in general use, is by many considered as a valuable medicine in fluor albus, and debilities of the stomach and intestines: applied externally in form of plaster, it is said to be corroborant, &c. and with this intention it forms the basis of the *emplastrum thuris*.

Olivaria Corpora, are two protuberances in the under part of the brain, placed on each side the corpora pyramidalia, towards the lower end, having their name from their figure, which is that of an olive. See *Brain*.

Olivia, the olive. *Olea Europea* of Linnæus. The olive, in all ages, has been greatly celebrated, and held in peculiar estimation, as the bounteous gift of Heaven: it was formerly exhibited in the religious ceremonies of the Jews, and it is still considered as emblematic of peace and plenty. The utility of this fruit is very extensive. Pickled olives, which are of two kinds, Spanish and French, are extremely grateful to many stomachs, and said to excite appetite and promote digestion; they are prepared from the green unripe fruit, which is repeatedly steeped in water, to which some quick-lime or alkaline salt is added, in order to shorten the operation; after this they are washed and preserved in a pickle of common salt and water, to which an aromatic is sometimes added. The principal consumption, however, of this fruit is in the preparation of the common sallad oil, or *oleum olivæ* of the Pharmacopeias, which is obtained by grinding and pressing them when thoroughly ripe: the finer and purer oil issues first by gentle pressure, and the inferior sorts on heating what is left, and pressing it more strongly. The best olive oil is of a bright pale amber colour, bland to the taste, and without any smell: it becomes rancid by age, and sooner if kept in a warm situation. With regard to its utility, oil, in some shape, forms a considerable part of our food, both animal and vegetable, and affords much nourishment. With some, however, oily substances do not unite with the contents of the stomach, and are frequently brought up by eructation: this happens more especially to those whose stomachs abound with acid. Oil, considered as a medicine, is supposed to correct acrimony, and to lubricate and relax the fibres; and therefore has been recommended internally, to obviate the effects of various stimuli, which produce irritation, and consequent inflammations: on this ground it has been generally prescribed in coughs, catarrhal affections, and erosions. The oil of olives is successfully used in Switzerland against the *tænia osculis superficialibus*, and it is in very high estimation in this and other countries against nephritic pains, spasms, colic, constipations of the bowels, &c. Externally it has been found an useful application to bites and stings of various poisonous animals, as the mad dog, several serpents, &c. also to burns, tumours, and other affections, both by itself or mixed in liniments or poultices. Oil rubbed over the body is said to be of great service in dropsies, particularly ascites. Olive oil enters several officinal compositions, and when united with water, by the intervention of alkali, is usually given in coughs and hoarsenesses.

Omentitis, inflammation of the omentum, a species of peritonitis.

Omentum. Epiploon. The caul.

An adipose membranous viscus of the abdomen, that is attached to the stomach, and lies on the anterior surface of the intestines. It is distinguished into the great and lesser omentum, or omentum colicum, and omentale. Its arteries are branches of the cœliac; the veins empty themselves into the vena portæ. The use of the omentum appears to be, to lubricate the intestines, to keep them warm, to separate the vapour of the cavity, and to assist in its absorption.

Omo. Names compounded with this word belong to muscles which are attached to the scapula; from ωμος, *the shoulder.* As,

Omohyoideus, a muscle situated between the os hyoides and shoulder, that pulls the os hyoides obliquely downwards.

Omoplata, the scapula; from ωμος, *the shoulder*, and πλατος, *the side.*

Omphalocele, an umbilical hernia; from ομφαλος, *the navel*, and κηλη, *a tumour.* M. M. A bandage or truss; dashing cold water on the part.

Omphalos, ομφαλος, the navel, also a rupture there.

Oneirodynia, disturbed imagination during sleep; from ονειρον, *a dream*, and οδυνη, *anxiety.* A genus of disease in the class *neuroses* and order *vesaniæ* of Cullen, containing two species: 1. *Oneirodynia activa*, walking in the sleep: 2. *Oneirodynia gravans*, the incubus or night-mare. M. M. Temperance, especially at supper; remedies as in hypochondriasis.

Onyx. Unguis. An abscess, or collection of pus between the lamellæ of the cornea; so called from its resemblance to the stone called onyx.

Opal, a species of gem or siliceous stone.

Operation. The processes in *Pharmacy*, several manual parts of *Surgery*, as also the working or efficacy of medicines, are often thus termed.

Ophthalmia, an inflammation of the membranes of the eye, or of the whole bulb of the eye, distinguishable by redness, heat, pain, and tension of the parts, accompanied with intolerance of light, and infusion of tears; from οφθηλμος, *the eye.* It is a genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen, and comprehends two species: 1. *Ophthalmia membranarum*, inflammation of the coats of the eye: 2. *Ophthalmia tarsi*, in which small ulcers are seen of the sebaceous glands of the tarsus, discharging a glutinous matter. M. M. Venesection; leeches to the temples; scarification of the eye; cathartics; refrigerants; a blister on the neck; collyria of sugar of lead, sulphate of zinc or alum; calamine cerate.

Ophthalmic Ganglion, lenticular ganglion. This ganglion is formed in the orbit, by the union of a branch of the third or fourth pair with the first branch of the fifth pair of nerves.

Ophthalmic Nerve, a branch of the fifth pair of nerves.

Ophthalmics, are medicines used in distempers of the eyes.

Ophthalmodynia, a vehement pain in the eye, without or with very little redness; from οφθαλμος, *the eye*, and οδυνη, *pain.*

Ophthalmoptosis, a falling down of the globe of the eye on the cheek, canthus, or upwards, the globe itself being scarce altered in magnitude; from οφθαλμος, *the eye*, and πτωσις, *a fall.*

Opiates, medicines that procure sleep, &c. See *Anodynes.*

Opisthotonos. A chronic spasm of several muscles, so as to keep the body in a fixed position, and bent forwards; from οπισθεν, *backwards*, and τεινω, *to draw.* Cullen considers it as a variety of tetanus. See *Tetanus.*

Opium, a gummy juice obtained by incisions from the head of the *Papaver somniferum* of Linnæus, in Persia, Arabia, and other warm regions of Asia. It is imported into Europe in flat cakes, covered with leaves to prevent their sticking together: it has a reddish brown colour, and a strong peculiar smell; its taste at first is nauseous and bitter, but soon becomes acrid, and produces a slight warmth in the mouth. The use of this celebrated medicine, though not known to Hippocrates, can be clearly traced back to Diagoras, who was nearly his cotemporary, and its importance has ever since been gradually advanced by succeeding physicians of different nations. Its extensive practical utility, however, has not been long well understood, and in this country perhaps may be dated from the time of Sydenham. Opium is the chief narcotic now employed; it acts directly upon the nervous power; diminishing the sensibility, irritability, and mobility of the system; and, according to Cullen, in a certain manner suspending the motion of the nervous fluid to and from the brain, and thereby inducing sleep, one of its principal effects. From this sedative power of opium, by which it allays pain, inordinate action, and restlessness, it naturally follows, that it may be employed with advantage in a great variety of diseases. Indeed, there is scarcely any disorder in which, under some circumstances, its use is not found proper; and though in many cases it fails of producing sleep, yet, if taken in a full dose, it occasions a pleasant tranquillity of mind, and a drowsiness, which approaches to sleep, and which always refreshes the patient. Besides the sedative power of opium, it is known to act more or less as a stimulant, when given in a larger dose, exciting the motion of the blood. By a certain conjoined effort of this sedative and stimulant effect, opium has been thought to produce intoxication, a quality for which it is much used in eastern countries. It is frequently employed in fevers where there is no inflammatory diathesis; in hæmorrhages, dysenteries, diarrhœas, cholera, and pyrosis; colic, tetanus, and all convulsive disorders. Respecting the external application of opium, authors seem not sufficiently agreed. Some allege, that when applied to the skin, it allays pain and spasm, procures sleep, and produces all the salutary or dangerous effects which result from its internal use; while others assert, that thus applied, it has little or no effect whatever. But there is no doubt that, when mixed with caustic, it diminishes the pain which would otherwise ensue, probably by decreasing the sensibility of the part. Injected up the rectum, it has all the effect of opium taken into the stomach, but to answer this purpose double the quantity is to be employed. Applied to the naked nerves of animals, it produces immediate torpor and loss of power in all the muscles with which the nerves communicate. Opium taken into the stomach in immoderate doses, proves a narcotic poison, producing vertigo, tremors, convulsions, delirium, stupor, stertor, and finally, fatal apoplexy. The officinal preparations of this drug are, *opium purificatum*, *pilulæ ex opio*, *pulvis opiatus*, *tinctura opii*, and *tinctura opii camphorata:* it is also an ingredient in the *pulvis sudorificus*, *balsamum anodynum*, *electuarium*, *japonicum*, *pulvis e creta composita*, &c.—Grs. ¼ to ij.

Opodeldoc, the name of a plaster, said to be invented by Mindererus: it is often mentioned by Paracelsus. At present the medicine known by this name is the *Lin. Saponac.*

Opopanax, the gummi resinous juice of the *Pastinaca opopanax* of Linnæus, obtained by means of incisions made at the bottom of the stalk of the plant, from which it gradually exudes, and by undergoing spontaneous concretion, assumes the appearance under which we have it imported from Turkey and the East-Indies, viz. sometimes in little drops or tears, more commonly in irregular lumps, of a reddish yellow colour on the outside, with specks of white, internally of a paler colour, and frequently variegated with large white pieces. Opopanax has a strong disagreeable smell, and a bitter, acrid, somewhat nauseous taste. It is only employed in the present practice as an antispasmodic, in combination with other medicines, although it was formerly in high estimation as an attenuant, deobstruent, and aperient. Its antispasmodic virtues are less powerful than galbanum, and more so than ammoniacum. It has no place in the Edinburgh Pharmacopeia, but it is directed by the London College in the *pilulæ e gummi*.—Grs. v. to ʒi.

Optic Nerves, from οπτομαι, *to see;* because they are the organs of sight. They are the second pair of nerves of the brain, arise from the thalami nervorum opticorum, perforate the bulb of the eye, and in it form the retina.

Optics, is a mathematical science that treats of the sight in general, and of every thing that is seen in direct rays; and explains the several properties and effects of vision in general, and properly of that which is direct and ordinary: for when the rays of light are considered as reflected, the science which teaches their laws and properties is called *Catoptrics;* and when the refraction of rays is considered, and the laws and nature of it explained and demonstrated, the science is called *Dioptrics.* So that optics comprehend the whole, of which catoptrics and dioptrics are two parts. See *Vision.*

Orbiculare Os, a very small round bone, not larger than a pin-head, that belongs to the internal ear.

Orbicularis Labiorum. It is a muscle that draws the lips together, and is the same as *Osculatorius, the kissing muscle*, because it acts at that time. It is also called *Sphincter Labiorum.*

Orbicularis Oris, i. e. *Orbicularis vel Sphincter Labiorum.*

Orbicularis Palpebrarum, are thin fleshy muscles, whose fibres circularly surround the eye-lids, and act as the preceding. See *Eye.*

Orbit. The two conoid cavities under the forehead, in which the eyes are situated, are so termed. The angles of the orbits are called *canthi.* Each orbit is composed of seven bones, viz. the frontal, maxillary, jugal, lachrymal, ethmoid, palatine, and sphenoid. The use of this bony socket is to contain and defend the organ of sight, and its adjacent parts.

Orchitis. Inflammatio testis. Hernia humoralis. An inflammation of the testicle; from ορχις, *a testicle.* M M. Venesection; cooling purgatives; refrigerants; opium. Sugar of lead externally.

Orchotomy, castration, the operation of extracting a testicle; from ορχις, *a testicle*, and τεμνω, *to cut.*

Oreillons, i. e. *Cynanche Parotidæa*, or the mumps.

Organ, and

Organical Part, is that part of an animal or vegetable body which is designed for the performance of some particular action, in opposition to non-organical, which cannot, of itself, perform an action. Thus the organ of sight is the eye, with all its parts; the organ of hearing, the ear, &c.

Origanum, wild marjorum. *Origanum vulgare* of Linnæus. This plant grows wild in many parts of Britain. It has an agreeable aromatic smell, approaching to that of marjorum, and a pungent taste, much resembling thyme, to which it is likewise thought to be more readily allied in its medicinal qualities, and therefore deemed to be emmenagogue, tonic, stomachic, &c. The dried leaves, used instead of tea, are said to be exceedingly grateful. They are also employed in medicated baths and fomentations. The word origanum is by some said to be derived from ορεγανο, *the pride of the mountain*, because it grows on mountainous situations; and by others, from οραν, *to see*, and γανω, *to clarify;* being supposed to assist the sight.

Ornithology, that part of natural history which treats of birds; from ορνις, *a bird*, and λογος, *a discourse.*

Orpiment. Sulphur combines with arsenic, and from their union there results a semi-transparent, very weighty mass, of a yellow or red colour, according to the proportion of sulphur, called *Orpiment.*

Orthopnæa, a very quick and laborious breathing, during which the person is obliged to be in an erect posture; from ορθος, *upright*, and πνοη, *breathing.*

Oryza, rice; a genus in Linnæus's botany. There is but one species.

Osculi, are the openings of the vessels; as,

Osculum Uteri, is the opening of the womb.

Os Externum. In *Midwifery*, the entrance into the vagina is thus called, in opposition to the mouth of the womb, which is called the *Os Internum.*

Os Tincæ, i. e. *Os Internum.*

Oschealis Hernia, or *Oscheocele*, a scrotal rupture.

Oscitatio, yawning.

Ossa Innominata, are two large bones situated on the sides of the os sacrum: in a fœtus they may be each separated into three pieces, which, in adults, unite and make but one bone, in which they distinguish three parts. The first and superior part is called *Os Ilium;* the intestine ilium lieth between it and its fellow. It is very large, almost of a semicircular figure, a little convex and uneven on its external side, which is called its *Dorsum;* and concave and smooth on its internal side, which is called its *Spine.* It is joined to the sides of the three superior vertebræ of the os sacrum, by a true suture; it is larger in women than in men.

The second is the *Os Pubis*, which is the inferior and fore part of the os innominatum: it is united to its fellow of the other side by an intervening cartilage, by which means it makes the fore part of the pelvis or bason, of which the os sacrum is the back part, and the ilia the sides.

The third is the inferior and posterior, called *Ischium*, or *Coxendix;* it has a large cavity called *Acetabulum Coxendicis*, which receives the head of the thigh-bone: the circumference of this cavity is tipt with a cartilage called its *Supercilium*, where it joins the os pubis; it has a large hole called *Foramen Ischii & Pubis*, about the circumference of which the muscles called *Obturator internus* and *externus* arise; and at its lower end it has a large protuberance, upon which we sit, and from whence the benders of the leg arise. And a little above this, upon its hinder part, it has another small acute process, betwixt which and the former protuberance lies the sinus of the ischium, through which the tendon of the obturator internus passes.

Ossa Spongiosa inferiora, supe-

riora, and *ossa turbinata*. They are the spongy bones of the nose.

Ossification, is said of the bones, as in children they harden from a softer cartilaginous substance into one of the former texture.

Ossicula Auditus. The small bones of the internal ear are four in number, viz. the malleus, incus, stapes, and os obiculare; and are situated in the cavity of the tympanum.

Osteocopus, οστεοκοπος, from οστεον, *a bone*, and κοπος, *uneasiness*; pain within the bones, such as happens in the spina ventosa.

Osteogeneia, from οστεον, *a bone*, and γενεια, *generation*; osteogeny. It treats on the genesis or production of a bone, under its several original states.

Osteogenica, medicines which promote the generation of a callus.

Osteographia, osteography, from οστεον, *a bone*, and γραφω, *to describe*. It describes a skeleton, and all the bones which compose the several parts thereof: or it is the doctrine which describes the bones.

Osteologia, osteology, from οστεον, *os*, *a bone*, and λεγω, *narro*, *to describe*; is a discourse or description of the bones.

Otalgia. The ear-ache; from ες, *the ear*, and αλγος, *pain*. M. M. Warm water; oil; æther or laudanum in the ear.

Otitis, inflammation of the internal ear; from ες, *the ear*. It is known by pyrexia, and an excruciating and throbbing pain in the internal ear, that is sometimes attended with delirium. M. M. A weak solution of sugar of lead, a few drops of laudanum or compound spirit of lavender with oil turned into the ear; a blister behind the ear; warm fomentations and poultices.

Otopuosis, a purulent discharge from the ear.

Otorrhœa, a discharge of blood, or bloody matter from the ear.

Ourles, i. e. *Cynanche Parotidæa*, or mumps.

Ouropoëtic Organs. They are the kidneys, with the emulgent arteries and veins, and excretory ducts of the kidneys called the *Ureters*, which convey the urine to the bladder, which is the receptacle of the urine, from which the urethra begins. Over the kidneys lie the capsulæ renales, whose uses are not known.

Ovarium, two oblong bodies, flattened on each side, and included in a duplicature of the broad ligaments of the uterus. They are situated about two inches from the sides of the womb, behind, yet above the Fallopian tubes to which they are attached. Each ovary contains ten or fifteen vesicles, which include the fœtal embryos and a transparent coagulable liquor.

Oviparous, animals that exclude their young in the egg which are afterwards hatched; from *ovum*, *an egg*, and *pario*, *to bring forth*.

Oxalats, (*oxalas*, *tis s. m.*) salts formed by the combination of the oxalic acid with different bases: thus, *oxalat of ammoniac*, &c.

Oxycratum, οξυκρατον, oxycrate. It is vinegar mixed with such a portion of water as is required, and rendered still milder by the addition of a little honey.

Oxyd, the chemical combination of oxygen with a mineral, a vegetable, or animal substance, in such manner and proportion as, though it is present there, it does not form an acid, or produce sourness. Vital air, or the life-exciting portion of the atmosphere, is an oxyd of light rendered fluid, or gaseous, by a large proportion of caloric; and water is an oxyd of hydrogen rendered liquid by a more moderate quantity of heat. *Oxyds* have, therefore, by some been called *half-acids*. From the constitution of this class of natural bodies, it is judged, and very fairly, that oxygen, or the principle of acidity, is, itself, *not* sour; sourness being the effect produced when oxygen is united with *acidifiable* bases only, and the result of that *particular* union. But when it exists in vital air, in water, and other oxyds, it is not sour itself, nor does it communicate acidity to bodies with which it is connected. It is derived from οξυς, *acidus*, and though from the same radical with *acid*, is limited and restricted in its meaning to that class of substances, which, though they contain it, are not rendered acid by it.

Oxyds, metallic, are calces of metals; the condition of metals after having lost their hydrogen and combined with oxygen.

Oxygala, οξυγαλα, sour milk.

Oxygen, the principle of acidity, derived from οξυς, *acidus*, and γινομαι, *gigno*. It means, in the modern chemistry, that substance which imparts the quality of sourness to natural bodies; so that wherever sourness, acidity, or tartness exists, there we are sure that oxygen is present. The particles of oxygen are too pellucid, or too small to be seen by the naked eye, or the microscope. But its addition to other bodies increases their weight, and its subtraction lessens their weight. As, therefore, it is ponderable, and possesses considerable gravity, it must be material. It exists in two forms, both of which show its great utility and abundance in nature. First, it is, as was just observed, an ingredient in all acids; and, secondly, it combines with many other bodies, without converting them to acids, and thereby forms the class of substances called *Oxyds*. It has been found, that when metals, such as lead, quicksilver, and iron, for example, lose their lustre, malleability, ductility, and electrical conducting quality in the open fire, they attract oxygen from the atmosphere, and become heavier by its addition. In that state, they are called *oxyds*, a word corresponding to the *calces* of the older *Chemists*. Besides these *metallic* oxyds, there are *vegetable* oxyds, where oxygen exists, but without manifesting any direct sourness, as in their farina, or meal, starch, or amylum, gum, sugar, and mucilage. There are also *animal* oxyds, where oxygen enters into their constitutions without begetting acidity, as in the nerves, muscles, blood, saliva, mucus, pancreatic juice, lymph, gastric fluid, semen, and tears; all of which contain oxygen, but not to the souring point. The copiousness of oxygen can be judged of from these examples. But, besides these plentiful sources of it, there is another which may be called its grand store-house, or magazine; and this is the earth's atmosphere; about one-fourth part of which consists of oxygen in combination with light, and caloric, or heat, forming empyreal, or *vital air*. This vital air is essentially necessary to the living existence of animals, who would almost immediately die without it. During the process of respiration or breathing, it is decomposed, and while the oxygen and light, or phosoxygen, enters into the blood through the membranous texture of the lungs, the caloric is disengaged from its latent state, and is diffused freely to impart warmth to every part of the body, and thus to keep up the *animal heat*.

Oxygen also is an ingredient in water, which, experiments teach us to believe, is composed of somewhat more than *one*-sixth of oxygen united to somewhat above *five*-sixths of hydrogen in close union; whence water, which is not an acid but an oxyd, has been called in technical language, oxyd of hydrogen.

Oxymel, οξυμελι, from οξος, *vinegar*, and μελι, *honey*. Honey and vinegar, formed into syrup, is called *Simple Oxymel.*

Ozæna, οζαινα, from οζω, *olfacio, to smell rank;* is a malignant ulcer in the inside of the nostrils. M. M. astringent effusions and solutions of mercurial ointment.

Oze, οζη, is sometimes used to signify a stench in the mouth.

P

P IS put in prescription for a *pugil*, which is the eighth part of a handful; and sometimes for *parts*.

P. Æ. is used to signify *partes æquales*, equal parts of any ingredients.

P. P. is sometimes used in prescription, for *pulvis patrum*, Jesuits' powder, so called, because they first brought it into Europe.

Pædarthrocace, from παις, *a boy*, αρθρον, *a joint*, and κακον, *an evil;* the joint-evil. Severinus calls the *Spina Ventosa* by this name, as also doth Dr. Cullen. By some this name is used to express a sort of anasarca.

Pain, any unpleasant sensation or irritation.

Palate, the roof the mouth.

Palati Ossa. The palatine bones are situated in the posterior part of the mouth, from whence they ascend laterally through the nose to the orbits; hence they are divided into the palatine, nasal, and orbital portions. Upon each bone is observed a pterygoid and orbital apophysis.

Palatinæ Glandulæ. So Steno calls those of the tonsils, and parts adjacent.

Palatinus. It is a branch of the upper maxillary branch of the fifth pair of nerves; it runs before the pterygoid apophyses of the os spenoides, in the canal formed by the os maxillare and os palati, and through the foramen palatinum posterius; it spreads in the glandular coat of the palate and parts adjacent.

Palatinus Ductus, i. e. *Tuba Eustachiana.*

Palato-Pharyngeus, a muscle situated at the side of the entry of the fauces, that draws the uvula and velum pendulum palati downwards and backwards, and at the same time pulls the thyroid cartilage and pharynx upwards, and shortens it: with the constrictor superior pharyngis and tongue, it assists in shutting the passage into the nostrils; and, in swallowing, it thrusts the food from the fauces into the pharynx.

Palatum, the palate. See *Mouth.*

Palatum Molle. Behind the bony palate lies the *soft palate*, from the middle of which the uvula hangs down.

Palm Oil. This oil, which has a place in the Edinburgh Pharmacopeia, is produced chiefly from the fruit of the *Cocos butyracea*, by bruising and dissolving the kernels of the fruit in water, without the aid of heat, by which the oil is separated, and rises on the surface, and on being washed two or three times, is rendered fit for use. When brought into this country it is of the consistence of an ointment, and of an orange yellow colour, with little taste, and of a strong, though not disagreeable smell. Its use is confined to external applications in pains, tumours, and sprains; but it appears to possess very little if any advantage over other bland oils.

Palmaris Brevis, a flexor muscle of the hand, situated on the fore-arm, that assists in contracting the palm of the hand.

Palmaris Longus, a flexor muscle of the hand, situated on the fore-arm, that is sometimes wanting, but when present bends the hand, and stretches the membrane that is expanded on the palm.

Palpebræ, the eye-lids, distinguished into upper and under.

Palpitatio, palpitation of the heart, which is either constant or frequently returning; a genus of disease in the class *neuroses* and order *spasmi* of Cullen. M. M. In plethoric habits, repeated venesection; in debilitated, cinchona and iron; in bilious ones, ℥ss lemon juice. Musk; volatile alkali; assafœtida; blisters.

Palsy. See *Hemiplegia*, *Paraplegia*, *Paralysis*, &c.

Panacea, παναχεια; from παν, *all*, and ακεομαι, *to make well*; an epithet given by the ancients to those remedies which they conceived would cure every disease. Unfortunately for those of the present day, there are no such remedies.

Panaris, a whitlow. See *Paronychia*.

Pancreas, from παν, *all*, and κρεας, *flesh*; a glandular viscus of the abdomen, of a long figure, compared to a dog's tongue, situated in the epigastric region under the stomach. It is composed of innumerable small glands, the excretory ducts of which unite and form one duct, called the pancreatic duct, which perforates the duodenum with the ductus communis choledochus, and conveys a fluid, in its nature similar to saliva, into the intestines. The pancreatic artery is a branch of the splenic. The veins evacuate themselves into the splenic vein. Its nerves are from the par vagum and great intercostal. The use of the pancreas is to secrete the pancreatic juice, to be mixed with the chyme in the duodenum.

Pandemic, a synonym of epidemic; from παν, *all*, and δημος, *the people*. See *Epidemicus*.

Pandiculatio, pandiculation, or stretching. It is that restless stretching that accompanies the cold fit of an intermitting fever.

Panniculus Adiposus, is the same as *Adiposa Membrana*.

Panophobia, that kind of melancholy which is attended with groundless fears. The moderns consider it as symptomatic; from παν, *all*, and φοβος, *fear*.

Papaver Album, the white poppy. *Papaver somniferum* of Linnæus. It is from heads of this plant that the opium is obtained. (See *Opium*.) They are also directed for medicinal use in the form of fomentation, and the *syrupus papaveris albi*, a useful anodyne, which often succeeds in procuring sleep where opium fails; it is, however, more especially adapted to children. The seeds of this species contain a bland oil, and in many places are eaten as food: as a medicine, they have been usually given in the form of emulsion in catarrhs, stranguaries, &c. Syrup of, ℥ss. to ℥iss. Extract of, gr. $\frac{1}{2}$ to iiij.

Papaver Erraticum, red or corn poppy. *Papaver rhœas* of Linnæus. The heads of this species, like those of the somniferum, contain a milky juice of a narcotic quality; from which an extract is prepared, that has been successfully employed as a sedative. The flowers have somewhat of the smell of opium, and a mucilaginous taste, accompanied with a slight degree of bitterness. A syrup of these flowers is directed in the London Pharmacopeia, which has been thought useful as an anodyne and pectoral, and is therefore prescribed in coughs and catarrhal affections.

Papilla, the nipple of the breast. See *Breast*.

Papillæ. This term is applied

by anatomists to the fine terminations of nerves, &c. as the nervous papillæ of the tongue, skin, &c.

Papulæ, solitary hard tumours, that are either resolved, or emit a humidity, and desquamate. They differ from pustules, because they never suppurate: such are herpes, lepra, &c.

Par Vagum, the eighth pair of nerves. They arise from the corpora olivaria of the medulla oblongata, and proceed into the neck, thorax, and abdomen. In the neck the par vagum gives off two branches, the lingual and superior laryngeal; and in the thorax, four branches, the recurrent laryngeal, the cardiac, the pulmonary, and the œsophageal plexuses. At length the trunks of the verni vagi, adjacent to the mediastinum, run into the stomach, and there form the stomachic plexus, which branches to the abdominal plexuses.

Paracentesis, παρακεντεσις; from παρακεντεω, *to pierce through;* the operation of tapping, to evacuate the water in ascites, dropsy of the ovarium, uterus, &c

Paracusis, hearing depraved; singing in the ears; from παρα, *wrong*, and ακεω, *to hear*. A genus of disease in the class *locales* and order *dysæsthesiæ* of Cullen. Species: 1 *Paracusis imperfecta*, when existing sounds are not heard as usual: 2. *Paracusis imaginaria*, when imaginary sounds are heard.

Paracynanche, παρακυναγχη, from παρα, κυων, *a dog*, and αγχω, *to strangle;* a species of *Quinsy:* it being a distemper to which dogs are subject.

Paraglossa, παραγλωσσα, a prolapsus of the tongue; the tongue so swelled as to stretch out of the mouth.

Paralysis, palsy; from παραλυω, *to loose;* a genus of disease in the class *neuroses* and order *comota* of Cullen, known by a loss of the power of voluntary motion, affecting certain parts. Species: 1. *Paralysis partialis*, partial, or palsy of some particular muscles: 2. *Paralysis hemiplegica*, palsy of one side: 3. *Paralysis paraplegica*, palsy of one half of the body: 4. *Paralysis venenata*, from the sedative effects of poisons. Paralysis is also symptomatic of several diseases, as worms, scrophula, syphilis, &c M M Gentle emetics and purgatives; blisters; issues; stimulants internally and externally; leopard's bane.

Paraphimosis, a permanent contraction of the prepuce behind the corona glandis, so as to denudate the glans penis and strangulate it; from αραπ, *about*, and φιμοω, *to bind*. M. M. Sugar of lead; pressing the blood back from the glans, and drawing the prepuce over it; dividing the prepuce.

Paraphonia, a depravity of voice. Dr. Cullen distinguishes six species. 1. *Paraphonia Puberum;* it is that disagreeable change of voice observed at about fourteen years of age. 2. *Paraphonia Rauca*, when the voice is coarse and rough 3. *Paraphonia Resonans*, when, besides the disagreeable voice, it whistles, as it were, through the nose. 4. *Paraphonia Palatina*, in which the voice is obscure, confused, and hardly conveys an intelligible sound. 5. *Paraphonia Clangens*, a shrill or squealing. 6. *Paraphonia Comatosa*, when the voice is sent out during inspiration, and resembles the snorting of people asleep.

Paraphora, a slight kind of delirium, or light-headedness in a fever: some use this word for a delirium in general.

Paraphrenesis, a delirium; also the paraphrenitis.

Paraphrenitis. Diaphragmitis. An inflammation of the diaphragm. A genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen. M. M. Asin preumoma.

Paraplegia, παραπληγια, from παρα, signifying something injurious, and πλησσω, *to strike*; a paraplegy, or a palsy of all the parts below the neck. In Hippocrates, it seems to signify a palsy of any particular part, in consequence of apoplexy or epilepsey.

Parasitic. Animals, &c. are so termed that receive their nourishment in the bodies of others, as worms, polypes, hidatids, &c.

Paregoricus, παρηγορικος, paregoric, from παρηγορεω, *to console, mitigate*, or *assuage*. All opiates are thus called, but it is an epithet for any medicine that relieves pain

Pareira Brava, the root of the *Cissampelos pareira*, a native of South-America and the West-Indies. It has no remarkable smell, but to the taste it manifests a notable sweetness of the liquorice kind, together with a considerable bitterness, and a slight roughness covered by the sweet matter. The facts adduced on the utility of the *radix pareiræ bravæ* in nephritic and calculous complaints, are principally mentioned by foreigners, and no remarkable instances of its efficacy are recorded by English practitioners.

Parenchyma, the spongy and cellular substance that connects parts together; from παρεγχυω, *to strain through*; because the ancients believed the blood was strained through it. It is now only applied to the connecting medium of the substance of the lungs.

Paresis, παρεσις. Aretæus says it is a palsy of the bladder, when the urine is either suppressed or discharged involuntarily. It is now understood to be an imperfect paralysis.

Parietal Bones. Ossa verticis. Ossa syncipitis. Ossa verticala vel bregmatis. Two arched and somewhat quadrangular bones, situated one on each side of the superior part of the cranium.

Parietaria. Wall pellitory. *Parietaria officinalis* of Linnæus. This plant has no smell, and its taste is simply herbaceous. In the practice of the present day it is wholly laid aside, though it was formerly in high estimation as a diuretic.

Paronychia. Panaris. Paranitium. A whitlow, or whitloe; from παρα, *about*, and ονυξ, *the nail*. M. M. Sugar of lead; ardent spirits; when it arises from no apparent cause, open it to the bottom immediately.

Parorchidium, a tumour in the groin, occasioned by the testicle, which is passing into the scrotum.

Parotid Gland, a large conglomerate and salival gland, situated under the ear between the mamillary process of the temporal bone and the angle of the lower jaw; from παρα, *about*, and ους, *the ear*. The excretory duct of this gland opens in the mouth, and is called from its discoverer, the *Stenonian* duct

Parotis, παρωτις, singular of *Parotides*, and synonymous with *Bubo*; also an inflammation or an abscess of the parotid gland.

Paroxysm, παροξυσμος, from παροξυνω, *exacerbo, to aggravate*; is the height or fit of any distemper that returns at certain times

Parturitio, labour, or childbirth.

Partus, delivery, or the birth. See *Fœtus*.

Parulis, παρουλις, from παρα, and ουλον, *a gum*; an inflammation, boil, or abscess in the gums.

Passio, a passion, affection, or disease; hence *passio hypochondriaca*, &c.

Pastillum, or *Pastillus*, a little lump of paste, or ball, made to take like a lozenge, a troch, or pastil.

Patella. Rotula. The knee-pan. A bone somewhat resembling in figure, a heart, situated in the sinus between the condyles of the femur, and above the tibia. Its use is to strengthen the knee joint, and to serve as a common pully for the extensor muscles of the tibia.

Pathema, παθημα, *affectus animi*, passion, or affection, or disorder.

Pathetici, diseases in which the appetites and passions are principally affected by excess or defect.

Pathetici. Trochleatores. The fourth pair of nerves are so called, because they direct the eyes to express the passions of the mind; from παθος, *an affection*. They arise from the crura of the cerebellum laterally, and are distributed in the musculus obliquus superior *seu* trochlearis.

Pathognomonicus, παθογνωμονικος, pathognomonic, from παθος, *a disease*, and γινωσκω, *to know;* an epithet for a symptom, or a course of symptoms that are inseparable from a distemper, and are found in that only, and in no other.

Pathologia, παθολογια, from παθος, *a disease*, and λεγω, *to speak*, or *commemorate;* the theory of the diseased state of the body. It treats of the nature, differences, causes, effects, &c. of diseases: though the differences, or rather arrangement of diseases is generally termed *Nosology*. In order to understand a disease, we should consider the morbific causes, parts affected, symptoms, crisis, diagnostics, and prognosis: hence, *pathology* is divided into all these parts.

Patrum Cortex, i. e. *Cortex Peruvianus;* so called from the Jesuits (called *Fathers* in the church of Rome,) who first spread its use in Europe.

Peat, a vegetable substance, forming large masses in swampy and wet places: it is formed chiefly of a little water-plant called *sphagnum palustre*. It is inflammable, and in many parts of the earth employed for fuel. It thrives more particularly in the cooler latitudes.

Pechedion, πηχιδιον, the perinæum.

Pechyagra, the gout in the elbow.

Pechys, πηχυς, the elbow.

Pecquet's Duct. See the *Thoracic Duct.*

Pectinalis, a muscle of the thigh, situated on the outer and fore part of the pelvis, that brings the thigh upwards, and gives it a degree of rotation outwards.

Pectoralis, pectoral; medicines that are appropriated to disorders of the breast and lungs.

Pectoralis Major, the first layer of muscles, situated on the anterior part of the thorax, that moves the arm forwards, and obliquely upwards, towards the sternum.

Pectoralis Minor, a muscle situated under the former, that brings the scapula forwards and downwards, or raises the ribs upwards.

Pectoris Os, the sternum.

Pectus, the breast, most strictly includes the whole cavity, commonly called by anatomists the *Middle Region;* but by some writers is more restrained to particular parts of that division.

Pedes Hippocampi, two columns of the fornix of the brain, which diverge posteriorly. They are so named from their resemblance to the feet of the *hippocampus* or sea-horse.

Pedicelli, i. e. *Phthiriasis*, i. e. *Acari*, or small insects, particularly those which lodge between the cuticle and cutis of mankind.

Pediculatio, pediculation, *Morbus Pedicularis*, by the Greeks, φθειριασις, is a particular foulness of the skin, very apt to breed lice; and is said to be the distemper of the Egyptians, which we read of among the plagues with which God punished that people.

Pediculi Inguinales, crab-lice.

Pediluvium, from *pedes*, *the feet*, and *lavo*, *to wash*. It is a bath for the feet.

Pedunculi Cerebelli. The two trunks from whence the arbor vitæ in the brain arise, are thus named.

Pelada, a species of baldness; a shedding of the hair from a venereal cause.

Pelvis, the cavity below the belly that is shaped like a bason; from πελυς, *a bason*. It is composed of four bones, viz. two ossa innominata, the sacrum, and os coccygis. It contains the organs of generation, the bladder, and the rectum.

Pelvis, a name of the cavity in the kidneys.

Pelvis Aurium, the cochlea in the ear.

Pelvis Cerebri, the infundibulum in the brain.

Pemphigus, a fever attended by successive eruptions of vesicles about the size of almonds, which are filled with a yellowish serum, and in three or four days subside. The fever may be either synocha or typhus It is a genus of disease in the class *pyrexiæ* and order *exanthemata* of Cullen. M. M. As in synocha or typhus, according to the symptoms. If the vesicles extend to the mouth, detergent gargles; if to the bowels, mucilage.

Penicilla, is a lozenge made round by rolling; the same as *Turundula;* from *penicillus*, *a pencil*, which it resembles in shape.

Penicillus, a pledget or tent.

Penis. *Membrum virile*. The cylindrical part that hangs down, under the mons veneris before the scrotum of males. It is divided by anatomists into the root, body, and head, called the *glans penis*. It is composed of common integuments, two corpora cavernosa, and one corpus spongiosum, which surrounds a canal, the *urethra*, that proceeds from the bladder to the apex of the penis, where it opens by the *meatus urinarius*. See *Urethra*. The fold of the skin that covers the glans penis is termed the prepuce. The arteries of the penis are from the hypogastric and ischiatic. The vein of the penis. *vena magna ipsius penis*, empties itself into the hypogastric vein. The absorbents of this organ are very numerous, and run under the common integuments to the inguinal glands; absorbents also are found in great plenty in the urethra. The glands of the penis are Cowper's glands, the prostate, muciparous, and odoriferous glands. The nerves of the penis are branches of the sacral and ischiatic.

Penis Muliebris, i. e. *Clitoris*.

Pennyroyal, pulegium.

Pentaphyllum, common cinquefoil. The roots of this plant, *Potentilla reptans* of Linnæus, have a bitterish styptic taste They were used by the ancients in the cure of intermittents; but the medicinal quality of cinquefoil is confined in the present day to stop diarrhœas and other fluxes. ℥ss to ℥ij.

Pecqueti Receptaculum, Pecquet's receptacle, i. e. *Receptaculum Chyli*.

Peracute, very sharp. Diseases are thus called, when greatly inflamed, or aggravated beyond measure.

Percolation, straining through, from *per*, *through*, and *colo*, *to strain*. It is generally applied to animal secretion, from the office of the glands resembling that of a strainer, in transmitting the liquors that pass through them.

Per Deliquium, by melting; as salt of tartar, dissolved in water, attracted from the air, is pot-ash melted per deliquium, &c.

Periblepsis, περιβλεψις, from περιβλεπω, *to stare about;* that kind of staring look which is observed in delirious persons.

Peribrosis, an ulceration or erosion at the corners or uniting parts of the eye-lids.

Pericarditis, inflammation of the pericardium.

Pericardium, the membranous bag that surrounds the heart; from περι, *about*, and καρδια, *the heart*. Its use is to secrete and contain the vapour of the pericardium, which lubricates the heart, and thus preserves it from concreting with the pericardium.

Perichondrium, the membrane that covers a cartilage; from περι, and χονδρος, *a cartilage*.

Pericranium, the membrane that is closely connected to the bones of the head; from περι, and κρανιον, *the head*.

Perinæalis (Ischuria), a suppression of urine from a tumour in the perinæum.

Perinæocele, a rupture in the perinæum.

Perinæum, περιναιον, from περινεω, *to flow round*, because that part is generally moist. It is the space between the anus and the parts of generation: it is divided into two parts by a right line.

Period, is the space in which a distemper continues from its beginning to its declension; and such as return after a certain space, with like symptoms, are called *Periodical Distempers*.

Periosteum, the membrane which invests the external and internal surface of all the bones except the crowns of the teeth. It is of a fibrous texture, and well supplied with arteries, veins, nerves and absorbents. It is called *pericranium*, on the cranium; *periorbita*, on the orbits; *perichondrium*, when it covers cartilages; and *peridesmium*, when it covers ligaments. Its use appears to be to distribute the vessels on the external and internal surfaces of bones.

Peripneumonia, peripneumony, or inflammation of the lungs; from περι, and πνευμων, *the lung*. See *Pneumonia*.

Peripneumonia Notha, bastard or spurious peripneumony. M. M. Venesection sometimes at the beginning; blisters; antimonials; an emetic; antiphlogistic regimen.

Peristaltic Motion, the vermicular motion of the intestines, by which they contract and propel their contents; from περιστελλω, *to contract*. A similar motion takes place in the Fallopian tubes, after conception, by means of which the ovum is translated from the ovarium into the uterus.

Peritonæum, the membrane lining the abdomen, and covering the viscera; from περιτεινω, *to extend around*. It has vessels from the neighbouring parts, and exhales a vapour, to lubricate the viscera.

Peritonitis, an inflammation of the peritonæum; a genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen, known by the presence of pyrexiæ, with pain in the abdomen, that is increased when in an erect position. M. M. As in hysteritis.

Pernio, a chilblain; a species of *erythema* of Cullen.

Peroneus Brevis, a flexor muscle of the foot, situated on the leg, that assists in pulling the foot outwards, and extending it a little. *Peroneus*, from *perone*, the fibula.

Peroneus Longus, a flexor muscle of the foot, situated on the leg, that moves the foot outwards, and extends it a little.

Perpetual Motion. From the nature of matter and of machinery, this seems to be an impossibility; action and reaction being equal, and there not being known in common matter a power of commencing, renewing, and perpetuating motion. Yet there ever have been, and now are, plenty of projectors, who declare they have discovered it. Several of these mechanical contrivers petitioned Congress on this subject in 1802, declaring they had found it, and the newspapers contained similar intelligence. But these were mistakes.

Perspiration, the invisible vapour that is secreted by the extremities of the cutaneous arteries from the external surface of the body.

Pertussis, the hooping cough; a genus of disease in the class *neuroses* and order *spasmi* of Cullen, known by a convulsive strangulating cough, with hooping, relieved by vomiting, and being contagious. M. M. When accompanied by fever, venesection, digitalis, and blisters; laxatives; frequent emetics and emetic medicines, in nauseating doses; musk; castor; opium; cicuta; cinchona.

Peruvianus Cortex, Peruvian bark. See *Cinchona*.

Pervigilium, watching, or want of sleep, a frequent and unfavourable symptom in fevers.

Pessary, an instrument that is introduced into the vagina to support the uterus.

Pestilence, any general and destructive sickness. Whenever an army or a city is afflicted with distempers which cut off great numbers of the people, pestilence is said to be raging among them. The term is rather a *popular* than a *medical* one; for provided the disease is very mortal, and the deaths numerous, pestilence is said to rage. When this word is analyzed, it is found to be of exceedingly various signification; thus, a city blockaded by an enemy, as Jerusalem of old was by the Romans, and Cadiz of late by the English, may be deprived of its needful supplies of food, and pestilence may arise from misery and want. An army encamped on ground naturally unwholesome, by reason of the septic vapours exhaling from the rotten remains of plants and animals strewed over its surface, may be cut off by pestilence, as happened to the Roman, Grecian, and Carthaginian armies, in the wars of Syracuse. Or an army or a city may be afflicted with pestilence engendered from the nastiness of the inhabitants, accumulated in the receptacles of their offal and excrements, whether hid away in the rear of their lots, or left exposed in the streets and bye-places. A gas arises from these foul and corrupted forms of matter, which contaminates the neighbouring atmosphere, to the distance of perhaps a few feet, and perhaps to an extent of many rods, and excites in those who breathe it more or less sickness.

In like manner pestilence may be engendered on ship-board, in the bottom of the hold, where every thing foul collects; in the berths and quarters of the men, which frequently grow shockingly nasty; and in the whole space between the decks, from salted fish and beef often putrifying in the store-room. Also in private houses pestilence may be produced, and sicken or destroy a single family, from some internal or local cause about the house, cellar, yard, or their appurtenances. But it is not commonly called "pestilence" unless it cuts off a great number at a time. A pestilence may arise from internal as well as external causes: corrupting meat, for example, used as food, may be exceedingly noxious to the stomach and intestines of those who feed upon it, and cause dysenteries, fluxes, and various symptoms of febrile disease.

Pestis, the plague, is a distemper communicated by infection, but not specifically contagious: whence

Pestilential Distempers, are those so communicated. Under the preceding head of "pestilence," it has been stated how commonly disease proceeds from the poisonous quality of the atmosphere, which nastiness and corruption bring on. From these fertile sources of mischief are derived the exciting causes of pestilential diseases. These take on themselves various appearances, according to the region where they arise—the dress and food of the people—their indulgence in spirituous liquors—their beds, bed-rooms, and manner of sleeping—the more or less ventilation of their houses and chambers—and the greater or less frequency of alkaline salts and earths in their system of house-keeping.

In Syria, Egypt, Barbary and Turkey, it has been fashionable to affirm that pestilential distempers are more common and destructive than in any part of the world. Probably this is the fact. Under the oppression of the Turkish government, little regard seems to be paid to that part of police and house-keeping, which is best calculated to make cities and houses clean and wholesome. Consequently, a great quantity of those foul things which collect around human persons and dwellings, surround the Turk, whether sitting in his house, or abroad in the streets. At certain times this nastiness turns to septic and infectious air, and makes great destruction of the human species. The state of female society, too, is totally subversive of that neatness and elegance in domestic economy which is the grace and embellishment of the Christian world. Among the Mahometans, women are secluded and confined—they frequent few or no public spectacles—they neither receive nor pay visits—and, consequently, the great motives to nicety and cleanliness are taken away. If they, their clothes and apartments are nasty, nobody sees them, and because nobody sees them, they are nasty. When Tippoo Saib's capital, Seringapatam, was taken by the English, the apartments of the palace in which his wives and their attendants dwelt, were found to be remarkably unclean. Hence it happens, that in houses badly adapted for ventilation, crowded with polygamy and its numerous attendants, and seldom or never alkalized into neatness and cleanness, pestilential diseases often break out, and destroy great numbers of lives. It has been a fashion among the Christians to call the worst form of this disease "the Plague."

But if these same persons would take a survey of things at home, they would find pestilential diseases enough in all the great cities of christendom. In the cities of Manchester, Leeds, London, Chester, Edinburgh, for instance, in Great-Britain, a pestilential distemper exists among the forlorn and wretched poor, and carries off great numbers of them. This evil has become so serious, that hospitals and boards of health are established in those and other towns. The reports published concur in ascribing this malignant and fatal distemper to nasty chambers, clothing and bedding; to bad food, septic air, and an almost total disuse of neutralizing and deterging alkalies: for, give these wretches better aliment, allow them an uninfected atmosphere, and make all things clean around them with pot-ash, soda and lime, and the comforts of health instantly appear in their late tainted and pestilential abodes. In the more enlightened parts of Europe, the name by which this distemper is known, is "Typhus."

Both PLAGUE and TYPHUS are considered, in the books of physic, as *contagious* diseases. This is probably a gross and vulgar error. The infectious gas which poisons the atmosphere is not the result of morbid living secretion, but of the putrefactive changes going on in dead bodies or their parts, and in lifeless excreted matter. Though, therefore, plague or typhus should be excited in a healthy person by septic vapours or pestilential air, that person, so rendered sick, would not communicate the distemper specifically to another. These disorders are not perpetuated by a secreted morbid poison, as the venereal disease, small-pox and kine-pock are. Their only exciting cause is the peculiar vapour which arises from dead substances while they undergo putrefaction.

Besides *plague* and *typhus*, there are other forms of pestilential diseases: where armies are supplied with corrupted provisions; where the camp becomes infected by the vapours of putrefying offal, excrements, dead bodies of men, horses, &c. which frequently happens; and when a camp is pitched, from necessity, in an unwholesome spot, "dysentery" may be added to the two others. Dysentery may be brought on by the vitiated quality of the food taken into the stomach, and growing more and more mischievous as it passes through the intestines. And as the food taken becomes more degenerate and noxious by passing through the body, the fœcal discharges of dysenteric patients are peculiarly prone to mingle with the neighbouring atmosphere, and to injure its salubrity. The exhalations, however, from dysenteric stools, have no peculiar nor specific contagion. Experiments have repeatedly shown their acid quality. And alkaline medicines are the best of all prescriptions in this formidable malady. Their evolution during the putrefactive process evinces their septic nature. They are, therefore, of the same constitution and qualities with those which occasion the preceding distempers. Dysentery may thus be defined *to be the disease arising from the corruption and detention of such materials within the intestinal canal as afford septic acid;* and this septic acid, stimulating, inflaming, and corroding the guts, gives rise to the peculiar symptoms of the disease.

From the same, or a similar exciting cause, the "*yellow fever*" of hot climates takes its origin. When the common septic effluvium acts upon the constitutions of men that are plethoric, full-fed, replete with animal diet, and stimulated by ardent spirits, it kindles up a disease different from that which it produces in the body of an emaciated artizan of Egypt, or an half-starved manufacturer of England. Such debilitated and emaciated constitutions are incapable of taking on that high and vigorous action, and of exhibiting that train of destructive, violent and dreadful symptoms, which are exhibited in turgid, plethoric and over-stuffed constitutions. In these latter, the same exciting cause stirs up yellow fever; whereas, in the former, it could not enkindle any disease of higher excitement than plague or typhus.

It would be instructive to trace all these distempers through each of their modifications, but this will exceed the limits allowed in a Lexicon. They who wish a more intimate and perfect acquaintance with these forms of human misery, will read of them in the books of history as well as of medicine, from the plague of Athens mentioned by Thucydides, that of Syracuse by Diodorus Siculus, and those of Rome by Livy, up to those of the cities of modern Europe, and the European colonies all over the world, mentioned by almost every writer. In these it will appear that the symptoms appertaining to each of the aforesaid pestilential distempers are frequently found in close connection, or even in co-existence; and that yellow fever is occasionally characterized by the buboes, carbuncles and parotids of the *plague*—the gripings, tenesmus, and bloody stools of *dysentery*—and by the stupid, comatose and torpid debility of *typhus*.

Petechiæ, red or purple spots on the skin, which frequently appear in the small-pox, &c. The Italians gave them this name, from the word *petechio*, because they resemble the bites of fleas.

Petechialis Febris, the spotted fever, or the *petechial* fever. It is the low or putrid fever, attended with purple spots.

Petroleum. The name of petroleum is given to a liquid bituminous substance which flows between rocks, or in different places at the surface of the earth.

Petroleum Barbadense, Barbadoes tar. This is chiefly obtained from the island of Barbadoes, and is sometimes employed externally in paralytic diseases.

Petroselinum, common parsley; *Apium petroselinum* of Linnæus. Both the roots and seed of this plant are directed by the London College for medicinal use; the former have a sweetish taste, accompanied with a slight warmth or flavour, somewhat resembling that of carrot; the latter are in taste warmer and more aromatic than any other part of the plant, and manifest considerable bitterness. The roots are said to be aperient and diuretic, and have been employed in nephritic pains and obstructions of urine. The seeds possess aromatic and carminative powers, but are seldom prescribed.

Petrosilex, a species of coarse flint, of a deep blue or yellowish green colour. It is interspersed in veins through rocks; and from this circumstance derives its name.

Petrosum Os, the petrose portion of the temporal bones.

Peyer's Glands, the glands of the intestines. See *Brunneri Glandulæ*.

Phagedæna, a species of ulcer that spreads very rapidly; from φαγω, *to eat*.

Phagedenic Medicines, are those which eat away fungous or proud flesh.

Phalanx, the small bones of the fingers and toes, which are distinguished into the first, second, and third phalanx; from φαλανξ, *a battalion*.

Pharmacy, the art of preparing medicines; from φαρμακον, *a medicine* or *drug*.

Pharmacopeia, the book that contains directions for preparing medicines; from φαρμακον, *a medicine*, and ποιεω, *to make*.

Pharynx, the muscular bag at the back part of the mouth: απο το φερειν, because it conveys the food into the stomach. It is shaped like a funnel, adheres to the fauces behind the larynx, and terminates in the œsophagus. Its use is to receive the masticated food, and to convey it into the œsophagus.

Phimosis, φιμωσις, a contraction of the prepuce before the glands penis to such a degree that it cannot be drawn back over the glans. M. M. Bleeding; antiphlogistics; cooling and emollient applications; division of the prepuce.

Phlebotomy, the opening of a vein; from φλεψ, *a vein*, and τεμνω, *to cut*.

Phlegm. In chemistry it means water; but in the common acceptation of the word it is a thick and tenacious mucus secreted in the lungs.

Phlegmasia, φλεγμασια, an inflammation.

Phlegmasiæ, inflammations; the second order in the class *pyrexiæ* of Cullen's nosological arrangement, characterized by pyrexia, with topical pain and inflammation; the blood after venesection exhibiting a buff coat.

Phlegmon, from φλεγω, *to burn*. In Dr. Cullen's *Nosology*, it is a species of *Phlogosis*, which he defines to be of a lively red colour; generally a circumscribed tumour elevated to a point, often attended with a throbbing pain, and then terminating in an abscess.

Phlogiston, from φλογιζω, *inflammo, to burn with blaze or flame*. Phlogiston is one of the most happy and convenient terms in physical science. It does great honour to the quick perception and inventive genius of professor *Stahl*, who contrived and applied it. Although this great man conceived the idea of this term, he did not comprehend the whole of the facts relative to combustion well enough to apply his own word, and employ it successfully in explaining the phenomena of nature. His explanations were, of course, indistinct; and the incorrect use and application of the word phlogiston obscured, in some degree, the science it was calculated to enlighten. They who succeeded him, and attempted to philosophize upon his principles, endeavoured to explain by aid of phlogiston more than it was capable of explaining, insomuch that, by injudicious and forced applications, the doctrine of phlogiston was rendered not only dubious, but almost ridiculous. This was the state of opinion about it when the Academicians of Paris published their Nomenclature of Chemistry, in 1787, and left out the name of *phlogiston* entirely. Since that time they and their followers deny there is any such thing, and refuse to make any use of the word. The doctrine of the justly celebrated LAVOISIER was supposed to have overturned the phlogistic hypothesis altogether.

But Priestley, and some other disciples of the old school, refused to adopt the doctrines of the new. Professor Woodhouse was not wholly reconciled to the antiphlogistic theory. And Dr. Mitchill has gone so far as to restore the word to use, to place it in the Nomenclature, and to apply to it a definite meaning. He has expunged "hydrogen" and put "phlogiston" in its place. Phlogiston thus means *the base of inflammable air*, and *the material of flame or blaze*. Thus, whatever contains hydrogen, or is capable of affording hydrogenous air, contains phlogiston: whatever burns *with blaze*, contains this *principle of inflammability*. Consequently sulphur, phosphorus, iron, zinc, wood, pit-coal, and every other thing which exhibits flame as it consumes, contains phlogiston, which being a gazeous fluid exhaled from them, inflames as it escapes. All inflammable bodies contain a portion of it; and it seems to be a constituent part of all metals, giving them ductility and lustre. When lead, for instance, loses its phlogiston, it turns to masicot, iron to finery cinder, and zinc to a darkish calx. These are their true and simple metallic states: when they go beyond this, and after having lost their phlogiston combine with oxygen, they turn to metallic acids and oxyds. Phlogiston, united to the point of saturation with oxygen, forms water; and this phlogistic basis of water in some processes breaks loose and returns to inflammable air again.

Phlogosis, inflammation; from φλογοω, *to inflame*; a genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen, characterized by redness, heat, pain, and tumour, on the surface of the body. Species: 1. *Phlegmone*. Inflammation of a bright red colour; tumour pointed, throbbing, and tending to suppurate. 2. *Erythema.* Inflammation of a dull red colour, vanishing upon pressure, spreading unequally, with a burning pain, and tumour scarcely perceptible, ending in desquamation, or vesicles of the skin. Phlogosis often terminates in imposthume, gangrene, sphacelus, and scirrhus. M. M. 1. Removal of the existing cause; venesection; cathartics; diaphoretics; refrigerants; opium; diluents copiously; spare vegetable diet: externally, sugar of lead. When it tends to suppuration, emollient fomentations, and cataplasms; full diet. See *Abscess* and *Gangrene*. 2. Venesection; cooling laxatives; mild refrigerants and diaphoretics; antiphlogistic regimen: externally, dry mealy powders, or a weak solution of sugar of lead. Open the vesicles and apply saturnine cerate.

Phlyctænæ, φλυκταιναι, *small bladders;* small pellucid vesicles that contain a serous fluid.

Phosphates, are salts formed by the union of the phosphoric acid with the different alkaline, earthy and metallic bases.

Phosphites, are salts formed by the union of the phosphorous acid with the different alkaline, earthy and metallic bases.

Phosphorus, one of the most combustible substances we are acquainted with. It was originally obtained from urine; but the substance which affords it in the greatest quantity is the ammoniacal phosphat. When pure it is transparent, and of consistence resembling that of wax; it crystallizes, by cooling, in laminæ, which are brilliant, and as it were micacious; it melts in hot water, long before the fluid becomes boiling hot; it is very volatile, and by a gentle heat rises and comes over in the form of a thick fluid. When in contact with air it emits a fume from every part of its surface; and this vapour, which smells strongly like garlick, appears white in the day-time, but is very luminous in the dark.

Phosphurets (Phosphuretum, i. s. n.) combinations of phosphorus not oxygenated, with different bases, as *phosphuret of copper*, *phosphuret of iron*, &c.

Photophobia, such an intolerance of light, that the eye, or rather the retina, can scarcely bear its irritating rays: from φως, *light*, and φοβεω, *to dread*.

Photopsia, lucid vision, an affection of the eye, in which the patient perceives luminous rays, ignited lines, or coruscations: from φως, *light*, and οψις, *vision*.

Phrenes, the diaphragm; from φρην, *the mind;* because the ancients imagined it was the seat of the mind. See *Diaphragm*.

Phrenic Nerve, diaphragmatic nerve. It arises from a union of the branches of the third, fourth and fifth cervical pairs, on each side, passes between the clavicle and subclavian artery, and descends from thence by the pericardium to the diaphragm.

Phrenitis, phrenzy or inflammation of the brain; from φρην, *the mind;* a genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen; characterized by strong fever, violent head-ache, redness of the face and eyes, impatience of light and noise, watchfulness, and furious delirium. It is symptomatic of several diseases, as worms, hydrophobia, &c. M. M. Copious bleeding from the jugular vein or temporal artery; cathartics; antiphlogistic regimen; blisters on the head, cold vinegar on the temples, and sinapisms on the feet; perhaps digitalis.

Phthiriasis, from φθειρ, *a louse;* a disease, in which several parts of the body generate lice, which often puncture the skin, and produce little sordid ulcers. M. M. Powder of slaves-acre sprinkled on the hair.

Phthisis, pulmonary consumption; from φθιω, *to consume*; a genus of disease in the class *pyrexiæ* and order *hæmorrhagiæ* of Cullen; known by emaciation, debility, cough, hectic fever, purulent expectoration, hæmoptysis, diarrhœa. Species: 1. *Phthisis incipiens*, incipient, without any expectoration of pus: 2. *Phthisis humida*, with an expectoration of pus: 3. *Phthisis scrophulosa*, from scrophulous tubercles in the lungs, &c. 4. *Phthisis hæmoptoica*, from hæmoptysis: 5. *Phthisis exanthematica*, from exanthemata: 6. *Phthisis chlorotica*, from chlorosis: 7. *Phthisis syphilitica*, from a venereal ulcer in the lungs. M. M. In the inflammatory stage, the antiphlogistic regimen, repeated small bleedings, digitalis, blisters, antimonials and squills. A seton; nutritive diet; an emetic of sulphate of copper or ipecacuanha every second morning, and Griffith's myrrh mixture three times a day; exercise; warm clothing; bitters or cinchona; opium. If sweating be troublesome, elixir vitriol; if diarrhœa, ripe fruits and catechu.

Phygethlon, φυγεθλον; a red and painful tubercle which often arises about the anus, and if badly treated becomes fistulous.

Phyma, φυμα; from φυω, *to produce*. Tubercles in any part of the body.

Physconia, enlargement of the abdomen; from φυσκων, *a big-bellied fellow*; a genus of disease in the class *cachexiæ* and order *intumescentiæ* of Cullen, known by a tumour occupying chiefly one part of the abdomen, increasing slowly, and neither sonorous nor fluctuating. Species: 1. *hepatica*: 2. *splenica*: 3. *renalis*: 4. *uterina*: 5. *ab ovaria*: 6. *mesenterica*: 7. *omentalis*: 8. *visceralis*.

Physiognomy, φυσιογνωμια; from φυσις, *nature*, and γινωσκω, *to know*; the art of knowing the disposition of a person from the countenance.

Physiology, φυσιολογια; from φυσις, *nature*, and λογος, *a discourse*; the science which treats of the actions and powers of an animated body.

Physics, φυσικη, from φυσις, *natura*; is in general the science of all material beings, or whatsover concerns the system of this visible world; though in a more limited and improper sense, *physic* is by many applied to the science of *Medicine*.

Physocele, a windy tumour, from φυσα, *a flatus*, and κηλη, *a tumour*; a wind-rupture, or windy-tumour.

Physocephalus, an emphysematous tumour of the head.

Physometra, a windy swelling of the uterus; from φυσοω, *to inflate*, and μετρα, *the womb*; a genus of disease in the class *cachexiæ* and order *intumescentiæ* of Cullen; characterized by a permanent elastic swelling in the hypogastrium, from flatulent distention of the womb.

Phytolacca, poke-weed; a genus in Linnæus's botany. He enumerates four species.

Phytologia, φυτολογια, from φυτη, *planta*, *a herb*, and λεγω, *narro*, *to describe*; is a description of plants.

Pia Mater, a thin membrane, almost wholly vascular, that is firmly accreted to the convolutions of the cerebrum, cerebellum, medulla oblongata, and medulla spinalis. Its use appears to be, to distribute the vessels to, and contain the substance of the brain.

Pica, the same as *Malacia*, which is a vitiated appetite, wherein persons crave things unfit for food, as women with child, or in a chlorosis.

Piles. See *Hæmorrhois*.

Pimento, Jamaica pepper, or alspice. *Myrtus pimenta* of Linnæus. This spice, which was first brought over for dietetic uses, has been long employed in the shops as a succedaneum to the more costly oriental aromatics: it is moderately warm, of an agreeable flavour, somewhat resembling that of a mixture of cloves, cinnamon and nutmegs. Both Pharmacopeias direct an aqueous and spirituous distillation to be made from these berries, and the Edinburgh College orders also the *oleum essentiale piperis Jamaicensis*.—Grs. xv. to ʒi.

Pimpinella. Several species of pimpinella were formerly used officinally; but the roots, which obtain a place in the materia medica of the Edinburgh Pharmacopeia, are those of the *Pimpinella saxifraga* of Linnæus: they have an unpleasant smell, and a hot, pungent, bitterish taste: they are recommended by several writers as a stomachic: in the way of gargle, they have been employed for dissolving viscid mucus, and to stimulate the tongue when that organ becomes paralytic.

Piper Indicum. This species of pepper is obtained from the *Capsicum annuum* of Linnæus. As an aromatic of the stimulant kind, it is efficacious in some paralytic and gouty cases, or to promote excitement where the bodily organs are languid and torpid.

Piper Longum, long pepper. *Piper longum* of Linnæus. The berries or grains of this plant are gathered while green, and dried in the heat of the sun, when they change to a blackish or grey colour. They possess precisely the same qualities as the former, only in a weaker degree.—Grs. vi. to viii.

Piper Nigrum, black pepper. This species of pepper is obtained in the East-Indies, from the *Piper nigrum* of Linnæus. Its virtues are similar to those of the other peppers. The black and white pepper are both obtained from the same tree, the difference depending upon their preparation and degrees of maturity.

Pitch, the juice of a species of fur, extracted by incisions made in the bark of the tree. It is sometimes used as a detergent by surgeons.

Pituita, phlegm, or viscid and glutinous mucus.

Pituitary Gland, a gland situated within the cranium, between a duplicature of the dura mater, in the sella turcica of the sphænoid bone.

Pituitary Membrane, Schneiderian membrane. The mucous membrane that lines the nostrils and sinuses communicating with the nose is so called, because it secretes the mucus of those parts.

Pix Burgundica, Burgundy pitch, by some called *White Pitch*.

Pix Liquida, tar. Tar is produced from the *Pinus sylvestris* of Linnæus, by cutting it into pieces, which are enclosed in a large oven constructed for the purpose. It is well known for its economical uses. Tar water, or water impregnated with the more soluble parts of tar, was some time ago a very fashionable remedy in a variety of complaints, but is in the present practice fallen into disuse.

Placebo, a common-place method or medicine.

Placenta, the spongy mass, like a cake, that receives the blood from the uterus of pregnant women, to which it adheres, conveys it to the fœtus, and returns it again to the mother. It is so called from its resemblance to a cake. Its substance is cellular, and destitute of nerves.

Plantago, plantain. This plant is still retained in the materia medica of the Edinburgh College, in which the leaves are mentioned as the pharmaceutical part of the plant; they have a weak herbaceous smell, an austere, bitterish, subsaline taste; and their qualities are said to be refrigerant, attenuating, substyptic, and diuretic.

Planta Pedis, is the sole of the foot. Hence,

Plantares, branches of the nerves called *Popliteus*.

Plantares, *Venæ*. The tibialis posterior having descended to the sole of the foot, forms these veins, by dividing into several transverse arches, which communicate with one another, and with the saphena, and send ramifications to the toes.

Plantaris, *Arteria*, *Externa*. It is one of the divisions of the posterior tibial artery. It passes on the concave side of the os calcis obliquely under the sole of the foot, to the basis of the fifth metatarsal bone, and from thence it runs in a kind of arch towards the great toe, and there communicates with the tibialis anterior.

Plantaris, *Arteria*, *Interna*. It is a division of the posterior tibial artery, and goes to the sole of the foot, then divides, and one branch goes to the great toe, the other to the arteries.

Plantaris, *Musculus*, is a muscle that hath a flesby beginning from the back part of the external protuberance of the thigh-bone, and descending a little way between the gemellus and soleus, it becomes a long and slender tendon, which marches by the inside of the great tendon, and at the sole of the foot is expanded into a large aponeurosis, which hath the same use, situation, and connection, as that of the palm of the hand.

Planum, *Os*. It is the external lateral portion of the ethmoides. Its outside next the orbit of the eye is smooth, whence its name.

Platina. A Spanish word, and a diminutive of *plata*, which in that language signifies *silver*; so *platina* is *little silver*. It is a perfect metal which comes to us in small grains, resembling iron-filings. It is without smell and taste, of a whitish-grey colour, approaching to that of polished steel, and of a specific gravity equal to that of gold. Beaumé.—Dr. Lewis observes, that its specific gravity is somewhat less than that of gold. In general it is found to be with respect to gold as 18½ to 19. It is a genus in the class of metals.

Platysma Myoides, the expansion or dilatation of a muscle, from πλατυσμα, *dilatatio*, and μυς, *musculus*, and ειδος, *forma*. This muscle rises from the skin insensibly below the claviculæ, and is inserted into the basis of the lower jaw; it then runs up and joins the triangularis, and is inserted into the angle of the mouth, and the skin of the cheek. It depresses the lower jaw.

Plethora, πληθωρα, from πληθω, *impleo*, *to fill*; as when the vessels are fuller of humours than is agreeable to a natural state, or health; and arises either from a diminution of some natural evacuations, or from debauch, and feeding higher, or more in quantity than the ordinary power of the viscera can digest and secern. Evacuation and exercise are its remedy.

Pleura, πλευρα, is a double membrane, which covers all the cavity of the thorax. It rises from the vertebræ of the back, ascends on each side upon the ribs to the middle of the sternum. It is fixed to the periosteum of the ribs, to the internal intercostal muscles, and it covers the midriff. Its side towards the cavity is smooth and equal; but that which is fixed to the ribs is rough.

Pleuritis, pleurisy, or inflammation of the pleura; a species of pneumonia of Cullen. See *Pneumonia*.

Pleuritis Notha. It is when the rheumatism is seated in the muscles of the thorax, i. e. *Bastard Pleurisy.*

Pleuritis Spuria, i. e. *Pleuritis Notha.*

Pleuritis Splenica, inflammation of the spleen.

Pleurodyne, pain in the pleura, usually a rheumatism.

Pleurodyne Rheumatica, rheumatism in the muscles of the thorax, or bastard pleurisy.

Pleuro-pneumonia, is used by some modern writers for a mixture of a pleurisy and a peripneumonia together, which may happen: and others, particularly Doleus, invert the words, calling it *Pneumopleuritis.*

Pleurosthotonos, vel Tetanus Lateralis, a sort of tetany. It is when the body is bent to one side by the tetany.

Plexus, πλεγμα, in *Anatomy*, is a kind of network, or complication of vessels. A *plexus* of nerves is an union of two or more nerves forming a sort of ganglion or knot.

Plexus Cardiacus, or *Pulmonaris.* It is formed of the reciprocal ramifications of both trunks of the eighth pair, and their mutual communications with the filaments of the intercostal or great sympathetic nerve. It is situated above the lungs, on the fore-side of the bronchia, and it distributes filaments to the pericardium, &c.

Plexus Choroides, is a wonderful contexture of small arteries in the brain like a net, for which reason it is sometimes called

Plexus Reticularis, the net-like union; it is just over the pineal gland.

Plexus Ganglioformis, and,

Plexus Nervosus, is a combination of nerves together, as it were, into a knot, as they do in several parts of the body.

Plica Polonica. Trichoma. A disease of the hairs, in which they become long and coarse, and matted, and glued into inextricable tangles. It is peculiar to Poland and Tartary, and generally appears during the autumnal season.

Plumbago, an ore of a shining blue black colour, a greasy feel, and tuberculated when fractured. It is by many erroneously taken for molybdena, from which it is easily distinguished by its fracture, that of the latter being always lamellated.

Pneumatics, that part of natural philosophy which treats on the properties of air; from πνευμα, *air.*

Pneumatocele, any species of hernia, that is distended with flatus; from πνευμα, *flatus* or *wind*, and κηλη, *a tumour.*

Pneumatosis, πνευματωσις, i. e. *Emphysema*; also a pain in the stomach from wind; a genus of disease in the class *cachexiæ* and order *intumescentiæ* of Cullen, known by a collection of air in the cellular texture under the skin, rendering it tense, elastic, and crepitating. The species of pneumatosis are: 1. *Pneumatosis spontanea*, without any manifest cause: 2. *Pneumatosis traumatica*, from a wound: 3. *Pneumatosis venenata*, from poisons: 4. *Pneumatosis hysterica*, with hysteria. M. M. Scarifications; compresses; paracentesis.

Pneumatomphalos, πνευματομφαλος, from πνευμα, *wind*, and ομφαλος, *the navel*; an umbilical flatulent rupture.

Pneumonia, inflammation of the lungs; from πνευμων, *a lung*; a genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen; characterized by pyrexia, difficult respiration, cough, and a sense of weight and pain in the thorax. The species of pneumonia, according to the above nosologist, are: 1. *Peripneumonia.* The pulse not always hard, but sometimes soft; an obtuse pain in the breast; the respiration always difficult; sometimes the patient cannot breathe, unless in an upright posture; the face swelled, and of a livid colour; the cough for the most part moist, frequently bloody. 2. *Pleuritis.* The pulse hard; a pungent pain in one side, aggravated during the time of inspiration; and uneasiness when lying on one side; a very painful cough, dry in the beginning of the disease, afterwards moist, and frequently bloody. If these are not resolved, they are followed by *vomica* or *empyema.* M. M. Copious and repeated venesection; cooling laxatives; antimonials; refrigerants; digitalis; demulcents; diluents; antiphlogistic regimen; blisters.

Podagra, the gout; from πυς, *the foot,* and αγρα, *a taking* or *a seizure;* a genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen; known by pyrexia; pain in the joints, chiefly of the great toe, and especially the hands and feet, returning at intervals: previous to the attack, the functions of the stomach are commonly disturbed. Species: 1. *Podagra regularis,* the regular gout: 2. *Podagra atonica,* the atonic gout: 3. *Podagra retrograda,* the retrocedent gout: 4. *Podagra aberrans,* misplaced or wandering gout. See *Arthritis.*

Poison. Any substance, which, when received into the stomach or lungs, or applied externally to any part of the body, produces, by its peculiar properties, disease or death, is termed a poison. Poisons are divided, with respect to the kingdom to which they belong, into animal, vegetable, mineral, and halituous poisons, or vapours.

Pollex, the thumb, or great toe.

Polydipsia, excessive thirst; from πολυς, *much,* and διψη, *thirst;* a genus of disease in the class *locales* and order *dysorexiæ* of Cullen. It is mostly symptomatic of fever, dropsy, excessive discharges or poisons.

Polypus, πολυπυς, having many feet; from πολυς, *many,* and πυς, *a foot.* This term is generally given to a sarcomatous substance, that frequently arises in the nostrils and uterus, from its having attachments or roots. The coagulable substance which is found in the cavities of the heart of those who are some time *in articulo mortis* is also improperly so called. M. M. When they are troublesome and continue to grow, scarifications and astringents; removal by knife, ligature, or forceps.

Polysarchia, troublesome corpulency, or fatness; from πολυς, *much,* and σαρξ, *flesh;* a genus of disease in the class *cachexiæ* and order *intumescentiæ* of Cullen. M. M. Vegetable, and spare diet; exercise; little sleep.

Polyurica (Ischuria) a suppression of urine from a neglect to discharge it.

Pomum Adami, the protuberance in the anterior part of the neck, formed by the fore part of the thyroid cartilage.

Pondo, or *Pondus,* a weight. The medical or troy pound is less than the averdupoise; but the ounce and the dram are greater. The troy pound contains 5760 grains; the averdupoise pound contains 7000 such grains. The troy ounce contains 480 grains; the averdupoise contains only $437\frac{1}{2}$ grains. The troy dram contains 60 grains; the averdupoise rather more than 27.

Pons Varolii, Varolius's bridge, is a process in the brain thus called, because Varolius was the first that took notice of it.

Poples, the ham or joint of the knee.

Poplitea, Arteria. The arteria cruralis, in passing the ham, takes the name of *Poplitea,* which, whilst in the ham, is covered only by the integuments. It ends by dividing it into the tibialis anterior, and tibialis posterior.

Poplitea, Vena. The crural vein takes this name just above the ham, and at the lower part of the musculus popliteus divides into the tibialis posterior, and the peronæa.

Popliteus. The sciatic nerve having reached the ham, takes this name; it divides into two branches, which spread about the whole leg.

Popliteus, is a muscle that arises from the external and inferior protuberance of the thigh-bone; and, passing over the joint obliquely, is inserted into the superior and internal part of the tibia. This assists in bending the leg, and turns it inwards.

Pori Biliarii, the biliary pores or ducts that receive the bile from the acini of the liver, and convey it to the hepatic duct.

Porraceous, is said of many things resembling a leek in colour or scent; as of the bile, or what is sometimes discharged by vomiting or stool, and appearing of a green colour.

Porrigo, a disease very common among children, in which the skin of the hairy part of the head becomes dry and callous, and comes off like bran upon combing the head.

Porta, the great vein of the liver. See *Vena porta*.

Portio Dura. This nerve arises near the pons from the crus of the brain, enters the petrous portion of the temporal bone, and gives off a branch into the tympanum, which is called the chorda tympani.

Portio Mollis. This nerve arises from the medulla oblongata and fourth ventricle of the brain, enters the petrous portion of the temporal bone, and is distributed by innumerable branches, not only to the cochlea, but also to the membrane lining the vestibulum and semicircular canals.

Porus Opticus. It is also called *Blind Point.* It is the point on the retina where no object is seen.

Posca, vinegar and water mixed.

Posterior Annularis, an external interosseal muscle of the hand, that extends and draws the ring finger inwards.

Posterior Indicis, an internal interosseal muscle of the hand, that extends the fore-finger obliquely, and draws it outwards.

Posterior Medii, an external interosseal muscle of the hand, that extends the middle-finger, and draws it outwards.

Posterior Musculus Auris, an external muscle of the ear.

Posticus, that is, situate behind, or on the backside.

Postpositio, postposition. When the paroxysm of a fever comes on later than it is expected, it is called the *Postposition of the Paroxysm:* when it begins sooner, it is called the *Anticipation.*

Potash, potassa, or the common vegetable fixed alkali. It is a saline and concrete substance, not pre-existing in plants, nor formed during their putrefaction, but produced while they are turning to ashes in the fire. It is commonly classed among the simple and elementary bodies, but this is a mistake. Several ingredients enter into its constitution, but it is not certainly known what or which they are.

A certain degree of heat only is requisite to the perfect formation and goodness of *potash.* If the fire is kept up too long, or too intense, the potash turns to a substance called pearlash, which is much weaker and milder. And by urging the heat more fiercely and for a greater length of time, the alkali turns to what is termed *furnace ashes*, which, though fair to the eye, possess very little strength and virtue.

Fire thus can destroy potash, and according to its intensity and duration, can give it various degrees of excellence between the best and the worst sorts. Hence the various qualities of potash, pearlash, &c. known in the markets, and familiar to all artists and manufacturers. Chemists and men of science have latterly indulged miserable mistakes on these points by affirming, first, that potash was an element; and, secondly, when pure, it was always one and the same invariable production. Now, neither of these assertions is true; for potash is a compound, and six samples of the article may be equally *pure*, and yet be very unlike each other. Independent of adulteration, or mixture with foreign ingredients, such as lime, salt, sand, gypsum, and the like, different parcels of clean and unmixed potash are daily found to vary very materially from one another.

Potash has a very strong attraction for water. This it attracts from the air in such quantity as to dissolve itself. Such spontaneous melting is called *deliquescence*. It combines also very powerfully with acids, forming neutral salts with the sulphuric, septic, muriatic, acetic, tartaric, carbonic, and other oxygenated bases. After these acids have been united to potash, they may be recovered by decomposition of the neutral salt. But they are always found to have undergone some alteration of their properties. There is no more instructive and beautiful example of this than is afforded by the *septic acid*. This offspring of putrefaction has been discovered to be a most active and venomous compound. Like other acids, septic acid can combine with potash. This neutral salt, formed from the acid of putrefaction, and the alkali of burned wood, is saltpetre, the principal ingredient of gunpowder. Septic acid, which is the great agent of human woe in *pestilence*, is quite as mischievous and destructive in *war*. The septic acid, though neutralized by potash, imparts to it qualities so noxious, that it can be safely swallowed only in small doses. See *Saltpetre*.

When saltpetre is decomposed in close vessels, the septic acid is separated in a very new and altered form. Some action going on between it and the potash, materially changes the qualities of both, for the alkali is found, on examination, to be as much and as sensibly modified as the acid. Their union and their separation work great changes in both.

The septic acid is thus changed in its constitution by the potash. It is further altered by the sulphuric and muriatic acids employed in the decomposition of the saltpetre, and further still by the high heat of the furnace. Exposed to so many causes of new modification and changes, the septic acid, on being disengaged from potash, assumes another name, and other properties. It is less venomous and active than it originally was, and goes by the name of the *nitrous acid*. Even then, it is the most powerful and corrosive of all the acids.

Through want of attention to this distinction, great mistakes have arisen in chemistry. Some ignorant, and some dull persons have pretended that *nitrous* and *nitric* acids ought to possess all the exact qualities of the native *septic acid*. But they grossly deceive themselves. None of the experiments on the *nitric acid of the shops*, or any of its vapours, &c. have any tendency to lessen the evidence derived from septic acid and its gas as *engendered in corrupting bodies, and exhaled* from them into the air.

Præcordia, from *præ*, *before*, and καρδια, *cor*, *the heart*. The fore-part of the region of the thorax is thus called.

Præcursores, forerunners, is by Paracelsus, and some of his followers, used for the antecedent sign of a disease.

Præpuce. The membranous cutaneous fold, that covers the glans penis and clitoris, is so termed; from *præputo*, to cut off before; because some nations used to cut it off in circumcision.

Præsentatio, presentation. In *Midwifery*, it is the manner in which a child offers itself in its passage into the world; and the different presentations are denominated according to that part of the child which is perceived at the mouth of the womb.

Præt. Nat. and *P. Na.* are sometimes put for preternatural.

Praxis Medica, is that part of medicine which instructs us how to discover a disease when present in the body, or to order the proper remedies for its removal.

Predisposing Causes. The most frequent predisposing causes of diseases are, the temperament and habit of the body, idiosyncracy, age, sex, and structure of the part diseased.

Predisposition, that constitution or state of the solids or fluids, or of both, which disposes the body to the action of disease.

Presbyopia, that defect of the sight by which objects near at hand are seen confusedly, but at remoter distances distinctly; from πρεσβυς, *old*, and οψις, *sight*, because it is frequent with old men.

Presbytæ, πρεσβυται, from πρεσβυς, *senex*, *old*; is a distemper of the eyes, which old people are most subject to, wherein the globe of the eye falls so flat, that the visual rays pass the retina before they unite, whereby there can be no distinct vision, since the distinct base falls too far off beyond the retina. This defect is, therefore, to be helped only with convex glasses or spectacles, which will make the rays converge sooner, and if they are well fitted, exactly on the retina.

Priapism, a continual erection of the penis; from *Priapus*, a heathen god, whose penis is always painted erect.

Priapus, πριαπος, which sometimes is put for the human penis.

Primæ Viæ, first passages. Thus the stomach and intestinal tube are called.

Principles, *Principia*, the constituent part of things. By this word is frequently meant the rules or maxims of propriety which belong to any subject or science; but it here signifies the elements or constituent parts of all natural bodies.

Many of the natural productions by which we are surrounded, are of a very complicated nature. Elements of different kinds and qualities are blended together to make up the mass. This complicated structure obtains, in the animal, the vegetable, and the mineral departments of creation. Nor are the fluids of the atmosphere and the ocean exempt from this compound and heterogeneous structure. Indeed, so remarkable are the *elements* or principles of bodies mingled together, that perhaps there is no example of any *one* of them being found *totally* disengaged from the rest. All natural productions whatever are made up of a mixture of *principal* or elementary particles.

By attending to the composition and decomposition of natural bodies, much has been discovered concerning their internal constitution. The elements are more numerous than the ancients supposed them to be. Modern experience has enlarged the catalogue from the *four* principles of fire, water, air, and earth, to upwards of sixty simple or undecomposed forms of matter. The first *four* of these principles are, 1. *Anticrouon*, caloric, or the principle of repulsion; 2. *Light*, or the fluid by means of which we see; 3. *Oxygen*, the principle of sourness, the acid-maker; 4. *Phlogiston*, or hydrogen, the principle of inflammability, or the material of which blaze is formed. The next *four* are the *known* bases of acids, and are called elementary atoms of, 5. *Sulphur*; 6. *Carbone*, or charcoal; 7. *Phosphorus*; and, 8. *Septon*, or azote. The earthy bodies come next, and are analyzed into, 9. *Lime*; 10. *Argil*, or clay; 11. *Flint*, or silice; 12. *Barytes*, or heavy earth; 13. *Magnesia*; 14. *Strontian*; 15. *Jargon*; 16. *Glucine*; 17. *Augustine*. There are three alkalies, which are undoubtedly compound substances, though classed among the *principles*, because their constitution is not perfectly known: 18. *Potash*; 19. *Soda*; and, 20. *Ammoniac*. To these are added the whole list of metals, some of which form acids with oxygen, as, 21. *Molybdæna*; 22. *Arsenic*; 23. *Tungstein*; 24. *Chrome*. Some are noble, or perfect, as, 25. *Gold*; 26. *Platina*; 27. *Silver*. Some are imperfect or base, as, 28. *Copper*; 29. *Iron*; 30. *Lead*; 31. *Tin*; 32. *Quicksilver*. And others again are called semi-metals, as, 33. *Zinc*; 34. *Bismuth*; 35. *Antimony*; 36. *Nickel*; 37. *Tellurium*; and four or five others of less importance. The other principles of bodies which seem to have been explored, but of whose *simple* constitution we are less certain, are the bases or radical elements of the remaining acids, such as those of the formic, bombic, acetic, muriatic, citric, malic, tartaric, oxyalid, and other acids, which form by connection with oxygen, the acid of ants, of silkworms, of vinegar, of sea-salt, of lemons, of apples, of tartar, of sugar, &c. These amount to nearly twenty; but it is expected that the greater part of them, though now appearing to be *principles*, will turn out to be *compounds*.

These elements are connected together by *attraction*, forming the various natural productions; and these, after having continued their stated times, are disorganized and dissociated by *repulsion*. And thus the circle of unceasing changes in the material world is unremittingly carried on.

Probe, a chirurgical instrument of a long and slender form; from *probo*, to try; because surgeons try the depth and extent of wounds, &c. with it.

Procatarctic Cause, occasional cause, remote cause, exciting cause. The procatarctic cause is that which, when applied to the body, induces a predisposition; from προκαταρχω, *to go before.*

Processus, from *procedo*, *to go out*, are several protuberances or prominences of the bones and other parts of the body, distinguished according to the parts they are in.

Procidentia, a falling down of any part; from *procido*, *to fall down*: thus, *procidentia ani*, *uteri*, *vaginæ*, &c. M. M. Astringents; replacing the parts and supporting them by bandages.

Proctalgia, inflammation, with pain of the anus.

Proctitis, i. e. *Proctalgia.*

Proctoleucorrhæa, the same as *Proctorrhæa*, but so named from the discharge resembling that of the whites.

Proctorrhæa, a mucous flux from

the external hæmorrhoidal vessels; sometimes streaked with blood, and accompanied with itching and heat about the anus.

Prodromus, προδρομος, is used in various senses, but chiefly by physicians for any one distemper that is often the forerunner of another, as a vertigo is frequently the prodromus of an apoplexy.

Production, the same as *Processus.*

Profluvia, fluxes; the fifth order in the class *pyrexiæ* of Cullen's nosology, characterized by pyrexia, with increased exertions.

Profunda Brachii Vena, vel Profunda Superior. It is a branch from the basilica vena, sent off from it below the neck of the os humeri, and near the hollow of the axilla: it runs along the side of the brachial artery, and spreads itself in the adjacent muscles.

Profusio, passive hæmorrhage, such as happens from wounds, &c. and not the effect of fever. Dr. Cullen places this genus of disease in the class *Locales* and order *Apocenoses.*

Proglossis, προγλωσσις, the tip of the tongue.

Prognosis, προγνωσις; from προ, *before*, and γινωσκω, *to know;* the judgment of the event of a disease by particular symptoms.

Projectura, an apophysis.

Prolabium, from *pro*, *before*, and *labium*, *the lip;* the red part of the lips.

Prolapsus, a protrusion; a genus of disease in the class *locales* and order *ectopiæ* of Cullen; distinguished by the falling down of a part that is uncovered.

Prolific, from *proles*, *offspring*, and *facio*, *to make;* something that has the qualities necessary for generating.

Pronation, the act of turning the palm of the hand downwards. It is performed by rotating the radius upon the ulna, by means of several muscles which are termed pronators; as,

Pronator Radii Quadratus, a pronator muscle of the fore-arm, that turns the radius, together with the hand, inwards.

Pronator Radii Teres, a pronator muscle of the fore-arm, that rolls the radius, together with the hand, inwards.

Prophylactics, any means made use of with a view to preserve health; from προ, *before*, and φυλασσω, *to defend.*

Proptoma, from προπιπτω, *to fall down;* a relaxation of the scrotum, of the under lip, of the breasts in females, of the præpuce, or of the ears.

Prostatæ, or *Prostate Gland*, a very large, heart-like, firm gland, situated between the neck of the urinary bladder and the bulbous part of the urethra. It secretes the lacteal fluid, which is emitted into the urethra by ten or twelve ducts that open near the verumontanum during coition; from προ, *before*, and ιστημι, *to stand;* because it is situated before the bladder.

Prothesis, adding artifical parts, as the applying a wooden leg, &c.

Protractor, is an instrument used by surgeons to draw out any foreign or disagreeable bodies from a wound or ulcer, in the manner as the forceps.

Protuberance, any elongation, or extension of a part, whether natural or not, as the apophyses of the bones, and the like.

Prunum Gallicum, the common prune or plum. The plant which affords this fruit is the *Prunus domestica* of Linnæus. Prunes are considered as emollient, cooling and laxative, especially the French prunes, which are directed in the decoction or senna, and other purgatives; and the pulp is ordered in the *electuarium è senna.*

Prunum Sylvestre, the sloe, or fruit of the *Prunus spinosa* of Linnæus. It is sometimes employed in gargles, to tumefactions of the tonsils and uvula, and from its adstringent taste was formerly much used in hæmorrhages, &c.

Prurigo, a violent itching.

Pruritus, a violent itching; the itch, or any dryness and roughness of the skin, caused by sharp humours, which stagnate in, and corrode the miliary glands.

Prussiats, (*Prussias, tis. s. m.*) salts formed by the union of the prussic acid, or colouring matter of Prussian blue, with different bases; thus, *prussiat of alumine*, *prussiat of ammoniac*, &c.

Psalterium, the medullary body that unites the pedes hippocampi of the brain; from *psalterium, a harp*, because it is marked with lines that give it the appearance of a harp.

Psellismus, stammering, or a faulty articulating and uttering of words. Of this defect Dr. Cullen distinguishes seven species: 1. *Psellismus Hæsitans,* when there is difficulty to pronounce the first syllable of some words, and which is not effected but by frequent repetition. 2. *Psellismus Ringens*, in which the letter R is aspired, and sounded as if it was doubled. 3. *Psellismus Lallans*, in which the letter L is sounded too liquid. 4. *Psellismus Emolliens*, in which the hard letters are sounded too soft, and the letter S is too much used. 5. *Psellismus Balbutiens*, in which, from a too large tongue, the labial letters are too much heard. 6. *Psellismus Acheilos*, in which the labial letters are with difficulty uttered. 7. *Psellismus Lagostomatum*, in which, from a faulty palate, the guttural letters are all pronounced.

Pseudes, false or bastard. Hence the word ψευδος, or *pseudo*, with which many names begin.

Pseudoblepsis, imaginary vision of objects; from ψευδος, *false*, and βλεψις, *sight*; a genus of disease in the class *locales* and order *dysæsthesiæ* of Cullen; characterized by depraved sight, creating objects or representing them different from what they are. Species: 1. *Pseudoblepsis imaginaria*, in which objects are perceived that are not present: 2. *Pseudoblepsis mutans*, in which objects that are present appear somehow changed.

Psoas Magnus, a muscle situated within the cavity of the abdomen, that bends the thigh forwards, or when the inferior extremity is fixed, assists in bending the body. Ψοας; from ψοα, *the loin*; because it is situated in the loins.

Psoas Parvus, a muscle situated in the cavity of the abdomen, which assists the psoas magnus in bending the loins forwards, and in certain positions assists in raising the pelvis. It is sometimes wanting.

Psora, ψωρα, the itch; a genus of disease in the class *locales* and order *dialyses* of Cullen; appearing first on the wrists and between the fingers in small pustules with watery heads. It is contagious. M. M. Cathartics; sulphur ointment is safest; unguentum citrinum, cœruleum, hellebori albi, and hydrargyric albi, also a solution of muriate of mercury or muriate of ammonia are sometimes used.

Psoriasis. This disease is by some authors defined to be a species of itch which affects the scrotum; from ψωραω, *to itch*. M. M. A weak solution of muriate of mercury.

Psorica, ψωρικα, are medicines good against scabs, and cutaneous eruptions, particularly the itch.

Psorophthalmia, a scabby eruption, or itch-like pustules of the eye-lids and their margins; from ψωρα, *a scab*, and οφθαλμος, *an eye*.

Psychrolutron, ψυχρολετρον, is the cold bath, or washing in cold water; much used by the ancients to restore the tone of the parts after warm bathing, and to give a firmness to the body.

Ptarmos, πταρμος, *sneezing*; whence

Ptarmica, are the same as *Sternutatories*; medicines which excite sneezing.

Pterygium, a membranous excrescence which grows upon the internal canthus of the eye chiefly, and expands itself over the albuginea and cornea towards the pupil. It appears to be an extension or prolongation of the fibres and vessels of the caruncula lachrymalis, or semilunar membrane, appearing like a wing; from πτερυξ, *a wing*. M. M. Excision; escharotics.

Pterygoideus Externus, a muscle of the lower jaw, that pulls the lower jaw forwards and to the opposite side, and pulls the ligament from the joint, that it may not be pinched during these motions; when both external pterygoid muscles act, the fore teeth of the under jaw are pushed forwards beyond those of the upper jaw.

Pterygoideus Internus, a muscle of the under jaw, which draws the jaw upwards and obliquely towards the opposite side.

Pterygoid Process, a wing-like process of the sphænoid bone, so called from πτερυξ, a *wing*, and ειδος, a *resemblance*.

Pterygo-Palatinus, i. e. *Spheno-pterygo-Palatinus*.

Pterygo-Pharyngæi, from πτερυξ, *a wing*, and φαρυγξ, *the throat*. It is a name of the *Cephalopharyngæus*. In the edge of the internal alæ of the apophyses pterygoidæi, these muscles rise, then run backward, and are inserted into the lynea alba of the pharynx.

Pterygo-Staphylinus Superior. The muscles which bear this name are only the external portions of the spheno-salpingo-staphylini.

Pterygo-Staphylinus Inferior. They are inserted at one extremity into the uncus pterygoidæus, and by the other, into the septum, near the uvula.

Ptilosis, πτιλωσις, a baldness of the eye-lashes, from a callous thickening of the edges of the eye-lids, so that it is a complication of a madarosis, and a hard lippitude.

Ptisana vel Petissana, πτισανα, πτισσανη, from πτισσω, *to decorticate, bruise* or *pound*; *ptisan* or *ptissan*; properly it is barley deprived of its hulls, or pounded barley, because formerly the barley was decorticated by pounding, after having been steeped a little in water, and then it was dried.

Ptosis, πτωσις, from πιπτω, *to fall*. It is a descent of the upper eyelid, either on account of a palsy of the muscles which should elevate it, or a flux of humours which depress it.

Ptyalism, πτυελιζειν; from πτυελον, *saliva* or *spittle*; a salivation, or increased secretion of saliva from the mouth. M. M. When it proceeds from a fault of the stomach, emetics and tonics; when from a calculus in either of the salivary ducts, extraction of the calculus; when from the use of mercury, sulphur, cathartics and adstringent gargles.

Pubes, is the external part of the pudenda, or parts of generation in both sexes, and which, in adult persons, is covered more or less with hair.

Pubis Interrosseum Ligamentum. It is a strong triangular membrane, fixed by two of its edges in the inferior branches of these bones, all the way up to their common symphysis; the third edge, which is the lowest, is loose; and this whole membrane, the middle of which is perforated by a particular hole, is stretched very tight between the two bones, and under their cartilaginous arch, to which it adheres very closely.

Pubis Os, a bone of the fœtal pelvis See *Innominatum Os*.

Pudenda, the parts of generation; from *pudor*, *shame*.

Pudendagra. So some have called the venereal disease; *pudenda*, from *pudor*, *shame*. Others define it to be pain or uneasiness in the genital parts of men or women, somewhat resembling a diarrhœa, but without a dysuria. Dr. Berdoe asserts in his *Essay on the Pudendagra*, that it is distinct from the venereal disease, and also, that it is proper to women, but that a woman labouring under it can communicate some inflammatory symptoms to the penis of a man who cohabits with her. Mild antiphlogistic treatment is all that is required.

Pudica Arteria. It comes out between the pyriform muscles and the spine of the ischium; it runs downwards between the two ligaments (the one of which comes from the tuberosity of the ischium to the sacrum, and the other from the spine of the ischium to the sacrum,) on the inside of the tuberosity; as it goes on, it gives ramifications to the anus, which are called the external hæmorrhoidal, and then goes to the crura penis.

Pudica Externa Arteria. See *Cruralis*.

Pudicæ Externæ Venæ. As the crural vein passes from under the ligamentum Fallopii, it sends out branches to the inguinal glands, the musculus pectinæus, and the parts of generation; these are called *Pudicæ Externæ*, and they communicate with the pudicæ internæ.

Pudicæ Internæ Venæ. The veins that spread about the parts of generation are thus called; they are branches from the venæ hypogastricæ.

Puerpera, strictly signifies a woman just after delivery, or in child-bed; though some use it for them while pregnant.

Puerperal Fever, child-bed fever. Cullen considers this disease as a species of continued fever. M. M. Emetics; cathartics; saline draught copiously and before its effervescence; carbonate of potash; diaphoretics; opium; columbo; cinchona; fomentations of chamomile, poppy heads and alkohol; cleanliness; cool air; erect posture once or twice a day.

Pugil. It is the eighth part of a handful.

Pulegium. Pennyroyal. *Mentha pulegium* of Linnæus. This plant is considered as a carminative, stomachic, and emmenagogue; and is in very common use in hysterical disorders. The officinal preparations of pennyroyal are, a simple water, a spirit, and an essential oil.

Pulmo, the lungs. See *Lungs*.

Pulmonary Vessels. From *pulmo*, a lung The pulmonary artery arises from the right ventricle of the heart, and soon divides into the right and left, which ramify throughout the lungs, and form a beautiful net-work on the air vesicles, where they terminate in the veins, whose branches at length form four trunks, which empty themselves into the left auricle of the heart.

Pulsatilla Nigricans. This plant, *Anemone pratensis* of Linnæus, has been received into the Edinburgh Pharmacopeia upon the authority of Baron Stoerck, who recommended it as an effectual remedy for most of the chronic diseases affecting the eye, particularly amaurosis, cataract, and opacity of the cornea, proceeding from various causes. He likewise found it of great service in venereal nodes, nocturnal pains, ulcers, caries, indurated glands, suppressed menses, serpigenous eruptions, melancholy, and palsy. The plant, in its recent state, has scarcely any smell, but its taste is extremely acrid, and when chewed, it corrodes the tongue and fauces. Extract of, gr. v. Water of, ℥ ss.

Pulse. The beating of the artery at the wrist is termed the pulse. It depends upon, and is synchronous with, that of the heart; hence physicians feel the pulse to ascertain the quickness or tardiness of the blood's motion, the strength of the heart, &c.

Puncta Lachrymalia, two small orifices, one of which is conspicuous in each eye-lid, at the extremity of the tarsus, near the internal canthus.

Punctum Saliens, the leaping-point. That speck in the egg which is called the *Treddle*, and is observed first to have motion in the formation of the chick, is thus called.

Puncture, from *pungo*, *to prick*; is any wound made by a pointed instrument.

Puon, πυον, *putrefactio*, corruption; one of the two natural methods of disorganizing the deceased bodies of plants and animals.

Puorrhœa, a purulent discharge from the belly.

Puoturia, white, mucous or purulent urine.

Pupilla, the pupil. See *Eye*.

Pur, πυρ, *ignis*, *fire*; the second of the great processes by which the structure of organized bodies is broken down and dissolved into their pristine elements, or into new compounds. All bodies that have had life, whether animal or vegetable, are decompounded after death, either by corruption or by fire. Putrefaction is the more common mode; but combustion finishes what the putrefactive process leaves. And there is a remarkable analogy between these two great finishing operations of nature. These roots and their derivatives have been traced with erudition and application to medicine, by Drs. Mitchill and J. C. Kunze. See *Bay's Dissertation on Dysentery, Introduction. Pur* is employed by Hippocrates sometimes to signify a fever, because during that disease there was frequently an evolution of a considerable degree of heat, as in common fire or burning.

Purgantia, purgatives; and

Purgation, from *purgo*, *to cleanse*; to purge. See *Cathartics*.

Purging-Salt, *(Bitter)* a genus of neutral salts in the order of earthy neutral salts. It consists of magnesia alba, and the sulphuric acid.

Purpura, a name for the miliary fever; also the spotted fever; the spots are symptomatic only.

Purpura Scorbutica. It is the *Herpes* of Vogel, the *Purpura* of Hoffman, and the true *Serpigo* of some other writers.

Purpura Urticata, i. e. *Urticaria*.

Purpurata, i. e. *Petechialis Febris*.

Pus, a whitish, bland, cream-like fluid, heavier than water, found in phlegmonous abscesses, or on the surface of sores. It is distinguished according to its nature, into laudable or good pus, scrophulous, serous, sanious, and ichorous pus.

Pustulæ, pustules; small tumours, at first of a red or yellow colour, whose apex soon contains pus, and then forms a purulent crust.

Pustulæ Oris, the thrush.

Pusturia, i. e. *Pyuria*.

Putrefaction, from *putris*, or *putredo*, *rottenness*, and *facio*, *to make*. *Putrefaction* may be considered as a spontaneous analysis without culinary heat; or a resolution and separation of the particles of bodies, by the weight of their mass, and by the dilatation of the fluids they contain, but aided by the external heat of the atmosphere. This spontaneous analysis disengages the *phlogiston*, sometimes with anticrouon in the form of *inflammable air ;* sometimes with oxygen in the shape of *water*, and then again with septon in the guise of *ammoniac.* It disengages the *carbone*, sometimes with phlogiston in the form of *fat*, sometimes with oxygen forming the *oxyd of coal*, then with anticrouon, constituting *carbonic acid air.* While bodies putrefy, their septon very soon undergoes a change. It sometimes breaks coherence, and flies off jointly with anticrouon in the form of *azotic air*, but very commonly it associates with a portion of oxygen, and constitutes *septic acid.* This *acid*, in a low state, may remain *liquid* on the putrefying surface which produced it, or in a temperature sufficiently warm, it will be converted into a *gas*, and envenom the neighbouring atmosphere. These two compounds are highly pernicious, and are the exciting causes of the worst fevers and pestilential distempers. Fortunately for the human race, septic acid is not *always* formed. And even in many cases where this poison is produced, its antidote, the volatile alkali, is evolved with it ; Providence having so ordered it, that the same process which produced the noxious compound, should produce also ammoniac to neutralize and quell it.

Putrid Fever, a species of typhus. See *Typhus gravior.*

Pylorica, Arteria. It is a branch of the hepatic artery, which is ramified on the pylorus, and on the cardia, and anastomoses with the arteria gastrica dextra.

Pylorica, Vena. It is a branch from the vena portæ ventralis. Sometimes it is only a branch of the gastrica recta : it passes over the pylorus to the short arch of the stomach, where it anastomoses with the coronary vein thereof.

Pylorus, the inferior opening of the stomach, which opens into the intestines ; from πυλοω, *to guard an entrance*, because it guards, as it were, the entrance of the bowels.

Pyosis, πυωσις, i. e. *Hypopyon.*

Pyramidales, Musculi, are a pair of muscles belonging to the abdomen, so called, from their resemblance to a pyramid in figure: they rise with a fleshy beginning, from the outer and upper part of the os pubis, and growing narrower and narrower, are inserted in the linea alba, sometimes near the navel. Sometimes one and sometimes both these muscles are wanting.

Pyrænus, from πυρ, *ignis, fire*, and οινος, *vinum, wine ;* is *Rectified Spirit of Wine*, thus called because it is made by fire, or rather rendered of a fiery nature, so as to be totally inflammable.

Pyrethrum, πυρεθρον ; from πυρ, *fire ;* by reason of its biting, fiery taste. Pellitory of Spain. *Anthemis pyrethum* of Linnæus. The ancient Romans, we are told, employed the root of this plant as a pickle. In its recent state it is not so pungent as when dried, yet, if applied to the skin, it is said to produce inflammation. Its qualities are stimulant ; but it is never used, except as a masticatory, for relieving tooth-achs, rheumatic affections of the face, and paralysis of the tongue, in which it affords relief by stimulating the excretory ducts of the salival glands.

Pyretica, pyretics, from πυρ, *fire*, or *heat ;* such medicines as are good against fevers.

Pyretologia, from the same derivation as the foregoing, and λεγω, *to describe ;* a discourse upon, or description of fevers.

Pyretos, πυρετος, a burning, or inflammation. This word is used by the Greek physicians, and even by the four evangelists, to signify what is now called a high or ardent fever: an increased circulation of the blood, with strong action of the heart and arteries, with much augmentation of heat.

Pyrexia. Πυρεξια, fever.

Pyrexiæ. Febrile diseases; from πυρεξια, fever. The first class of Cullen's nosology; characterized by a frequency of pulse after a cold shivering, with increase of heat, and especially, among other impaired functions, a diminution of strength.

Pyriformis, a muscle of the thigh, situated on the outside of the pelvis, which moves the thigh a little upwards, and rolls it outwards.

Pyrites, a yellow and frequently shining metallic composition, heavy, hard, and easily striking fire. It is a composition of clay, sulphur, and iron; but is often mistaken by ignorant people for gold. It is sometimes crystallized into exact cubes, and at others gathered into roundish balls. Some sorts of it crumble to pieces in the air, and turn to copperas and allum. See *Marcasite*.

Pyro-lignates, are salts formed by the union of the *Pyro-ligneous* acid, with the different alkaline, earthy, and metallic bases.

Pyro-mucites, are salts formed by the union of the *Pyro-mucous* acid, with the different alkaline, earthy, and metallic bases.

Pyro-tartarites, are salts formed by the union of the *Pyro-tartareous* acid, with the different alkaline, earthy, and metallic bases; there are twenty-four species enumerated in M. Fourcroy's Elements of Nat. Hist. and Chem.

Pyrophorus, from πυρ, *fire*, and φερω, *I bear*; a chemical preparation possessing the property of kindling, by being exposed to the air. It consists of carbone and a very concentrated vitriolic acid. On attracting the moisture of the air, so much heat is excited in it as to become luminous and to burn.

Pyrosis, water-brash; from πυρωσις, *a burning*; a genus of disease in the class *neuroses* and order *spasmi* of Cullen; known by a burning pain in the stomach, attended with copious eructation, generally of a watery insipid fluid. M. M. Antispasmodics; nux vomica ℈ss. to ℈i. three times a day; smoaking or chewing tobacco.

Pyrotics, are medicines that are actually or potentially hot, such as will burn the flesh, and raise an *eschar*, from πυρ, *ignis*, *fire*.

Python, a devouring monster of the serpent kind, bred from the slime of the Nile, and killed by the shafts of Phœbus. It is derived from πυθω, *putrefacio*, *to corrupt*; and the story is one of the most beautiful and instructive of the ancient allegories. It has been literally dwelt upon and embellished by the poets; but its true and proper meaning seems to be, that noxious and pestilential vapours were engendered in the mud of the receding river of Egypt, and overcome by the solar rays or beams of Apollo, as they dried the sand. Dr. Mitchill has given an interpretation of this elegant and noble allegory, in the *Medical Repository*, vol. ii. p. 431, which the curious scholar may consult with advantage.

Pyuria, *pyoturia*, difficulty of making water, with great discharge of mucus.

Pyuria Arthritica, difficulty of making water from gout.

Q.

QUACK, a medical impostor, who "for the good of the public," and "by the blessing of God," undertakes with his powders, potions, or balsams, to cure "all disorders." Thus, ignorance and blasphemy unite in picking the pockets and ruining the constitution of thousands of credulous people in this and other countries. The pretension to infallibility in any one medicine, as a cure for any one disorder, is next to absurd; much more ridiculous is it then to suppose, that any medicine will remove all kinds of complaints. Every medicine possesses active properties, or it does not If it be active, it must be dangerous to apply it, indiscriminately, to persons of every age, and without regard to their habits of living. An active medicine, which might be very useful in strengthening a debilitated constitution, would be highly injurious if exhibited in an acute rheumatism, or other inflammatory disorder, and *vice versa;* consequently, an application of the same remedy in all cases can hardly fail of being fatal in some. Should the medicine be inactive, which happily is often the case, it can be of no other utility than to work upon the patient's imagination, and amuse him while his pocket is picked.

Quacks, and *Quack Medicines*. The appellation of *quack* arose from *quacksalber*, the German appellation of quicksilver; since on the first appearance of lues the irregular practitioners only employed this reputedly dangerous medicine. At present it is confined to those who sell a pretended nostrum, the preparation of which is kept secret: but may be applied to every practitioner who, by pompous pretences, mean insinuations, and indirect promises, endeavours to obtain that confidence which neither success nor experience have entitled him to.

The human mind is captivated by confident promises, especially if, like the oracles of old, they are couched in ambiguous language, and if they are directed to those points which are most interesting, and which chiefly influence the imagination. We have often observed that the idea of a latent lues is with difficulty eradicated; and that no failure is so sensibly felt as that connected with the function by which the species is reproduced. For these reasons, remedies are held up with the most indecorous ostentation as infallible in such cases; and the mind is allured by promises that the medicine is equally safe and secret. We know a single individual who, on the latter pretence, for years expended from 70*l.* to 100*l.* annually in trash like the solar tincture, and the balm of Gilead; and the author of this article was asked if he had not a high opinion of Dr. Freeman, by a patient who professed himself almost ruined in the pursuit of quacks, and had determined to leave them.

There are undoubtedly various remedies sold by plausible, captivating titles, which are truly insignificant; others of some service; others highly useful. Had the remedies of quacks been always despised, we should have wanted the compound powder of ipecacuanha; the sudorific powder of Ward; some of the aloetic tinctures and pills; the powder of Dr. James; the paste of Ward, &c. The nature of these remedies is now known; but there are others which are valuable, whose nature we know, though the particular preparation we are unacquainted with.

We had intended to have noticed the quack remedies at some length, and could have pointed out the principles of many with some certainty; but we found that we "walked on burning coals, ill concealed by delusive ashes." We shall, therefore, add only a few remarks on the different classes just distinguished.

Of the trifling, insignificant remedies, those recommended for coughs and consumptions are the most inert. The balsam of liquorice, of lungwort, and honey, are little more than opiates in disguise; for it is well known that the valuable parts of each medicine consist in mucilage, which is incapable of concentration. Godbold's balsam is of a similar kind. We have, however, reason to believe that it was first prepared from the various, supposed expectorants of an old herbal, since Godbold (the elder), though an ignorant, seemed an honest, man; and he professed that he had given us the receipt. This idea is since supported in a late periodical publication, the "*Medical Observer.*" At present, however, it is certainly only vinegar and honey, with a proportion of laudanum, and some aromatic, varied apparently at different times. The solar tincture, the balm of Gilead, and the whole tribe of pretended restoratives are at best trifling, unless, as is suspected, the balm contains a stimulus, which gives temporary activity at the expence of the little remaining strength. Many of these cordials owe their reputation to the spirit; and we knew a lady who thought she could not live without them, till her brother filled an empty bottle with brandy only, which she continued taking without discovering the difference till he explained it, and convinced her of her folly. Our own country, however, does not exclusively furnish dupes. The continent, particularly Germany, swarms with them; and one of the latest as well as the grossest impositions of this kind was Dr. Lendhart's liquor for accelerating delivery, which was found to be a solution of Glauber's and Epsom salts, disguised by an innocent colouring. But though in itself an imposition, it were to be wished that every quack remedy were ultimately so useful; for by inspiring confidence it reconciles the patient to delay, when nature frequently succeeds in the attempt. Numerous are the valuable remedies introduced, in this secret way, first in Germany; among the rest is the zinc, styled the *luna fixata Ludemanni*, first detected by Gaubius.

There are certainly many medicines of some utility under this disgraceful form; and if those who object to the charges of an apothecary will be contented in this way to pay them ten times told, the revenue will gain, and no one be materially injured. There can be little doubt of Dr. James's analeptic pills being accurately prepared at a moderate expence, and Anderson's pills may undoubtedly be sold at an inferior price of equal goodness. The antimonial in the pills of Dr. James probably suggested to Mr. Barclay, as it did many years since to ourselves and many others, the union of emetic tartar with the resinous purgatives. It undoubtedly quickens and facilitates their action; and Barclay's pills are a warm, useful laxative, particularly convenient for those to whom aloes may be injurious. It is not to our purpose to add that every apothecary's apprentice could have composed an equally useful medicine, and one less inconvenient from its bulk, or that from any apothecary it could have been purchased at a much cheaper rate. *Si populus*, &c. It reminds us, however, of an application made by a druggist to an apothecary to furnish a composition of this kind, which he engaged to vend in considerable quantities, by the simple expedient of affording a larger allowance to the retail trader than he received by any rival medicine.

Whitehead's essence of mustard is a similar medicine, and an elegant form of turpentine, with camphor, perhaps opium, which was well known, and used long before Mr. Whitehead's existence. The various remedies for the whooping-cough, when internal, are either opiates or the white vitriol; when external, the polish embrocation of oil of amber, ammonia, &c. The soda-water is well known; and the sodaic powder, which is, however, a solution of soda, with a rapid *extrication* rather than the *union* of fixed air, we have already mentioned. If added to the water, and the whole immediately confined with wire in a strong jug, soda-water may undoubtedly be prepared from it; but an effervescing saline draught is, in its proposed form, an equally efficacious and a more elegant remedy.

There are other preparations which contain active medicines, which should not be entrusted to common hands. Of these the secret remedies for the venereal disease, which stare every one in the face, at the appropriate corners, where the disease is most felt, are particularly obvious. All these preparations undoubtedly contain mercury in its most active forms, and the authors defy detection by the smallness of the dose, the deep colour, and the viscidity of the fluid which contains it. Modern chemistry has, however, many resources, which cannot fail to discover the deception. Gowland's lotion is equally a mercurial, and highly pernicious. Numerous are the lives which have been sacrificed to it within our own observation; and those who have escaped, have passed their remaining days in torture or distress. Spilsbury's drops, a solution of muriated mercury, are less injurious, because the dose is small and they do not repel; but indiscriminately used have been highly injurious.

The composition of Ching's lozenges is well known, and they contain calomel; in the brown kind united to resin of jalap. They are undoubtedly active medicines, and often on that account injurious when indiscriminately employed; nor is it certain in these preparations that the calomel is always properly prepared. The opium in Godfrey's cordial and Dalby's carminative is also frequently dangerous, by indiscriminate use, and many children's lives have been sacrificed to the impatience of nurses, though in proper hands each is a pleasing and useful anodyne. The concentrated essence of ginger, in the same manner employed in the relief of colic, has more than once induced inflammation of the bowels under our own eye.

We have thus selected some of the most common medicines as instances of the different forms which empiricism assumes, viz. merely picking the pocket, without any advantage; demanding an extravagant price for common medicines; and holding up confident promises by medicines of real activity, which, by undistinguishing ignorance, become really injurious. The legislature demands the receipt of the remedy before it grants the patent; but this is eluded by general directions, by multiplying useless steps in the process, as in Whitehead's specification, often concealing some leading observation essential to its success; nor is any security given that the medicine shall be always prepared according to this process. Every patent requires, we apprehend, that the *principle* should be new; and if it be not, an action cannot lie for its infringement. If this be true, we would engage to show the principle of every patent medicine in works long since published, and very often the process described much more accurately than in the specification.

The confident promises are supported by numerous attestations. How these are procured is well known, and common names, in remote parts of the metropolis, or in distant provincial villages, are secure from detection. The answer of one man, who had given a countenance, perhaps an attestation to every quack who visited the town in which he lived, will perhaps explain the mystery. "I thought it an honest way of gaining half-a-crown; for I did no one any injury."

The conduct of those in superior ranks of life, who sanction by their names the circulation of the most injurious medicines, demands some severer strictures. "What," it will be alleged, "should hinder me from publicly saying that I was relieved from a given disorder by such a medicine?" The very circumstance that, as you know not the disease, you cannot ascertain the reality of the cure; nor can you say it was owing to the medicine. A physician who has spent his life in study and observation finds himself often baffled in these conclusions; and yet they are rashly drawn by persons wholly unacquainted with the subject, whose minds have received little cultivation, or who have directed their attention to very different sciences. Credulity and confidence are the constant companions of ignorance; and the wisest man must be ignorant of professional subjects if that profession has claimed no share of his attention.

Quadragemini, are four muscles of the thigh, the *Pyriformis*, the two *Gemini*, and the *Quadratus*, which see under their respective names.

Quadratus Femoris. This muscle rises from the outside of the tuberosity of the ischium, and is inserted into the line between the trochanter major and minor, serving to rotate the thigh.

Quadratus Lumborum, ariseth from the posterior part of the spine of the ilium, and is inserted into the inside of all the transverse processes of the vertebræ of the loins. This muscle moveth the body upon the loins to one side, and both together help the rectus abdominis in bending the body forward.

Quadratus Maxillæ Inferioris, is a broad membranous muscle, which lies immediately under the skin. It ariseth from the upper part of the sternum, from the claviculæ, and from the acromium: it covereth all the neck, and adheres firmly to the lower edge of the lower jaw, and being produced, covers also the lower part of the cheeks. When it acteth, it pulls the jaw downwards.

Quadratus Radii, arises by a broad and fleshy beginning, from the lower and internal part of the ulna; it passeth over the ligament that joins the radius to the ulna, and is inserted as broad at its beginning into the external and lower part of the radius.

Q. Pl. Quantum Placet, as much as you please.

Q. V. Quantum vis, as much as you will.

Q. S. Quantum sufficit, as much as sufficeth.

Quarantine, a term of forty-days. See *Lazaretto*.

Quartana Continua, continued quartan. The paroxysm returns every fourth day, after previous pandiculations and horripilations, but does not very exactly observe its period; nor, when the paroxysm abates, does it totally intermit, but is only milder on the intermediate days than in that on which the paroxysm happens. The heat is also preternaturally intense, the pulse increased, the appetite languid, the strength low, the mouth dry, the head giddy, the sleep restless, the urine red, thick, with a high coloured sediment.

Quartana Duplex, a double quartan. It is when within four days two succeeding paroxysms happen, in such a manner that each preserves its proper type and peculiar time of accession, alternately corresponding to the preceding paroxysm, and the third day only being totally free from the fever.

Quartana Febris, an ague or quartan fever. It hath two fits in four days, or two days free from the fit, so on the first and the fourth the fever attends, and on the second and third it is free; the accession of the fit is in the afternoon. Dr. Cullen places this genus of disease in the class *Pyrexiæ*, and order *Febres*. It is usually both more violent and obstinate than a tertian. Sometimes a quartan fever is double, that is, when the fits come on every other time at different hours, and so that the third day only is free from fever. It is called *Spurious*, when the fit begins at any other time of the day than about four or five o'clock in the evening. The fits return with greater regularity generally than is observed in other species of fevers. The cure is as related for intermittent fevers.

Quassia. Bitter quassia. The root, bark, and wood of this tree, *Qussia amara* of Linnæus, are all comprehended in the catalogues of the materia medica. Quassia has no sensible odour; its taste is that of a pure bitter, more intense and durable than that of almost any other known substance: the medicinal virtues ascribed to it are those of a tonic, stomachic, antiseptic, and febrifuge; it has been found very effectual in restoring the tone of the stomach, exciting appetite for food, assisting digestion, expelling flatulency, and removing habitual costiveness, produced from debility of the intestines, and common to a sedentary life. Quassia derived its name from a negro named *Quassi* (by Fermin written *Coissi*, and by Rolanda *Quass*,) who employed it with uncommon success as a secret remedy in the malignant endemic fevers which frequently prevailed at Surinam.

Quercus. The oak. This valuable tree, *Quercus robur* of Linnæus, is indigenous to Britain. Its adstringent effects were sufficiently known to the ancients, but it is the bark which is now directed for medicinal use by our Pharmacopeias. Oak bark manifests to the taste a strong adstringency, accompanied with a moderate bitterness. Like other adstringents, it has been recommended in agues, and for restraining hæmorrhages, alvine fluxes, and other immoderate evacuations. A decoction of it has likewise been advantageously employed as a gargle, and as a fomentation or lotion, in *procidentia recti et uteri.* Galls, which in the warm climate of the East, are found upon the leaves of this tree, are occasioned by a small insect with four wings, called *Cynips querci folii*, which deposits an egg in the substance of the leaf, by making a small perforation through the under surface. The ball presently begins to grow to a considerable size. Two sorts of galls are distinguished in the shops: one said to be brought from Aleppo, the other from the southern parts of Europe. The former are generally of a blueish colour, or of a greyish or black verging to blueness; unequal and watery on the surface, hard to the break, and of a close compact texture: the other, of a light brownish or whitish colour, smooth, round, easily broken, less compact, and of a much larger size. The two sorts differ only in size and strength, two of the blue galls being supposed equivalent in this respect to three of the others. Galls appear to be the most powerful of the vegetable adstringents. As a medicine they are to be considered as applicable to the same indications as the oak-bark, and by possessing a greater degree of adstringent and stpytic power, seem to have an advantage over it, and to be better suited for external use. Reduced to fine powder, and made into an ointment, they have been found of great service in hæmorrhoidal affections.

Quicksilver, mercury. See *Hydrargyrus*.

Quietales, diseases in which the voluntary and involuntary motions, and the senses are diminished.

Quinquina, the Peruvian-bark.

Quinsey, the same as *Angina*, which see.

Quotidiana Febris, a quotidian fever. It intermits, but returns every day, and that generally early in the morning; when the fit approaches at any other time of the day, it is called *Spurious*, or *Anomalous*. Dr. Cullen places this genus of disease in the class *Pyrexiæ*, and order *Febres*. The blood is more dense in this species of intermittents than in any other.

Quotidiana Soporosa, i. e. *Tertiana Carotica*.

R.

R. THIS letter is placed at the beginning of a prescription as a contraction of *recipe*, take: thus, R. *Magnes. alb.* ʒj. signifies, take a drachm of magnesia.

Rabies, i. e. *Hydrophobia*. When from the bite of a mad dog the patient hath a desire of biting, the canine madness is called *Rabies*.

Rachialgia, i. e. *Colic*, particularly the colica Pictonum.

Rachitis, the rickets; from ῥαχις, the *back bone;* a genus of disease in the class *cachexiæ* and order *intumescentiæ* of Cullen; known by a large head, prominent forehead, protruded sternum, flattened ribs, big belly, and emaciated limbs, with great debility. M. M. Cold bath; exercise; friction; spirituous embrocations on the spine; cinchona; iron; gentle emetics; phosphate of lime and soda, grs. x. each twice a day; alkaline lotions.

Racosis, ῥακωσις, excoriation of the relaxed scrotum.

Radiæus Internus, is the second muscle of the wrist, and arises from the internal extuberance of the humerus, and upper part of the ulna, and stretching along the radius, is inserted into the first bone of the metacarpus that sustains the fore-finger, and with the cubitæus internus, bends the wrist. They have their name from *Radius*.

Radialis, i. e. *Radiæus*.

Radialis, Arteria. It is a branch of the humeral artery: it runs down the side of the radius, covered by the supinator longus: at the wrist it divides into two, one of which passing over the palm of the hand, is lost in the fleshy part of the thumb: the other passes on and between the metacarpal bone of the fore-finger, and the first bone of the thumb plunges into the palm, and forms a sort of arch there.

Radius, one of the long bones of the fore arm, situated on the external side towards the thumb, which serves for flexion, supination, and pronation. At its upper extremity is an excavated head, forming the glenoid cavity, and a little tubercle; and at its inferior extremity a styloid apophysis. *Radius* signifies a staff or beam.

Ranine Artery, sublingual artery. The second branch of the external carotid.

Ranula, the name of a tumour seated under the tongue: it hath been thought to resemble a little frog, whence the name of *Ranula*, though some say it is thus named, because it alters the voice of the patient so as to make him croak like a frog: this tumour is formed in the salivary glands under the tongue, and is seated on either side the frænum: it is generally of the scrofulous kind.

Raphania. From ῥαφανη, the radish or sharlock; because the disease is said to be produced by eating the seeds of that plant. A genus of disease in the class *neuroses* and order *spasmi* of Cullen; characterized by a spasmodic contraction of the joints, with convulsive motions, and a most violent pain returning at various periods.

Raphanus Rusticanus. Horse radish. The plant which affords this root is the *Cochlearia armoracia* of Linnæus. Horse radish has been long received into the materia medica, and is well known at our tables; it affects the organs both of taste and smell with a quick penetrating pungency. Externally applied to the skin, it induces inflammation, and proves a rubefacient, and may be employed with advantage in palsy and rheumatism. Received into the stomach, it stimulates it, promotes digestion, and acts powerfully upon the kidneys. It is also in frequent use as an antiscorbutic.

Rattle-Snake-Root. (*Senega*). See *Senega*.

Raucedo, and *Raucitas*, a hoarseness: it is a diminution of the voice, sometimes attended with a preternatural asperity or roughness thereof: the parts affected are the aspera arteria, and particularly the larynx. Dr. Cullen observes, it is generally a symptom of catarrh, but sometimes it is a species of *Pharaphonia*, which see.

Realgar. A metalic substance of a red colour, more or less lively, and transparent, and often crystallized in brilliant needles. It is formed by a combination of arsenic with sulphur.

Receptaculum Chyli. The existence of such a receptacle in the human body is doubted. In brute animals the receptacle of the chyle is situated on the dorsal vertebræ where the lacteals all meet.

Receptarii Medici; so Langius calls those who set up for physicians upon the stock only of a great many receipts, without being able to reason about their properties or efficacies.

Recipe, take. It is usually placed at the beginning of prescriptions, and is generally wrote thus ℞, or with the character for tin ♃, over which metal Jupiter was supposed to preside, and so is used to denote the invocation of Jupiter before prescribing.

Rectification. A second distillation, in which substances are purified by their more volatile parts being raised by heat carefully managed: thus, spirit of wine, æther, &c. are rectified by their separation from the less volatile and foreign matter which altered or debased their properties.

Rectum Intestinum. The last of the large intestines called the *Rectum*, or straight gut, is every where covered with longitudinal fibres, and hath strong circular ones for expelling the fæces : it is not furnished with bands as the colon is, nor is it covered with the peritonæum, as are the other intestines.

Rectus, is a muscle of the lower belly, which arises from the sternum, the extremity of the last two ribs, and goes straight down to the fore part of the abdomen to be inserted in the os pubis. It hath three or four innervations, or rather tendinous coarctations of its fleshy fibres, which divide the belly of it, as it were, into so many distinct muscles. It hath veins and arteries, which creep on its inside, from the mammillary and epigastric vessels, which communicate, that the blood may return by the mammillary veins, when the passage is stopped by the epigastric, which are compressed in women with child.

Rectus, is also a muscle of the leg, that ariseth from the lower part of the spine of the ilium, and descending between the two vasti, is inserted with them. Likewise,

Rectus, is a muscle that lifts up the eyelids. It ariseth from the bottom of the orbit of the eye, where the optic nerves pierce the cranium, and passing above the superbus, is inserted, by a large tendon, into the border of the eyelid.

Rectus Major, is the third muscle that pulleth the head up or backwards. It ariseth from the spine of the second vertebra of the neck, and is inserted into the lower part of the occiput. And,

Rectus Minor, is the fourth muscle for this office. It lies under the former, and cometh from the back part of the first vertebra of the neck, and is inserted below the former. These are also, from their office, called *Renuentes*.

Rectus Internus Major, ariseth from the fore part of the five interior transverse processes of the vertebræ of the neck, and is inserted into the foremost appendix of the occipital bone, near its great hole. And the

Rectus Internus Minor, lies on the fore part of the first vertebra, like the rectus minor, on the back part, and is inserted into the anterior appendix of the os occipitis, immediately under the former. These nod the head forwards, being antagonists to the recti minores. These are also called *Annuentes*.

Recti Laterales, are another pair, which come from the transverse processes of the first vertebra, and are inserted near the processus mammillaris. They help to move the head to one side.

Recurrent Nerve, is a branch of the par vagum, bestowed upon the organs of speech, whence also called *Vocal Nerve ;* and thus, because it descends and ascends again to supply the muscles of the larynx.

Regimen, government, is used for that care in diet in living that is suitable to every particular course of medicine.

Regionalis Morbus, an epidemic disease.

Regius Morbus, the kingly disease. The jaundice is thus called, but for what reason does not well appear.

Regnum, kingdom, is by the writers in *Physical* and *Natural History* applied to certain classes of natural bodies, as the animal, vegetable, and mineral kingdoms, &c.

Remission, is when a distemper abates, but does not go quite off before it returns again, as is common in fevers which do not quite intermit.

Remote Cause. See *Procatarctic Cause.*

Renales, Arteriæ : they are commonly called *Emulgents*, are generally two in number, and go out laterally from the lower descending aorta, immediately under the mesenterica superior, one to the right hand, the other to the left: they run commonly without division, and almost horizontally to the kidneys, into the depressions of which they enter by several branches: they sometimes send branches to the glandulæ renales, membrana adiposa of the kidneys, and even to the diaphragm.

Renal Glands. Renal capsules. Supra-renal glands. Two hollow bodies of a triangular figure and glandular fabric, placed one on each side upon the kidney, and whose use is unknown.

Renal Vessels. See *Emulgent vessels.*

Renes. The kidneys. Απο τυ ρειν, because through them the urine flows. See *Kidneys.*

Resins. The name of resin is given to a dry inflammable substance, not miscible with water, soluble in oils and spirits of wine, and which flows in a liquid state from the trees that produce them: such as elemi, mastich, sandrack, guaiacum, sanguis draconis, &c.

Resolvents. This term is applied by surgeons to such substances as discuss inflammatory tumours.

Resolution, a termination of inflammatory affections, in which the diseases disappear without inducing any other disease.

Respiratio, (from *respiro*, *to take breath*,) Breathing, *anapneusis*, the action of taking in and discharging the air from the lungs, including, therefore, inspiration and expiration.

This function is of the most extensive importance, since there are few animated beings to whose circulating fluids the occasional access of air is not essentially necessary, either in its gaseous state, or as combined with water. In general the weight of the air is alone sufficient for its impulse, and it is necessary only to make some vacuum to admit either air or water. In the amphibia, and in fish, the aperture of the mouth, and the action of the jaws propels the fluid, either air or water, into the lungs, or over the gills, that the blood may partake its salutary influence. In insects we find no apparatus to assist its action, though some such apparently exists, since the spiracula lead to canals which pass through the whole body, anastomosing freely with each other. The numerous spiracles seem to show, independent of these anastomoses, some separate influence, since by varnishing them in succession, so as to prevent the access of the air, the parts become successively paralytic; but the animal does not die till the upper apertures are closed.

In the human body air is received into the lungs in consequence of a vacuum formed by the elevation of the ribs. With their action the diaphragm seems to correspond; and from a convex form towards the cavity of the thorax, it becomes nearly straight. It has been represented as becoming concave; but this is wholly inconsistent with the phenomena of muscular action. When the action of the intercostals is remitted, the chest falls in consequence of the elasticity of its ligaments, and relaxation is a constant alternating state with contraction in every muscle, unless when diseased. This statement is now generally acknowledged to be correct; nor need we enlarge on the very different opinions which have been offered on the subject, or attempt to elucidate the difficulties, which, on other views, have been felt. The only remaining difference of opinion relates to the respective share of the diaphragm and intercostals in this function. The latter are said by some late authors to fix the ribs only, and that the enlargement of the chest is chiefly effected by the contraction of the diaphragm. Each, however, produces some effect, though the chief agent is undoubtedly the diaphragm. In women the intercostals seem to have a greater share in enlarging the thorax than in men, from the greater arches of the ribs, and the final cause is to assist respiration, when the motion of the diaphragm is impeded by the enlarged uterus. We have said, that all the ribs are raised, and this is perhaps strictly true, though Sabatier contends that the lower ribs descend. (Memoires de l'Academie Royale, Annèe 1778.) Other physiologists have, however, drawn different conclusions, both from the structure of the parts, and from observation. It has been contended also, that as the external and internal intercostals cross each other obliquely, their action must be different, and even opposite; but this has been fully contradicted by an experiment of Haller. In this experiment, it was also found, that in inspiration the ribs did not approach, but rather receded, and the space was, in part, gained by their protruding the sternum.

If, as we find in pregnant women, near the time of delivery, the intercostals carry on the function of respiration almost exclusively, so at other times it is chiefly, if not wholly, effected by the diaphragm. The union of the ribs with the sternum has been anchylosed sometimes with little injury to respiration, though more often with dyspnœa. When, from various causes respiration is difficult, or, in other words, when water, inflammation, or other causes prevent the access of the air, or the elevation of the ribs, different neighbouring muscles are brought to the assistance of the usual agents, particularly those of the thorax in inspiration, and those of the abdomen in expiration. To give a more fixed point to the former the elevatores scapulæ are exerted, and the shoulders are raised.

In the whole of this function, the lungs are passive. Contiguous to the pleura, or at least separated only by an halitus, they are in contact with that part of the membrane which lines the ribs, both in inspiration and expiration, following in each the motions of the chest. The apparent object in this function is to expose every particle of blood, in succession, to the air. The circulation seems to stagnate through serpentine vessels during expiration, and to flow freely when these are distended by the distention of the lungs. This, though apparently obvious, has been denied, chiefly on the principle, that the regular return of blood irritates the heart to regular contraction. Yet when the lobules are distended, the canals of the vessels are necessarily straiter, and when respiration is more frequent, the pulse is quickened. Whatever be the state of this function, there is always sufficient blood carried back to stimulate the heart to regular action. The blood-vessels, we have seen, dispersed freely on the cellules into which the extremities of the bronchiæ terminate, and the containing coats are there so thin that the wax of the injection exudes. Whether air can pass or repass has been the subject of some controversy; and however discordant the calculation respecting the extent of surface to which the blood is exposed, physiologists have generally agreed that it exceeds considerably the whole surface of the body.

The capacity of the thorax, the quantity of air taken in at each inspiration, and that remaining after complete expiration, has been differently estimated. Dr. Goodwyn, Mr. Coleman, Dr. Menzies, Mr. Kite, and Mr. Davy, by different experiments, have endeavoured to determine these questions; but the results have greatly differed. The subject does not appear to us one of considerable importance, so that, without any extensive disquisition, we shall adopt the conclusions of Dr. Bostock, in his late Essay on Respiration. He thinks, that about forty cubic inches of air are taken in at each inspiration; that the lungs, in their natural condition, contain about two hundred and eighty cubic inches; and that about one hundred and nine cubic inches are left after an ordinary expiration. Were we inclined to be critically minute, we think we could show that each number is somewhat too high; though, on the whole, these conclusions are supported by the best physiologists. According to this calculation, however, about one-seventh of the contents of the lungs are discharged by an ordinary, and somewhat more than half by a violent, expiration. A bulk of air nearly equal to three times the contents of the lungs will be thus discharged in a minute, and about four thousand one hundred and fourteen times their bulk in twenty-four hours.

The uses of respiration were for a long time unknown; and imaginary effects were imputed to this function, particularly a more intimate mixture of the blood, by its fancied rapidity through the lungs. The whole mass of blood was supposed to pass through the lungs in the same time that it did through the rest of the body, and, of course, it was thought that its course must be more rapid, though it would be apparently obvious, that if the circuit was shorter, the celerity need not be so great. There is, however, no evidence, except the most uncertain calculation, that the whole mass does pass through the lungs in a corresponding period with its circulation through the whole system: nearly the same quantity is returned in the same time; but if we can measure, or at least approximate, the capacity of the vessels of the lungs, we are unacquainted with the extent of the vessels of the general, or as it may be styled, the aortic system. The nerves, in their passage through the diaphragm and the liver, from the compression of this muscle, were supposed to be affected; and the alternate contraction and relaxation of the diaphragm, as well as of the heart, were attributed to it. The nerves in general, however, pass through the more tendinous portion; and, as the diaphragm in its contraction is only less concave, the pressure on the liver cannot be considerable. The concurring actions of the stomach and abdominal muscles are the only powers which seem to emulge the biliary ducts. The influence of respiration on the course of the chyle in the thoracic duct is wholly imaginary; for pressure would only be useful if there were valves in it; but there are none; and, in experiments on living animals, the chyle is seen to move in the duct, though respiration be impeded or prevented.

The necessity of a supply of fresh air in respiration must have been known from the earliest periods; but the source of this necessity was little understood, till Boyle found the respired air, loaded with aqueous vapour, and diminished in bulk. Mayow, whose fair fame has lately been rescued from oblivion, showed that some principle, which he called a volatile ethereal spirit, was imbibed from the air, and Dr. Black found that air respired contained carbonic acid gas. In this view of the subject, the unfitness of the air for the continuance of life was attributed to its diminished elasticity; for it was only suspected that carbonic acid gas was not fit for the continuance of this function. At last, after a period of more than twenty years, the constitution of the atmosphere was taught by Scheele and Lavoisier. They found that the apparently homogeneous atmosphere was composed of two gases of different properties, the oxygenous and the azotic, in the proportions, if bulk be considered, of 22 to 78, if the weight, of 26 to 74. This proportion of a fluid unfit for respiration, in air essentially necessary to life, was at first astonishing, till it was found that oxygen, like ardent spirit, was poisonous, by its destroying, from excessive stimulus, the excitability, and that, like it, to be innocuous, it must be lowered. Late experiments, however, seem to show that the azote is not wholly useless. In explaining the process of animalization, we found the necessity of some principle, which could reduce the newly absorbed nutriment to an animal nature, and this appears to be azote. Yet the idea is encumbered with difficulties. Azote is an excrementitious fluid; and the changes produced in the blood, from its circulation through the lungs, are apparently those from oxygen only. It is not, however, a very absurd idea that a principle, at first necessary, may in the end be injurious from excess. In fact, Mr Davy, in some very accurate experiments, found a remarkable deficiency of azote, amounting in twenty-four hours to about four ounces and a half.

The changes produced in the atmospheric air, from respiration, are found chiefly to affect its oxygenous portion: this is diminished; and water, in the state of vapour, with carbonic acid gas, are substituted. It is not certain whether the latter gas is separated, or that its basis, carbone, with the oxygenous gas inspired, are its ingredients. The latter is more probable; and, though air contains a small portion of this gas (about 0.01) naturally, its proportion in expired air is very considerable. The oxygenous portion is undoubtedly that part most essential to life in general; and, from the highest order of animals to the lowest, the great difference seems to be, that in the latter the oxygen is more slowly and more completely separated. A man dies while the air still retains a comparatively large proportion of oxygen; snails separate the whole completely (Vauquelin, Annales de Chymiè xii. 278; Spalanzani on Respiration.) In general, the greater the heat, the larger proportion of oxygen is necessary: birds, in general, die when two-thirds of this principle are exhausted. In the human body the greater the rapidity of the circulation, whether from increased temperature, muscular action or fever, the larger proportion of oxygen is required. From a hundred parts of oxygenous gas, were lost in respiration, during an hour and quarter, when the animal breathed with great difficulty, three and a half cubic inches; and of the remainder, sixteen and a half were absorbed by potash. In another experiment, the proportions lost and absorbed were somewhat greater; and it seems probable that the purer the air, the greater is the proportion of carbonic acid gas, as if at least a portion of the oxygen was converted into it. The quantity of oxygen, consumed by a man in twenty-four hours, is nearly 46,000 cubic inches, or about two pounds eight ounces troy; and the quantity of carbonic gas formed probably exceeds three pounds troy. The diminution of the bulk of air by one respiration is about $\frac{1}{85}$ of the whole. Mr. Abernethy supposed, that in common respirations the bulk of air was actually increased. It must undoubtedly be expanded by the heat of the body, a circumstance perhaps not sufficiently taken into the calculation; but he supposed also, that the carbonic acid gas was a superadded portion by exhalation from the vesicles of the lungs, while the diminution, apparent when an animal was long confined in air, arose, in his opinion, from its absorption. The quantity of moisture which is discharged has been differently estimated. It appears to have varied from 11180.57 to 13704 grains in twenty-four hours: the average is 12442; but perhaps the quantity of watery fluid, discharged at different times, varies. It is supposed, by Lavoisier, that this water is formed by the union of the oxygen with hydrogen. Other physiologists have attributed it to a common exhalation; but, when the quantity of oxygenous gas which disappears is accurately examined, it will be found greater than can be accounted for, if we even admit portions to be employed in forming the water and the carbonic acid gas. It is highly probable, therefore, that it is in part absorbed. It is not, however, equally probable, that the water arises from the union of oxygen with hydrogen. In general, the union of these gases is effected with some difficulty, and we suspect that, in every instance, the cooperation of the electric fluid is requisite. This fluid is generally found free, in the atmosphere, and may become an intermede in the present process. In the change also from a vegetable to an animal nature, hydrogen is generally lost; so that, though some of the water in expired air arises from exhalation and evaporation, some perhaps may be formed.

The changes produced on the blood by respiration are now more clearly understood than in the time of Booerhave and Haller. Blood which has passed through the lungs is of a brighter colour than the venal blood, and has a greater capacity of heat. The colour we now know to be owing to the influence of oxygenous gas, and the darker colour of venal blood to carbone. Blood, stagnating without the access of air, becomes of the colour and nature of venal blood; it assumes the same appearances, when exposed to any of the unrespirable gases.

When we consider the different nature of the alimentary substances taken in, which are generally in part vegetable, we find an accumulating portion of carbone, and sometimes of hydrogen, while in the animal fluid these in part disappear, and the predominating principle is azote. We can detect the source of the carbone in the blood, in conformity to this idea, from the thoracic duct, and we perceive that the newly formed aliment is anxiously conveyed, immediately on its reaching the blood-vessels, to the lungs. The oxygenous gas is therefore united with it, and carbonic acid gas immediately formed, which is carried off by the air. At the same time probably a portion of hydrogen becomes water, while the azote taken in more completely animalizes this new fluid, and adapts it for furnishing the different secreted fluids. In the course, however, of the circulation, the oxygen more completely unites with the remaining carbone, so as to form an oxide, which thus assumes a dark colour, and requires a new supply of oxygenous gas, to change it to carbonic acid air, and fit it for its discharge.

The change thus induced by the circulation is chiefly chemical, since it may be imitated out of the body, and the successive variations, from the florid colour to the darker hue, and the contrary, may be effected by confinement from air, and again restoring the blood to the access of oxygen. The oxygen, in this instance, will have its effect through a small bladder, or indeed any vessel of the body, if the cellular substance be removed. The effect therefore will be more certain and speedy through the thin vessels of the lungs, whose diameters admit but a small proportion of the blood. It acts also through the serum, and, as Mr. Davy supposes, by its previous solution in this fluid. The reason of the more striking change to the florid hue we do not, however, understand, as we are so little acquainted with the nature of the red globules. Their colour is found from some late experiments to be owing to phosphorated iron, with perhaps some uncombined oxide of the same metal. That the oxygen and hydrogen may form this acid, which immediately unites with the uncombined oxide, is not an improbable, though an unsupported, suggestion; but we are apparently on the eve of obtaining more satisfactory information. The azote absorbed in this function contributes to form the gluten of the blood, which probably differs, in this respect only, from albumen; and, in an increased proportion, the fibrin. Whether this last principle can supply any waste or destruction of the truly fibrous parts of the body is doubtful. We have never been able to detect any such supply, nor has, in any instance, a truly organic portion of the body been reproduced, within our observation or recollection. Where organs are reproduced, it is not probably in a single animal, but in a congeries of animals propagated, analogously to vegetables, from buds.

Were the heat of animals the effect of the chemical changes which take place in the lungs, this part of the body should be warmer than any other, which is by no means true. It is probable, therefore, that if wholly owing to a chemical change, it is produced by the gradual incorporation of the oxygen with the carbone, during the circulation, an opinion first suggested many years since by Dr. Duncan. The increase of heat which actually takes place in the lungs, from the play of affinities, is apparently compensated by the cold produced by the evaporation of the moisture.

With respect to other gases, the hydrocarbonate is the only one decidedly injurious from powers certainly sedative; for nitrous, vitriolic acid, and alkaline airs, are only these substances in a gaseous form. The carbonic acid air cannot be breathed for any considerable time, even when diluted, without pain; and hydrogen and azote appear to be only injurious inasmuch as they exclude oxygenous gas. Carbonic acid air, unmixed, produces an immediate spasm on the lungs, and cannot be taken into them. The last experiments of Lavoisier (Memoires de l'Academie des Sciences, 1789,) we perceive, afford great room for doubt whether the last is capable of any great advantage or injury, unless from constant use.

Resuscitatio, (from *resuscito, to revive,*) the art of reviving persons apparently dead. Apparent death, as remarked in the article *Medicina forensis*, arises from narcotic poisons, either fluid from intoxication, or deleterious gases introduced into the lungs; excessive evacuations, extreme cold, sudden terror, hanging, or drowning. A stroke of lightning has been added to the causes; but the apparent death from this cause is real; the victim rarely recovers. The signs of death we have also enumerated in the same article; but having remarked their equivocal nature, we need scarcely add, that unless the cause has long continued, or the symptoms are peculiarly decisive in their degree, they should not deter us from continuing our attempts.

The principal cause of death in these instances is the destruction of the irritability of the muscular fibres, or a diminution of the fulness of the vessels to such a degree that they are no longer able to support the due tension of the brain. Hanging or drowning, as connected with topical injury, we shall reserve for a separate consideration, under the appropriate articles *Suspensio* and *Submersio*.

The apparent death from loss of tension in the brain, occurs where the evacuations, chiefly the sanguineous ones, have been excessive, or where it has followed sudden terror, which seems to paralize the heart, or at least greatly to diminish its force. In the first case, if the sanguineous discharges continue, we must not too eagerly attempt resuscitation, as death will probably ensue from the return of the hæmorrhage. It requires the most careful attention, and the exhibition of such restoratives as will preserve life, but will not powerfully excite the action of the heart and arteries; such cases are not usually fatal, and we recollect no instance where increased discharges of any other kind produce apparent death, which requires the exertion of the medical powers of resuscitation.

Sudden terror partakes of each cause; for though it immediately destroys the irritability of the heart, yet it is fatal by depriving the brain of the tension which it derives from the fulness of the vessels. Its remedies will, therefore, be considered under the next head.

To restore the irritability of the sanguineous and nervous system, plans apparently the most improbable and absurd have been employed, sometimes with success. *Bleeding* is one of these, and when the immediate cause of the loss of irritability is a congestion in any system of vessels, or when a debilitating cause, from relaxation, occasions an accumulation of fluids, this evacuation is often useful. Thus it is equally beneficial in those cases of apparent death which follow a suddenly altered determination of the blood, or which proceed from deleterious gases of a sedative nature. Taking off from the load will often occasion an immediate contraction, as we know from the observation of Mr. Coleman, so often repeated; and when a chain of actions is once begun, it is usually followed by those before associated with it. The blood in this case should be taken from a large orifice, that the necessary discharge may be made in the smallest space of time, and produce the desired alteration with as little debility as possible. For this reason topical bleedings, though directed to the affected part, are less beneficial, since the discharge is slow.

Emetics have been directed from an indiscriminating empiricism, rather than sound argument or judicious induction. Yet so general has been the practice, that it would be rash to deny their utility in some cases. The first action of emetics inducing nausea is undoubtedly sedative; and during the whole of this introductory process, emetics are debilitating powers. We know not that on this account these remedies should be rejected, since relaxation, in many instances, is the *novi motus initium*. Yet reasoning of this kind is too fallacious to support their use. The action of vomiting, on the other hand, we have found useful, even, we suspect, in cases where there is a considerable congestion of blood in the head. If then we can produce this action, without any, or with a very slight preceding nausea, we may perhaps assist recovery without adding to the debility. This effect may be produced by the vitriolated zinc, assisted by mustard whey, or cammomile tea, with the aqua ammoniæ; or, if we still want a more active power, by a few grains of vitriolated mercury. It is obvious, however, that this remedy is confined to that period of recovery, or that degree of asphyxia, where the patient has retained, or possesses the power of swallowing.

Cathartics are also confined to the period when the powers of life have been partly roused, or are not wholly lost; and they should be of the most active kinds; but in the form of clysters they are among the earliest and most useful acids. In a moment of emergency three or four ounces of common salt may be dissolved in a pint and half of water, three or four ounces of soap, or a large table spoonful of the soft black soap in the same quantity. If more time be allowed, three drams of the pulp of colocynth may be boiled in a pint and half of water to a pint, and a bunch of groundsel, a weed found in every garden, will add to its activity. Tobacco clysters are subject to the same objections as emetics, and indeed are chiefly used for the relaxation they produce. Those who adopt the idea of relaxation contributing to a new chain of associated motions may employ them; but, though the theory might be rendered plausible, experience will contradict it, and tobacco clysters, with nauseating emetics, should be banished from the resuscitating powers.

Of the *diaphoretics* warmth and friction are only admissible, and these, with a few exceptions, are to be very early employed, and steadily continued. Clysters contribute to resuscitation by their warmth; and warm air blown into the lungs is highly useful. Expanding the chest we found the chief agent in the function of *Respiration*, q. v. and in every case of apparent death there is usually an accumulation of mucus in the lungs, which the warm air will contribute to dissolve. Air of a higher quality, if at hand, will be more useful. Carbonic acid gas, and, as we shall find, water in persons drowned, produce a constriction on the glottis, which may not be removed; and indeed the difficulty of inflating the lungs, except by the most experienced operator, is considerable. Bronchotomy has been therefore advised; and this operation may be easily performed by a small, flat trochar, which may be introduced safely through the rings of the trachea, after cutting the skin to lessen the resistance, which would otherwise require so great a force as might carry it beyond the posterior part of the tube.

General stimulants of the most active diffusible kind are immediately necessary, and the good effects of friction are greatly increased by every rubefacient, as common salt, flour of mustard, aqua ammoniæ, tinctura cantharidum, diluted vitriolic acid, &c. When the patient can swallow, wine or spirits, as nearest at hand and most congenial to the feelings of the attendants, are generally employed, and they will not be improper: the volatile alkali is, however, always more useful, since these, though diffusible, are indirect stimulants. If given, they should be followed by warm fluids impregnated with some of the common aromatic herbs, and particularly by nourishing broths, warmed by condiments, as the cayan or common pepper. Among the stimulants electricity and galvanism have been usually reckoned; but as higher degrees of each destroy by exhausting irritability, even the lowest are suspicious; nor can either be safely admitted in the form of shocks. Drawing sparks by an electrical machine will undoubtedly stimulate with less danger; but in this view it is by no means a powerful agent, and we have not yet learned to manage galvanism in the same way.

We have hinted at exceptions to the general directions respecting warmth, and we alluded to the cases of apparent death from intoxication, deleterious gases, and perhaps sudden terror. In these *cold water*, dashed against the face and breast, is often quickly efficacious. The seamen immerge their comrades in the sea; and the poor victims of the carbonic acid gas, in the Grotto del Cani, are recovered by throwing them into a neighbouring lake.

Rete Mucosum. Corpus reticulare. Corpus mucosum. Mucus Malphigii. A mucous substance deposited in a net-like form between the epidermis and cutis, which covers the sensible cutaneous papillæ, connects the epidermis with the cutis, and gives the colour to the body: in Europeans it is of a white colour, in Ethiopians black.

Retina, the third or innermost membrane of the eye expanded round the choroid coat, like a net, to the ciliary ligament. It is the true organ of vision; and is formed by an expansion of the pulp of the optic nerve.

Rhabarbarum, rhubarb. The plant which affords the officinal rhubarb is the *Rheum palmatum* of Linnæus. There are two sorts usually imported into this country, viz. the Chinese and the Turkey rhubarb. The first is in oblong pieces, flattish on one side and convex on the other, compact, hard, heavy, internally of a dull red colour, variegated with yellow, and when recently powdered appears yellow, but on being kept becomes gradually redder. The second is the most valuable, and is brought to us in roundish pieces with a large hole through the middle of each. It is more soft and friable than the former sort, and exhibits when broken many streaks of a bright red colour. The marks of the goodness of rhubarb are, the liveliness of its colour when cut, its being firm and solid, but not flinty or hard; its being easily pulverable, and appearing, when powdered, of a fine bright yellow colour; its imparting to the spittle, on being chewed, a deep saffron tinge, and not proving slimy or mucilaginous in the mouth. Its taste is subacrid, bitterish, and somewhat styptic; the smell slightly aromatic. The virtues of rhubarb are purgative and tonic, opening the bowels and restoring the tone of the stomach and intestines when it has been lost. It also possesses some degree of stipticity: and as this quality appears to act when that of the purgative has ceased, it is considered the most proper evacuant in cases of diarrhœa, when that class of medicine is indicated. The official preparations of this drug are a watery and a vinous infusion, a simple and a compound tincture: it is also an ingredient in different compositions, as the *elixir ex aloe cum rhæo*, *pil. stomachicæ*, and some others. Grs. iv. to ʒi.

Rhachis, ραχις, the spine of the back.

Rhachisagra, from ραχις, *the spine of the back*, and αγρα, *a prey*; a species of *Gout*, fixed in the spine of the back.

Rhæum, rhubarb.

Rhagades, malignant, dry, and deep cutaneous fissures; from ρηγνυω, to break or bruise.

Rhamnus, buck-thorn, or purging thorn.

Rhaphe. Ραφη, a suture. The rough eminence which extends from the frænum of the penis along its under surface, and divides the scrotum, is also so called, because it appears as if it were sewed.

Rheuma. Ρευμα; from ρεω, to flow. The discharge from the nostrils or lungs arising from cold; hence the following lines of the school of Salernita:

Si fluit ad pectus, dicatur rheuma catarrhus,
Ad fauces branchus, ad nares esto coryza.

Rheumatism. Ρευματισμος, a defluxion. This term is so called from its being formerly used in the same sense as *rheuma*; but in the present day the meaning of this word is applied to a genus of disease in the class *pyrexiæ*, and order *phlegmasiæ* of Cullen; characterized by pyrexia; pains in the joints, increased by the action of the muscles belonging to the joint; and heat on the part. The blood after venesection, exhibits an inflammatory crust. Rheumatism terminates in arthrodinia, lumbago, and ischias. M. M. Antiphlogistic regimen; venesection; cooling laxatives; sudorifics; nitre; camphor; digitalis; opium with antimonials or ipecacuanha; blisters and external stimulants. Dr. Hamilton recommends calomel grs. v. to i. with opium gr. i. $\frac{1}{4}$ every sixth, eighth or twelfth hour, and a free use of tepid diluents. Dr. Fordyce recommends immediate and free use of cinchona.

Rhododendron. From ροδον, a *rose*, and δενδρον, a *tree*, the oleander or rose bay, so called from the similitude of the flowers of this plant to roses. It was first recommended by Koelpin as an efficacious medicine, not only in rheumatism and gout, but even in venereal cases; and it is now very generally employed in chronic rheumatisms. The leaves, which are the part directed for medicinal use, have a bitterish subadstringent taste. Taken in a large dose they prove a narcotic poison; and in moderate doses they are said to occasion heat, thirst, a degree of delirium, and a peculiar sensation of the parts affected. ʒij. infused in ℥x. water; in powder a few grains.

Rhomboideus. From ρομβος, a geometrical figure whose sides are equal, but not right angled, and ειδος, resemblance. A muscle situated on the back, and divided into two portions, distinguished into major and minor, which assists the *serratus posticus inferior* in depressing the ribs.

Rhyas. Ροιας, or ρυας, a disease of the eye. A decrease or defect of the lachrymal caruncle.

Ribes Nigrum, the black currant. This indigenous plant, *Ribes nigrum* of Linnæus, affords larger berries than those of the red, which are said to be peculiarly useful in sore throats, and to possess a diuretic power in a very considerable degree. The leaves of the black currant are extremely fragrant, and have been likewise recommended for their medicinal virtue. The officinal preparations of the berries in the London Pharmacopeias are the *syrupus ribis nigri* and the *succus ribis nigri inspissatus.*

Ribes Rubrum, the red currant. As the white currant tree is merely a variety of the red, and the fruit of both is perfectly analogous, therefore, what is said of the one applies to the other. The red currant is abundantly cultivated in gardens, and from its grateful acidity is universally accepted either as nature presents it, or variously prepared by art with the addition of sugar. Considered medicinally, it is esteemed to be moderately refrigerant, antiseptic, attenuant, and aperient. It may be used with considerable advantage to allay thirst in most febrile complaints, to lessen an increased secretion of bile, and to correct a putrid and scorbutic state of the fluids, especially in sanguine temperaments; but in constitutions of a contrary kind, it is apt to occasion flatulency and indigestion.

Ribs. Costæ. The ribs are twenty-four in number, twelve on each side; and are situated obliquely in the sides, extending from the dorsal vertebræ to the sternum. The seven superior ribs are called *true* ribs, because they are attached to the sternum, and to distinguish them from the five inferior, which do not reach the sternum, and are called *false* or *spurious* ribs. Each rib has a head, a neck, and a lesser head, and a groove extending along its under surface, for the passage of the intercostal artery. The anterior part of each rib is cartilaginous, the rest bony and compact. The use of the ribs is to assist in forming the thorax, to defend the vital viscera, and to give adhesion to muscles that assist respiration.

Ricinus. The *Ricinus communis* of Linnæus, or common *palma christi*, is the plant that affords the seeds from which the *oleum ricini*, or castor oil, is obtained. This oil, when the stomach can be reconciled to it, is one of the most agreeable purgatives that can be employed, as it commonly operates in two or three hours, and, when good, without producing any griping. It appears to be more particularly adapted to spasmodic colic, habitual costiveness, and worms. Oil of ℥ss. to ℥i.

Rickets, a disease common to children. See *Rachitis.*

Rigor, is a convulsive shuddering from cold, or an ague fit.

Rima, is any fissure or chink; hence it is applied to several parts of the body that have any resemblance thereunto in shape; as the *Rima Pudendi*, or *Fissura Magna*, is the vulva; and *Rima Laryngis*, is the aperture of the *Larynx*, &c.

Ringworm. The same as *Herpes.*

Risus Sardonicus, the *Sardonic Laugh*; a sort of convulsion of the muscles of the face.

Roasting, a chemical process generally performed in crucibles, by which mineral substances are divided, some of their principles being volatilized and others changed, so as to prepare them for other operations.

Roborantia, from *robur*, *strength*, are such medicines as strengthen the parts, and give new vigour to the constitution.

Rosa Damascena, the Damask rose. The Pharmacopeias direct a syrup to be prepared from the petals of this rose, *Rosa centifolia* of Linnæus, which is found to be a pleasant and useful laxative for children, or to obviate costiveness in adults.

Rosa Rubra, red officinal rose. The flowers of this species, *Rosa gallica* of Linnæus, are valued for their adstringent qualities, which are most considerable before the petals expand; and therefore in this state they are chosen for medicinal use, and ordered by the pharmacopeias in different preparations, as those of a conserve, a honey, an infusion, and a syrup. The infusion of roses is a grateful, cooling subadstringent, and useful in hæmoptysis, and other hæmorrhagic complaints; its efficacy, however, depends chiefly on the acid.

Rosmarinus, common rosemary. *Rosmarinus officinalis* of Linnæus. The leaves and tops of this plant have a fragrant aromatic smell, and a bitterish pungent taste. Rosemary is reckoned one of the most powerful of those plants which stimulate and corroborate the nervous system; it has therefore been recommended in various affections, supposed to proceed from debility or defective excitement of the brain and nerves, as in certain head-achs, deafnesses, giddinesses, and in some hysterical and dyspeptic symptoms. Oil of gt. ii. to iv. Spirit of ℨss. to ℨi.

Rotula. In *Anatomy* it is the knee-pan. In *Pharmacy* it is a troche. It signifies a little wheel.

Round Ligaments of the Uterus, a bundle of vessels and fibres contained in a duplicature of the peritonæum, that proceed from the sides of the uterus, through the abdominal ring, and disappear in the pudenda.

Rotundus, is one of the muscles of the *Radius*, thus called from its round shape. It arises fleshy from the internal extuberance of the *Humerus*, and goes obliquely to be inserted into the middle and external parts of the *Radius*, with others helping to turn the palm upwards.

Rubefacientia. Those epispastics or attrahents are thus called which excite heat with a degree of inflammation.

Rubedo. The same as *Gutta Rosacea*. The different varieties of rubedo are called *Rubedo Simplex*, *Rubedo Pustulosa*, *Rubedo Ulcerosa*.

Rubeola, *the measles;* from *rubeo, to become red*. A genus of disease in the class *pyrexiæ* and order *exanthemata* of Cullen; known by synocha, hoarseness, dry cough, sneezing, drowsiness; about the fourth day, eruptions of small red points, discernible by the touch, which after three days end in mealy desquamation. The blood after venesection exhibits an inflammatory crust. M. M. Venesection; refrigerants; diaphoretics; antiphlogistic regimen; pediluvium; pectorals; opium; blisters.

Rubia, *Madder*. *Rubia Tinctorum* of Linnæus. The roots of this plant have a bitterish, somewhat austere taste, and a slight smell, not of the agreeable kind. It was formerly considered as a deobstruent, detergent, and diuretic, but it is now very seldom used. ℥ss to ℥i.

Rubus Idæus. *Rubus idæus* of Linnæus. The raspberry. The fruit of this plant has a pleasant sweet taste, accompanied with a peculiar grateful flavour, on account of which it is chiefly valued. Its virtues consist in allaying heat and thirst, and promoting the natural excretions. A grateful syrup prepared from the juice is directed for officinal use by the London Pharmacopeia.

Ructation, and

Ructus, is a belching that arises from wind and indigestion; and rather to be cured with proper stomachics than carminative and hot liquors.

Rue. See *Ruta*.

Ruminant, cud-chewers, is a general name for all those animals that chew the cud.

Ruptura, a rupture. It is most properly spoken of a tendon, a ligament, or a cartilage, when they are divided by violence. It then constitutes a species of wound, viz. the lacerated.

Rupture. See *Hernia* and *Ruptura*.

Ruta, common rue. *Ruta graveolens* of Linnæus. Rue has a strong and grateful smell, and a bitter, hot, penetrating taste; the leaves are so acrid, that by much handling they are said to irritate and inflame the skin; and the plant in its natural or uncultivated state is said to possess these sensible qualities still more powerfully. The imaginary quality of the rue, in resisting and expelling contagion, is now laid aside. It is doubtless a powerful stimulant, and is considered, like other medicines of the fœtid kind, as possessing attenuating, deobstruent, and antispasmodic powers. In the London Pharmacopeia it is directed in the form of an extract, and it is also an ingredient in the *pulvis myrrha comp.* ℥ss. to ʒi.

S

SA. The contraction of *secundum artem*.

S. or *ss.* immediately following any quantity, imports *emis*, or half.

Sabadilla, a vegetable said to be good for destroying the vermin that infest human bodies.

Sabina, savine. *Juniperus sabina* of Linnæus. The leaves and tops of this plant have a moderately strong smell of the disagreeable kind, and a hot, bitterish, acrid taste: it is a powerful and active medicine, and has been long reputed the most efficacious in the materia medica, for producing a determination to the uterus, and thereby proving emmenagogue; it heats and stimulates the whole system very considerably, and is said to promote the fluid secretions. Externally savine is recommended as an escharotic to foul ulcers, syphilitic warts, &c. A strong decoction of the plant in lard forms an useful ointment to keep up a constant discharge from blisters, &c.—ʒss. to ʒi.

Sabulous, is that gritty or sandy matter which often washes away by the kidneys, and settles in the urine, and is a concretion of lithic acid.

Sacer, Morbus, given to the epilepsy, upon the apprehension of somewhat supernatural being concerned in its production, or cure.

Saccharum, sugar. The cane from which the sugar is obtained in the West and East-Indies is the *Saccharum officinarum* of Linnæus. It is prepared from the expressed juice boiled with the addition of quick lime or common vegetable alkali. Sugar, as an article of diet, is so well known as not to require any description of it here. It may be taken into the stomach in very large doses, without producing any bad consequences, although proofs are not wanting of its mischievous effects, by relaxing the stomach, and thus inducing disease. It is much used in pharmacy, as it forms the basis of syrups, lozenges, and other preparations. It is very useful as a medium to favour the solution or suspension of resins, oils, &c. in water; and is used as a purgative for infants.

Saccholates, are salts formed by the union of the Saccho-lactic acid, with the different alkaline, earthy, and metallic bases.

Sacculi Adiposi, the cells of the cellular membrane filled with fat.

Saccus Lachrymalis. The lachrymal sac is situated in the internal canthus of the eye, behind the lachrymal caruncle, in a cavity formed by the os unguis.

Sacro-Lumbralis, a muscle situated on the posterior part of the trunk, between the sacrum and the ribs, which pulls the ribs down, and assists in making the trunk of the body erect.

Sacrum, a bone of the pelvis, so called from *sacer, sacred*; because it was formerly offered in sacrifices. It is situated in the posterior part, sustaining the spine, and has several tubercles and foramina, which give it the appearance of the processes of the spine. Its use is to contain the terminations of the spinal marrow, to assist in forming the pelvis, and to sustain the spine.

Sagapenum. It is conjectured that this complete gummi-resinous juice is the production of an umbelliferous plant. Sagapenum is brought from Persia and Alexandria in large masses, externally yellowish, internally paler, and of a horny clearness. Its taste is hot and biting: its smell of the alliaceous and fœtid kind: and its virtues are similar to those which have been ascribed to assafœtida, but weaker; and consequently it is less powerful in its effects. Grs. v. to ʒss.

Sagittal Suture, the suture which unites the two parietal bones.

Sago, a dry fecula, obtained from the pith of a species of palm in the islands of Molucca, Java, and the Philippines. Sago becomes soft and transparent by boiling in water, and forms a light and agreeable liquid, much recommended in febrile, phthisical, and calculous disorders, &c.

Saint Anthony's Fire. See *Erisipelas*.

Saint Vitus's Dance. See *Chorea sancti Viti*.

Sal Catharticus Amarus. This is also called by the college *Sal Amarus*, and *Sulphate of Magnesia*.

Sal Ammoniacus, called by the college in their Pharmacopeia, *Ammonia Muriata*, is the compound of the muriatic acid, or acid of sea-salt, and the volatile alkali, called by the college *Ammonia*.

Sal Muriaticus, or *Culinary Salt*, called by the college *Natron Muriatum*, is the compound of the muriatic, or marine acid, and the fossil alkali, or natron. Common salt, when used to preserve meats, seems frequently to undergo decomposition. For the sceptic acid of the meat combines with the soda of the salt into a septite of soda, while the muriatic acid combines with the beef into a muriate of meat. For the entire account of these processes see Dr. Mitchill's paper, in the *Medical Repository*, vol. ii. p. 274, 2d edit.

Sales Medii, middle salts, or neutral salts with earthy bases.

Saline Substances. The number of saline substances is very considerable, and they possess peculiar characters by which they are distinguished from other substances, viz. 1. A strong tendency to combination: 2. A greater or less degree of sapidity: 3. A greater or less degree of solubility in water: 4. Perfect incombustibility. The saline quality of any substance is greater, the more of these properties it possesses, and the greater their intensity. It must not, however, be concluded, that substances are not of a saline nature, because their properties are scarcely evident in them; as it may often happen that two species, which possess them in a very small degree, exhibit them still less when they come to be united, and there are likewise instances of the contrary effect taking place. The chemical nature of salts, though better known than formerly, is by no means yet perfectly understood. It is ascertained, that they, for the most part, contain a very great quantity of vital air, and that this fluid is fixed in combination with a combustible matter of a different nature, in different kinds of salts.

Saliva. So called quod fere *salis* saporem habeat, vel quod in ore *saliat*, vel per metath, a σιαλος πῖυελου. The fluid which is secreted by the salivary glands into the cavity of the mouth. Its use is to moisten the cavity of the mouth and fauces; and, during mastication, to mix with the food, change it into a pultaceous mass fit to be swallowed; and in the stomach, to assist in dissolving and resolving it into its principles.

Salivales Glandulæ, the salivary glands.

Salival Ducts, the excretory ducts of the salival glands. That of the parotid gland is called the *Stenonian* duct; those of the submaxillary glands, the *Warthonian* ducts; and those of the sublingual, the *Reverian* ducts.

Salivation, an increased secretion of saliva. See *Ptyalismus*.

Salix, the willow. The bark of the branches of the *Salix fragilis* of Linnæus (the crack willow) manifests a considerable degree of bitterness to the taste, and is very adstringent. It is recommended as a good substitute for Peruvian bark, and is said to cure intermittents, and other diseases requiring tonic and adstringent remedies.

Salpingo-Pharyngæus, from σαλπιγξ, *tuba*, and φαρυγξ, *faux*. This muscle is composed of a few fibres of the palato-pharyngeus, which it assists in dilating the mouth of the Eustachian tube.

Salsola, glasswort, or kelpwort. Several species of this plant grow on the shores of New-York, a little above high-water mark. One sort is remarkably prickly. On being burned they afford soda. Sixteen species are named in the books.

Sal Martis, i. e. *Vitriol, Green*, or sulphate of iron.

Sal Mirabilis Glauberi, Glauber's salt, or sulphate of soda.

Sal Polychrestus, i. e. *Tartar, Vitriolated*, or sulphate of potash.

Sal Polychrest of Rochelle, i. e. *Salt of Seignette*, or tartrite of soda.

Salt, Common, a genus of neutral salt, of the order of *Alkaline Neutral Salts*. It decrepitates in the fire: its crystals are of a cubic form, and composed of the muriatic acid and fossil alkali; hence called muriate of soda. The acid arises from this salt in white fumes, on mixing with it the concentrated vitriolic acid. When found in large pieces in the earth, it is called *rock salt*.

Salt, culinary, or *Muriate of Soda*. This salt is one of the most abundant productions of nature, and exists native in much greater quantity than any other neutral salt. The waters of the ocean owe their saltness to it. It is found in a number of mineral springs, and it forms immense strata in the bowels of the earth, or rising on the surface, even to the height of mountains. According as it is produced from these sources, it is named sea-salt, or rock-salt. Rock-salt is solid, hard, and more or less transparent, of a white, grey, or reddish colour, sometimes of a bright or deep red, or yellow, and more rarely with spots of blue. Its fracture is foliated or fibrous; generally it is massive, but sometimes crystallized in cubes, and its fragments are always of a cubical form. The colours have been supposed to depend on the oxide or muriate of iron. In general it is pure, and hence its taste is purely saline; but sometimes it is bitter from the presence of foreign salts. There are immense mines of it in different countries. Those of Cracow, in Gallicia, have been long celebrated. It abounds in the east and south of Germany, is found in large quantities in Spain, and likewise in Cheshire, in England. In Africa, Asia, and America, it is not less extensively distributed, forming hills above the surface, or very extensive beds. It is always connected with rocks of secondary formation, and generally with gypsum or sulphate of lime.

Dr. Watson, in the second volume of his "Essays," speaking of the salt-mines, says, "There are several mines of rock-salt near Northwich in Cheshire, the first of which was discovered as they were boring for coal in the year 1670. The springs which are met with both above and below the level of the Northwich bed of rock-salt, are strongly impregnated with salt. This is easily accounted for; the rain-water, in sinking through the ground which lies over the rock-salt, at last arrives at the salt; its further descent is in a great measure obstructed by the solid body of salt; it rests upon it, and, in resting upon it, dissolves it, and thus constitutes a brine-spring above the level of the bed of rock-salt. The brine-springs, which are found below that level, probably arise from the water, which has dissolved a portion of rock-salt, in sinking to that depth in the earth. I have," continues the Doctor, "had the curiosity to go to the bottom of some of the most famous mines in England, but I never thought my labour, in these subterraneous expeditions, so well rewarded as in the sight of the rock-salt mines at Northwich. These are superior to the mines at Cracow, in Poland, which have, for many centuries, been the subject of general admiration." A single pit, at Northwich, yields, at a medium, 4,000 tons of salt in a year.

In different countries, the process of obtaining salt is different. In very cold climates, the water being received into shallow ditches during the winter, is frozen, by which a great part of the superfluous water is removed, and the remaining liquor affords salt, by artificial evaporation. In warm climates, it is obtained by spontaneous evaporation. The water is received into broad, shallow trenches at the sea-side, without the reach of the tide. The bottom of these is made of clay, well beaten, and they are divided into several departments. The fluid being thus spread out on an extensive surface, quickly evaporates, and by sluices it is removed from one department to another, so that when it arrives at the last, it is a strong brine, and the salt is soon deposited. It is necessarily mixed with the clay of the ground, and with several of the neutral salts, and other impurities, which sea-water contains. Salt, prepared in this manner, is known by the name of bay-salt. In colder climates, recourse must be had to artificial evaporation. The water is heated in shallow iron pans. Muriate of soda possesses the singular property, that it is as soluble in cold as in hot water; after due evaporation, therefore, it begins to crystallize on the surface of the hot liquor; the crystals, as they increase, fall to the bottom of the vessel, are raked out, and set to drain. This is the process by which it is obtained in this country. Sometimes this method is conjoined with natural evaporation. The sea-water, before it is received into the boiler, is pumped into a large reservoir, under which faggots of thorns, &c. are suspended. It is allowed to drop over these, and a large surface being thus presented to the atmosphere, while the air is also rapidly renewed, a considerable part of the water is evaporated. It is then conveyed to the boiler, and evaporated in the usual manner. Or, in some of the northern departments of France, the sea-water is made to flow over a bottom of clay covered with sand, which favours both the evaporation of the water, and the concretion of the salt; the saline deposit, which is at length formed, is lixiviated with sea-water, which, becoming thus more impregnated with salt, is concentrated by boiling, so as to afford it by hasty crystallization. Sea-salt, obtained by any of these processes, is never perfectly pure. Sea-water, by its analysis, is found to contain, besides muriate of soda, several other neutral salts, particularly muriate of magnesia, muriate of lime, and sulphate of soda. These being much more soluble in hot, than in cold water, remain dissolved in the hot liquor, from which the salt crystallizes. A small quantity of them, however, still adheres to the muriate of soda; they render it deliquescent, give it a bitter taste, and considerably impairs its antiseptic power. Different processes have therefore been contrived to obtain the salt free from these mixtures. The most simple is merely to procure the salt by a slow artificial evaporation. It then crystallizes with scarcely any mixture of the others. This is the cause of the superior purity of the bay-salt. Hence, also, the larger the crystals of sea-salt are, they may be justly supposed to be the purer, as the largeness of the crystals is owing to the slowness of the evaporation by which they are formed.

For chemical purposes, muriate of soda is most easily purified by dissolving it in water, and adding to its solution a solution of carbonate of soda, drop by drop, till no cloudiness is produced by the addition. Every foreign salt is thus decomposed and precipitated, and the strained solution will contain the pure muriate of soda, which may be crystallized. Muriate of soda has a salt, rather agreeable taste, being, when pure, free from all bitterness; it is soluble in rather less than three parts of water, at the temperature of 60°. The crystals neither deliquesce, nor effloresce, on exposure to the air; the common sea-salt, indeed, is deliquescent; but this is owing to the muriates of magnesia and lime, which adhere to it. Exposed to heat, the crystals of muriate of soda decrepitate from the sudden conversion of their water of crystallization into vapour. If the temperature is raised to a red heat, the salt melts; in an intense heat, it is volatilized in white vapours, without having undergone any decomposition.

Chrystallized muriate of soda contains 53 of soda, and 47 of acid, containing, however, some water of composition, so that of real acid, the quantity is 38.83. Its specific gravity is 2.12. This salt is decomposed by the sulphuric and nitric acids, in the same manner as the muriate of potash is. It is from its decomposition by the sulphuric acid, that the muriatic acid is best obtained, as has already been observed. When decomposed by the nitric acid, part of the latter is decomposed, a quantity of its oxygen being transferred to the muriatic. One of the most important practical problems in chemistry is to decompose this salt, so as to obtain its alkali. It abounds so much in nature, that if such a process, capable of being carried on to an advantage, could be discovered, a vast supply of soda would be obtained; and as this alkali can be employed for every purpose that potash can, and is even much superior to it for some uses, such a discovery would be of much importance to the chemical arts. Salt is decomposed in the usual mode by sulphuric acid; and to defray the expense, the muriatic acid is collected and employed in the manufacture of sal ammoniac, in the preparation of oxy-muriatic acid for bleaching, or for any other useful purpose to which it can be applied. The sulphate of soda is calcined in a reverberatory furnace, to free it from any superfluous acid. It is then to be decomposed. It is of very extensive use. Its application to preserve animal substances from putrefaction is well known: the theory of its antiseptic quality has never yet been properly explained. It is also taken universally as a seasoning to food, and seems to be very necessary to promote digestion, as even the lower animals, it has been proved, languish when altogether deprived of it. It is employed in a variety of arts. In the manufacture of pottery of the coarser kind, when it is thrown into the oven in which the ware is baked, it is converted into vapour, and, being applied in this state to the surface of the vessels, glazes them, an effect probably owing to the combination of its alkali with the siliceous earth of the pottery. It is employed in the manufacture of glass, which it is said to render whiter and clearer; in that of soap, which it makes harder; as a flux, in the melting of metals from their ores; and in a variety of chemical and pharmaceutical processes.

Saltpetre, *Sal-petræ*, or the nitre of the moderns. It is a compound formed of potash, neutralized by the acid of putrefaction. The history and uses of this neutral salt and its acid are among the most curious in science. In order to comprehend it well, it will be necessary to advert to the constitution of the septic acid, and the manner of its formation. The greater part of the elements which enter into animal and vegetable bodies are acidifiable bases; that is to say, they are rudimental atoms, capable of combining with oxygen into acids. When septon (azote) is one of these constituent parts of organized beings, it may, and often does, become acidified during their putrefaction. Thus septon changes to an acid, and either spreads upon the surface of the body which produced it, or, when the temperature is sufficiently warm, rises in vapour and infects the neighbouring atmosphere. See *Med. Rep.* vol. iii. p. 14.

The septic acid, so formed during the incipient stage of corruption, frequently poisons those who touch it, or admit it into a wound, as has happened to dissectors, who have often been poisoned dangerously, and even killed, by admitting this acid to scratches made with needles or scalpels. The like has happened from the septic acid of transplanted teeth. The septic acid is one of the chief destroyers of the teeth, which it effects by uniting with their lime, and disengaging their phosphoric acid. Produced by corruption of animal flesh in the human intestines, septic acid is the exciting cause of dysentery, and of some other forms of griping cholera and diarrhœa.

Getting afloat in the air, it contaminates it, and makes it unwholesome. From the degree of its vibration, different forms of fever arise, from the low typhus, and the moderate intermittent, up to violent remittents, plagues, and yellow fevers. The endemic diseases of the American cities are chiefly owing to this volatile septic acid gas; which, also, when engendered on ship-board, in jails, hospitals, and poor-houses, gives rise to the various forms of febrile distempers prevalent in each of those places.

From such a constant and plentiful acid, much additional mischief would arise, was it not coerced and kept in check by alkalies. Lime attracts it strongly, and forms the *septite of lime*, as in the lime-stone caverns of Tennessee. Here the septic acid is so abundant, that if some wood is burned, and the ashes added to the septite of lime, there will be a true *saltpetre*, or *septite of potash* formed. Hence we understand the healthfulness of lime in the mortar, cement, and white-washing of houses. Hence we also comprehend the powerful antiseptic virtue of potash, which neutralizes the septic acid, and turns to saltpetre. Even after combination with potash, septic acid partakes of its original virulence, for the saltpetre so formed cannot be taken in doses of even an ounce without great distress and danger. Small doses only can be ventured upon, and these with much caution. Sad mistakes have taken place in the modern practice of physic concerning saltpetre; it has been erroneously called nitre, and most injuriously prescribed where the thing intended to be given to the sick, is carbonate of soda. Saltpetre is one of the ingredients of gunpowder, and is employed by chemists and workers in metals. *Septic* acid undergoes a change by uniting with potash, and assumes the altered and mitigated form of the *Nitrous*.

Salt (Regenerated Sea). It is the fixed vegetable alkaline salt, saturated with the spirit of sea-salt. The name is improper, as the basis of the sea-salt is different.

Salt of Rochelle. Cream of tartar combines with effervescence to the point of saturation with the marine alkali. From this combination results a salt which forms larger crystals than those of the soluble tartar.

Salvatella, from *salus*, *health*, because the opening of it was formerly thought to be of singular use in melancholy. This vein runs along the little finger, unites upon the back of the hand with the cephalic of the thumb, and empties its blood into the internal and external cubital veins.

Salvia. A salvendo. Sage. *Salvia officinalis* of Linnæus. In ancient times sage was celebrated as a remedy of great efficacy, as would appear from the following lines of the school of Salernita:

> *Cur moriatur homo, cui salvia crescit in horto?*
> *Contra vim mortis, non est medicamen in hortis.*
> *Salvia salvatrix, naturæ conciliatrix.*
> *Salvia cum ruta faciunt tibi pocula tuta.*

But at present it is not considered as an article of much importance. It has a fragrant, strong smell: and a warm, bitterish, aromatic taste, like other plants containing an essential oil. It has a remarkable property in resisting the putrefaction of animal substances, and it is in frequent use among the Chinese as a tonic, in form of tea, in debility of the stomach and nervous system.

Sambucus, the elder tree. *Sambucus nigra* of Linnæus. This indigenous plant has an unpleasant narcotic smell, and some authors have reported its exhalations to be so noxious, as to render it unsafe to sleep under its shade. The parts of this tree that are proposed for medicinal use in the Pharmacopeias are the inner bark, the flowers, and the berries. The first has scarcely any smell, and very little taste; on first chewing, it impresses a degree of sweetishness, which is followed by a very slight but durable acrimony, in which its powers seem to reside. It is strongly cathartic, and is recommended as an effectual hydragogue by Sydenham and Boerhaave. In small doses it is said to be an useful aperient and deobstruent in various chronic disorders. The flowers have an agreeable flavour; and infusions of them, when fresh, are gently laxative and aperient. When dry, they are said to promote chiefly the cuticular excretion, and to be particularly serviceable in erysipelatous and eruptive disorders. Externally they are used in fomentations, &c. and in the London Pharmacopeia are directed in the form of an ointment. The berries in taste are somewhat sweetish, and not unpleasant; on expression they yield a fine purple juice, which proves an useful aperient and resolvent in sundry chronic diseases, gently loosening the belly, and promoting the urine and perspiration. The officinal preparation of these berries in the London Pharmacopeia, is the *succus buccæ sambuci spissatus.*—The juice ℥ss to ℥i.

Samiels, the Arabian name for a hot suffocating wind peculiar to the desert of Arabia. It blows over the deserts in the months of July and August from the north-west, and sometimes it continues its progress to the very gates of Bagdad, but it is said never to affect any person within the walls. It often passes with the quickness of lightning; and there is no way of avoiding the dire effects, but by falling on the ground, and keeping the face close to the earth. Those who are negligent of this caution experience instant death.

Sandrack, gum juniper. A resin which exudes in white tears, more transparent than mastich, from the bark of the *Juniperus communis* of Linnæus.

Sanguifluxus, i. e. *Hæmorrhage.*

Sanguification. From *sanguis, blood;* a natural function of the body, by which the chyle is changed into blood.

Sanguisuga, blood-sucker; a name given by some to a leech, from its faculty of drawing blood from animals.

Sanguis Draconis, dragon's blood. The red resinous juice, which is obtained by wounding the bark of the tree called *Calamus rotang* by Linnæus. It is chiefly obtained from the Molucca islands, Java, and other parts of the East-Indies. It is generally much adulterated, and varies much in goodness and purity. The best kind is of a dark red colour, and when powdered changes to crimson; it readily melts and catches flame; it has no smell, but to the taste discovers some degree of warmth and pungency. The ancient Greeks were well acquainted with the adstringent power of this drug; in which character it has since been much employed in hæmorrhages and alvine fluxes. At present, however, it is seldom used internally, being superseded by more certain and effectual remedies of this numerous class; and it enters no officinal composition but that of the *emplastrum thuris* of the London Pharmacopeia—℈ss. to ʒss.

Sanies. This term is sometimes applied to a thin, limpid, and greenish discharge; at other times to a thick and bloody kind of pus.

Santalum Rubrum, a red wood used in colouring various substances, as spirits and ointments: it is said to be the product of the *Pterocarpus santalinus*, Linn. Supplem. The college have directed it in the Spiritus Lavendulæ Compositus.

Santonicum, Tartarean southernwood, or worm-seed. *Artemisia santonica* of Linnæus. The seeds of this plant are small, light and oval, composed of a number of thin membranous coats of a yellowish green colour, with a cast of brown, easily friable upon being rubbed between the fingers into a fine chaffy kind of substance. They are brought from the Levant; have a moderately strong and not agreeable smell, somewhat of the wormwood kind, and a very bitter subacrid taste. They are esteemed to be stomachic, emmenagogue, and anthelmintic; but it is especially for the last mentioned powers that they are now administered, and from their efficacy in this way they have obtained the name of worm-seed.—Grs. v. to ℈i.

Saphena. From σαφης, *visible*, the large vein of the leg which ascends along the little toe over the external ankle, and evacuates part of the blood from the foot into the popliteal vein.

Saphena Minor. It is a branch from the *Saphena Major*.

Sapientiæ Dentes. The four last grinders are so called, because they appear when the person is supposed to be at years of discretion. See *Teeth*.

Sapo, soap. It is composed of oils and fat, with alkaline salts. The college in their Pharmacopeia have directed the soap formed by olive oil with natron or the fossil alkali. There was a memorable discussion concerning *soap and its manufacture*, in the city of New-York, in 1797. A pamphlet of the proceedings was published at the time. An attempt had been made to turn soap-makers out of town; and Dr. Mitchill appeared as their advocate. His argument may also be seen in Trotter's Medicina Nautica, vol. ii. and an opinion of it in Chisholm's Diseases of the West-Indies, vol. ii.

Sapo Albus, called also *Sapo Hispanicus*, hard or Spanish soap.

Sapo Volatilis, volatile soap. Of this there are three kinds; one is composed of fixed alkalies and volatile oil, another of volatile alkalies and gross oils, the third of salt and oil that are both volatile.

Saponaceum, Linimentum, saponaceous liniment; called also *Opodeldoc*.

Saponules, *Saponuli*, combinations of the volatile or essential oils with different bases, as *saponule of alumine*.

Saponules Acid, combinations of the volatile or essential oils with different acids.

Sapphirus, σαφειρος, the sapphire. It is one of the precious stones, and is of a fine blue colour, but there are species that are white.

Sarcocele, σαρκοκηλη, from σαρξ, *caro*, *flesh*, and κηλη, *tumour*, *a swelling*; is a fleshy excrescence of the testicles, which sometimes grows so large as to stretch the scrotum much beyond its natural size; also,

Sarcoma, σαρκωμα, is of the same signification; as is likewise

Sarcosis, σαρκωσις.

Sarcocolla. From σαρξ, *flesh*, and κολλα, *glue*. A concrete gummiresinous juice, brought from Persia and Arabia in small grains, of a pale yellow colour, having also sometimes mixed with them a few of a deep red colour. Its taste is bitter, but followed with some degree of sweetness. It has been chiefly used for external purposes, and, as its name imports, has been thought to agglutinate wounds and ulcers; but this opinion now no longer exists. It is an ingredient in the *pulvis e cerussa*.

Sarcologia, sarcology. It includes *Myology*, *Splanchnology*, *Angiology*, *Neurology*, and the doctrine of the *Integuments*.

Sarcomphalon, σαρκομφαλον, from σαρξ, *flesh*, and ομφαλος, *the navel*;

a fleshy excrescence at the navel.

Sardonic Laugh. Risus sardonicus. A convulsive laughter, so called from the herb *sardonia*, which grows in the island of Sardonia, and is said to produce it.

Sarsaparilla. This word is of Spanish origin, signifying a red tree. The root of this plant, *Smilax sarsaparilla* of Linnæus, has a farinaceous, somewhat bitter taste, and no smell. About two centuries ago it was introduced into Spain, as an undoubted specific in syphilitic disorders; but owing to difference of climate or other causes, it has not answered the character which it had acquired in the Spanish West-Indies. It is now considered as capable of improving the general habit of the body, after it has been reduced by the continued use of mercury. It is sometimes employed in rheumatic affections, scrophula, and cutaneous complaints, where an acrimony of the fluids prevails—ʒss to ʒij.

Sartorius, called also *Longus Tibiæ*, is a muscle that ariseth from the inferior part of the spine of the ilium, and running obliquely by the inside of the thigh, is inserted into the internal side of the tibia, three or four fingers breadth below its upper extremity. By this we throw one leg across another.

Sartorius, from *sartor, a taylor.* This muscle is thus named from the use which taylors make of it, to sit cross-legged.

Sassafras. The wood of the sassafras tree. *Laurus sassafras* of Linnæus, is imported from North-America in long straight pieces, very light, and of a spungy texture, and covered with a rough fungous bark. It has a fragrant smell, and a sweetish, aromatic, subacrid taste: the root, wood, and bark agree in their medicinal qualities, and are all mentioned in the Pharmacopeias: but the bark is the most fragrant, and thought to be more efficacious than the woody part, and the branches are preferred to the large pieces. The medical character of this drug was formerly held in great estimation, and publications were professedly written on the subject. It is now, however, thought to be of very little importance, and seldom used but in conjunction with other medicines, as a corrector of the fluids. It is an ingredient in the *decoctum sarsaparillæ compositum*; but the only officinal preparation of it is the essential oil, which is carminative and stimulant—ʒss. to ʒij.

Satellite Veins, the veins which accompany the brachial artery as far as the bend of the cubit.

Saturnus. Chemists ascribe this name to lead, because they will have that metal to be under the influence of the planet Saturn. See *Lead*.

Satyriasis. Satyriasmus. Priapismus. Salacitas. Excessive and violent desire for coition in men. A genus of disease in the class *locales* and order *dysorexiæ* of Cullen; from σατυρος, a satyr, because it is said to be greatly addicted to venery. M. M. As in nymphomania.

Satyrion, the root of the *Orchis mascula* of Linnæus; which has a place in the materia medica of the Edinburgh Pharmacopeia, on account of the glutinous slimy juice which it contains. Satyrion root has a sweetish taste, a faint and somewhat unpleasant smell. Its mucilaginous or gelatinous quality has recommended it as a demulcent. Salep, which is imported here from the East, is a preparation of this root, which, considered as an article of diet, is accounted extremely nutritious, as containing a great quantity of farinaceous matter in a small bulk.

Scabies, the itch. A synonim of Psora. See *Psora*.

Scala Tympani, the posterior cavity of the cochlea.

Scala Vestibuli, the anterior cavity of the cochlea.

Scald Head, the vulgar name for the tinea capitis. See *Tinea*.

Scalenus, σκαληνος, is a muscle of the neck that arises from the first and second ribs, and ascending, is inserted in all the transverse processes of the neck, except the first. This muscle seems to be three; but such division is not of any real use. It is perforated for the passage of the veins, arteries, and nerves; because the neck is more easily moved than that part of the ribs to which they are fastened; therefore it is justly reckoned amongst the benders of the neck.

Scammonium, scammony. The concrete gummi resinous juice of the *Convolvulus scammonii* of Linnæus. It is brought from Aleppo and Smyrna in masses, generally of a light shining grey colour, and friable texture; of rather an unpleasant smell, and bitterish and slightly acrid taste. Scammony appears to have been well known to the Greek and Arabian physicians, and was exhibited internally as a purgative, and externally for the itch, tinea, fixed pains, &c. It is seldom given alone, but enters several compounds, which are given as purgatives—Grs. v. to ℈i.

Scapha. The excavation or cavity of the auricula, or external ear, between the helix and antihelix; from σκαπτω, to make hollow.

Scaphoid Bone, a bone of the tarsus; from σκαφη, a little vessel or boat, and ειδος, resemblance. See *Naviculare os*.

Scapula. Omoplata. The shoulder blade. A bone of the upper extremity, of a triangular figure, situated in the upper and lateral part of the back. It has three margins, a spine, the acromion and the coracoid process, and an articular cavity for the head of the humerus.

Scarf-skin. See *Cuticula*.

Scarification, is an incision of the skin with a lancet, or such like instrument; and is most practised in cupping, which acts by stimulation as well as by evacuation.

Scarificatorium, is an instrument to scarify, and is of late very conveniently ordered by a number of points set in a plane, which are all struck into the part at once.

Scarlatina, the scarlet fever. A genus of disease in the class *pyrexiæ* and order *exanthemata* of Cullen; characterized by contagious synocha; the fourth day the face swells; a scarlet eruption appears on the skin in patches; which after three or four days ends in the desquamation of the cuticle, or is succeeded by anasarca. It has two species: 1. *Scarlatina simplex*, the mild: 2. *Scarlatina cynanchica* or *anginosa*, with ulcerated sore throat. M. M. An emetic, refrigerants, antimonials; laxatives; digitalis; vegetable alkali; blisters; antiphlogistic regimen. Dr. Currie recommends the affusion of cold water at the beginning of the disease.

Scarlatina Anginosa. A species of Scarlatina. See *Scarlatina*.

Sceletum, σκελετον, a skeleton. This is the bones of the body preserved together as much as can be in their natural situations: and in a human body are,

The Os Frontis	1
Occipitis	1
Ossa Parietalia	2
Temporum	1
Ossicula Auditus	8
Os Ethmoides	1
Sphenoides	1
Ossa Malæ	2
Maxillaria	2
Unguis	2
Nasi	2
Palati	2

Os Vomer	1
Maxilla Inferior	1
Ossa Dentes Incisivi	8
Canini	4
Molares	20
Os Hyoides	1
	60
Vertebræ Cervices	7
Dorsi	12
Lumborum	5
Vertebræ Ossis Sacri	6
Ossa Coccigis	3
Scapulæ	2
Claviculæ	2
Costæ	24
Os Sternum	1
Ossa Innominata	2
	64
The Humerus	2
Ulna	2
Radius	2
Ossa Carpi	16
Metacarpi	8
Digitorum	30
	60
Ossa Femoris	2
Rotulæ vel Patellæ	2
Tibiæ	2
Fibulæ	2
Tarsi	14
Metatarsi	10
Digitorum	28
	60
In all	244

besides the ossa sefamoidea, which are said to be found to the number of 48.

Scelotyrbe, σκελοτυρβη, from σκελος, *crus, the leg*, and τυρβη, *tumultus, uproar;* signifies those pains in the legs that generally attend scorbutic habits; whence it is also frequently used for the scurvy itself, and applied to some medicines contrived against such disorders.

Scelotyrbe Verminosa, a variety of symptomatic convulsion.

Sciatica. Ischias. A rheumatic affection of the hip joint.

Sciaticæ, Arteriæ, the sciatic arteries: they are branches of the hypogastricæ arteriæ.

Sciaticæ, Venæ. The sciatic veins arise from the crural veins: it is called the *Sciatic Vein*, from accompanying the sciatic nerve.

Sciatic Nerve, ischiatic nerve. A branch of nerve of the lower extremity, formed by the union of the lumbar and sacral nerves. It is divided near the popliteal cavity into the tibial and peroneal, which are distributed to the leg and foot.

Sciatic Niche, ischiatic niche. See *Innominatum os*.

Scilla. Squill, or sea onion. *Scilla Maritima* of Linnæus. A native of Spain, Sicily, and Syria, growing on the sea-coast. The red-rooted variety has been supposed to be more efficacious than the white, and is therefore still preferred for medicinal use. It is to the taste very nauseous, intensely bitter and acrimonious, but without any perceptible smell. Its acrimony is so great, that if handled it exulcerates the skin, and if given in large doses, and frequently repeated, it not only excites nausea, tormina, and violent vomitings, but has been known to produce strangury, bloody urine, violent purgings, cardialgia, hæmorrhoids, convulsions with fatal inflammation, and gangrene of the stomach and bowels. Nevertheless, under proper management, and in certain cases and constitutions, it is a medicine of much practical utility, and real importance in the cure of many obstinate diseases. In hydropical cases it is a powerful diuretic; in asthmatic affections and dyspnœa, occasioned by a lodgment of tenacious phlegm, it is employed as an expectorant. The officinal preparations of squills are, a conserve, the dried squill, a syrup, vinegar, oxymel, and pills. Grs. ii. to ℈i.

Scirrhus. From σκιρρος, a primitive in the Greek. A genus of disease in the class *locales* and order *tumores* of Cullen; known by a hard tumour of a glandular part, indolent, and not readily suppurating. See *Cancer*.

Sclerotic. From σκληροω to harden; so called from its hardness. The outermost coat of the eye, of a white colour, dense and tenacious. Its anterior part, which is transparent, is termed the *cornea transparens*. It is into this coat of the eye that the muscles of the bulb are inserted.

Scorbutus, the scurvy. A genus of disease in the class *cachexiæ* and order *impetigines* of Cullen; characterized by extreme debility; complexion pale and bloated; spongy gums; livid spots on the skin; breath offensive; œdematous swellings in the legs; hæmorrhages; foul ulcers; fœtid urine; and extremely offensive stools. M. M. Recent vegetables; vegetable, carbonic, and sulphuric acids.

Scordium, water germander. *Teucrium scordium* of Linnæus. The leaves of this plant have a smell somewhat of the garlic kind, from which circumstance it is supposed to take its name, σκοροδον signifying garlic: to the taste they are bitterish and slightly pungent. The plant was formerly in high estimation, but is now justly fallen into disuse, although recommended by some in antiseptic cataplasms and fomentations.

Scrobiculus Cordis, the pit of the stomach.

Scrophula, struma. The king's evil; from *scrophula*, a swine, because this animal is said to be much subject to a similar disorder. A genus of disease in the class *cachexiæ* and order *impetigines* of Cullen; known by swelled lymphatic glands; thick upper lip; obstinate ulcers; redness of the margin of the tarsus; indolent tumours on the joints; fair complexion; and an irritable habit. M. M. Exercise in the open air; generous diet; sea bathing; cinchona; iron; mercury; electricity; muriated barytes, ii. to xx. gts. muriated lime, x. to xl. gts.

Scrotocele, from *scrotum*, and κηλη, *tumour*, *a swelling*; is a rupture of the

Scrotum. It is the external covering of the testicles, chiefly consisting of loose skin and cellular membrane without any fat.

Scruple, a medicinal weight, consisting of 20 grains, and making the third of a dram.

Scutiformis Cartilago, is the *Cartilago Ensiformis*.

Scutum, signifying an helmet, hath by anatomists been applied to many parts of the body, having resemblance thereunto in figure.

Sebaceous Glands, glands which secrete a sebaceous or suetty humour; from *sebum*, suet.

Sebates, are salts formed by the union of the acid of grease, or the sebacic acid, with different bases.

Secondary Fever, is that which arises after a crisis, or the discharge of some morbid matter, as after the declension of the small-pox, or the measles; and such a fever is frequently dangerous.

Secretion, a function by which different organs separate from the blood substances destined for particular uses; as the bile in the liver, saliva in the mouth, &c.

Secundine, or after-birth, is all that is brought from the uterus after delivery, as the chorion, amnion, &c.

S. A. Secundum Artem, *according to art;* is a term frequently used in prescription; and then properly, when the making up of the recipe in perfection requires some uncommon care and dexterity.

Secundum Naturam, κατα φυσιν, *according* or *agreeably to nature*; in opposition to a *preternatural*, or out of the common course of agency in nature.

Sedatives. From *sedo*, to ease or assuage. Those medicines are so termed which have the power of diminishing the animal energy without destroying life; as *opium*, *hyosciamus*.

Seline, a disease of the nails, in which white spots are occasionally seen in their substance.

Sella Turcica, a cavity in the sphænoid bone, surrounded by the four clinoid processes; it is so called from its supposed resemblance to a Turkish saddle.

Seltzer-water, is a mineral water which springs up at Lower Seltzer, a village in the electorate of Triers, about ten miles from Frankfort on the Mayne.

Semeiotica, signs or symptoms, and how to apply them to use, so as to judge, both in a sound and a diseased body, what will be the degree, order, and effect of the health on the disease. Its objects are things natural, nonnatural, and preternatural. The third branch of medicine.

Semen, the seed. The prolific liquor secreted in the testicles, and carried through the epididymis and vas deferens into the vesiculæ feminales, to be emitted *sub coitu* into the female vagina, and there, by its aura, to penetrate and impregnate the ovulum in the female ovarium. See *Conception*.

Semicircular Canals. These canals are three in number, and take their name from their figure. They belong to the organ of hearing, and are situated in the petrous portion of the temporal bone, and open into the vestibulum.

Semilunares, (Cartilages). They are placed on the upper part of the tibia.

Semiotice, that part of pathology which treats on the signs of diseases; from σημειον, a sign.

Semilunar Valves. The three valves at the beginning of the pulmonary artery and aorta are so termed, from their half-moon shape.

Semimenbranosus, a muscle of the leg, situated on the hind part of the thigh, which bends the leg, and brings it directly backwards.

Semi-orbicularis, the orbicular muscle of the lips, if considered as two, called *Semi-orbiculares Superior* and *Inferior*.

Semispinalis Colli, a muscle situated on the posterior part of the neck, which turns the neck obliquely backwards and a little to one side.

Semispinalis Dorsi, a muscle situated on the back, which extends the spine obliquely backwards.

Semitendinosus, a muscle of the leg, situated on the hind part of the thigh, which bends the leg backwards, and a little inwards. The tendon of this muscle with that of the semimembranosus forms what is called the inner hams-string.

Semitertiana, Febris, by the Greeks called *Hæmitritaios*, ημιτριταιος. It consists of a continual and two intermitting fevers of different kinds, viz. a quotidian and tertian; the patient, besides a continual fever, having an extraordinary fit every day, and every other day two.

Semitertian. Although many have wrote concerning this, particularly Sennertus, Hoffman, Willis, and Sylvius, and though Spigelius hath wrote a whole treatise about it, yet, it is difficult to collect from them all what they meant by it; though it seems to be taken for a common tertian, joined with more than ordinary symptoms of malignancy, and rather remitting than intermitting, there being no interval quite free from the fever.

Seneca, (called from a tribe of Indians who used it against the bite of the rattle-snake ;) *American Milk-wort, Rattle-snake Root, polygala senega.* Linn Spec. Pl. 990. The leaves are pointed, and somewhat oval ; the stalks upright and branched ; the flowers white ; the root variously bent and jointed. It is about the thickness of a little finger, and resembles the tail of a rattle-snake, with a membranous margin, which runs its whole length on each side ; outwardly of a yellowish or of a pale brownish colour, internally white ; a native of Virginia, Pennsylvania, and Maryland. This root is said to be a specific against the poison of the rattle-snake ; the powdered or fresh root beat into a cataplasm is applied externally, and a decoction taken inwardly. As the poison from the bite of a viper is apt to produce difficulty of breathing, cough, hæmoptysis, a strong quick pulse, &c. evident symptoms of peripneumony, it was thought that the senega might, in diseases of this kind, be an efficacious remedy; and this it has apparently proved after bleeding, though it seems to owe its efficacy to its emetic and cathartic powers. It indeed appears to be a general evacuant, producing a plentiful spitting, increasing perspiration and urine, frequently purging and vomiting. In pleurisies, whether inflammatory or spurious, in the rheumatism, gout, gouty rheumatism, and the humoral asthma, it is considered as singularly useful : it has been prescribed with success in dropsies, and thought to have great power in attenuating the blood. The powder is preferred to any other preparation, and the dose is from one to two scruples ; but a decoction of three ounces of the root in a sufficient quantity of water, to strain off a quart, is usually given in a dose of from two to four spoonfuls three or four times a-day.

Senna, senna, or Egyptian cassia. *Cassia senna* of Linnæus, a native of Egypt. The leaves of senna, which are imported here from Alexandria for medicinal use, have a rather disagreeable smell, and a subacrid, bitterish, nauseous taste. They are in common use as a purgative. The formulæ given of the senna by the colleges are those of an infusion, a powder, a tincture, and an electuary. ʒi. to ʒiij.

Sensation, the perception of any thing affecting the sensory nerves. The seat of sensation is in the pulp of the nerves.

Sensibility, a function, by means of which animals experience the sensation of pleasure and pain, according to the nature of the bodies which are in contact with their organs. It is an action enjoyed by man in a much stronger degree than any other animal, and which distinguishes and places him at the head of the animated creation.

Sensorium, sensorium commune, the brain. The common sensory in man is supposed to be that part of the brain where all the points or extremities of the nerves meet and unite, that is, in the medulla cerebri.

Senses. Man is said to have five external and five internal senses; namely, the sense of touch, taste, smelling, seeing, and hearing, which are external senses; and memory, imagination, conscience, affections of the mind and reason, which are internal senses.

Septana, an erratic intermitting fever, which returns every seventh day.

Septenarius, and *Septennium*, containing the space of seven years. Some of the ancients reckoned every constitution underwent some remarkable change in every such revolution, whence the seventh year was called *Critical*, or the *Climacteric Year;* but such conclusions are now much out of use.

Septic, σηπτικος, is any thing producing putrefaction; as also a medicine that is corrosive.

Septon, τὸ σηπτὸν, the principle of putrefaction; or that which peculiarly disposes bodies to corrupt. It is derived from σηπτω, *putrefacio*, *to rot;* and particularly means that decaying of organized bodies which is followed by an extrication of noxious gases. It is called *azote* in the Parisian Nomenclature. Some have termed it *mephitis*, and others again have called it *nitrogene*. By some it has been denominated *alkaligen*.

But none of these words are so appropriate and clear as *septon*. It means that material which, when inherent in bodies, is ever ready to break loose and disorganize the mass; for instance, it abounds in the muscles, skins, and, generally speaking, in the lean parts of animals, or those which are not fat. From these it is very ready to disengage itself. So loose is its coherence, that those parts of animal matter that abound with septon are very prone to spoil. Hence beef, mutton, and every kind of flesh which abounds with *lean*, are more apt to become tainted and vitiated than pork, suet, and other meats which abound with fat.

When septon breaks loose it often combines with anticrouon or caloric into *septous* or *azotic* air. This is the same kind of fluid which forms three-fourths of the atmosphere. When it combines with oxygen it forms oxyd and acid of septon. Being capable of associating with a large proportion of oxygen, septon frequently exists in the form of *septic acid*. Hence this acid is one of the most common in the world; and it produces very memorable effects. When formed from the remains of corrupting meat, bread, &c. in the mouth, the septic acid corrodes the teeth and destroys them. When swallowed in the spittle, it excites nausea, &c. When inherent in the mouth, it creates sordes, foul tongue, and ill taste. When engendered in the intestines, it may excite griping, flux, dysentery and tenesmus.

Septic acid, produced from nasty and corrupt materials in cities, creates typhus or yellow fever, according to circumstances. (See *Pestilence* and *Pestilential Diseases.)* In the holds of vessels, from similar uncleanness, *ship-fever* arises. If arising in prisons, it gives rise to the *jail distemper*. If in armies, it is denominated the *camp-fever*. Such and so various are the workings of this noxious agent, the septic acid or acid of corruption, composed of septon and oxygen.

Septic acid sometimes exists in a *liquid* form, and poisons dissectors who admit it into fresh wounds on the surface of putrefying bodies. It is sometimes elevated into vapour, and forms *septic acid gas*. When combined with potash it forms *Saltpetre*, which see.

Septum Cordis, from *sepio*, *to separate;* the partition between the two ventricles of the heart.

Septum Cerebelli, a process of the dura mater, dividing the cerebellum perpendicularly into two principal parts.

Septum Lucidum, the thin partition which divides the two lateral ventricles of the brain.

Septum Narium, the partition between the nostrils.

Septum Transversum, the diaphragm. See *Diaphragm*.

SE

Septum Palati, i.e. *Palatum Molle*.

Serifluxus, a serous discharge, or flux of serum.

Serosity. See *Serous*.

Serous, from *serum*, *whey*, is used to signify the watery part of the *Blood*, which see.

Serpentaria Virginiana. Virginian snake-root. The plant which affords this root is the *Aristolochia serpentaria* of Linnæus. Snake-root has an aromatic smell, approaching to that of valerian, but more agreeable; and a warm, bitterish, pungent taste. It was first recommended as a medicine of extraordinary power in counteracting the poisonous effects of the bites of serpents; this, however, is now wholly disregarded; but as it possesses tonic and antiseptic virtues, and is generally admitted to be a powerful stimulant and diaphoretic, it is employed, in the present day, in some fevers where these effects are required. A *tinctura serpentariæ* is directed both by the London and Edinburgh Pharmacopeias. ℈ss. to ʒss.

Serpigo, a tetterous eruption like the herpes, or impetigo.

Serpyllum. *A serpendo*, by reason of its creeping nature. Wild or mother of thyme. *Thymus serpillum* of Linnæus. This plant has the same sensible qualities as those of the garden thyme (see *Thymus*), but has a milder and rather more grateful flavour.

Serratus. Several muscles are called by this name from their resemblance in shape to a saw. As,

Serratus Anticus Minor, ariseth thin and fleshy, from the second, third, fourth, and fifth superior ribs; and ascending obliquely, it is inserted fleshy into the processus coracoides of the scapula, which it draws forward. It also helps in respiration.

Serratus Anticus Major, comes from the whole basis of the scapula, and is inserted into the seven true ribs, and first of the false ribs, by so many distinct portions, representing the teeth of a saw.

Serratus Posticus Inferior, arises with a broad and thin tendon from the three inferior spines of the vertebræ of the back, and from the two superior of the loins; its fibres ascending obliquely, grow fleshy, and are inserted by four indentations into the four last ribs.

Serratus Posticus Superior, ariseth by a broad and thin tendon from the two inferior spines of the vertebræ of the neck, and the three superior of the back; and growing fleshy is inserted into the second, third, and fourth ribs, by so many distinct indentations. These two help to draw the ribs upwards, and bring them to right angles with the vertebræ; and consequently make the cavity of the thorax wider and shorter.

Serum, from *serus*, *late*, because it is the remainder of the milk after its better parts have been taken from it. The serum of the blood. The yellow and somewhat greenish fluid which separates from the blood when cold and at rest.

Sesamoid Bones, from σησαμη, an *Indian grain*, and ειδος, *likeness*. This term is applied to the little bones at the first joint of the great toes and thumbs, from their resemblance to the grains of Indian corn.

Sesqui. This word, joined with any number, weight, measure, &c. signifies one integer and an half, as *sesqui granum*, a grain and a half.

Sessilis, is a name given to any low, flat tumours, or the eruptions in the small-pox, when they rise not well, and are indented at the top.

Setaceum, a seton, is when the skin is taken up with a needle, and the wound kept open with a skein of silk, that humours may vent themselves; for the same purpose as issues, though generally with more efficacy. Farriers call this operation in cattle, *Rowelling*.

Sevum ovillum, mutton suet: this is retained in the college Pharmacopeia: its preparation is described among the more simple preparations: when prepared, it is an ingredient in several plaisters and ointments.

Sextana, an erratic intermitting fever, which returns every sixth day.

Shingles. Zona. Zoster. Cinguli. An erysipelatous, herpetic eruption, extending sometimes round the body, in small distinct vesicles, which itch intolerably, and induce a high degree of fever.

Sialagogues. Those medicines are so called, which excite an uncommon flow of saliva; from σιαλον, *saliva*, and αγω, *to bring away;* such are mercurial preparations, pyrethrum, &c.

Sibbens. This word hath obtained in some parts of Great-Britain, as expressive of a disease which resembles, but is said not to be, the venereal. Unhappily, the disease is yet venereal, notwithstanding this change of its name.

Sickness (Falling). See *Epilepsy.*

Sight, or Vision, the sensation by which we perceive the visible qualities of substances surrounding us. The organ of this sense is the retina of the optic nerve.

Sigmoid. Σιγμοειδης; from the Greek letter Σ, and ειδος, *a likeness;* resembling the Greek letter sigma. Applied to the valves of the heart, and sometimes to the cartilages of the aspera arteria, or the semilunar apophysis of the bones.

Sign. See *Diagnostic.* Signs are universal, univocal or pathognomonic, equivocal or doubtful, commemorative. Galen defines it to be that which discovers or makes known what was formerly unknown.

Signs, the same as *Symptoms*, but called *Signs*, as they indicate, and *Symptoms*, as they are the effect of disease.

Silver, a perfect metal, of a white colour, and of the most lively brilliancy; it has neither taste nor smell; its specific gravity is such, that it loses about the eleventh part of its weight by immersion in water; and a cubit foot of this metal weighs 270 pounds. It is found in the greatest abundance in Peru and Mexico.

Simarouba, Simarouba quassia. *Quassia simarouba* of the younger Linnæus. The bark of this tree, which is met with in the shops, is obtained from the roots; and, according to Dr. Wright, of Jamaica, it is rough, scaly, and warted: the inside when fresh is a full yellow, but when dried paler: it has but little smell: the taste is bitter, but not disagreeable. It is esteemed in the West-Indies, in dysenteries and other fluxes, as restoring tone to the intestines, allaying their spasmodic motions, promoting the secretions by urine and perspiration, and removing lowness of spirits attending those diseases. It is said also that it soon disposes the patient to sleep; takes off the gripes and tenesmus, and changes the stools to their natural colour and consistence. ℈ss. to ʒss.

Simoom. A wind or haze was observed by Mr Bruce, in the course of his travels to discover the sources of the Nile, which is supposed to be in some respects analogous to the sirocco. It is called by him the simoom, and from its effects upon the lungs, we can entertain but little doubt, that it consists chiefly of carbonic acid gas in a very dense state, and perhaps mixed with some other noxious exhalations.

Mr. Bruce, who, in his journey through the desert, felt the effects of the simoom, gives of it the following graphical description: "At eleven o'clock, while we contemplated with great pleasure the rugged top of Chiggre, to which we were fast approaching, and where we were to solace ourselves with plenty of good water, Idris, our guide, cried out, with a loud voice, 'fall upon your faces, for here is the simoom.' I saw from the south-east a haze coming, in colour like the purple part of the rainbow, but not so compressed or thick. It did not occupy twenty yards in breadth, and was about twelve feet high from the ground. It was a kind of blush upon the air, and it moved very rapidly; for I scarce could turn to fall upon the ground with my head to the northward, when I felt the heat of its current plainly upon my face. We all lay flat on the ground as if dead, till Idris told us it was blown over. The meteor or purple haze which I saw was indeed passed; but the light air that still blew was of heat to threaten suffocation. For my part, I found distinctly in my breast that I had imbibed a part of it, nor was I free from an asthmatic sensation till I had been some months in Italy, at the baths of Poretta, near two years afterwards." Though the severity of this blast seems to have passed over them almost instantaneously, it continued to blow so as to exhaust them till twenty minutes before five in the afternoon, lasting through all its stages very nearly six hours, and leaving them in a state of the utmost despondency.

Simplex Oculus, a single-headed roller, used as a bandage for one eye; when used for both eyes, it is rolled up into two heads.

Sinapi. Σιναπι. Common black mustard. *Sinapis nigra* of Linnæus. The seeds of this species of mustard, which are directed by the London College, and those of the *Sinapis alba*, which are preferred by that of Edinburgh, manifest no remarkable difference to the taste, nor in their effects, and therefore answer equally well for medicinal and culinary purposes. They have an acrid pungent taste, and when bruised, this pungency shows its volatility by powerfully affecting the organs of smell. Mustard is considered as capable of promoting appetite, assisting digestion, attenuating viscid juices, and by stimulating the fibres, it proves a general remedy in paralytic affections. Joined to its stimulant qualities, it frequently, if taken in considerable quantity, opens the body, and increases the urinary discharge, and hence it has been found useful in dropsical complaints. Externally, flower of mustard is frequently used, mixed with vinegar, as a stimulant or sinapism.

Sinapism, is a cataplasm made chiefly of mustard, to apply outwardly to any particular part.

Sinciput, is the fore part of the head. See *Cranium*.

Sine Para. Several muscles, veins, arteries, &c. are so called which are without a fellow. See *Azygos*.

Singultus. Hickup. A convulsive motion of the diaphragm and parts adjacent. M. M. When symptomatic of fever, musk, volatile alkali, castor or opium. When it is idiopathic, a mouthful of water or dry bread; an emetic; sternutatories; laudanum plaster on the scrobiculus.

Sinus, signifies any cavity, and anatomists variously apply it to many parts of a human body, as the

Sinuses of the Dura Mater. The veins of the dura mater are so termed. They are several in number, the principal of which are, 1. The *longitudinal sinus*, which rises anteriorly from the crista galli, ascends and passes between the laminæ of the falciform process to where this process ends. It then opens into, 2. *Two lateral sinuses*, distinguished into right and left, which lie in the crucial spine of the os occipitis: 3. The *inferior longitudinal*, which is a small sinus situated at the acute inferior margin of the falx.

Sinus Ossium, are those cavities of the bones which receive the heads of other bones, and so of many other parts.

Sitiologice, from σῖτος, *aliment*, and λεγω, *to speak* ; that part of medicine which treats of aliments.

Sium, creeping water parsnep. *Sium nodiflorum* of Linnæus. This plant is admitted into the London Pharmacopeia in the character of an antiscorbutic. It is not nauseous, and children take it readily if mixed with milk.

Skeleton, from σκελλω, *to dry*. When the bones of the body are preserved in their natural situation, and deprived of the flesh, it is called a skeleton.

Skin. See *Cutis*.

Skull. See *Cranium*.

Sleep, that state of the body in which the internal and external senses and voluntary motions are not exercised. The end and design of sleep is both to renew, during the silence and darkness of the night, the vital energy, which has been exhausted through the day, and to assist nutrition.

Small-pox. *Variolæ*. A genus of disease in the class *pyrexiæ* and order *exanthemata* of Cullen; known by synocha, with an eruption of red pimples on the third day, which about the eighth day contain pus, and at length drying, fall off in crusts. It has two species; 1. *Variola discreta*, the distinct; 2. *Variola confluens*, the confluent. M. M. Venesection; cathartics; an emetic; refrigerants; blisters; antiphlogistic regimen; diaphoretics; anodynes; cordials; cinchona.

Smelling, the sensation by which we perceive the smell of bodies. The organ of this sense is the nervous papillæ, which are distributed over the pituitary membrane of the nostrils.

Soda, the heart-burn. It is a species of *Dyspepsia;* also the same as *pyrosis* or *water-brash*.

Soleus, a muscle so called from its likeness to a sole-fish.

Solitarii, diseases affecting any one part of the body.

Solution of Continuity, is a term used by surgeons for every division of the parts made by wounds, or any other causes.

Solutives, opening, or laxative medicines.

Somnambulo, one who walks in his sleep: it is a species of *oneirodynia*.

Somniferous, from *somnus*, *sleep*, and *fero*, *to bring;* the same as *Narcotics*, *Opiates*, &c. which see. Hence also,

Somnium, i. e. *Somnambulo*, more properly dreams and visions; so an instance of *oneirodynia*.

Somnolency, is any propensity to sleep, or a drowsiness.

Sooins. It is a preparation in common use amongst the North Britons, and is thus made: Some oatmeal is put into a wooden vessel, hot water is poured upon it, and the infusion continues until the liquor begins to taste sourish, that is, until a fermentation comes on, which, in a place moderately warm, may be in the space of two days. The water is then poured off from the grounds, and boiled down to the consistence of a jelly. This is rendered palatable by the addition of sugar, wine, or such other mixtures as the palate, &c. may direct to. It is also called *Flummery*.

Sophistication, is counterfeiting or adulterating any thing with what is not so good, for the sake of unlawful gain. This practice unhappily obtains in all the parts of medicine which deal with simples or compounds; and in many cases the cheat is carried on so artificially as to prevent a discovery even from persons of the most discerning faculty.

Sopor. Profound sleep.

Soporiferous, that which occasions sleep; from *sopor*, *sleep*, and *fero*, *to bring*.

Sordes Aurium, ear-wax.

Sordes. When the matter discharged from ulcers is rather viscid or glutinous, it is thus named. This matter is frequently of a brownish red colour, somewhat resembling the grounds of coffee, or grumous blood mixed with water.

Sordes, *Sanies*, and *Ichor*, are all of them much more fœtid than purulent matter, and none of them are altogether free from acrimony; but that which is generally termed *Ichor*, is by much the most acrid of them, being frequently so sharp and corrosive as to destroy large quantities of the neighbouring parts.

Spa-water. It is one of the best of the chalybeate kind in Europe.

Spasm, σπασμος, or σπασμα; from σπαω, *to draw;* a spasm or convulsion. An involuntary contraction of the muscular fibres. Spasms are distinguished by authors into clonic and tonic spasms. See *Clonic spasm* and *Tonic spasm.*

Spasmi, spasmodic diseases; from σπαω, *to contract.* The third order of the class *neuroses* of Cullen; characterized by a morbid contraction or motion of muscular fibres.

Spasmodic Medicines, are such as are good against convulsions; and

Spasmology, from *Spasmus*, and λεγω, *dico*, *to discourse;* is any treatise of convulsions.

Spasmus Cynicus, the cynic spasm.

Spasmus Iliacus, the colic.

Spasmus Maxillæ Inferioris, the locked-jaw.

Spasmus Oesophagi, a difficulty of swallowing, from a spasm in the gullet.

Spatula, is an instrument used by apothecaries and surgeons, wherewith they spread their plasters, unguents, &c. or stir their medicines together.

Specifics, such remedies as have an infallible efficacy in the cure of disorders. The existence of such remedies is doubted.

Specillum, a probe.

Speculum Oculi, from *specio*, *to view;* an instrument used by oculists to keep the eye-lids open and the eye fixed.

Speculum Oris, an instrument to force open the mouth.

Spermaceti, from σπερμα, *seed*, α σπειρω, *to sow*, and *cete* or *cetus*, the whale; an oily, concrete, crystalline, semi-transparent matter, obtained from the cavity of the cranium of several species of whales. It was formerly very highly esteemed, when a great number of virtues were attributed to it; but it is now chiefly employed in affections of the lungs, primæ viæ, kidneys, &c. as a softening remedy, mixed with mucilages. It is also employed by surgeons as an emollient in form of cerates, ointments, &c. ℈i. to ʒi.

Spermatica, Arteria, the spermatic artery: there is one on each side.

Spermatica, Chorda, the spermatic chord: it is composed of the spermatic artery and vein, of nerves, lymphatics, the vas deferens, the cremaster muscle, and aponeurotic membrane.

Spermatica, Vena, the spermatic vein.

Spermatocele, from σπερμα τος, *seed*, and κηλη, *a tumour;* a swelling of the testicle or epididymis from an accumulation of semen. It is known by a swelling of those organs, pain extending to the loins without inflammation. M. M. When occasioned by inflammation, general and topical bleeding, cooling cathartics, and an antiphlogistic regimen; when by the pressure of a tumour, extirpation or promoting the suppuration of the tumour.

Sphacelismus, σφακελισμος, inflammation of the brain.

Sphacelus. Σφακελος, a primitive. A mortification of any part. See *Gangrene.*

Sphænoid Bone. Os cuneiforme. From σφην, *a wedge*, and ειδος, *a likeness;* because it is fixed in the cranium like a wedge. A bone of an irregular figure, compared to a bat with its wings extended, situated in the middle of the basis of the cranium. It has several eminences and cavities, the principal of which are two greater and two lesser wings, a pterygoid apophysis, a spine, a hook-like and spinous process, and two anterior and two posterior clinoid apophyses; a pituitary sinus, the sella turcica, two optic foramina, a superior orbital ryma, two round, two oval, and two spinous foramina.

Sphincter, σφιγτηρ, from σφιγγω, *constringo*, *to bind together*; is ascribed to such muscles as draw up, and keep shut the parts, as the

Sphincter Ani, a single muscle of the anus which shuts the passage through the anus into the rectum, and pulls down the bulb of the urethra, by which it assists in ejecting the urine and semen.

Sphincter Vaginæ, a muscle which contracts the mouth of the vagina, and compresses its corpus cavernosum.

Spigelia, perennial worm-grass, or indian pink. *Spigelia marilandica* of Linnæus. The whole of this plant, but most commonly the root, is employed as an anthelmintic by the Indians and inhabitants of America. Dr. Hope has written in favour of this plant, in continued and remitting low worm fevers: besides its property of destroying the worms in the primæ viæ, it acts as a purgative. ʒi. to ʒiss. In this country it is sometimes used in much larger doses. (℥ij. to ℥iij.)

Spina Bifida, the same as *Hydrorachites*.

Spina Cervina, so called from its thorns resembling those of the stag. Purging buckthorn. The fruit or berries of this shrub, *Rhamnus catharticus* of Linnæus, have been long received into the materia medica; they contain a pulpy deep green juice, of a faint unpleasant smell, a bitterish, acrid, nauseous taste, which operates briskly by stool, producing thirst, dryness of the mouth and fauces, and severe griping, unless some diluting liquor be drank plentifully after it: made into syrup, it is the officinal preparation, which at present is rarely prescribed except as a drastic purge. The berries fresh xx; dried ʒi. juice of ℥i. syrup of ℥i. to ℥iij.

Spinalis, *Musculus*, the spinal muscle. It is distinguished into *Spinalis Colli*, and *Spinalis Dorsi*.

Spinales Colli Minores, i. e. *Interspinal Muscles*.

Spinalis Arteria, spinal artery.

Spinalis Colli, arises from the spines of the seven uppermost vertebræ of the back, and is inserted into the five lower vertebræ of the neck.

Spinalis Dorsi Major,

Spinalis Dorsi Minor,

Spinalis Lumborum. The two first are spinal muscles of the back; the last of the loins.

Spina Ventosa, a tumour arising from an internal caries of a bone. It most frequently occurs in the carpus and tarsus, and is known by a continual pain in the bone, and a red tumour of the skin, which has a spongy feel.

Spinal Marrow. See *Medulla Spinalis*.

Spine. *Spina dorsi*. *Columna spinalis*. *Columna vertebralis*. So called from the spine-like processes of the vertebræ; from *spina*, a thorn. A bony column or pillar extending in the posterior part of the trunk from the great occipital foramen to the sacrum. It is composed of twenty-four bones called vertebræ. The cavity that runs down the middle, and which contains the spinal marrow, is called the *specus* or *theca vertebralis*.

Spiracula, are the same as pores, or any breathing passages.

Spiritus Vinosus Tenuior, or proof-spirit, contains fifty-five parts of alkahol, and forty-five parts of distilled water in a hundred parts. Its specific gravity to that of distilled water is as 930 to 1000.

Splanchnic Nerve, the interior intercostal nerve. See *Intercostal Nerve*.

Splanchnology, the doctrine of the viscera; from σπλαγχνον, *an entrail*, and λογος, *a discourse*.

Spleen, σπλην. *Lien*. The spleen or milt. A spongy viscus, whose use is unknown, situated in the left hypochondrium, near the great curvature of the stomach, and under the ribs. The splenic artery is a branch of the cœliac; the splenic veins empty themselves into the vena portæ. The nerves are from the par vagum and great intercostal. It is plentifully supplied with absorbents.

Splenalgia, pain in the spleen or its region.

Splenitis, from σπλην, *the spleen*; inflammation of the spleen. A genus of disease in the class *pyrexiæ* and order *phlegmasiæ* of Cullen; characterized by pyrexia; tension; heat; tumour; and pain in the left hypochondrium, increased by pressure. M. M. Antiphlogistic regimen; venesection; cathartics; refrigerants; diaphoretics, and blisters.

Splenius, a muscle, situated on the posterior part of the neck, which brings the head and upper vertebræ of the neck backwards laterally; and when both act, pulls the head directly backwards.

Splenocele, a rupture of the spleen; from σπλην, *the spleen*, and κηλη, *a tumour*.

Spongia, sponge. A sea production; the habitation of insects. Burnt sponge is said to cure effectually the bronchocele, and to be of infinite utility in scrophulous complaints. Sponge tents are employed by surgeons, to dilate fistulous ulcers, &c.

Sporadic, σποραδικος from σπειρω, *to sow*; an epithet for such diseases as seize particular persons, at the same time or season.

Sprue. So the *Thrush* in infants is called in Scotland.

Squamose Suture, the suture which unites the squamose portion of the temporal bone with the parietal; from *squama*, *a scale*, because the bones lie over each other like scales.

Stahlian System. If any medical author possessed, in a very superior degree, an acuteness of perception, extensive knowledge of his own science, an imagination and fancy peculiarly active, discovering the most distant and unsuspected relations, it was George Ernestus Stahl. His name is now confounded with the visionary philosophers, by those to whom his fancies alone are known, or to whom his metaphysical writings only are familiar; for he was an acute but an eccentric metaphysician, and his language is peculiarly intricate, often unintelligible. This, however, arises from the minute accuracy of his distinctions, and from the strict logical form of his reasoning. He first pointed out the phenomena of a living organized machine, distinct from a series of tubes propelling fluids mechanically; or, in other words, the peculiar laws of animal life. He first showed how health or diseases depended on a due balance of the several movements of the living machine, or a disturbance of the equilibrium: in fact, he laid the foundation of the nervous pathology of Cullen, who, however, we suspect, received it at second hand from Hoffmann.

When the university at Halle was founded, in 1694, he was chosen professor there at the age of thirty-four, and was a colleague with the laborious Hoffmann. The brilliancy of his genius soon enlightened every branch of science which he undertook to teach; and though rivalled in industry by Hoffmann, and confuted in the field of metaphysics by a philosopher, to whom it was no discredit to yield, Leibnitz, he continued his brilliant career to the seventy-fifth year of his life. A pleasant outline of his whole system may be found in a highly humorous little work, entitled "The Vision," appended to the chapter on "the Mundane Soul," in the "Light of Nature pursued," by Mr. Abraham Tucker, under the assumed name of Edward Search. His medical works are a Collection of Theses, in six volumes, quarto, which, as we have often had occasion to remark, are in the foreign universities, the work of the masters. In these he displays his system in distinct disquisitions; but the chief foundation is contained in those entitled De Motu Tonico, et Æstus Maris Microcosmici. The outline of the whole is published in a work well known, his "Theoria Medica Vera," which appeared in 1734; and in his "Negotium Otiosum," published at Halle in 1720.

It does not appear that there was any great cordiality between the rival professors, Hoffmann and Stahl; but a studied civility seems to have prevailed, and Hoffmann, in more than one instance, copies from Stahl. Indeed, whatever relates to the living principle in the works of the former is evidently borrowed from his colleague. The spasmus periphæricus is only another term for the motus tonicus.

The leading principle of the "Theoria Medica Vera" is the superintending power of the immaterial principle, which he carried so far that he almost leaves it in doubt whether the fœtus does not form itself by its own volition. At least he contends, that the mind actuates the body not only by willing the *end*, but the means, so that not only every distinct muscle is moved by the particular volition referred to that muscle, but that digestion, the peristaltic motion, and the several secretions, are influenced by the same will, especially directed to the respective organs. He certainly was goaded on by his controversy with Leibnitz, whom he never condescends to name, to this absurd extent; but that the superintending power of nature is directed to remedy any deviation from a state of health, or to restore any injured part, is generally acknowledged. The difference, however, is, that modern authors consider these efforts, which they style the *vires medicatrices naturæ*, as the effect of organization, or of pre-established associations; while Stahl contends that they arise from the immediate influence of mind conscious of the error or defect, and willing the motions necessary for the correction or supply. We certainly have no evidence of such mental exertion, and in the simplest cases of volition we see this principle directed only to the end, apparently without any view to the means.

While nature was thus constituted the presiding power, art must be apparently useless. It were presumptuous to attempt assisting a principle so sagacious and powerful; and indeed the practice of the Stahlians, directed to allure or appease this "divinity that stirs within us," was peculiarly inert, and often absurd. The state of the abdominal viscera they particularly attended to, and to prevent infractions they were anxious to promote the discharge of the hæmorrhoids. From this fancy of Stahl the practice extended to Germany, and was too popular to be overlooked by the celebrated eclectic Boerhaave.

The opinions of Stahl have been long neglected, and the few facts which are here collected may now appear to wear the garb of novelty. The language, however, of this system has unfortunately become fashionable. Its era commenced with Mr. J. Hunter, to whom anatomy and physiology are greatly indebted, but who has considerably injured both by the most unscientific expressions. To take on diseased action, as we have already remarked, can mean no more than to be diseased, unless we adopt the principles of Stahl: and many such expressions are common in his works. His followers have assumed a more extensive liberty, and it is not very uncommon to hear of the exertions of the constitution "alarmed" by some impressions, *taking on* actions in consequence of such alarm; and even the blood coagulating from some supposed sense of the necessity of the change. A late work of merit, Adams on Morbid Poisons, contains much of this exceptionable language.

The followers of Stahl have been peculiarly happy in their arrangements, and Juncker and Nenter have given tabular views of diseases and remedies, according to the views of their master, which may still be consulted with advantage. The last English work, according to this system, if we except those of Mr. Hunter and Mr Adams, was Dr. Nichol's Anima Medica, though several traces of the same doctrines may be discovered in the Edinburgh Medical Essays.

Stamina, in the animal body, are defined to be those simple original parts which existed first in the embryo, or even in the seed, and by whose distinction, augmentation, and accretion, by additional juices, the animal body, at its utmost bulk, is supposed to be formed.

Stannum, tin; a silver-coloured metal, not liable to rust, but losing its brightness in the air, the softest metal next to lead, easily flexible, little more than seven times heavier than water, fusible in a heat far below ignition, and somewhat less than that in which lead melts. The principal use of this metal in the present practice is an anthelmintic. The college have retained tin in their Pharmacopeia; the reducing it to powder by means of fusion is therein directed. This preparation is called Stannum Pulveratum.

Stapedius, a muscle of the internal ear, which draws the stapes obliquely upwards towards the cavern, by which the posterior part of its base is moved inwards, and the anterior part outwards.

Stapes, a bone of the internal ear, so called from its resemblance to a stirrup.

Staphisagria, staves-acre. *Delphinium staphisagria* of Linnæus. The seeds, which are the only part directed for medicinal use, are usually imported here from Italy; they are large, rough, of an irregular triangular figure, and of a blackish colour on the outside, but a yellowish within; their smell is disagreeable, and somewhat fœtid; to the taste they are very bitter, acrid, and nauseous. It was formerly employed as a masticatory, but is now confined to external use in some kinds of cutaneous eruptions, but more especially for destroying lice and other insects; hence, by the vulgar, it is called louse-wort.

Staphyloma, σταφυλωμα; from σταφυλη, *a grape*. A disease of the cornea of the eye, in which this membrane acquires a preternatural thickness and opacity in its substance, which causes it to protrude like a grape. M. M. An incision in the most depending part; saturnine applications and the antiphlogistic regimen.

Stationaria, Febris, a stationary fever. So Sydenham called those fevers which happen when there are certain general constitutions of the years, which owe their origin neither to heat, cold, dryness, nor moisture, but rather depend on a certain secret and inexplicable alteration in the bowels of the earth, whence the air becomes impregnated with such kinds of effluvia as subject the body to particular distempers, so long as that kind of constitution prevails, which, after a certain course of years, declines and gives way to another.

Statistics, a branch of political economy, treating of the actual condition of places, in respect to their soil, improvements, productions, occupation, manufactures, population, wealth, trade, origin, settlement, &c. for an exquisite specimen of which, see *Sir John Sinclair's Statistical Survey of Scotland.*

Starch. Amylum. The fecula of wheaten flour. See *Amylum.*

Steatocele, a collection of a suety substance in the scrotum ; from στεαρ, suet, and κηλη, *a tumour.*

Steatoma, στεατωμα ; from στεαρ, *suet ;* an encysted tumour, whose contents are of a suety consistence. M. M. Excision.

Steel. Chalybs. The best, hardest, finest, and closest grained iron, made by a particular process.

Stenothoraces, στενοθωρακες, are those who have narrow chests, and on that account are liable to phthisical affections; and so of many others, from the same foundation.

Sterno, names compounded of this word belong to muscles which are attached to the sternum ; as,

Sterno-Cleido-Mastoideus, a muscle on the anterior and lateral part of the neck, which turns the head to one side and bends it forward.

Sterno-Hyoideus, a muscle, situated between the os hyoides and sternum, which pulls the os hyoides downwards.

Sterno-Thyroideus, a muscle, situated between the thyroid cartilage and sternum, which draws the larynx downwards.

Sternum, the breast bone ; a bone somewhat like a dagger, situated between the anterior part of the true ribs.

Sternutatories, are medicines which procure sneezing.

Stertor, noisy respiration, as in an apoplexy, in which the mucus from the fauces is forced through the nostrils : or snoring, snorting, or the noise made through the nose in sleep.

Sthenia, a term employed by the followers of Dr. Brown, to denote that state of the body which disposes to inflammatory diseases, in opposition to those of debility which arise from asthenia. Dr. Struve, in his work on the "Art of prolonging the Life of incurable Persons," gives a few of the theorems after the manner of Brown. He says a stronger stimulus does not, as is commonly believed, destroy a weaker ; it only lessens, in a greater or less degree, the force of the latter. Sthenia is always more violent when it is preceded by a considerable asthenia, and *vice versa.* A famished person suddenly filled with food, dies apoplectic. Drunkards, if they immediately begin a total abstinence from wine, expose themselves to incurable diseases. Sthenia becomes more violent in proportion as it alternates more completely with asthenia, that is to say, in proportion as the habit is more frequently exposed at one time to sthenic affections, and at another to asthenic. By this perpetual irritation the organization becomes so susceptible, that it is very liable to suffer in the highest degree from sthenic diseases. This principle is of the greatest importance for practitioners to be aware of, since it proves that a sudden transition from one extreme to another (as, for example, from cold to heat, taking cold liquors when the body is hot, which often destroys the tone and energy of the stomach,) may lay the foundation of an incurable disease, which sometimes remains long concealed, and then shows itself by the most alarming symptoms.

Stimulants, from *stimulo*, to stir up. Medicines are so termed which possess a power of exciting the animal energy, as wine, volatile alkali, mustard, opium, &c.

Stimulus, any thing that irritates.

Stomacace, στομακακια, from στομα, *the mouth*, and κακος, *evil ;* bleeding at the gums. This is always symptomatic. It is a symptom attending the scurvy, and is also a name for the scurvy.

Stomach. Ventriculus. A membranous receptacle, situated in the epigastric region, which receives the food from the œsophagus ; its figure is somewhat oblong and round ; it is largest on the left side, and gradually diminishes towards its lower orifice, where it is the least. Its superior orifice, where the œsophagus terminates, is called the *cardia;* its inferior orifice, where the intestine begins, the *pylorus.* Its anterior surface is turned towards the abdominal muscles, and its posterior opposite the lumbar vertebræ. It has two curvatures: the first is called the great curvature of the stomach, and extends downwards from the one orifice to the other, having the omentum adhering to it: the second is the small curvature, which is also between both orifices, but superiorly and posteriorly. The stomach, like the intestinal canal, is composed of three coats or membranes: 1. The *outermost*, which is very firm and from the peritoneum: 2. The *muscular*, which is very thick, and composed of various muscular fibres: and, 3. The *innermost* or *villous coat*, which is covered with exhaling vessels, and mucus. These coats are connected together by cellular membrane. The glands of the stomach which separate the mucus, are situated between the villous and muscular coats, in the cellular structure. The arteries of the stomach come chiefly from the cœliac artery, and are distinguished into the coronary, gastric epiploic, and short arteries; they are accompanied by veins which have similar names, and which terminate in the vena portæ. The nerves of the stomach are very numerous, and come from the eighth pair and intercostal nerves. The lymphatic vessels are distributed throughout its whole substance, and proceed immediately to the thoracic duct. The use of the stomach is to excite hunger and partly thirst, to receive the food from the œsophagus, and to retain it, till by the motion of the stomach, the admixture of various fluids, and many other changes, it is rendered fit to pass the right orifice of the stomach, and afford chyle to the intestines

Stomachics, are such medicines as are serviceable to the stomach.

Stone, is an aggregate of many of the harder parts of the urine, pent up by reason of the straitness of the ducts.

Strabismus, στραβισμος; from στραβιζω, *to squint*. Squinting. An affection of the eye, by which the person sees objects in an oblique manner, from the axis of vision being distorted. Cullen arranges this disease in the class *locales* and order *dyscinesiæ*. M. M. Ogles; placing the side from which the eye is distorted toward the light; sticking a piece of bright silk on the same side.

Stramonium, common thorn-apple. *Datura Stramonium* of Linnæus. This plant has been long known as a powerful narcotic poison. In its recent state it has a bitterish taste, and a smell somewhat resembling that of poppies, especially if the leaves be rubbed between the fingers. Instances of deleterious effects of the plant are numerous, more particularly of the seed. An extract prepared from the seeds is recommended by Baron Stoerck in maniacal, epileptic, and convulsive affections. Externally the leaves of stramonium have been applied to inflammatory tumours and burns, and it is said with success. Extract of grs. i. to x.

Strangury, στραγγυρια; from σραγξ, *a drop*, and ουρον, *urine*. A difficulty of making water, attended with pain and dripping.

Strictor, the same as *Sphincter*, which see.

Stridor, gnashing of teeth. Sometimes the locked jaw is thus named.

Strigil, or *Strigilis*, an instrument to scrape off the sweat during the gymnastic exercises of the ancients, and in their baths. Strigils were made of metals, horn, ivory, and were curved: some were made of linen. Also the flesh-brush.

Struma. This term is applied by some authors to scrophula, and by others to an induration of the thyroid gland, which is endemial to the Tyrolese and Swiss.

Stum. It is must, whose fermentation has been prevented or prematurely suppressed by fumigation with sulphur.

Stupefiers, the same as *Narcotics*, which see.

Stupha, a stupe, the same as *Fomentation.*

Stupor, numbness, occasioned by any accidental bandage that stops the motion of the blood and nervous fluid, or from a decay in the nerves, as in a palsy.

Styliform, shaped like a bodkin or style: from *stylus*, *a bodkin*, and *forma*, *a likeness.*

Stylo, names compounded of this word belong to muscles which are attached to the styloid process of the temporal bone; as,

Stylo-Glossus, a muscle, situated between the lower jaw and os hyoides laterally, which draws the tongue aside and backwards.

Stylo-Hyoideus, a muscle situated between the lower jaw and os hyoides laterally, which pulls the os hyoides to one side, and a little upwards.

Stylo-Mastoid Foramen, a hole between the styloid and mastoid process, through which the portio dura of the auditory nerve passes to the temples.

Stylo-Pharyngeus, a muscle situated between the lower jaw and os hyoides laterally, which dilates and raises the pharynx and thyroid cartilage upwards.

Styptics, στυπτικος, α ϛυφω, *to adstringe*; a term given to those substances which possess the power of stopping hæmorrhages, such as turpentine, alum, &c.

Styrax, officinal storax. *Styrax officinale* of Linnæus. There are two kinds of storax to be found in the shops; the one is usually in irregular compact masses, free from impurities, of a reddish brown appearance, and interspersed with whitish tears, somewhat like gum ammoniac or benzoin: it is extremely fragrant, and upon the application of heat, readily melts. This has been called *storax in lump*, *red storax*, and in separate tears, *storax in tears*. The other kind, which is called the *common storax*, is in large masses, very light, and bears no external resemblance whatever to the former storax, as it seems almost wholly composed of dirty saw-dust, caked together by resinous matter. Storax was formerly used in catarrhal complaints, coughs, asthmas, obstructions, &c. In the present practice it is almost totally disregarded, notwithstanding it is an efficacious remedy in nervous diseases. grs. v. to ℈i.

Subclavian Artery, from *sub*, under, and, *clavis*, a key, because the clavicles were supposed to resemble the key of the ancients. The right subclavian arises from the arteria innominata and proceeds under the clavicle to the axilla. The left subclavian arises from the arch of the aorta, and ascends under the left clavicle to the axilla. The subclavians in their course give off the internal mammary, the cervical, the vertebral, and the superior intercostal arteries.

Subclavius, a muscle, situated on the anterior part of the thorax, which pulls the clavicle downwards and forwards.

Subcostales. These muscles are situated more or less obliquely on the inside of the ribs, near their bony angles, and run in the same direction with the external intercostals.

Subcutaneous Glands. These are sebaceous glands lying under the skin, which they perforate by their excretory ducts.

Sublimation, from *sublimo*, to *raise* or *sublime*. This chemical process differs from evaporation only in being confined to solid substances. It is usually performed either for the purpose of purifying certain substances, and disengaging them from extraneous matters; or else to reduce into vapour, and combine under that form, principles which would have united with greater difficulty if they have not been brought to that state of extreme division.

Sublingual Glands, the glands which are situated under the tongue, and secrete saliva. Their excretory ducts are called *Riverian*, from their discoverer.

Subluxatio, subluxation: it is where the head of a bone is not quite out of its socket, but rests upon the brim.

Submersio, (from *sub*, *under*, and *mergo*, *to plunge*); DROWNING, a variety of the *apoplexia suffocata* of Cullen, *asphyxia immersorum* of Sauvages. Drowning, since the institution of the Humane Society, has engaged the attention of numerous practitioners; attention, however, which has not been rewarded by proportional improvement; for we believe the practice of the French guards on the Seine, described by Pia, is fully as judicious, and we think more successful, than that suggested by the refinements of Dr. Cullen, J. Hunter, and their minor satellites. We are indebted to Van Helmont for the first hints respecting recovery; as, in the cure of hydrophobia, he immersed his patients in water so long as was sufficient to repeat the psalm, "Miserere." He owns that they were often taken up apparently dead; adding, that there was not much real danger in these appearances. The subject recurred to various authors who followed him; but has only, within these thirty years, claimed general attention. Persons immersed in water for five minutes are often recoverable, unless in their falling some blow has concurred in producing the event, or some sudden attack has occasioned their immersion. Even these considerations will not however, always account for the want of success, and we are compelled to admit that irritability is not in every person again recalled with equal ease. Beyond this time, the hopes of recovery are less, in proportion to the time a person has been immersed, and after remaining twenty minutes in the water there are slender hopes. Instances are indeed recorded where recovery has followed after the immersion for sixteen, eighteen hours, three days; and, when the water has been frozen, even after fifteen days. Medical records are full of surprizing stories, which require more than common faith to admit. It may be alleged, that the foramen ovale may continue open; and it has been said that negroes plunge their newly born infants in water, that they may become good divers, without knowing that such a foramen exists. Anatomy has indeed observed this passage pervious in the adult; but the event is too rare to explain the facts, and recovery, after twenty minutes immersion, is no common event.

The signs of drowning are those of death in general (see MEDICINA FORENSIS), with a darker livor on the countenance, and an absence of the marks of compression on the neck. Suffocation from deleterious gases is marked by a pale complexion. The reader who wishes, however, to acquire more minute information on this subject, may find it in Roderer's Opuscula de Submersis, et Colle Cosmitor Medicinæ Triplex.

The immediate cause of death from drowning has occasioned much controversy. The most obvious idea was that the lungs were filled with water, which suffocated by preventing the access of air. De Haen supported this opinion by drowning cats in coloured fluids, when he found the lungs tinged by them. Many other authors, with Faissolle and Champeaux, enlisted on the same side; but Dr. Cullen soon suggested doubts against the conclusion, though he allowed the fact; and it is now, we believe, admitted, that when water is discovered in the lungs, it passes in after death, since animals, taken immediately from the water, are seldom found to have received any. The slightest irritation of any fluid, it is said, produces a stricture in the trachea, and prevents the access of the fluid; and though Morgagni (de Sedibus, &c. xix. 44), and others, found the epiglottis raised, this may have readily happened in the relaxation that occurs after death.

The other appearances, on dissection, are a collapsed state of the lungs, the heart on the right side turgid with blood, the left side and the venal system empty; water sometimes in the stomach (Morgagni de Sebidus, &c. xix. 41, 43); but the vessels of the brain are certainly not in every instance distended.

The immediate cause of death from drowning has not been completely ascertained. From the time of Walter it has been supposed to be apoplexy, and more late from an accumulation of carbone in the lungs, which the air usually carries off. Both causes concur; and the spasm, probably induced on the glottis by the access of the fluid, preventing respiration, accumulates the blood in the right side of the heart, and consequently prevents the return from the veins. If the stoppage of respiration soon produces death, and we have said that the time is various from the different irritability of different persons, no considerable accumulation will probably take place in the vessels of the head; but, if life continues for any period, such may occur. We have remarked, that after about a quarter of an hour's immersion, recovery is improbable, and after twenty minutes all exertions are usually unavailing. We mean not, however, to preclude attempts while recovery is possible; and within the periods mentioned, we are often obliged to continue our exertions with great perseverance for several hours before life returns. If the signs of death do not increase; if, on the contrary, a slight glow comes on; if the features recover their fullness, though in the most slight degree, it will be sufficient to urge the continuance of our efforts. Mr. Kite has recommended electricity as a means of ascertaining whether any irritability, in other words, whether life remains. But we have reason to believe, that though electricity excites, it also exhausts irritability.

Numerous useless refinements have been introduced into the science of resuscitation, as it has been quaintly called. The body, when taken up, should be wiped dry, covered, and carried, in at least a semi-erect posture, to a room where there is a large fire, and the necessary attendants only admitted. Warmth is most quickly administered, and warm flannel should be immediately applied, warm bricks to the feet, and warm sand to the pit of the stomach. Yet these applications should be conducted with some reserve: the colder the body, the slower should be the approaches of heat. We suspect that this caution has not been sufficiently kept in view; and, on this account, the warm bath, so highly commended by some, has not succeeded in the experience of others.

The chief change produced by drowning, we have seen, consists in the stoppage of respiration, and the consequent distension of the right side of the heart. Mr.

Hunter considers that all our efforts should be directed to restore the action of the lungs, which will alone relieve the over-distended ventricle. There may be some doubts from the arguments already used, whether taking a little blood would not assist by unloading the heart; but, when the circulation is wholly stopped, blood will not flow, or the only effect will be to empty the veins around. Perhaps, therefore, Mr. Hunter has decided properly in forbidding *venesection* in the first instance, as not likely to be useful in lessening the load, and very certainly injurious in depressing the vis vitæ. *Inflating the lungs* is of the utmost importance, and this is effected by bellows, communicating with a pipe introduced into the larynx, or sometimes through an aperture between the rings of the trachea. The breath of a healthy person is occasionally substituted, closing the nostrils; but what would appear the most effectual is, the introduction of *warm* atmospheric air of a somewhat higher quality by a mixture of oxygenous gas. We should object to the air being *heated*, as well as to the introduction of pure gas, for the reasons which led us to object to a higher temperature. While air or gas is introduced, the thorax should be pressed, and the abdominal viscera raised against it, to change, in some measure, its capacity; for we have already observed, that, when a train of associated motions has begun, they are often continued, from whatever point the series has commenced. Bronchotomy, we think, has been too rarely employed; for in almost every other way the thorax is imperfectly dilated. Mr. Hunter supposes that the stimulus of the volatile alkali may be advantageously combined with that of warm air. In each case the accumulated froth often offers a powerful obstacle; and the bellows recommended by Gren (Physical Journal i.) and Hunter (Philosophical Transactions) is the best method of overcoming it.

While the lungs are thus stimulated, the stomach, with which the whole system so evidently sympathises, should not be neglected. By means of a flexible canula any stimulating fluid may be injected, and spirits, as well as volatile alkali, have been this way thrown in. The practice has not, however, been so common as from its obvious advantages may have been expected. The stomach brush, *ventriculi excutia*, is, we observe, recommended in the Berlin Transactions.

A more ready access to the intestines is through the rectum; and the ease of the operation has apparently compensated for the less degree of sensibility of this extremity. Clysters have been very commonly employed, and they have been various in their nature and objects. Acrid purgatives thrown into the rectum was a measure of obvious utility; and other stimuli, as ammonia, mustard, rum, and brandy, have been added to water for this purpose. We find also, what appears more singular, that air alone injected as a clyster has been useful, and Michaelis mentions the salutary effects of a clyster of vinegar and water. We have already spoken (see Resuscitatio) of the disadvantages of clysters of tobacco smoke, and, on examining the most approved authors, we find them generally reprobated in these cases.

Other obvious stimuli are ammonia, applied to the nose, and sometimes injected into the nares; external frictions with salt, with mustard, &c.; a strong light directed to the eye, or harsh sounds to the ear; and an electrical shock applied to the spine or the pit of the stomach. The first only appears to be useful, as the stimulus is conveyed to the lungs, and excites a convulsive action in them. The others are of a more doubtful nature, or evidently injurious. A singular irritation is mentioned by Chardenon, in the Dijon Memoirs, viz. irritating the lungs themselves, through an incision made into the thorax. In the Gazette de Santè we are directed to lay bare the lungs; but we need not add a remark on either plan.

When life begins to return we are directed to persevere in, or even increase our efforts; but slight irritability, thus restored, would be soon exhausted by excess of stimulus. In this state there will be no objection to a slight bleeding; and it is often useful to prevent determinations of the newly-restored circulation to different parts before the equilibrium is properly established. Light, warm, nourishing food, perfect tranquillity, with some easy motions, procured by laxatives or clysters, very slightly stimulating, will be necessary. Patients in this state must be carefully watched; for the latent "scintillula" will often quickly disappear. What, however, will appear of more importance is, that after life is fully returned, the accumulated irritability often brings on the most active inflammations, which we can venture only to relieve by topical bleedings, diluting liquors, opiates, gentle laxatives, and rest. They are sometimes so violent as to demand general, and even active, venesection.

Notwithstanding, however, the minute and scientific investigations of the ablest authors, the success of resuscitation is scarcely advanced. If a person is recoverable, common and obvious methods will succeed. If irrecoverable, all the efforts of the most refined science will fail. We have scarcely advanced farther than in destroying the popular prejudices of agitation, rolling on barrels, &c. The records of the Humane Society tell, however a different story; nor should we doubt the results if the same plans in the same circumstances had not so often failed under our own eyes. The cause of humanity, however, prevents us from adding a word which would repress or chill any charitable exertion. Let every attempt be made: and should every thing fail, let the practitioner at least deserve success.

In the first volume of Dr. Fothergill's Works, we find the following popular detail of the method of treatment approved of by the Humane Society, which we shall for general information add.

I. The body should not be rolled on the ground, or over a barrel, nor lifted up by the heels, or be any other way roughly handled, or violently shook; but be removed to a convenient place, lying as on a bed, with the head a little raised, in as natural a position as possible.

II. The body, well wiped with a cloth, should be placed in a warm bed or blanket; but not too near a large fire. Bottles of hot water should be laid to the bottoms of the feet, joints of the knees, and under the arm-pits. A warming-pan, moderately heated, or hot bricks wrapped in cloths, should be rubbed over the body, particularly along the back. The natural warmth of a healthy person, especially a child, lying close to the body, hath been found very efficacious. The room should be kept open and airy, with few persons in it. The shirt of an attendant, or skin of a sheep fresh killed and warm, may be used to advantage. Should the accident happen in the neighbourhood of a warm bath, brew-house, bake-house, glass-house, saltern, soap manufactory, or any fabric where warm lees, ashes, embers, grains, sand, water, &c. can be easily procured, it will be very proper to place the body in any of these, moderated to a degree of heat very little exceeding that of a healthy person.

III. The body being placed in one or other of the above advantageous situations, various stimulating means should be immediately employed. The most efficacious are, blowing with force into the lungs, by applying the mouth to that of the patient, closing at the same time his nostrils; throwing the smoke of tobacco up the fundament into the bowels. by means of a clyster-pipe or fumigator; a pair of bellows may be employed until the others can be procured; rubbing the belly, chest, back, and arms, with a coarse cloth, or dry salt, so as not to rub off the skin, or with a flannel dipped in brandy, rum or gin; applying spirit of hartshorne, volatile salts, or the like, to the nostrils, and rubbing them on the temples frequently; tickling the throat with a feather, to excite a propensity to vomit, and the nostrils also with a feather or snuff to provoke sneezing. The body should at intervals be shaken, and varied in its position.

IV. If there be any signs of returning life, such as sighing, gasping, twitching, beating of the heart, return of natural warmth or colour, a spoonful of water may be administered, to try if the power of swallowing be returned; if it be, a spoonful or two of warm wine, or of brandy and water, may be given to advantage, but not before.

Early bleeding has been found pernicious, and even fatal; it is not always applicable, though it may sometimes be employed by a person of skill, to remove or prevent symptoms of inflammation

The above methods of restoring life are applicable to various other cases of apparent sudden death, whether from hanging, apoplectic and convulsive fits, cold, suffocation by damps or noxious vapours proceeding from coal mines, confined air of wells, caves, cisterns, or from the must of fermenting liquors.

Suboccipitales, Nervi. So the tenth pair of nerves are called, which proceed from the head.

Suborbitarius, a branch of the upper maxillary branch of the fifth pair of nerves.

Subscapularis, a muscle situated beneath the scapula, which rolls the humerus inwards, draws it to the side of the body, and prevents the capsular ligament from being pinched; from *sub*, *under*, and *scapula*, the *shoulder blade*.

Subsultus tendinum, from *subsulto, to leap;* weak convulsive motions or twitchings of the tendons, mostly of the hands, generally observed in the extreme stages of putrid fever.

Succinates, are salts formed by the combination of the succinic acid, or acid of amber, with different alkaline, earthy, and metallic bases.

Succinum, i. e. *Amber*, called also *Carabe*, or *Karabe*, and *Electrum*. The college have retained *Amber* in their Pharmacopeia; its preparation is noticed among the more simple preparations; its Salt, Sal; purified Salt, Sal Purificatus; Oil, Oleum, and rectified Oil, Oleum Rectificatum, are directed: as is also its combination with the caustic volatile alkali and vinous spirit, called Spiritus Ammoniæ Succinatus: this is Eau de luce.

Sudamina. Hidroa. Boa. Vesicles resembling millet seeds in form and magnitude, which appear suddenly, without fever, especially in the summer time.

Sudor, sweat. This differs much from perspiration, and is the consequence of accelerating the blood's motion by stimuli, or exercise, or a relaxation of the pores; the latter is the cause of fainting, and cold sweats. See *Perspiration*, from an acquaintance with which, this will be best understood. Hence,

Sudorifics, from *sudor*, *sweat*, and *facio*, *to make;* are such medicines as promote sweat.

Sudor Anglicus, the English sweating sickness.

Suffimentum, and

Suffitus, is the same as *Fumigation*, by burning things upon live coals, and receiving the steam for many medicinal purposes.

Suffocatio, (from *suffoco)* suffocation; difficulty of respiration, from narrowness of the fauces, from a spasm there, &c.

The symptoms of suffocation are described by Dr. W. Musgrave in the Philosophical Transactions, No. 240; but they are sufficiently known; nor need we repeat what we have already observed on this subject, in the article *Medicina Forensis.* The most frequent cause is deleterious vapours, and of these the chief is the carbonic acid gas, either from fermentation, the fumes of charcoal, or of a lime-kiln. Other gases are the choke-damp of mines, probably hydrogenous gas, and one that proved extensively fatal in France some years since, the gas from vaults, probably hydrocarbonate with hepatic gas. In all these cases the vessels of the brain are found to be turgid, the stomach filled with a frothy fluid, the right ventricle of the heart, with the venæ cavæ, and pulmonary artery, distended with blood (Portal Memoires de Paris, 1775); agreeing with the appearances after drowning.

Suffocation sometimes occurs from a wound in the lungs, and the consequent effusion of air, an instance of which occurs in Bromfield's Chirurgical Operations. Morbid organic affection of the trachea, as abscesses; caruncles; polypi; watery tumours; the broken rings of the aspera arteria, pressed inwards; scrofulous tumours; chirri; and sphacelus of the cricoid cartilage, have been the causes of death by suffocation. Various foreign bodies, purulent matter, a part of the lungs themselves, worms, flies, a blade of grass, blood and pus have produced suffocation. A singular case is recorded, in the Acta Naturæ Curiosorum, of suffocation following the distension of the œsophagus, by attempting to swallow the yolks of ten eggs.

Diseases of the lungs themselves, as an effusion of water, broken ribs, a fleshy mass adhering to the pleura, are obvious causes of suffocation. Serum in the mediastinum, a polypus or aneurism of the heart, or even a distended stomach, have been enumerated as sources of death. Substances stopping in the back part of the fauces are sufficiently known; but even the tongue itself when the frenum is loose, may be swallowed, or at least turned back so far as to produce suffocation. This is said sometimes to happen to infants, and it has been the instrument of the suicide. Suppressed gout and suppressed evacuations produce dyspnœa; but are seldom immediately fatal by inducing suffocation.

When the causes are such as will admit of relief, they must of course be attended to; but in other cases, the means mentioned under the article *Resuscitatio*, are the most promising. Pure air, and oxygenous gas, somewhat diluted; applications of vinegar, and ammonia; dashing cold water; and Bucquet adds, in the Memoires de la Societè de Medecine, 181, smoking spirit of salt and volatile spirit of sulphur.

Suffocatio Stridula, (from *suffoco*, *to choke*, and *strideo*, *to make a noise)*; the *Croup; angina interna, latens & difficilis, angina membranacea, perniciosa & polyposa, asthma* *infantum spasmodicum, cynanche stridula, morbis strangulatorius truculentus infantum*, is a disease that chiefly attacks children, rarely if ever any one after twelve years of age. Dr. Cullen names it *cynanche trachealis*, defining it a tracheal quinsy, attended with difficult respiration, ringing sound in inspiration, clangous cough, no tumour commonly in the throat, deglutition a little impeded, and inflammatory fever.

Winter is the season in which this disease chiefly occurs: long continued catarrhs from the measles, hooping-cough, or the small-pox, are predisponent causes; cold and moist weather is supposed to contribute, for it is most common about the sea coast, and in low marshy situations; though sometimes met with in midland countries, and its attacks are sometimes repeated in the same child, if it should have the good fortune to recover.

The seat of the disorder is the cavity of the wind-pipe, from a little below the glottis downward; and the disorder itself consists of the fibrin separated there, and becoming so thick that the air can no longer pass freely into the lungs. The back part of the trachea, where there are no cartilages, seems, from the inspection of those who die of this disease, to be its first and principal seat, as this morbid membrane is often found exclusively there. It is not evidently contagious.

The croup must be distinguished from the catarrhus suffocativus of Etmuller; from a severe cold; from peripneumonic complaints; and from such symptoms as arise from extraneous bodies lodged in the trachea; an instance of which Dr. Home mentions in his Enquiry into the Nature, &c. of the Croup. In general the harsh sound of the breath, not of the cough, will point out the disease.

The inflammatory affection of the early stage usually passes off with little notice, as it is not distinguishable from a common cold. The croupy breathing then comes on suddenly, often in the first sleep, and the disease appears in all its violence before it is apprehended.

Suffocatorii, diseases attended with a sense of suffocation.

Sugillatio, a sugillation, from *sugo, to suck*. This word is generally used as synonymous with *Ecchymosis*, and to signify the same thing, but in that case expresseth any different cause, e. g. an *Ecchymosis* is caused by extravasation; *Sugillation* is when red, livid, &c. spots are formed in or under the skin, by suction, as when cupping-glasses are applied to it, which by removing the pressure of the air on the part, occasions the blood to rush there and distend the vessels; even to such as do not usually receive red blood. In these vessels the blood is impacted, and cannot easily return, whence the discolouration.

This notion of the cause is similar with Boerhaave's doctrine of *Error Loci*, which see. But *Sugillatio* seems to be more properly synonymous with *Enchymoma*.

Sulcus, a grove or furrow; generally applied to the bones.

Sulphates. (*Sulphas, tis. s. m.*) Salts formed by the combination of the sulphuric acid with different bases; as, *sulphat of alumine, sulphat of iron*, &c.

Sulphites. (*Sulphis, tis. s. m.*) Salts formed by the combination of the sulphureous acid with different bases; as, *alumnous sulphite, ammoniacal sulphite, &c.*

Sulphur, brimstone; a combustible, dry, very brittle body, of a lemon yellow colour, which has no smell unless heated, and whose taste is very weak, although sufficiently perceptible. It becomes electric by friction: if a piece of considerable size be exposed to a sudden, though gentle heat, as for example, by holding it in the hand, it breaks to pieces with a crackling noise. Sulphur is found naturally in great quantities, sometimes pure, and sometimes in a state of combination. It is a medicine in frequent use; and the only specific against the itch. ℈i. to ʒi.

In Dr. Mitchill's negociation with Dr. Priestley, to compose the disputes among the chemists concerning phlogiston, he contends, that all the metals, sulphur, and phosphorus, in their ordinary states, are mixtures of metallic, sulphuric, and phosphoric matter with phlogiston or hydrogen. The plan of accommodation may be read in the *Medical Repository*. vol. i.

Sulphures, or *Sulphurets*, are combinations of sulphur, with different alkaline, earthy, and metallic bases.

Sunstrokes. In hot climates, particularly whereon some part of the day the sun darts its rays almost or quite vertically, it is dangerous at that time to be exposed to it: such an exposure sometimes suddenly produces an apoplexy, and immediate death; and at others, fevers, called by the French *Coup de Soleil*, which frequently prove fatal on the second or third day.

Superbus, the same muscle as *Attollens* (which see); thus called, because, as it lifts up the eye-brows, it gives an air of pride.

Supercilium, the eye-brow.

Superfœtation, from *super*, *above* or *upon*, and *fœtus*, *an embryo*; the impregnation of a woman already pregnant.

Supination, the act of turning the palm of the hand upwards, by rotating the radius upon the ulna.

Supinator, a name given to those muscles which turn the hand upwards; from *supinus*, *upright*, *upward*; as

Supinator Radii Brevis, a muscle situated on the cubit or fore arm, which rolls the radius outwards, and so brings the hand supine.

Supinator Radii Longus, a muscle situated on the cubit or fore arm, which rolls the radius outwards, and consequently the palm of the hand upwards.

Suppleta (Ischuria), a suppression of the urine, from excess of other evacuations, which require this deficiency to make up their loss.

Suppositorium, from *sub*, *under*, and *pono*, *to put*; is a form of medicine to be thrust up the fundament, when clysters are not so convenient.

Suppressorii, diseases arising from, or attended with oppression of the organs and impeded excretions.

Suppuration, from *suppuro*, *to suppurate*; that morbid action by which pus is deposited in inflammatory tumours.

Supra-Spinatus, a muscle of the humerus, situated behind the scapula, which raises the arm upwards, and at the same time pulls the capsular ligament from between the bones, that it may not be pinched.

Suspensio, (from *suspendo*, *to hang*.) Hanging is the usual mode of putting criminals to death, and if dextrously conducted, attended with very little pain. By the rope the circulation in the carotids is immediately stopped, and the passage of the trachea closed. As the jugulars lie more superficially than the carotids, it has been supposed that the blood is retained in the head, and that the victim dies apoplectic. The appearance of the face, which is swollen and livid, seems to confirm this idea; it is highly improbable that this change takes place. In the dogs hanged by De Haen, who were suspended only till they were dead, no apoplectic symptoms were observed, and such appearances are not, we believe, commonly found in the victims of the law. Besides, that death is too sudden to admit of such accumulations as its cause.

On the other hand, we know that a very short stoppage of the respiration proves fatal, and we find a case in Bonetus where a person escaped from the trachea having ossified: lib vii. sect. xii. obs. 11. It is said that the introduction of a silver pipe will save the person from death, and it has been asserted that this plan was in contemplation to preserve the unfortunate Dr. Dodd. At all events, it is certain that the morbid changes are most conspicuous in the lungs, and the best remedy has been free venesection: to this De Haen adds rubbing the neck with warm oil. Dr. Plot informs us that a person was recovered after thirty-six hours. Frictions, and all the plans mentioned in the articles RESUSCITATIO and SUBMERSIO, have been found useful.

We have not mentioned a more modern idea, that the death, in hanging, is owing to the luxation of the vertebra; for though the hardened criminal jumps from the gallows to shorten his pain, the timid suicide, to whom hanging is equally fatal, has scarcely in any instance equal resolution.

Suspensorium, a truss, or suspensory bandage.

Suspensorius, the cremaster muscle.

Suspirium, sighing.

Susurrus, i. e. *Paracusis Imaginaria*, or hearing sounds that are not.

Suture, from *suo*, to join together. In surgery this term signifies the uniting the lips of a wound by sewing. A number of different kinds of sutures have been recommended by writers on surgery, but all of them are now reduced to two; namely, the twisted, and the interrupted. The *twisted suture* is made in the following manner: Having brought the divided parts nearly into contact, a pin is to be introduced from the outside inwards, and carried out though the opposite side to the same distance from the edge that it entered at on the former side; a firm waxed ligature is then to be passed around it, making the figure of 8, by which the wounded parts are drawn gently into contact. The number of pins is to be determined by the extent of the wound: half an inch, or at most three quarters, is the proper distance between two pins. The *interrupted suture* is practised where a number of stitches are required, and the interruption is only the distance between the stitches. In anatomy the word suture is applied to the union of bones by means of dentiform margins, as in the bones of the cranium. See *Coronal*, *Lambdoidal*, and *Sagittal sutures*.

Symblepharum, a concretion of the eye-lid to the globe of the eye; from συν, with, and βλεφαρον, the *eyelid*. See *Caligo*.

Sympathetic Nerve, a synonym of the great intercostal nerve. See *Intercostal nerve*.

Sympathy, from συμπασχω, *to suffer together*, *to sympathize*. When an affection takes place in any part remote from another which is diseased, and depends upon it, the affection is said to arise from sympathy or consent of parts, through the medium of the nerves; thus, locked jaw from a disease of the toe, laborious respiration from inflammation of the pleura, &c.

Symphysis, mediate connexion. Συμφυσις; from συν, *together*, and φυω, *to grow*. A genus of connexion of bones, in which they are united by means of an intervening body. It comprehends four species, viz. synchondrosis, syssacrosis, sineurosis, and syndesmosis.

Symptom, συμπτωμα, from συμπιπτω, *accido*, *to happen*; is such a conjunction of appearances, or such an appearance of any one thing, as indicates what will be the issue of a disease, and the means of cure. Hence

Symptomatical, is often used to denote the difference between the primary and secondary causes in diseases, as a fever from pain is said to be symptomatical, because it arises from pain only; and therefore the ordinary means in fevers are not in such cases to be had recourse to, but to what will remove the pain; for when that ceases, the fever will cease without any direct means taken for that purpose.

Symptomatologia, the history of diseases. See *Pathology* and *Nosology*.

Synarthrosis, συναρθρωσις, from συν, *together*, and αρθρον, *a joint*; immoveable connexion. A genus of connexion of bones, in which they are united together by an immoveable union. It has three species, viz. suture, harmony, and gomphosis.

Synchondrosis, συνχονδρωσις, from συν, *with*, and χονδρος, *a cartilage*; a species of symphysis, in which one bone is united with another by means of an intervening cartilage, as the vertebræ and the bones of the pubis.

Synchondrotomy, the operation of dividing the symphysis of the pubis; from συνχονδρωσις, the *symphysis of the pubis*, and τεμνω, *to cut*.

Synchysis, from συγχυω, *to confound*; a solution of the vitreous humour into a fine attenuated aqueous fluid.

Syncope, συνκοπη; from συν, *with*, and κοπτω, *to cut or strike down*; fainting or swooning. A genus of disease in the class *neuroses* and order *adynamiæ* of Cullen, in which the respiration and action of the heart either cease, or become much weaker than usual, with paleness and coldness, arising from diminished energy of the brain, or from organic affections of the heart. Species: 1. *Syncope cardiaca*, the cardiac syncope, arising without a visible cause, and with violent palpitation of the heart, during the intervals, and depending generally on some organic affection of the heart or neighbouring vessels: 2. *Syncope occasionalis*, the exciting cause being manifest. M. M. Removal of the exciting cause when possible; recumbent posture with the head low; cool air; volatile alkali; volatile spirit of amber or vinegar to the nostrils and temples.

Syndesmology, from συνδεσμος, *a ligament*, and λογος, *a discourse*; the doctrine of the ligaments.

Synechia, a concretion of the iris with the cornea, or with the capsule of the crystalline lens.

Syneurosis, a species of symphysis, in which one bone is united to another by means of an intervening membrane; from συν, *with*, and νευρον, *a nerve*; because membranes, ligaments, and tendons were considered by the ancients as nerves.

Synezesis, a perfect concretion and coarctation of the pupil.

Synocha, *synochus*, inflammatory fever. Συχανος, *continued*; from συνεχο, to *connect* or *hold together*. A species of continued fever; characterized by increased heat; pulse frequent, strong, hard; urine high coloured; senses not much impaired. See *Febris Continua*.

Synovia, a term of no radical meaning, coined by Paracelsus. An unctuous fluid secreted from certain glands in the joint in which it is contained. Its use is to lubricate the cartilaginous surfaces of the articulatory bones, and to facilitate their motions.

Synoviæ Glandulæ, synovial glands.

Synthesis, from συντιθημι, συνθεσις, *compono*, *to compound*; is sometimes used in opposition to *Analysis*, and signifies the combination of any thing together of different parts.

Syphilis. *Lues venerea*. From *Syphilis*, the name of a shepherd, who fed the flocks of king *Alcithous*, who, proud of their number and beauty, insulted the Sun; as a punishment for which, fable relates, that this disease was sent on earth. A genus of disease in the class *cachexiæ* and order *impetigines* of Cullen; known by affections arising from impure connexion, and appearing generally after a local affection of the organs, occasioning chancres, buboes, ulcers in the mouth and nose, clustered pimples of a copper colour, ending in scabby ulcers, chiefly situated near the hairy scalp, blotches on the surface of the body, nodes, &c. M. M. Moderate salivation, kept up by blue ointment or small doses of mercury, till two or three weeks after the symptoms have disappeared; opium; guaiacum; sarsaparilla; mezereon; nitric acid; oxygenated muriate of potash.

Syssarcosis, a species of symphysis, in which one bone is united to another by means of an intervening muscle; from συν, *with*, and σαρξ, *flesh* or *muscle*. In this manner the os hyoides is connected with the sternum and other parts.

Systole, συϛολη; from συϛελλω, *to contract*; the contraction of the heart.

T

TABACUM, Virginian tobacco; a species of *Nicotiana*.

Tabes, a wasting of the body. A genus of disease in the class *cachexiæ* and order *marcores* of Cullen; characterized by emaciation and weakness, attended with hectic fever. It has three species: 1. *Tabes purulenta*, from an ulcerous discharge: 2. *Tabes scrophulosa*, from a scrophulous habit: 3. *Tabes venenata*, from poison. M. M. 1st, and 2d. See *Phthisis* and *Scrophula*: 3. Diet light, mild and free from acids, salts and all kinds of stimulants; demulcents; mild tonics and vegetable astringents.

Tabes Dorsalis, the back consumption; a gonorrhœa simplex, or any seminal weakness, because the complaint is most sensible in the loins. It is often the consequence of a gleet; ranked by Cullen as a variety of the atrophia inanitorum. Hippocrates calls it *tabes ossis sacri*. What the ancients supposed to be a wasting of the spinal marrow, was only a gonorrhœa simplex, without any virulence; and as the pain affected the loins, they supposed it to be a disease of the marrow. At present, by tabes dorsalis is understood a wasting of the body, attended at first with pain in the back and loins, and afterwards also in the neck and head, caused by a too early, a too frequent, use of venery, or, more commonly, secret indulgences.

It arises, says Hippocrates, from a disorder in the spinal marrow, and it is principally incident to persons of a salacious disposition, or such as are newly married. The patient is free from fever, eats and digests well; when asked respecting his state, he says he perceives as it were ants falling from the superior parts of his body, his head for instance into the spine of his back, and when he discharges his urine or excrements, there is at the same time a copious evacuation of liquid semen, in consequence of which he is incapable of propagating his species, or answering the purposes of marriage. He is generally short-breathed and weak, especially after exercise. He perceives a sense of weight in his head, and is affected with a ringing in his ears. The patient is in process of time seized with various species of violent fevers, and at last dies of that kind of fever called *lipyria*.

The matter which Hippocrates mentions as discharged with the urine and stools, is mucus. Besides the symptoms already mentioned, there is considerable irritability and apprehension, with little sleep, the memory and sight fail, the spirits are greatly dejected, and an incurable gutta serena sometimes comes on. See *Masturbatio*.

In the general conduct we may remark that the air should be pure and cool; the diet light, moderately cordial, not highly nourishing, and frequently supplied in small quantities; the hours should be regular, the apartments well ventilated; and exercise in a carriage or on horseback cautiously used. Bark, steel, dilute vitriolic acid, bitters, and cold bathing, are often useful. But unless the excesses which occasioned the disease are avoided, no remedy will succeed.

Mr Neale, who sometime since published a work on this complaint, remarks that there is often a considerable accumulation of mucus in the urethra, about the caput gallinaginis, and that bougies are frequently useful to remove the obstruction. He chiefly recommends the savine candle, probably a bougie prepared with the savine cerate, which may have some effect by acting as a topical stimulus. The grey nicker, which this author advises as a powerful restorative, is a nut whose kernel resembles in flavour the bitter almond, and, when dried, more nearly the nux vomica. It does not seem from its sensible qualities to possess any very active tonic powers. Hippocrates recommends the actual cautery on each side of the spine, from the loins to the neck. Περι των εντος παθων, p. 539, l. 28; Severinus de Efficacia Medicina, 223.

If application is made before the febrile symptoms come on, the cure may be attempted by a course of asses milk, with chalybeate waters, and the cold bath; but after the hectic heats and colliquative sweats have actually taken place, there is little prospect of a recovery.

Tactus, the touch, or sense of feeling.

Tænia, the tape-worm; a genus of intestinal worms, characterized by a long, flat, and jointed body. Species: 1. *Tænia osculis marginalibus*, the long tape worm, and the soleum of authors, which is peculiar to this country, Russia, France, &c. 2. *Tænia osculis superficialibus*, the broad tape worm, which is peculiar to the inhabitants of Switzerland, &c. M. M. Root of male fern ʒiij. early in the morning; two hours afterwards, calomel and scammony each grs. 11. camboge grs. 7.

Talpæ, and *Nates*, are tumours generally confined to the head, and appearing as the consequence of the venereal disease. The *Talpæ* elevate the skin from the pericranium, and generally denote a foulness of the bone beneath; but the *Nates* are usually seated in the neck.

Talus, a synonym of Astragalus. See *Astragalus*.

Tamarindus, from *tamar* or *tamarindi*, which is in the Arabian language a synonym of the dactylus or date. The tamarind. The tree which affords this fruit is the *Tamarindus indica* of Linnæus. The tamarind is employed as a laxative, and for abating thirst or heat in various inflammatory complaints, and for correcting putrid disorders, especially those of a bilious kind, in which the cathartic, antiseptic, and refrigerant qualities of the fruit have been found equally useful. The pulp of tamarinds is an ingredient in the *electurium e cassia*, and *electurium e senna*.

Tanacetum, tansy. *Tanacetum vulgare* of Linnæus. The leaves and flowers of tansy have a strong, not very disagreeable smell, and a bitter, somewhat aromatic taste. The virtues of tansy are tonic, stomachic, anthelmintic, emmenagogue, and resolvent. It has been much used as a vermifuge, and testimonies of its efficacy are given by many respectable physicians.

Tapping. See *Paracentesis*.

Tarantati, are those who are bit by a tarantula. Of this very odd effect, with its cure, Baglivi, an Italian physician, hath wrote a very rational account, whereby it appears that the odd effects of this bite, and its method of cure by music, are by no means fabulous, as some have supposed.

Tarantismus, a desire of dancing; a kind of St. Vitus's dance.

Tarantula. It is a species of spider met with in Apulia.

Taraxacum, from ταρασσω, to *alter* or *change*, because it alters the state of the blood. The dandelion. *Leontodon taraxacum* of Linnæus. The young leaves of this plant in a blanched state have the taste of endive, and make an excellent addition to those plants eaten early in the spring as salads; and Murray informs us that, at Goettingen, the roots are roasted and substituted for coffee by the poorer inhabitants, who find that an infusion prepared in this way can hardly be distinguished from that of the coffee berry. The expressed juice of dandelion is bitter and somewhat acrid; that of the root is more bitter, and possesses more medicinal powers than any other part of the plant. It has been long in repute as a detergent and aperient, and its diuretic effects may be inferred from the vulgar name it bears in most of the European languages, *quasi lecti minga; et urinaria herbi dicitur;* and there are various proofs of its efficacy in jaundice, dropsy, consumption, and some cutaneous disorders.

Tarsus, Ταρσος. The tarsus is situated between the leg and metatarsus. It is composed of seven bones, placed in a double row; in the first row are the astragalus and calcaneus; in the second row the os naviculare, os cubiforme, and three cuneiform bones, which are placed close to each other. The tarsus forms the basis of the foot, and serves for its motion.

Tartar. This is found sticking to wine-casks, like a hard stone, either white or red, as the colour of the wine from whence it comes. The white is preferable, as containing less dross or earthy parts. The best comes from Germany, and is the tartar of Rhenish wine.

Tartar (Oil of), per deliquium. The fixed vegetable alkaline salt strongly attracts moisture from the air, and is thereby resolved into a liquor; in which state it is called *Ol. Tart. per Deliq.*

Tartar (Vitriolated). It is the vegetable fixed alkali, saturated with the vitriolic acid, or sulphate of potash.

Tartarites, are salts formed by the combination of the tartareous acid, with the different alkaline, earthy, and metallic bases.

Tartarum Emeticum, emetic tartar; it is also called *Stibiated Tartar*, or antimoniated tartrite of potash.

Taste, the sensation by which we perceive the taste of sapid bodies. The organ of taste is the nervous papillæ, which are situated at the apex and sides of the tongue.

Tea, *Thea*, the Chinese tea-tree. The two great divisions of tea are *Green* and *Bohea;* of which all the teas at market are but varieties.

Tea (Pennsylvanian Oswego), a species of *Monarda*.

Tea-Tree (New-Jersey). See *Ceanothus*.

Tears. *Lachrymæ*. The limpid fluid secreted by the lachrymal glands, and flowing on the surface of the eye.

Technical, from τεχνη, *ars*, *art*, is used for such terms as are peculiar to the rules and documents of particular arts.

Teeth. *Dentes*. The teeth are

small bones fixed in the alveoli of the upper and under jaw. In the adult they are thirty-two in number, sixteen in the upper and sixteen in the lower jaw, and are distinguished by anatomists into the *incisores*, *cuspidati*, and *molares*. The incisors, so called from their cutting the food, are situated in the front of the mouth, four in each jaw: the cuspidati, so termed from their shape, and known also by the name of canine teeth, are four in number, situated one on each side of the incisors. The remaining teeth are called molares or grinders, from their action of dividing the food, like mill-stones: that which is situated next to each cuspidatus is called by some authors *bicuspis*, because it is two-pointed; and the last grinder in each jaw, *dens sapientiæ*, because it appears when the person is supposed to have arrived at years of wisdom. Each tooth is divided into a *crown*, which appears in the mouth above the gum; a *neck* or circle, between the crown and root, and embraced by the gum; and a *fang* or *root*, which is the part hidden within the socket. In each tooth there is a foramen, which begins at the extremity of the fang, leading to a small cavity in the internal substance of the tooth, which conveys the nerve, artery and vein of the tooth and the internal periosteum. The *substance* of each tooth is of two kinds, viz. bony and vitreous. The vitreous substance, or *enamel*, covers the crown of the tooth, and supplies the place of an external periosteum. The teeth generally appear about the sixth or seventh month after birth, first the incisors, then the cuspidati, and last of all the molares. This first dentition distinguishes them into *primary*, *shedding*, *temporary*, or *milk-teeth*. About the seventh year they gradually become loose, fall out and are succeeded by larger ones, which are called *secondary* or *perennial*, because they usually remain the rest of one's life. The use of the teeth is for mastication, and the pronunciation of dental syllables.

Teeth have been analyzed by Mr. Pepys, who has found the constituent parts of teeth, of different ages, to be in different proportions: phosphate of lime, carbonate of lime, and cartilage.

According to Fourcroy and Vauquelin, the enamel is composed of

Phosphate of lime - - -	72.9
Gelatine and water - -	27.1
	100

Teething. Dentition. The eruption of the teeth through the gums. See *Teeth*. It is preceded and accompanied by salivation, swelling and heat of the gums, red spots in the cheeks, eruptions especially on the face and scalp, looseness, gripings, green or pale stools, local spasms, diminution or increase of urine, gonorrhœa, swelling of the feet and hands, thrusting of the fingers into the mouth, cough, dyspnœa, fever, convulsions and marasmus. M. M. Bleeding; cathartics; division of the gum and periosteum; anodyne and emollient applications to the gums; antimonials; blisters; nitre; assafœtida; volatile alkali; magnesia; prepared chalk; carminatives; opium.

Tegument, is the covering of any thing: so the skin is a tegument of the body.

Tela, a web of cloth. The cellular membrane is so called from its likeness to a fine web.

Temples, *tempora*, the lateral and flat parts of the head above the ears.

Temporal Artery, a branch of the external carotid, which runs on the temples, and gives off the frontal artery.

Temporal Bones, two bones of an irregular figure situated at the sides and inferior part of the cranium. Each bone is divided into, 1. A *petrous portion*, which is very hard and surrounds the organ of hearing: 2. A *squamose portion*, which is thin and flat, and lies in part on the parietal bone, like the scale of a fish: and, 3. A *mamillary portion*, which is shaped like a nipple. Besides these portions there is also a zygomatic and styloid apophysis, an articular cavity, the meatus auditorious externus and internus, a stylomastoid foramen, the canal for the passage of the carotid artery, and the internal orifice of the aqueduct of Fallopius. The use of the temporal bones is to contain the middle lobes of the brain, part of the cerebellum, and to form internally part of the organ of hearing.

Temporalis, a muscle, situated on the temple, which pulls the lower jaw upwards, and presses it against the upper, at the same time drawing it a little backwards.

Tenaculum, from *teneo*, *to hold*, a chirurgical instrument, not much differing from the forceps.

Tendon, from *tendo*, *to stretch;* the white and glistening extremity of a muscle. See *Muscle*.

Tenesmus. Τεινεσμος; from τεινω, *to constringe;* so called from the perception of a continual constriction or bound state of the part. A continual inclination to go to stool.

Tension, expresses any thing stretched out, as the fibres or membranes are in certain circumstances.

Tensor Palati seu Circumflexus. See *Circumflexus*.

Tensor Tympani, a muscle of the ear, which pulls the malleus and the membrane of the tympanum towards the petrous portion of the temporal bone, by which the membrana tympani is made more concave and tense.

Tensor Vaginæ Femoris, a muscle, situated on the outside of the thigh, which stretches the membranous facia of the thigh, assists in the abduction of the thigh, and somewhat in its rotation inwards.

Tepedarium, was a room belonging to the ancient bathing-places, where persons gradually prepared themselves for entrance or going out.

Tepidus, tepid, i. e. warm as milk from the cow.

Terebinthina Chia, Chian or Cyprus turpentine. See *Chio turpentine*.

Terebinthina Veneta, Venice turpentine; so called because we are supplied with it from the Venetians. This species of turpentine issues spontaneously through the bark of the *Pinus larix* of Linnæus. It is usually thinner than any of the other sorts; of a clear whitish or pale yellowish colour; a hot, pungent, bitterish, disagreeable taste; and a strong smell, without any thing of the aromatic flavour of the chian kind. For its virtues see *Turpentines*.

Terebinthina Vulgaris, common turpentine. This species of turpentine flows very freely from the *pinus picea* of Linnæus. For its medicinal uses see *Turpentines*.

Teres, signifying any thing long and round, is a name given by some to a worm thus shaped, which is apt to breed in human bodies, chiefly in children.

Teres Major. *Teres*, round, smooth. A round muscle, situated along the inferior costa of the scapula, which rolls the humerus inwards, and draws it backwards and downwards.

Teres Minor, a round muscle, situated on the hinder part of the scapula, which rolls the humerus outwards, draws it backwards, and prevents the ligaments from being pinched between the bones.

Teres Ligamentum, arises from the bottom of the cavity of the acetabulum, and runs obliquely backwards to be inserted into the head of the os femoris.

Terminthus, from τερμινθος, *the turpentine tree;* black and ardent pustules, mostly attacking the legs of females; so called from its resemblance to the fruit of the turpentine tree.

Tera Japonica, Japan earth. This name was erroneously given to an extract obtained from the internal coloured wood of the *Mimosa Japonica*, which grows in the East-Indies. Dr. Fothergill received the first information of the true method of obtaining this drug from Mr. James Kerr, a surgeon at Bengal, by means of Lieutenant-Colonel Ironside. See Lettsom's *Fothergill*. This extract is used in the Indies for dying, painting chintz, and even timber, &c. for houses. It is almost entirely soluble in water, or in spirit of wine. Its taste is at first bitterish and styptic, and is afterwards agreeably sweet, as an astringent. It is used in medicine.

Tertian Ague. See *Febris Intermittens.*

Tertium Quid, invented by the chemists to express that result of the mixture of some two things which forms somewhat very different from both.

Testaceous, by naturalists, is a term given only to such fish whose strong and thick shells are entire and of a piece; because those which are joined, as the lobsters, &c. are called *Crustaceous:* but in *Medicine*, all preparations of shells and substances of the like kind are thus called.

Testicles. Testes. Testiculi. Two small oval bodies situated within the scrotum, and covered by a strong, white, and dense coat, called tunica albuginea testis. Each testicle is composed of small vessels, bent in a serpentine direction, arising from the spermatic artery, and convoluted into little heaps, which are separated from one another by cellular partitions. In each partition there is a duct receiving semen from the small vessels; and all the ducts constitute a net which is attached to the tunica albuginea. From this network twenty or more vessels arise, all of which are variously contorted, and being reflected, ascend to the posterior margin of the testis, where they unite into one common duct, bent into serpentine windings, and forming a hard body called the *epididymis*. The spermatic arteries are branches of the aorta. The spermatic veins empty themselves into the vena cava and emulgent vein. The nerves of the testicle are branches of the lumbar and great intercostal nerve. The use of the testicle is to secrete the semen.

Tetanus, from τεινω, *to stretch*, spasm with rigidity. A genus of disease in the class *neuroses* and order *spasmi* of Cullen; characterized by a spasmodic rigidity of almost the whole body. The varieties of tetanus are: 1. *Opisthotonos*, where the body is thrown back by spasmodic contractions of the muscles: 2 *Emprosthotonos*, the body being bent forwards: 3. *Trismus*, the locked jaw. Tetanus is often symptomatic of syphilis and worms. M. M. Opium and vegetable alkali alternately and liberally; wine; alkohol; camphor; musk; mercury; cold or alkaline bath; musk; cauterizing of the wound.

Tetters. See *Herpes.*

Thalami Nervorum Opticorum, two bodies, which form in part the optic nerve, placed near to each other, in appearance white, protruding at the base of the lateral ventricles, and running in their direction inwards, a little downwards, and upwards.

Theca Vertebralis. Θηκη; from τιθημι, *to place.* The vertebral canal.

Theoria, from θεωρεω, *contemplor, to contemplate;* is the speculative part of any science that directs to the rules of practice.

Therapeutics, from θεραπευω, *to cure. Therapia. Methodus me-*

dendi. The doctrine of the cure of diseases.

Thirst, the sensation by which we experience a desire to drink. The seat of this sensation appears to be either in the fauces or the stomach.

Thoracic Duct, the trunk of all the absorbents; of a serpentine form, and about the diameter of a crow quill. It lies upon the dorsal vertebræ, between the aorta and vena azygos, and extends from the posterior opening of the diaphragm to the angle formed by the union of the subclavian and jugular veins, into which it opens and evacuates its contents. In this course the thoracic duct receives the absorbent vessels from every part of the body.

Thorax. Θωραξ. The chest. That part of the body situated between the neck and the abdomen. The external parts of the thorax are, the common integuments, the breasts, various muscles, and the bones of the thorax. (See *Bones.*) The parts within the cavity of the thorax are, the pleura and its productions, the lungs, heart, thymus gland, œsophagus, thoracic duct, arch of the aorta, part of the vena cava, vena azygos, the eighth pair of nerves, and part of the great intercostal nerve.

Thrombus. Θρομβος; from θρεω, *to disturb.* A small tumour which sometimes arises after bleeding, from the blood escaping from the vein into the cellular structure surrounding it. M. M. A compress wet with ardent spirits, or a solution of muriate of ammonia in vinegar; an incision, and purgatives.

Thus, frankincense. See *Olibanum.*

Thymus, thyme. Απο τȣ θυμȣ, because it was used in faintings; or according to others, απο της θυμασιας και της θυης, because the ancients used it in sacrifices. This herb, the *Thymus vulgaris* of Linnæus, has an agreeable aromatic smell, and a warm pungent taste. Its virtues are said to be resolvent, emmenagogue, tonic, and stomachic; yet there is no disease mentioned in which its use is particularly recommended by any writer on the materia medica.

Thymus Gland, Θυμος; from θυμα, *an odour*, because of its fragrant smell; a gland of considerable size in the fœtus, situated in the anterior duplicatures or space of the mediastinum, under the superior part of the sternum. An excretory duct has not yet been detected, but lymphatic vessels have been seen going from it to the thoracic duct. Its use is unknown.

Thyreo, names compounded with this word belong to muscles which are attached to the thyroid cartilage; as,

Thyreo-Arytenoideus, a muscle, situated about the glossus, which pulls the arytenoid cartilage forwards nearer to the middle of the thyroid, and consequently shortens and relaxes the ligament of the larynx.

Thyreo-Hyoideus, a muscle, situated between the os hyoideus and trunk, which pulls the os hyoideus downwards, and the thyroid cartilage upwards.

Thyroid Cartilage, scutiform cartilage; the cartilage which is placed perpendicular to the cricoid cartilages of the larynx, constituting the anterior, superior, and largest part of the larynx. It is harder and more prominent in men than in women, in whom it forms the *pomum Adami.*

Thyroid Gland, from θυρεο, *a shield*, and ειδος, *resemblance*, from its supposed resemblance to a shield; a large gland situated upon the cricoid cartilage, trachea and horns of the thyroid cartilage. It is uncertain whether it be conglobate or conglomerate. Its excretory duct has never been detected, and its use is not yet known.

Tibia, the long bone situated on the side of the leg, between the femur and tarsus; so called from its resemblance to an old musical pipe or flute. The superior part is termed the head, below which, anteriorly, is the spine and crista of the tibia; inferiorly it forms the malleolus externus. Superiorly and inferiorly it forms an articular cavity. The use of this bone is to support the leg, and serve for the flexion of the lower extremity.

Tibial Arteries, the two principal branches of the popliteal artery; the one proceeds forwards, and is called the anterior tibial; the other backwards, and is called the posterior tibial; of which the external tibial, the fibula, the external and internal plantar, and the plantal arch, are branches.

Tibialis Anticus, a flexor muscle of the foot, situated on the leg, which bends the foot by drawing it upwards, and at the same time turns the toes inwards.

Tibialis Posticus, a flexor muscle of the foot, situated on the leg, which extends the foot, and turns the toes inwards.

Tin, *stannum;* an imperfect metal of a whiter colour than lead, but not quite so white as silver, obtained in great quantities from the mines in Cornwall. It is a metal well known for culinary purposes; and, although in general use, it is affirmed, that ragouts in which tin spoons have been left, as well as sugar contained in a vessel of this metal, have poisoned many persons: but this must have arisen from the tin containing a larger proportion of arsenic than usual, or from its admixture with lead, as the tin employed in this country is, of all metals, the most innocent for culinary purposes. Tin filings are exhibited by many physicians for the cure of worms. Grs. x. to ℥i.

Tincture, from *tingo*, *to dye;* is any coloured solution of animal or vegetable matters in vinous or spirituous menstrua.

Tincæ Os. The mouth of the uterus is so called by some writers, from its resemblance to a tench's mouth.

Tinea Capitis, the scald-head. A genus of disease in the class *locales* and order *dialyses* of Cullen; characterized by small ulcers at the root of the hairs of the head, which produce a friable white crust. M. M. Lime water or decoction of the woods and purgatives internally. Sulphur ointment; infusion of tobacco, unguentum citrinum, or unguentum picæ with powder of white hellebore; a solution of soap and vegetable alkali externally.

Tolutanum Balsamum, the balsam Tolu: it is a resinous juice, flowing from incisions made in the bark of a tree, of which we have various accounts: it is the *Toluifera Balsamum*, Linn.

Tonics, medicines which increase the tone of the muscular fibre; such as stimulants, adstringents, &c.

Tonic Spasm, Τονικος; from τεινω, to *pull* or *draw*. *Contractura a spasmo*. A rigid contraction of the muscles, without relaxation, as in trismus, tetanus, &c.

Tonsils. Tonsillæ. Amygdalæ. An oblong, suboval gland, situated on each side of the fauces, and opening into the cavity of the mouth by twelve or more large excretory ducts.

Topics, τοπικα, from τοπος, *locus*, *a place*, or *part;* are such things as are externally applied to any particular part.

Topographia Medica, (from τοπος, *locus*, and γραφη, *a description*). A description of any situation with medical views. These accounts are highly useful in many respects, and comprehend the situation of any town, the neighbouring hills and plains, its prevailing winds, connected with these ; its air, the nature of its water, its seasons, weather and prevailing diseases We have few works of this kind in our language, and these are imperfect ; but we some time since made a catalogue of the publications which had attracted our notice on this subject, and though long, we shall add it in a geographical form. It may be highly useful as a collection of references to direct inquiry.

GREAT-BRITAIN.

Huxham on air and diseases.
Bissett, medical constitution of Great-Britain.
Haygarth (philosophical trans. lxviii. 9.), *Chester.*
Millar on the diseases of Great-Britain.
Sims on epidemics.
Boabis Ireland's natural history.
Sydenhami opera.
Claramontii de aere, locis, et aquis Angliæ, deque morbis Angliæ vernaculis, Lond. 1672, 12mo.
Wintringham on endemic diseases.

DENMARK.

Suter de statu sano et morboso accolarum maris Baltici.
Batholinus de aere Hafniensi.
Henricus de salubritate aeris Havniensis.
Pontoppidan's natural history of Denmark and Norway.

SWEDEN.

Dalberg, tal om nagra, det Suenska.
Climatets, Stockholm. 1777. Murray, bib. iii. 35.
Endemici par tractum Sueciæ, vide acta naturæ curiosorum ii 153.
Lithenius de salubritate Suecicæ sciagrophia.
Linnæi flora Laponica
........amœnitates academicæ, passim.
Acta medicorum Suecicorum.

GERMANY.

Formey topographia von Berlin.
Adolphi de salubritate Silesiæ.
Herz Versuch einer mediniseken orsbeschreibung der Uker marckischen Haupstadt Prenzlau.
Gravius de salubritate Hassiæ.
Deichman de salubri aqua et aere Gottingensi.
Schulze de salubritate Halæ nostræ.
Erlich de morbis et affectibus quibusdam Westphalis familiaribus.
Mezger adversaria Westphaliensis.
Ludick de salubritate aeris in Varmia.
Barfoth de salubritate Lundiæ.
Adolphi de aere Lipsiensi.
Braune typographiæ medicæ urbis Lipsiensis specimen.
Burgrav de aere, &c. Francofurti ad Mænum.
Finz et Krapp de salubritate Bambergensi.
Chartheuser de aere, aquis, &c. Trajecti ad Viadrum.
Hoechstetter observ dec. iv 1. Augustæ Vindelicorum.
Weikard vermische Schriften (Fuldensis).
Oelsfedt typographische beschreibung des Herzogthmus Madeburgh, &c.
Ellisen medicinische ortbeschreibung des Stackens Hoya.
Ruhling Beobachtungen der Stadt Northeim, undder umliega nden Gegand, &c.
Williu Beschreibung der Naturlichen, Beschaffenheit der Grafschaft Hochberg.
Stenzel de præsidiis sanitatis quibus Vittenberga abundat.
Medinische national zeitung, 1798.
Planer de aere, aquis, &c. territorii Erfordiensis.
Spielman de aere, &c. Argentinis.
Holzberger de aere, &c. Argentinæ.
Hufeland's journal der practischen Arznykunde, vi. vii.

POLAND.

Endtell Warsovia illustrata.
Neuhauser in medicin. national zeitung (Cracow).

HUNGARY AND AUSTRIA.

Faker de salubritate et morbis Hungariæ.
Baty descriptio morborum quorundam Hungaris endemiorum, &c.
Haidenreich medicina Aradiensis vel de morbis in Dacia frequentioribus.
Packner de Austria morbosa per hyemem.
Mayr de Austria morbosa autumno.
Gamnigg de Austria morbosa æstate.
Haberman de Austria morbosa per ver.
Gemory de indole aeris Hungariæ.
Fucker de salubritate et morbis Hungariæ.

FRANCE.

Histoire et memoires de la societe royale de medicine passim.
Journal de medicine v. 64, 65, 66, 68, 56(Normandy).
Menuret de Chambaud essai sur l'histoire medico topographique de Paris.
Pousse an Versaliariarum salutaris aer.
Pescharch an sit urbis et agri Parisiensis aer saluberrimus.
Deuxivoye ergo aer Parisensis salubris.
Ferrit an Clivi Meudonici ut amænus sit salubris.
Cabilloui in Hautsierke recueil i. iii. Chalons sur Soane.
De la Berthonye in Hautsierke i. 152, Toulon.
Messac Pæan Aurelianus, seu de laudibus salubritatis soli & cœli Aurelianensis.

HOLLAND.

Van Doeveren de sanitatis Groeninganorum ex urbis historia naturali derivandis.
Van Groenevelt de salubritate aeris urbis Lugduno Batavorum.
Scheuchzer de Helvetiæ aere, aquis, & locis.
Emmeris tentamen medicum ad debellandum insalubritatem Zealandiæ.

SWITZERLAND.

Verdeil mem. de la societe des sciences de Lausanne (Lausannensis).

Thilenius medic. und chir. bemerkungen nebst Beschreibung von Lauterbach.
Abhandel der natur forschenden Gesellschaft in Zurich Turica & Appenzellensis.
Adolphi de incolatus montani salubritate.
Blumenbach. biblioth. med. salubritas Bernæ.

ITALY.

Cartegni trattado de venti in quanto si appartieno al medico & del sito della citta de Pisa.
Cagnatus de aeris Romani salubritate.
Pugh on the climates of Naples, Rome, and Nice.
Smollett's travels.
Lancisius de adventitiis aeris Romani qualitatibus.
Bononi de situ aquisque Ferrariæ, &c.
Bumaldi de aere Ravenate.
Boschi osservationi intorno alla proprieta salina dell' atmosfera Ligura.
Testi Disinganno overo ragione fisiche fondati su l'Autorita, &c. che provano l'aria Venezia interamente salubre.
De Neris de Tiburtiani æris salubritate.
Sarcone on the constitution and diseases of Naples.
Donii de restituenda salubritate agri Romani.
Constitutione medic. de Fiorenza, 1780, 1781.

AFRICA.

Adanson's natural history of Senegal.
Memoires sur l'Egypte, 4 v. passim.
Assalini on the diseases of the army of the east.
Goldbery's voyage to Senegal.

ASIA.

Russell's natural history of Aleppo.
Hasselquist reise nach Palastina.
Bontius historia naturalis & medica Indiæ Orientalis.
Murray de stupiditate Indiæ Orientalis.

MINORCA.

Cleghorn on the diseases of Minorca.

AMERICA.

Rush, medical observations and inquiries.
Currie's historical account of the climate and diseases of the United States of America.
Jòlis Saggio sulla storia naturale della provincia del gran Chaco.
Fermin traite des maladies les plus frequents de Surinambus.
De Dusalos de morbis nonnullis Limæ grassantibus.
Schoepf Reisen durch America.
Chalmers on the climate and diseases of South-Carolina.
Sloane's Jamaica.
Des Portes histoire de maladies de St. Domingue.
Moseley on tropical diseases.
Dancer's medical assistant, Jamaica.
Mitchill & Miller's New-York Medical Repository.
Coxe's Philadelphia Medical Museum.
Barton's Medical & Physical Journal.

MADEIRA.

Adams on the climate of Madeira.
Sloane's voyage.

This catalogue cannot be complete in any branch, but even in its present state may afford useful information, and may serve for a basis on which a more perfect superstructure may be erected. A few little geographical inaccuracies to accommodate the works to the nature of the districts have been purposely admitted, to meet general ideas rather than political arrangements. The number of works might have been increased, but those omitted are of less importance and inferior merit on the same subjects with those admitted, and an objection may remain that the list might have been still shorter and more select. The references in France are few, the country where this science has been, we have said, chiefly cultivated. This was the reason of its limited extent, for the districts examined are so numerous that they would have doubled the number of works inserted, so that it was necessary to refer to the volumes where they are to be found :—these are the Journal de Medecine, and the Histoire and Memoires of the Society of Medicine at Paris. Two German Journals, viz. Hufeland's, and the Medinische National Zetung, are quoted for the same purpose of abridgment: the volume of 1798 is the only one that has reached us.

See Webfer Dissertationes de morbis climatum ; Buchner de exploranda locorum salubritate ; Fincke in versuch einer algemeinen medicinisch practischen geographie ; Kannegieser de locorum aquarum et aeris salubritate ; Muller de extispiciis veterum in quantum ad indolem et temperiem regionis dignoscendam valent.

Torcular Herophili, the press of Herophilus ; that place where the four sinuses of the dura mater meet together.

Tormentilla, common tormentil, or upright septfoil. *Tormentilla erecta* of Linnæus. The root is the only part of the plant which is used medicinally; it has a strong styptic taste, but imparts no peculiar sapid flavour: it has been long held in estimation as a powerful adstringent; and, as a proof of its efficacy in this way, it has been substituted for oak bark in the tanning of skins for leather. Tormentil is ordered in the *pulvis e creta compositus* of the London Pharmacopeia. ℈ij. to ʒi.

Tormina, gripes; pains in the bowels.

Torpor, a numbness, or deficient sensation.

Touch, or Feeling, sense of. When the mind has connected the complex ideas derived from the touch with the visible appearance of objects, then the sight is indefinitely the most useful medium of knowledge; but in the earliest stages of the intellectual progress, the touch is the most useful; in fact, as man is formed, it then is absolutely necessary to render the sight productive of most of its present utility. The sense of feeling differs from the other senses in belonging to every part of the body, external or internal, to which nerves are distributed. The term touch is most correctly applied to the sensibility which is diffused over the surface of the body. Touch exists with the most exquisite degree of sensibility at the extremities of the fingers and thumbs, and in the lips. The sense of touch is thus very commodiously disposed for the purpose of encompassing smaller bodies, and for adapting itself to the inequalities of larger ones.

The sensations acquired by the sense of feeling are those of heat, hardness, solidity, roughness, dryness, motion, distance, figures, &c. and all those corporeal feelings which arise from a healthy or diseased state of the nerves, and the part of the body to which they belong.

The pains of this sense are more numerous and vivid than those derived from any other sense; and therefore the relicts of them coalescing with one another, constitute the greatest share of our mental pains, that is, pains not immediately derived from sensation. On the other hand, its pleasures being faint and rare, in comparison with others, and particularly those of the taste, have but a small share in the formation of the mental pleasures.

The touch is the original medium of our knowledge respecting the real qualities of substances, and is indeed the sole medium by which we gain a knowledge of external objects. It is by the touch, and by the touch alone, originally, that we distinguish our own bodies from other objects that surround us, and form the impression which every one has, that the objects which affect the sight, the hearing, &c. are external. When we touch a sensible part of our bodies, we have sensations conveyed to the mind through two different nervous branches; when we touch any other body, we have only one sensation.

The impression that they are external objects, that is, objects out of ourselves, which give us the sensations of sound, taste, sight, and smell, is so continually forced upon us by the sensations of touch, that there probably never was found a person who doubted the existence of the external world as the cause of his sensations, except those who have been led to it by reasoning on false principles. Some very acute speculators have indeed given up the belief in an external world as the cause of their sensations; but their opinion never did, nor never can, gain much ground; for it is inconsistent with the perceptions, which by the constitution of our frame, are necessarily formed from continually recurring sensations. The philosophic Berkeley, and a late writer, Drummond, are the principal supporters of this curious system. But if we had not the sense of touch, the other senses would have produced no such impressions; sensations would have appeared to arise in the mind without any connection with external causes of them.

Some philosophers have supposed, that it is the exquisite delicacy of feeling which exists in the hand: and the admirable mechanism by which it is applied, which is the cause of the superiority of knowledge which man possesses over the lower classes of animals. It cannot be just to attribute to this cause alone this superiority, but indisputably, as man is constituted, it is essential to the degree of superiority now possessed; and we observe, that that tribe of animals possesses the greatest degree of what may be called human wisdom, which has this sense most perfect; the bended muscle at the end of the elephant's trunk answering some of the purposes of the human fingers.

Toxicology, τοξικολογος; from τοξον, an *arrow* or *bow*, because the darts of the ancients were usually besmeared with some poisonous substance; and λογος, *a discourse;* a dissertation on poisons.

Trachea, τραχεια, the windpipe, so called from its roughness; from τραχυς, *rough;* a tube composed of cartilaginous and fleshy rings, which proceed from the larynx, before the œsophagus, to the lungs, where it bifurcates, and ramifies through the lungs under the name of *bronchia*, which terminate in the *vesiculæ pulmonales*. The cartilaginous rings of the trachea and bronchia are not completely cartilaginous, being fleshy on their back part. The internal surface of these tubes is lined by a nervous membrane continued from the larynx.

Trachealis Arteria, (from *trachea*) runs up from the subclavia in a winding course, along the aspera arteria to the glandula thyroidea and larynx, detaching small arteries to both sides, one of which runs to the upper part of the scapula.

Trachelo. Names compounded of this word belong to muscles which are attached to the neck; from τραχηλος, the *neck;* as the

Trachelo-Mastoideus, a muscle, situated on the neck, which assists the complexus, but pulls the head more to one side.

Tracheotomy, τραχειτομια; from τραχυς, *rough*, and τεμνω, *to cut;* a synonym of Bronchotomy. See *Bronchotomy*.

Trachoma, τραχωμα; from τραχυς, *rough;* an asperity in the internal superficies of the eye-lid.

Tragacantha, from τραγος, *a goat*, and ακανθα, *a thorn;* so called from its thorns resembling the horns of a goat. Goat's-thorn. Milk-vetch. *Astragalus tragacantha* of Linnæus. Gum tragacanth (which is forced from this plant by the intensity of the solar rays about Mount Ida, where it is concreted into irregular lumps or vermicular pieces, bent into a variety of shapes, and larger or smaller proportions according to the size of the wound from which it issues) differs from all other known gums in imparting to a very large quantity of water a thick and glutinous consistence. The demulcent qualities of this gum are to be considered as similar to those of gum arabic. (See *Arabic gum.*) It is seldom given alone, but frequently in combination with more powerful medicines, especially in the form of troches, for which it is peculiarly well adapted: it gives name to an officinal powder, and is an ingredient in the compound powder of cerufs.

Tragicus, a proper muscle of the ear, which pulls the point of the tragus a little forward.

Tragus, a small cartilaginous eminence of the auricular or external ear, placed anteriorly, and connected to the anterior extremity of the helix. It is beset with numerous little hairs, defending in some measure the entrance of the external auditory passage.

Transfusio, (from *transfundo*, to pour from one vessel to another.) *Transfusion*; or the art of transmitting the blood of an animal into the vessels of the human species. When every disease was supposed to reside in the blood, it was an obvious expedient to supply a depraved fluid by a pure one, in a medical view; and, by means of a syphon, the blood of a lamb, for instance, was directed into the human veins, while a proportional quantity was discharged from other veins. As usual with inventors, the plan was found wonderfully successful; but it sunk into disgrace from an accident, with which the operation was by no means connected. As there are few causes of disease in the blood, the operation of this remedy must be limited; and there is little expectation of its revival, or of its utility. Very extensive details on this subject occur in the early volumes of the Philosophical Transactions.

Transpiration, from *trans*, *through*, and *spiro*, *to breathe*. A synonym of Perspiration. See *Perspiration*.

Transversalis, a muscle, situated on the anterior part of the abdomen, which supports and compresses the abdominal viscera.

Transversalis Colli, a muscle, situated on the posterior part of the neck, which turns the neck obliquely backwards, and a little to one side.

Transversalis Pedis, a muscle of the foot, which it contracts by bringing the great toe and the two outermost toes nearer each other.

Transversus Perinæi, a muscle of the organs of generation, which sustains and keeps the perinæum in its proper place.

Trapezium Os, the first bone of the second row of the carpus.

Trapezius ceu Cucullaris, a muscle, situated on the posterior part of the shoulders, which moves the scapula according to the three different directions of its fibres: the upper descending fibres, drawing it obliquely upwards; the middle transverse straight fibres, drawing it directly backwards; and the inferior ascending fibres, drawing it obliquely downwards and backwards.

Trapezoides Os, the second bone of the second row of the carpus; so called from its resemblance to the *trapezium* or quadrilateral geometrical figure.

Traumatic, τραυματικα; from τραυμα, *a wound*; any thing relating to a wound.

Tremor, is an involuntary trembling of the nerves, like a palsy.

Trepan, an instrument used by surgeons to remove a portion of bone from the calvaria.

Trephine. This is an instrument used for the same purposes as the trepan, but preferable, because of the great convenience of holding it, and leaning on one side or other of the saw, as we find it necessary.

Triangularis, or Sterno-Costalis, a muscle, situated within the thorax, which depresses the cartilages and extremities of the third, fourth, and fifth ribs, and consequently assists in contracting the cavity of the thorax.

Triangularis Labii, called also *Depressor Labii Superioris*; is a muscle that ariseth from the lower edge of the lower jaw, between the masseter and the quadratus, and ascends by the angle of the mouth to the upper jaw.

Triceps Adductor Femoris. Triceps, from *tres*, *three*, and *caput*, *a* *plead;* having three heads. Under this appellation are comprehended three distinct muscles. See *Adductor brevis, longus,* and *magnus femoris.*

Triceps Extensor Cubiti, a muscle of the cubit or fore-arm, situated on the hinder part of the os humeri, which extends the fore-arm.

Trichiasis, τριχιασις; from τριξ, *a hair. Trichosis.* A disease of the eye-lashes, in which they are turned inwards, towards the bulb of the eye. M. M. Extraction of the hairs and confining the new ones with adhesive plaster as they grow.

Trichoma, a disease of the hair. See *Plica Polonica.*

Trichomanes, common maiden-hair, or spleen-wort. *Asplenium trichomanes* of Linnæus. This plant is admitted into the Edinburgh Pharmacopeia; the leaves have a mucilaginous, sweetish, subadstringent taste, without any particular flavour: they are esteemed useful in disorders of the breast, being supposed to promote the expectoration of tough phlegm, and to open obstructions of the viscera.

Trichuris, from τριξ, *a hair;* the long hair-worm.

Tricuspid Valves. Valvulæ tricuspides. The name of the three valves situated at the entrance of the left ventricle of the heart; so called from their being three-pointed.

Trifolium Paludosum, water-trefoil or buck-bean. *Menianthes trifoliata* of Linnæus. The whole plant is so extremely bitter, that in some countries it is used as a substitute for hops, in the preparation of malt liquor. It is sometimes employed in country places as an active eccoprotic bitter in hydropic and rheumatic affections. Cases are related of its good effects in some cutaneous diseases of the herpetic and seemingly caucerous kind.

Trigemini, the fifth pair of nerves, which arise from the crura of the cerebellum, and are divided within the cavity of the cranium into three branches, viz. the *orbital, superior* and *inferior maxillary.* The orbital branch is divided into the frontal, lachrymal, and nasal nerves; the superior maxillary into the sphæno-palatine, posterior alveolar, and infra-orbital nerves; and the inferior maxillary into two branches, the internal lingual, and one more properly called the inferior maxillary.

Triorchis, a person with three testicles.

Triquetra Ossa; they are also called *Wormiana,* from Wormius, who first observed them; small bones in the lamboidal suture.

Trismus, τρισμος, from τριζω, *strideo, to gnash;* the locked jaw, or tetany of the muscles that bring the lower jaw close to the upper. Dr. Cullen had placed this disease in the class *Neuroses,* and order *Spasmi;* he then ranked it as a different genus, but now considers it as a variety of the *Tetanus;* he defines it to be a spastic rigidity of the lower jaw.

Trismus Nascentium, commonly, but improperly, called the *Falling of the Jaw.* It is a tetanic complaint which attacks infants in the course of the second week after their birth. Its chief symptom is a locked-jaw, but the disorder does not appear to differ from the *Tetanus,* which see. It is generally fatal in two or three days; and is never expected after the child is a fortnight old.

Tritæophya, τριταιοφυης, from τριταιος, *tertian,* and φυω, *of a like nature,* or *original.* It is an epithet of a fever much of a nature with a tertian, and taking its rise from it. Some call it a *Continued Tertian.* It is remittent or intermittent.

Trocar, corrupted from *trois quart*; the name of an instrument used in tapping for the dropsy.

Trochanters. Two processes of the thigh bone, which are distinguished into the greater and lesser, are so called, from τρεχω, *to run*, because the muscles inserted into them perform the office of running.

Trochisci, τροχισκοι. Troches is a form of medicine to hold in the mouth, to dissolve, as lozenges, or for the preservation of species that would otherwise decay.

Trochlea, τροχηλια, *a pulley*; a kind of cartilaginous pulley, through which the tendon of one of the muscles of the eye passes.

Trochlearis, a muscle of the eye. See *Obliquus superior seu trochlearis*.

Trochoides, from τροχος, *a wheel*, and ειδος, *resemblance*; a species of diarthrosis, or moveable connection of bones, in which one bone rotates upon another; as the first cervical vertebræ upon the odontoid process of the second.

Trochleatores seu Pathetici. The fourth pair of nerves are so called, because they are inserted into the musculus trochlearis of the eye.

Tropici Morbi, are such diseases as are most frequent under or near the tropics.

Tuba Eustachiana, the Eustachian tube; the auditory tube. This tube arises in each ear from the anterior extremity of the tympanum by means of a bony semicanal; runs forwards and inwards, at the same time becoming gradually smaller; and after perforating the petrous portion of the temporal bone, terminates in a passage, partly cartilaginous and partly membranous; narrow at the beginning, but becoming gradually larger, and ending in a pouch behind the soft palate. It is through this orifice that the pituitary membrane of the nose enters the tympanum. It is always open, and affords a free passage for the air into the tympanum; hence persons hear better with their mouth open.

Tuba Fallopiana, the uterine tube. A canal included in two laminæ of the round ligament which arises at each side of the fundus of the uterus, passes transversely, and ends with its extremity turned downwards at the ovarium. Its use is, to grasp the ovum, and convey the prolific vapour to it, and to conduct the fertilized ovum into the cavity of the uterus.

Tuberculæ, tubercles, are little tumours that suppurate and discharge pus, often found in the lungs. See *Vomica*.

Tubercula Quadrigemina. *Eminentiæ quadrigeminæ*. Four white oval tubercles of the brain, two of which are situated on each side over the posterior orifice of the third ventricle and the aqueduct of Sylvius. The ancients gave them particular names of no good signification.

Tuberculum Loweri, an eminence in the right auricle of the heart where the two venæ cavæ meet, so called from *Lower*, who first described it.

Tulipifera, Virginian tulip-tree, or white-wood; a species of *Liriodendrum*; one of the most stately trees in the American forests.

Tumor, from *tumeo*, to *swell*; an order in the class *locales* of Cullen's Nosology: It is the morbid enlargement of a particular part, without being caused by inflammation. This definition, though plain and simple, is not, however, unexceptionable; for dropsical swellings, from their extent, would be excluded, and yet hydrocele must be introduced, unless it be alleged that in this case the tumour extends above the organ affected. Mr. Abernethy limits, on the contrary, the meaning of the word too strictly, confining it to such swellings as arise from new productions; yet he is compelled to admit enlarged glands, as their contents may be such, though it will be obvious that extirpation or death must take place before it be ascertained whether any given disease is in reality a tumour. With all these difficulties before our eyes, we may have erred in our arrangement, but this is now of little importance.

The only other classification we have met with is in a work which seems to have rarely reached Britain, Plenck's. The first part was published in Latin, at Vienna, in octavo, 1767, and some time afterwards, in the German language, at Dresden and Leipsic. He divides tumours into sixteen genera, inflammatory, purulent, gangrenous, indurated, watery, bloody, encysted, excrescential, bony, earthy, airy, salivary, bilious, milky, spurious herniary, and organic. As the work is rare, we shall mention a few examples of the more important classes. The inflammatory tumours are the true *erysipelatous* ones without fever; the indurated the *strumous;* the aqueous the *lymphatic*, which is a smooth, round, white, indolent, and elastic swelling, arising from a ruptured lymphatic. Among the *cystic* tumours he mentions *lipoma*, which differs from steatom in containing fat only, though there is a species whose contents are different, referred to sarcoma. An instance of the excrescential tumours is the *sercosis*, a polypus from the uterus or vagina; of the bony, *exostoses*, *tophi*, or *gummata;* of the earthy, *arthritic tophus*, and the *sublingual calculus*. *Pneumatosis* is a species of aërial tumours; but, when general, is called *emphysema; ranula*, of salival: *sparganosis*, a painful swelling of the mammæ, and the *milky abscess*, are species of the lacteal tumours. All enlargements of the scrotum or umbilicus, if not organical, are styled by Plenck *herniary*. The *liparocele*, which Morgagni calls *steatocele*, a fatty swelling of the cellular membrane which surrounds the scrotum and testes; and the *lipomphalus*, a fatty hernia of the umbilicus, are of this kind. The organic swellings are *gibbosity of the vertebræ*, *herniæ*, &c.

Other authors divide tumours into watery, fleshy, cystic, flatulent, fungous, humoral, milky, stony, lymphatic, menstrual, metastatic, salival, phagadenic, polypous, bloody, schirrous, wormy, and solid; but such minutenesses must not at present detain us.

Mr. Abernethy, considering tumours as new parts, chiefly confines himself to the sarcomata. His first species is the common vascular or organized sarcoma; the next the *adipose*, followed by the *pancreatic*, the *cystic*, the *mammary*, the *tuberculated*, the *medullary*, and the *carcinomatous*. The encysted tumours conclude.

Our author seems to think that tumours possess an independent life. A clot of blood first effused, suspended against any membrane by a short pedicle, is soon supplied with vessels passing through the pedicle, and these deposit the peculiar substance of the tumour, gradually enlarging it till the coats can no longer resist the distending power. They then crack, the substance of the tumour sloughs off, and, though at first a tendency to cicatrisation is perceivable, it soon becomes a foul ulcer, and the discharge, with the debilitating power of the attending fever, proves fatal.

This short abstract of the pathology is sufficient to explain our author's system, and we shall add a few observations on it, as it militates against what we consider a fundamental principle in physiology, the identity and unchangeableness of the primordial germ. With this view we remark, that the deviations in bulk are limited. When, however, the continuity of the containing membranes is broken, and blood exudes, the exposed vessels will probably shoot to some distance, though no considerable one. In cases of tumours these vessels may be found in the neck; but very few contain vessels in their substance, which the most dextrous anatomist can inject. Mr. Abernethy, too, injures his own system, by remarking that the coats of the tumour are the thickened cellular texture around, from which they are supplied with vessels, and the whole hypothesis becomes unnecessary; for the substance of the tumour, if gradually deposited at its base, will impel the former depositions, and proportionally distend it at its fundus: we know, from observation, that such tumours really increase from their base. The position, that such tumours are not organized bodies, does not rest wholly on the failure of injections; for the gradual changes of the tumours prove that all the effects are produced from the coats, which are confessedly not new productions. The coats inflame, suppurate, and burst; the contents, no longer confined, melt into a curdly mass, and the patient sinks from debility. Thus the whole system seems to totter; for the containing coat is the condensed cellular texture of the patient, and as there is little evidence of the vessels extending far into the substance of the tumour, these also have apparently no addition. The tumour itself is seemingly secreted from them, or the vessels permeating the coats, by what mechanism we cannot pretend to explain, as the whole mystery of secretion is involved in obscurity. If we consider the remedies, we shall find them applied to the coats to prevent increased action of their vessels: to these also our astringent and discutient applications are directed. The rest of the mass has no life; for when the coat is destroyed, the whole melts as it would do out of the body by the action of heat, air, and moisture.

The first tumour mentioned by Mr. Abernethy is the *common vascular or organized sarcoma*, a swelling which more particularly merits the name of a new formation, as vessels pass through it, and the veins on its surface are peculiarly large. It seems to consist of coagulable lymph, covered with the red globules; but so far from possessing independent life, when the coat is removed, the contents slough away, in other words dissolve, or portions separate without sloughing. The substance of the tumour itself is insensible, and has consequently no nerves: we cannot, therefore, admit of its being a living matter.

The *adipose sarcoma* is a fatty tumour, yet its contents differ somewhat in appearance from fat; but it acquires its capsule from the cellular membrane; and, if any vessels pass into its substance, they are so small, that, on turning out the tumour, they afford neither resistance nor pour out blood.

The *pancreatic sarcoma* resembles, in its lobated appearance, the pancreas, and is apparently a congeries of lymphatic glands, though sometimes a single one only is affected. We adopt this opinion from these being the only instances of sarcoma where the coats of the gland swell, are affected with lancinating pains, and become foul ulcers; for they scarcely ever are cancerous. It occurs most frequently in the breast nearest the axilla, a part where the lymphatic glands are numerous; and we have seen it in the inguen, when we have distinctly traced the formation of distinct lobes before they coalesced. A malignant parotid, before it breaks, has sometimes assumed this appearance.

A *cystic sarcoma* consists of distinct cysts, formed evidently by an enlargement of the natural cryptæ, and this tumour chiefly occurs in the testis, the ovary, occasionally in other parts. The cysts sometimes contain an unctuous matter of the consistence of cheese.

The *mastoid or mammary sarcoma* resembles the mammary gland. It is peculiarly rare, and seems to approach a fungus, by the diseased part extending far below what appears to be the tumour, and becoming the source of a fresh deviation from the healthy state.

The *tuberculated sarcoma* can scarcely be styled a separate tumour; for it consists of enlarged lymphatic glands, which run together in one part, but are found distinct over the whole body, and, on dissection, on the viscera. The skin breaks; but the glands do not slough: the pain and irritation are so considerable and extensive that the patient soon sinks. We doubt whether this species is properly distinguished from the pancreatic.

The *medullary sarcoma* is chiefly found in the testis, and it is filled with a pulpy substance not unlike that of the brain. It is a destructive complaint, and has been styled the soft cancer, though it differs from the true carcinomatous tumour. The case related by Mr. Abernethy proved fatal by an enlargement of the lymphatic glands of the groin, which were greatly distended, and inflamed the skin, terminating in suppuration. Their substance was tender, and it appeared that the substance of the original tumour had been absorbed in a softer state, since in the higher glands, within the abdomen, it had almost the consistence of cream. This tumour is neither like cancer, hard, disposed to ulcerate or to spread to contiguous parts; but it is continued along the absorbents with great rapidity, wherever it may first appear; for it is not confined to the testis. The contents of the tumour are sometimes darker, being of a hue between a brown and a blood colour; but the consistence is the same, and the difference seems to arise only from the accidental mixture of some blood. The blood-vessels of the parts diseased are always highly irritated, and the veins peculiarly full, so that some effusion may be expected. Mr. Cooper's observation, quoted by our author, from his paper on obstructions of the thoracic duct, in the Medical Records and Researches, seems to confirm the suggestion.

The last species is the *carcinomatous sarcoma*, in its incipient state a *schirrus*. Mr. Abernethy distinguishes this kind by the communication of the irritation to contiguous parts, and by the white bands, described by Dr. Adams, sometimes enlarging into white firm partitions, and giving the idea of an animal nature. It agrees with the mastoid sarcoma in the disease extending below the apparent base of the tumour.

Encysted tumours are distinguished by a regularity of surface and shape, and pulpy feel. Their contents are different in consistence, sometimes in colour, and from these they have been divided into steatomatous, atheromatous, and meliceritous, to which Mr. Abernethy adds a horny substance, and occasionally hairs, particularly in encysted tumours of the ovary. Other authors, but of no very good authority, mention flatus, bones, worms, lice, eggs, and even frogs, in encysted tumours. The vessels of the cyst are apparently minute; for our author acknowledges that, when they burst, they do not suppurate, but become flabby, and are not disposed to heal. Mr. Abernethy gives a short account of some other cysts, containing serum, hydatids, or granular substances, not unlike pearl barley.

We might perhaps rest the confutation of our author's pathology on his own facts. We see indeed new formations, as every exuded fluid capable of concreting may be styled such, but no independent life; no new creation of vessels; but the minute branches derived from the cellular substance which forms the capsula; no nerves.

The mass of matter contained in the cyst does not resemble, in any respect, the fluids of the body in any form, to which heat, stagnation, and absorption, can alone reduce them. Even in the case of scrophulous glands, where we have reason to think that the substance is the gluten of the blood, it is apparently changed by a secretion from the cavities of their cells. In every instance, except the first species, the substance of the tumour is equally different from any of the fluids, or any portion of the more compounded ones. The common, vascular, organized sarcoma seems only an effusion of the gluten, into which vessels undoubtedly pass, but which seems never to attain any considerable size; or at least before it does so the character is lost. What the cause of this new secretion may be, we are unable to ascertain; but Mr. Abernethy very properly observes, that its nature is not connected with that of the adjoining part; but it is not admissible to conclude that this is a new embryo introduced with its own peculiar powers, till we know why, from arteries nearly contiguous, serum and mucus, the perspirable and sebaceous matter, are evacuated.

To conclude, at once, with the volume before us, we shall mention Mr. Abernethy's very judicious plan of cure. As the irritation of a tumour contributes undoubtedly to its increase, we must endeavour to lessen it by taking away its two principal causes, the blood and the heat: the first is attained by the repeated application of leeches, the second by the application of folded linens, wetted with sedative and refrigerant lotions. If we thus suspend the growth of the tumour, other measures may be afterwards pursued. These are stimulants, such as friction with mercurial ointment, gentle pressure, and electricity. Those means which excite a counter irritation, such as rubefacient plasters, solutions of salts, blisters, and issues, are often of service. Other applications of rather a sedative than a stimulant nature are, the colchicum (acetum colchici), hemlock, beladonna, dulcamara, lead, and galbanum. If the irritability of the cyst is destroyed, there will be little apprehension of its increase; but we often find, that though by these means we can arrest the progress of the disease, we can seldom remove it. Extirpation, either by a knife or ligature, is, if practicable, the only certain remedy.

Tunic. *A tuendo corpore*, because it defends the body.

Tunica, a membrane or covering.

Tunica Albuginea Oculi. See *Conjunctive Tunica.*

Tunica Albuginea Testis. See *Albuginea Tunica.*

Tunica Arachnoidea. See *Arachnoides.*

Tunica Choroidea. See *Choroid membrane*

Tunica Conjunctiva. See *Conjunctive Tunica.*

Tunica Cornea. See *Cornea.*

Tunica Retina. See *Retina.*

Tunica Vaginalis Testis, a continuation of the peritoneum through the inguinal ring, which loosely invests the testicle and spermatic cord.

Tunstats, (Tunstas, tis, s. m.) Salts formed by the combination of the tunstic acid with different bases, as *tunstat of ammonia, tunstat of iron, &c.*

Turbinated Bones. Ossa turbinata. The superior spongy portion of the ethmoid bone, and the inferior spongy bones, are so called by some writers; from *turbinatio, to sharpen at the top*, shaped like a sugar-loaf.

Turpentines. The different turpentines employed medicinally are, the Chian or Cyprus turpentine (see *Terebinthina vulgaris,)* the common turpentine, and the Venice turpentine (see *Terebinthina veneta.)* All these have been considered as hot, stimulating corroborants and detergents; qualities which they possess in common. They stimulate the primæ viæ, and prove laxative; when carried into the blood-vessels they excite the whole system, and thus prove serviceable in chronic rheumatism and paralysis. Turpentine readily passes off by urine, which it imbues with a peculiar odour; also by perspiration and by exhalation from the lungs; and to these respective effects are ascribed the virtues it possesses in gravelly complaints, scurvy, and pulmonic disorders. Turpentine is much used in gleets and fluor albus, and in general with much success. The essential oil, in which the virtues of turpentine reside, is not only preferred for external use as a rubefacient, but also internally as a diuretic and styptic; the latter of which qualities it possesses in a very high degree. Formerly turpentine was much used as a digestive application to ulcers, &c. but in the modern practice of surgery it is almost wholly exploded—℈i. to ʒiss.

Turpethum Minerale, Mer. Emetic. Flav. yellow emetic quicksilver.

Turunda, and

Turundula, signify a *tent* for a wound, or any thing to be thrust into an orifice or capacity.

Tussilago, coltsfoot. *Tussilago farfara* of Linnæus. The sensible qualities of this plant are very inconsiderable: it has a rough mucilaginous taste, but no remarkable smell. The leaves have always been esteemed as possessing demulcent and pectoral virtues, and hence they have been exhibited in pulmonary consumptions, coughs, asthmas, and catarrhal affections. It is used as tea, or given in the way of infusion with liquorice-root or honey. *Tussilago* most probably is derived from *tussis, a cough*, because it is in general use in that complaint.

Tussis, a cough; a sonorous concussion of the breast. It is symptomatic of many diseases.

Tussis Exanthematica, a cough attendant on an eruption.

Tylosis, τυλωσις; from τυλος, *a callus;* an induration or callus of the margin of the eye-lids.

Tympanites, tympany; from τυμπανον, *a drum;* an elastic distention of the abdomen not readily yielding to pressure, and sounding like a drum, with costiveness and atrophy, but no fluctuation. Species: 1. *Tympanites intestinalis*, a lodgment of wind in the intestines, known by the discharge of wind giving relief: 2. *Tympanites abdominalis*, when the wind is in the cavity of the abdomen. M. M. Opium; laxatives; aromatics; bitters; cinchona; iron.

Tympanum, the drum or barrel of the ear; the hollow part of the ear in which are lodged the bones of the ear. It begins behind the membrane of the tympanum, which terminates the external auditory passage, and is surrounded by the petrous portion of the temporal bone. It terminates at the cochlea of the labyrinth, and has opening into it four foramina, viz. the orifice of the Eustachian tube and mastoid sinus, the fenestra ovalis and rotunda. It contains the four ossicula auditus.

Typhus, from τυφος, *stupor;* a species of continued fever. See *Febris Continua.*

Typhus Mitior, the low or nervous fever. See *Febris Continua.*

Typus, τυπος, is the constant order observed by a fever, in its intention and remission, signifying the same with *period*, or *circuit.*

Tyriasis, a species of leprosy, in which the skin may be easily withdrawn from the flesh.

Tyrosis, from τυρος, *cheese ;* a coagulating or curdling of milk in the stomach after the manner of cheese.

U

ULCER, *Ulcus ;* from ελκος, *a sore;* a purulent solution of continuity. There are several species of ulcers, of which the following are the principal: 1. *The simple purulent ulcer*, which takes place generally from a superficial wound, is attended with very little inflammation or pain, and discharges laudable pus; 2. *The simple vitiated ulcer*, is attended with more pain, and discharges either sanies, ichor, or sordes; 3. *The fungous ulcer*, whose surface is covered with fungous flesh; 4. *The sinous ulcer* has one or more sinuses with a small opening or openings; 5. *The callous ulcer*, whose edges are hard, ragged and elevated; 6. *The carious ulcer*, depending upon a carious bone; 7. *The cutaneous ulcer* is occasioned by neglected or ill-treated cutaneous eruptions; 8. *The cancerous ulcer*, or open cancer; 9. *The inveterate ulcer*, which is of long continuance, and resists the ordinary applications; 10. *The scorbutic ulcer ;* 11. *The venereal ulcer ;* 12. *The scrophulous ulcer.* The three last species are connected with general diseases; the others are local. M. M. 1. Cleanliness; mild, warm covering; moderate pressure; rest. 2. Emollient fomentations and poultices; opium; when there are symptoms of debility, cinchona and elixir of vitriol. 3. Removal of any extraneous body; lunar caustic; sulphate of copper or zinc; acetite of copper; ligature. 4. A seton through each sinus, or laying them open with a scalpel. 5. Removal of any extraneous body or irritating application; emollient cataplasms; caustic; the scalpel. 6. Laying bare and making small perforations in the diseased bone, or cutting it entirely away; a decoction of cinchona and walnut-tree leaves; lime water; a solution of camphor in weak brandy. 7. Warm-bath; lime-water; saturnines; muriate of mercury; ointment of calcined zinc: internally, antimonials and decoction of the woods. 8. Drawing the edges together with straps of diachylon plaster; cold water; compression; an issue. 9, 10, 11 & 12. See *Cancer*, *Scorbutus*, *Syphilis*, and *Scrophula.*

Ulmus, common elm. *Ulmus campestris* of Linnæus. The inner tough bark, which is directed for use by the Pharmacopeias, has no remarkable smell, but a bitterish taste, and abounds with a slimy juice, which has been recommended in nephritic cases, and externally as an useful application to burns. It is also highly recommended in some cutaneous affections allied to herpes and lepra.

Ulna, or Cubit, from ωληνη, *the cubit;* a long bone, situated in the inside of the fore-arm towards the little finger. At the upper extremity there are two processes; the olecranon or anconoid process, upon which we lean, and the coronoid process, which is opposite to it. In the lower extremity there is a head, a neck, and styloid process.

Ulnar Artery, a synonym of the cubital artery.

Ulnar Nerve, a branch of the brachial plexus.

Umbilicalis Arteria. It is a continuation of the *Hypogastric Artery*, which see.

Umbilicalia Vasa, umbilical vessels. There are four ligamentary vessels called by this name.

Umbilicus, is properly the *navel*, which is a collection of vessels wrapped up in a production of the chorion and amnion, which is generally about a foot and a half long, that the motion of the fœtus might not pull the placenta from the womb.

Umbilical Region, that part of the abdomen between the epigastric and hypogastric regions.

Unciform Bone, the last bone of the second row of the carpus.

Ungues, the nails. The horny laminæ at the extremities of the fingers and toes.

Unguis Os. Os lachrymale, a small bone in figure like the nail of the finger, situated in the internal angle of the orbit, of which it forms a part: it also covers part of the labyrinth of the nostrils.

Urachus, ουραχος, a ligamentous cord that arises from the basis of the urinary bladder, which it runs along, and terminates in the funis umbilicalis. This name is derived from ουρον, *urine*, and εχω, *to contain*, because in the fœtuses of brute animals, which the ancients dissected, it is a ligamentous canal through which the urine passes, to the allantoid membrane.

Ureter, ουρητηρ, the canal which conveys the urine from the kidneys to the bladder; from ουρον, *urine.* At its superior part it is considerably the largest, occupying the greatest portion of the pelvis of the kidney; it then contracts to the size of a goose-quill, and descends over the psoas magnus muscle and large crural vessels into the pelvis, in which it perforates the urinary bladder very obliquely.

Urethra, ουρηθρα; from ουρον, *urine*, because it is the channel through which the urine passes; a membranous canal running from the neck of the bladder through the inferior part of the penis to the extremity of the glans penis, in which it opens by a longitudinal orifice. In this course it first passes through the prostate gland, which portion is distinguished by the name of the *prostatical urethra;* it then becomes much dilated, and is known by the name of the *bulbous part*, in which is situated a cutaneous eminence called the *caput gallinaginis* or *verumontanum*, around which are ten or twelve orifices of the excretory ducts of the prostate gland, and two of the spermatic vessels. The remaining part of the urethra contains a number of triangular mouths, which are the *lacunæ*, or openings of the excretory ducts of the mucous glands of the urethra.

Urina, (from ουρον.) The *urine*, *adsamar*, *albor*, *alcolita*, is a fluid secreted from the blood by the kidneys, conveyed by the ureters to the bladder, and discharged through the urethra. When suppressed, a portion is usually absorbed, and often passes through the pores of the skin. The sudden discharge of some fluids after swallowing them hath led to a suspicion, which anatomy does not countenance, that there is a shorter passage to the bladder than through the kidneys. Of the appearance of the urine as a source of prognostic, we need only to add, that when after standing, a cloud is diffused in the urine, it was usually styled *nubes* or *nubecula;* when the cloud sinks a little, leaving the urine above somewhat transparent, *enæoremata*, *sublimationes*, *suspensa*, or *sublimia;* and when the whole cloud falls to the bottom, in a thick sediment, *subsidentia*, *subjecta*, and *sedimenta*. When it drops a white mucus, or purulent sediment, it is named *puotaria*.

The recent urine of a healthy person is a clear, yellow fluid, varying in specific gravity from 1.005 to 1.033, according to the quantity of its solid contents, or to the proportion secreted. Its smell is peculiar and well known; its taste saline and slightly acidulous, so as to redden the blue vegetable juices. After standing for some hours, it becomes slightly turbid, depositing a red matter, which is chiefly the *uric acid;* the *uric oxide* of Dr. Pearson. When exposed to a gentle heat, the urinous odour is increased, the urine is covered with a pellicle, in which many globules of carbonic acid gas are entangled; the colour gradually becomes a dark red, and a whitish flocculent coagulum is soon deposited, the steam becoming more decidedly ammoniacal in its smell. It now turns syrup of violets green; for, as may be expected from its smell, a quantity of ammonia is formed or developed, and the phosphat of lime, held in solution by the excess of acid, is deposited with some albumen in a flocculent form. If the evaporation is continued till the fluid has acquired the consistence of a syrup, decanted from its sediment, and set in a cold place, brown, dirty crystals are deposited. These may be purified in the usual ways of repeatedly dissolving, filtering, and crystallizing; but more quickly by digesting with alcohol, which will dissolve the extractive matter, and the urea, without the saline impregnation.

The salts, thus formed, are the muriats of potash and soda, phosphats of soda, and of soda with ammonia, formerly styled *microcosmic* or *fusible salt*. If the evaporation is slowly and carefully conducted, the salts separate nearly in the order mentioned. The simple phosphat of soda may be distinguished by the form of the crystals, which are four-sided prisms, by efflorescing and running into an opaque glass, when melted. Mr. Cruikshanks finds, that thirty-six ounces of healthy urine yield about one of solid contents; of which the muriatic salts are estimated at about three drams, the alkaline phosphats at three drams and fifty grains; the phosphat of lime and uric acid, deposited, at twenty-five grains, and the extractive matter or urea at three drams forty grains.

Urine also contains, according to Proust, a resinous matter, and a small proportion of sulphur, which is chiefly discovered by the urine blackening a silver dish in which it is evaporated. Minute chemistry has detected some other acids, particularly the *benzoic*, and the pink-coloured sediment, styled the *rosaceous acid;* but these are of little importance in our present views.

The urea requires a more particular attention. We have styled it, with modern chemists, an extractive matter, slightly acidulated; and it yields, on distillation, carbonated ammonia. With nitrous acid, a nitrous gas is separated, and crystals deposited of a flat rhomboidal shape, and a greasy feel, resembling the acid of borax. On examination, it appears to be neither oxalic nor phosphoric acid. This salt when heated melts, and evaporates in white smoke, and a reddish flame, similar to nitrat of ammonia.

When the urea is separated by its solution in alcohol, it takes up a small portion of benzoic acid, though too small to affect its properties. The first crystallization is in imperfect quadrangular plates, of a brilliant yellowish white, containing a little muriat of ammonia. In this state it is hard, granular, highly fetid and deliquescent. When distilled alone, the benzoic acid first rises into the neck of the receiver. Carbonate of ammonia, and nothing else, follows. The smell in the vessels resembles highly putrid fish, and the residue is blackish and dry. In a higher temperature, white fumes of muriated ammonia rise, and the coaly residuum resembles, in smell, the prussic acid, when moistened. Urea is soluble in water, and continues for a long time without any change, unless some albuminous matter is added, when it ferments, and acetite of ammonia is produced. This solution, on distillation, is almost wholly changed into carbonat of ammonia. Caustic fixed alkalis dissolve the urea, disengaging a large portion of ammonia, and leaving the benzoic, acetous, and carbonic acids. It changes the forms of the crystals of other salts, so that muriat of soda crystallizes in octoedra, and muriat of ammonia in cubes.

The urine of a horse contains no phosphoric and no separate benzoic acid, but benzoat of soda only; that of the cow contains no soda, phosphoric salts, or benzoats; that of the camel, carbonat, sulphat, and muriat of potash only with the urea; that of the rabbit, sulphur, without phosphoric or benzoic salts; that of the Guinea pig contains no urea.

In diseases the urine is sometimes of a black colour; but this is not always a dangerous symptom. The colour has been attributed to eating grapes, or damascene plums; sometimes, as by Hippocrates, to black bile. The greater number of authorities are certainly in favour of the little danger to be apprehended from black urine, and unless in fevers of the asthenic kind, with highly putrid symptoms, we have not found it formidable. The urine is sometimes calcareous when discharged, like the urine of a horse, after hard riding, and sometimes milky, or, as it is styled, chylous. The first seems to have occurred after long fits of gout, and sometimes in cases of rachitis or mollites ossium. The second is often purulent, sometimes a mucous discharge, though occasionally said to be an admixture of chyle. Theden mentions white urine "from mucous hæmorrhoides of the vesica." Urine, however, often contains a very extraordinary proportion of gelatin and albumen, which frequently attend the dropsies that follow scarlatina or putrid diseases. We have seen that this portion of the blood is chiefly affected in severe fevers, and probably from its altered qualities, is thrown out, while the attenuated fluids pass more freely through the exhalents. In dyspeptic cases also the urine is said to contain a large portion of albumen combined with it, which may be precipitated by tanin, while, in diseased liver, there is no albumen, and the urine is highly coloured, depositing a rosaceous sediment. Highly red urine usually attends inflammatory fever and inflammation of every part of the urinary organs.

Pale urine is a common attendant in hysteria; and Berthollet has observed that previous to a fit of gout the urine contains a smaller proportion of the urea, and often none. We have seen urine of this kind attend low fevers, and the fever has diminished on the return of water possessing the usual colour and smell. We have discovered the amendment by looking at the water in the window above, before we had seen the patient; but were unfortunately unable to produce it until nature chose to determine the urea, &c. to the kidneys. In gout the urine is pale, and the conclusion of a fit is determined by a very copious discharge of the red matter.

De Haen mentions a case of fetid urine (Ratio Medendi, pars. xii. 170), which was highly putrid, and "did not effervesce with acids." It is sometimes scaly or branny from weakened vessels, sometimes oily, occasionally of a violet smell, which in one instance followed after taking Peruvian bark, but is a general effect of eating asparagus. It is coloured occasionally by rhubarb, by mithridate and by bile (Bianchi Historia Hepatis, 136.) We have seen the urine green from the bile, when it has contained an excess of acid.

The numerous stories of foreign bodies found in the urine are calculated rather to excite our wonder than command our assent. We can admit, that substances introduced into the urethra may appear to be discharged with the urine, that hydatids may be formed in the bladder or kidneys, or that worms, occasionally solid substances, forming abscesses between the rectum and bladder, may find their way into it. Portions of decayed kidney may also be sometimes discharged in this way; but bones, pills, pieces of iron, stones of fruits, seeds of various kinds, leaden balls swallowed, parsley roots, needles, ants, little fish, &c. cannot be formed in the bladder, nor pass through the minute vessels of the kidneys. In fact, except in the modes just mentioned, no such substances can reach the bladder, and, however respectable the authority of the relater, we must arrange them with St. Andre's rabbit woman. As this censure was to follow, we have avoided mentioning the names of the authors.

When the urine is retained by any obstacle in the bladder, it sometimes passes out by unaccustomed passages, but when no escape is obtained, the load is gradually lessened by a portion being taken up by the absorbents, and carried generally to the skin. After some time the distension gives little pain, and the patient sinks in a comatous state subsequent to a slight delirium, from a mortification of the vesica. The delirium and the coma have been attributed, with little reason, to the effusion of the absorbed urine in the ventricles of the brain. There is no evidence of such effusion, and the distended bladder, pressing on all the branches of the descending aorta, will sufficiently account for all the effects.

Bloody Urine. Hæmaturio, (from αἷμα, *sangius*, and ϐρον, *urina*). Hippocrates observes that if pure blood is copiously and suddenly discharged without pain, it flows from the kidneys; but when the quantity is small, of a blackish colour, with pain, or heat, or both, during or after the discharge, its source is the bladder. The symptoms of vessels ruptured in the bladder are intense pains, fainting, difficulty of breathing, a low, small, frequent pulse, nausea, anxiety, and cold sweats. A stone in the bladder is sometimes the cause: and in the Edinburgh Medical Essays, vol. vi. it was produced by a worm. Cœlius Aurelianus speaks of a species of hæmorrhoids discharging blood with the urine; and it is sometimes observed that, on their cessation, blood passes by the urethra. Indeed Hoffmann describes vessels around the sphincter of the bladder opening as hæmorrhoidal ones, and Theden speaks a similar language, when he mentions the source of mucous discharges with the urine. Strong purges and highly stimulating diuretics are often the reputed causes; but this hæmorrhage rarely happens from the former, and indeed not frequently from the latter, unless the management has been rash and indiscreet. It most commonly proceeds in old persons from debility, sometimes, in full habits, from plethora. In each case it is a troublesome and obstinate, but not a dangerous, disease; and, as it flows slowly and in small quantities, it is not easy to say from what part of the urinary tract it proceeds. Florid blood has been supposed by modern authors to come from the bladder, what is dark and grumous from the kidney. As a symptom, it frequently attends calculus in the bladder. Bloody urine sometimes also arises from poisons, sometimes from the rupture of a vessel, in consequence of a strain, a blow, or concussion.

The most dangerous hæmaturiæ are from ulcers and from wounds of the kidneys or bladder; but those from the kidneys, or the sphincter of the bladder, are sometimes critical and salutary, returning at certain intervals: yet, though at first salutary, from their supplying other evacuations, they are not without danger from the debility induced.

Bleeding is only requisite in the young and plethoric, when attended with pain, and arising from a strain, &c. In these circumstances, rest, cooling saline purgatives, camphor with nitre, and, after the bowels are cleared, with Dover's powder, are the most effectual remedies. The drink should be diluting and mucilaginous, the diet low, the laxatives repeated every day, or every other day, according to their effects. When the bloody urine proceeds from suppressed hæmorrhoids, we are told to bleed, and give aloetics: but we thus establish two injurious habits instead of one, and it will be better, by a judicious plan of diet and medicine, to destroy the original accumulations in the rectum.

Even in old people, nitre with camphor will be found useful; and, if combined with, or originating from, fulness, regular evacuations by stool, a regulated diet, and steady moderate exercise, should constantly be employed. With these assistances we have never found such hæmaturiæ dangerous; on the contrary, they have sometimes appeared salutary. We have not found in any instance the bark or the uva ursi particularly advantageous.

Incontinentia Urinæ, enuresis, (from ενουρεω, *urinam non contineo*); "an involuntary flux of urine without pain," arises from the weakness of old age, from palsy, a relaxation of the suspensory ligament of the bladder, from hard labour, the abuse of acidulous mineral waters, excess of venery, accumulations in the head occasioning insensibility, narcotic poisons, difficult labours, lithotomy, violent straining to make water, coughing, epileptic paroxysms, diseases of the medulla spinalis, or the sphincter vesicæ. These are causes of the atonic species.

When from irritation, it is often produced by a stone in the bladder, by the pressure of a child's head in the latter months of pregnancy, a schirrus of the prostate, "a bagpipe singing in the nose;" or the sound of a lyre, which we add in support of Shakspeare's pathology, from the Ephemerides Naturæ Curiosorum, Dec. 1. i. 184.

The means of relieving the latter species depend almost wholly on the causes. When the disease proceeds from pure debility, the bark, the catechu, and the Peruvian balsam have been employed, though seldom with considerable effects. Blisters to the sacrum, cold bathing, cold water dashed against the sacrum, are more useful; but the most serviceable medicine is the cantharides. Twenty drops of the tincture slowly, but daily increased, until some pain is felt at the neck of the bladder, frequently relieve, and often check the disease for some years (Smyth in the Medical Communications, ii. 34). This author, however, directs the cantharides in substance. Lange recommends the application of the tincture of cantharides to the perinæum; and a blister, to this part, is often an excellent auxiliary.

Urinary Bladder. Vesica urinaria. A muscular sac, situated in the cavity of the pelvis; in men between the pubes and rectum; and in women between the pubes and uterus; which receives the urine, retains it a certain time, and then expels it. Its external coat is from the peritoneum: internally it is covered with a mucous membrane. Anatomists have distinguished this bladder into a fundus, body, and neck. It has arteries from the hypogastric and hæmorrhoidal; nerves from the intercostal and sacral; and its veins empty themselves into the hypogastric veins.

Urtica, ab urendo, because it excites an itching and pustules like those produced by fire. The common nettle. *Urtica dioica* of Linnæus. This plant is well known, and though generally despised as a noxious weed, has been long used for medical, culinary, and economical purposes. The young shoots in the spring possess diuretic and antiscorbutic properties, and are with these intentions boiled and eaten instead of cabbage greens.

Urticaria, from *urtica,* a nettle; the nettle rash. A species of exanthematous fever, known by pyrexia and an eruption on the skin, like that produced by the sting of the nettle. M M. Antiphlogistic regimen; cooling laxatives.

Uterus, υστερα. *Matrix,* the womb. A spongy receptacle resembling a compressed pear, situated in the cavity of the pelvis, above the vagina, and between the urinary bladder and rectum. It is divided by anatomists into the fundus, which is its broadest and upper part, the body or middle part, the cervix or neck, which is the lower and narrow part, and the orifice of the uterus, called *os uteri* and *os tincæ,* situated within the vagina. The cavity of the virgin uterus is small, scarcely admitting an almond, and has three openings; one on each side, which is termed the internal orifice of the Fallopian tube, and the third opening, which is the os uteri. There proceed from each side of this viscus, 1. *A broad ligament,* formed by a duplicature of the peritonem, which proceeds to the ilium, and sustains the uterus, the tubes, and ovaria: 2. *A round ligament,* which goes through the inguinal ring and is lost about the pubes: and, 3. The Fallopian tubes. The use of the womb is for menstruation, conception, nutrition of the fœtus, and parturition.

Uva Passa, the raisin. The dried fruit of the *Vitis vinifera* of Linnæus. Raisins are prepared by immersing the fresh fruit into a solution of alkaline salt and soap lye, made boiling hot, to which is added some olive-oil, and a small quantity of common salt, and afterwards drying them in the shade. They are used as agreeable, lubricating, acescent sweets in pectoral decoctions, and for obtunding the acrimony of other medicines, and rendering them grateful to the palate and stomach They are directed in the *decoctum hordei comp. tinctura sennæ,* and *tinctura cardamomi comp.*

Uva Ursi. *Bear's whortle berry, whorts*, or *bilberries ; vaccaria vaccinia, arbutus uva ursi*, Lin. Sp. Pl. 566 ; the *bear-berry strawberry-tree*, or *trailing arbutus*, is an evergreen, trailing, shrubby plant, with many small, oblong, oval leaves, monopetalous white flowers, with a flesh-coloured border cut into five sections, and red berries. It greatly resembles the common red wort-bush, from which it may be distinguished by the leaves being more oblong, by the flower having ten stamina, and the berry five seeds. It is found on the snowy hills in Austria and Styria ; in Scotland ; more plentifully in Sweden, and cultivated in gardens in England.

The leaves are bitterish and astringent, without any remarkable smell, at least when dry. They are celebrated by Dr. Haen in nephritic and calculous complaints, and ulcers in the urinary passages. It sometimes moderates the pain in calculous complaints ; but does not appear peculiarly serviceable in any other respect. It has also been recommended in cystirrhœa, diabetes, &c. and almost every other complaint to which the urinary organs are liable, and is sometimes useful in increased sensibility, suppuration, or chronic inflammation of the neck of the bladder. But to secure its efficacy the dose should not be less than two scruples, and sometimes even exceed a dram, though commonly given from fifteen grains to thirty, two or three times a day. The decoction or infusion are trifling and inert.

Uvea. So the *Posterior Lamina* of the iris has been called. Some call the choroides by the name of *Uvea*, and the coloured part they call *Iris*. The ancients (who chiefly dissected animals) called it *Uvea*, from its resembling an unripe grape, in grazing animals.

Uvula. Columella. A small conical body hanging in the middle of the *velum pendulum palati* over the root of the tongue. *Uvula* is a diminutive of *uva, a grape ;* so called from its resemblance to a grape.

V

VACCINA, (from *vacca, a cow*,) the COW-POX, a disease originally of the cow, and conveyed by inoculation to the human subject, for the purpose of preventing infection from small-pox.

This disease first attracted attention in the county of Dorset, (England) about thirty years since, as a pustular eruption derived from infection, chiefly affecting the hands of milkers, who had milked cows similarly diseased. It had been found to secure persons from the small-pox, and such was the general opinion, that the inoculator who attempted to convey the small-pox to one who had been previously infected with vaccina was treated with ridicule. It was found, on trial, that the attempt was impracticable. At this time a farmer had the sagacity and courage to try the effects of what may be styled artificial inoculation on himself, and succeeded, it is said completely. Many facts of this kind were communicated to sir George Baker, who, not long before, engaged in an unpleasant controversy respecting the cause of the endemial colic of Devonshire, was unwilling to tread again its thorny paths. Gloucestershire, another dairy county, had witnessed the same disease with similar consequences, and the same opinion generally prevailing in distant counties, affords some proof that it was not wholly visionary. Dr. Jenner, of Gloucester, with great judgment, pursued the hint, at first, foiled by not distinguishing the true vaccina; but, after some time, learning by experience, the distinctive characters of the genuine pustule, he, in 1798, ventured to publish the discovery, and to recommend the inoculation of vaccina as a substitute for variola.

It is difficult to say whether the eagerness of the friends of vaccination, or the violence of its enemies, on the first appearance of his work, were most blameable, and those, who did not range among the former, were quickly included in the latter class. The more temperate inquirers have generally filled the ranks of the friends of vaccination, while some of its earliest and most violent supporters appear willing to forsake their banners. Such changes are not uncommon in all disputed questions.

Vaccination soon made a rapid progress in every quarter of the world. The new disease was conveyed from the arctic circle to the extremes of Asia and Africa, and the substitute was adopted by the hardy Fin, as well as the blameless Hindoo, and filthy Hottentot, with equal ardor. It is highly probable that, within seven years, more persons have been vaccinated than ever received the variolous infection within six times that period, perhaps within the period of its actual practice. To America it was conveyed with the zealous care of a missionary, and carried along the vast extent of its coast from Newfoundland to the straits of Magellan, and again to that island or continent, the stepping-stone between the old and new world, New Holland, in modern language Australasia. If then vaccination has failed, it is not from the deficient zeal or activity of its partizans. While Dr. Jenner, having produced the babe, waited for events, and seemed for a time unconscious of its improvements, and unwilling to superintend its progress; Dr. George Pearson cherished and eagerly introduced it to the world. To this very able and intelligent physician, the second parent of vaccination, we are greatly indebted for much information respecting this communicated disease, and the distinguishing characteristics of the true vaccine pustule; and the Jennerian Institution, since Dr. Jenner has taken a more active part in the subject he first introduced, has contributed, by careful inquiries and anxious investigation, equally to establish truth, and avoid the errors which may obscure it. Vaccination has, however, continued to excite controversy: but its enemies have appeared uncandid and illiberal in their statements and language; the friends, too warm and zealous. The latter are advocates, often displaying a varnished tale; the former the porter, who abuses those whom he cannot convince. Among the enemies there are, however, careful, candid inquirers, who perhaps receive too credulously unfounded tales; but who are neither obstinate in error, nor deaf to conviction; neither uncandid nor illiberal: unfortunately these are few.

The disease, if it may be called such, is slight and transitory. It is unnoticed by the milkers, except as the pustules interrupt their labours. When conveyed by inoculation the appearances are peculiar and discriminated. We require no apology for selecting the description of Dr. Willan.

"Vaccination has been accounted perfect when recent lymph has been carefully inserted beneath the cuticle, in a person free from any contagious disorder, and has produced a semi-transparent, pearl-coloured vesicle, which after the ninth day is surrounded by a red areola, and afterwards terminates in a hard, dark-coloured scab.—The form and structure of this vesicle is peculiar. Its base is circular, or somewhat oval, with a diameter of about four lines on the tenth day. Till the end of the eighth day, its upper surface is uneven, being considerably more elevated at the margin than about the center, and sometimes indented by one or two concentric furrows, but on the ninth or tenth day the surface becomes plane, and in a very few instances the central part is highest. The margin is turged, firm, shining, and rounded, so as often to extend a little beyond the line of the base. The vesicle consists internally of numerous little cells, filled with clear lymph, and communicating with each other. The areola, which is formed round the vesicle, is of an intense red colour. Its diameter differs in different persons from a quarter of an inch to two inches, and it is usually attended with a considerable tumour and hardness of the adjoining cellular membrane. On the eleventh and twelfth day, as the areola declines, the surface of the vesicle becomes brown in the center, and less clear at the margin. The cuticle then begins to separate, and the fluid in the cells gradually concretes into a hard rounded scab of a reddish brown colour. This scab becomes at length black, contracted, and dry, but it is not detached till after the twentieth day from the inoculation. It leaves a permanent circular cicatrix, about five lines in diameter, and a little depressed, the surface being marked with very minute pits or indentations, denoting the number of cells of which the vesicle had been composed.

"During the progress of the vesicle some disorder takes place in the constitution, and there is frequently on the arms and back a papulous eruption resembling some forms of the lichen and strophulus. These circumstances we should by analogy judge desirable; but they do not always occur, nor are they deemed requisite to insure the full effect of vaccine inoculation—that effect, which, as ascertained and announced by Dr. Jenner, is allowed to be more important than any event which the history of medicine can furnish."

We may add to these remarks, that, in a few very rare instances, the fever, though short, has been smart, and that in children subject to convulsions, a fit has sometimes occurred. But we have neither seen nor heard of the slightest appearance of danger. It is of more consequence to notice the symptoms of imperfect vaccination, and we shall employ the same authority.

"Vaccination is imperfect, or insufficient, I. When the fluid employed has lost some of its original properties. II. When the persons inoculated are soon afterwards affected with any contagious fever. III. When they are affected, at the time of inoculation, with some chronic cutaneous disorders.

"I. The qualities of the vaccine fluid are altered soon after the appearance of an inflamed areola round the vesicle: and the fluid, although taken out of a vesicle in the best possible state, may be injured by heat, exposure to air, moisture, rust, and other causes.

"When scabs are formed over variolous pustules, and vaccine vesicles, the matter they afford is often acrid and putrescent, and, if inoculated, it perhaps neither communicates the vaccine-pock, nor the small-pox, but produces a fatal disease, with symptoms similar to those which arise from slight wounds received in dissecting putrid bodies. Should the pustules of small-pox remain entire till the twentieth day of eruption, matter taken from them, even at that period, will sometimes communicate, by inoculation, the disease in its usual form, though perhaps with considerable virulence. We are, however, now assured on good authority, that matter improperly kept, or the thick matter taken from collapsed and scabbing variolous pustules, and used for the purpose of inoculation, does not always produce the small-pox, nor prevent the future occurrence of that disease, although the persons inoculated may have had inflammation and suppuration of the arm, and pains in the axilla, with fever and eruptions on the ninth or tenth day. In like manner if the vaccine fluid employed be taken at a late period, as from the twelfth to the eighteenth day, it does not always produce the genuine cellular vesicle, but is in some cases wholly inefficient, while in others it suddenly excites a pustule, or ulceration, in others an irregular vesicle, and in others erysipelas. Similar appearances are observed, when fluid taken from a perfect vesicle on the sixth, seventh, or eighth day, has been injured, before its application, by some of the causes above enumerated. In addition to them, I may observe, that if the vesicle be ruptured, at an early period, by friction or scratching, the inoculation sometimes proves imperfect. Failures may have also been occasioned by repeatedly puncturing, or draining the vesicle, on two or three successive days. The fluid, which is afterwards secreted into the cells thus exhausted, may, by a difference of properties, or by too much dilution, be rendered incapable of acting fully, either on the person from whom it is taken, or on those to whom it is communicated. Some of the early failures in persons inoculated at different public institutions are perhaps referable to this cause, the demands for vaccine fluid in 1799 and 1800 having been very numerous, the cases to supply them comparatively few.

"II. Eruptive fevers, and other febrile diseases, interfere with the progress of the vaccine vesicle. The measles, scarlatina, varicella, typhus, and influenza, appearing soon after vaccination, either render it ineffective, or suspend the action of the virus, so that, in some cases, the progress of the vesicle is very slow, and the areola is not formed till the fourteenth day or later, and sometimes not at all. Dr. Jenner has recorded the case of a child, on whom the scarlatina, with a sore-throat, appeared on the ninth day of vaccine inoculation. The vesicle enlarged as usual, "yet there was a total suspension of the areola, until the scarlatina had retired from the constitution." In a sister of this patient, the fever and scarlet efflorescence took place faintly on the same day, but suddenly disappeared, the areola having been formed round the vesicle. Four days afterwards, on the decline of the vesicle, the scarlatina anginosa returned with its usual symptoms.

"III. The cutaneous diseases which sometimes impede the formation of the genuine vaccine vesicle, are herpes (including the shingles and vesicular ringworm), dry and the humid tetter, and the lichen, but especially the porrigo (or tinea) comprising the varieties denominated crusta lactea, area, achores, and favi, all of which are contagious. To these perhaps should be added the itch and prurigo.

"Imperfect vaccination is not characterized by any uniform sign or criterion, but exhibits, in different cases very different appearances, as pustules, ulcerations, or vesicles of an irregular form. The vaccine pustule is conoidal; it increases rapidly from the second to the fifth or sixth day, when it is of the appearance and size represented, being raised on a hard inflamed base, with diffuse redness extending beyond it on the skin. It is usually broken before the end of the sixth day, and is soon after succeeded by an irregular yellowish brown scab. The redness disappears within a day or two, and the tumour gradually subsides. According to Dr. Jenner, 'Its commencement is marked by a troublesome itching, and it throws out a premature efflorescence, sometimes extensive, but seldom circumscribed, or of so vivid a tint as that which surrounds the pustule (vesicle) completely organized; and (which is more characteristic of its degeneracy than the other symptoms) it appears more like a common festering produced by a thorn, or any other small extraneous body, sticking in the skin, than a pustule (vesicle) excited by the vaccine virus. It is generally of a straw colour, and when punctured, instead of the colourless transparent fluid of the perfect vesicle, its contents are found to be opaque.'"

The chief nicety and difficulty of vaccination consists in distinguishing the irregular vesicles, and we shall here apply to the same source.

"I have observed three sorts of these irregular vesicles. The first is a single pearl-coloured vesicle, set on a hard dark-red base, slightly elevated. It is larger and more globate than the pustule above represented, but much less than the genuine vesicle: its top is flattened, or sometimes a little depressed, but the margin is not rounded or prominent.—The second appears to be cellular like the genuine vesicle, but it is somewhat smaller, and more sessile, and has a sharp angulated edge. In the first the areola is usually diffuse, and of a dark rose-colour: in the second it is sometimes of a dilute scarlet-colour, radiated, and very extensive, as from the sting of a wasp; at other times it has the form and colour exhibited. The areola appears round these vesicles on the seventh or eighth day after inoculation, and continues more or less vivid for three days, during which time the scab is completely formed. The scab is smaller and less regular than that which succeeds the genuine vesicle; it also falls off much sooner, and, when separated, leaves a smaller cicatrix, which is sometimes angulated.—The third irregular appearance is a vesicle without an areola.

"The vaccine pustule, and ulceration, may sometimes arise from the insertion of effete or altered virus; but they mostly occur in persons labouring under the eruptive complaints formerly mentioned.

"The irregular vesicles are produced by some of the causes already enumerated.—The vesicle without an areola, takes place if the person inoculated have previously received the infection of the small-pox, or if he be affected with some other contagious fever, during the progress of vaccination."

These irregular vesicles are sometimes a security from small-pox, and the matter which they produce will occasionally excite a genuine vesicle, but they should in no instance be depended on.

It was for a time supposed that vaccina and variola were similar diseases, but that from accidental circumstances the former was the milder. It was cutting the knot rather than explaining the source of the susceptibility being destroyed, but the very existence of this susceptibility, not called into action for four thousand years, is a problem of much greater difficulty. It was found, however, on examination, that, when each disease was introduced at the same time, the one did not check the other; both proceeded in their own way, but the vaccina modified a little the appearance of variola; and it seems, from Dr. Willan, that it modified the pustule in the manner which variolous eruptions, after vaccination, sometimes assume.

The great point, however, in dispute is, whether the most perfect vaccination is, in every instance, a complete security against variolous infection? We must in justice reply that it is not. The question will recur, to what extent then is it so? The general popular opinion in distant counties is, we have said, a strong presumption of the dependance to be placed on the security; and the immense number vaccinated particularly in the army, where exposure to variolous contagion is so frequent and unavoidable, would, we think, have given a considerable shock to the fabrick, if its foundation was *very* insecure. Another presumption in favour of the security of vaccination is, that those who have comparatively inoculated the fewest, have had the greatest number of succeeding variolæ; while in the great public institutions, where the numbers are often estimated by ten thousands, the failures appear to have been few. Great stress has been laid on the number and character of its supporters, compared with those of its antagonists; but this argument would have merited more attention, had not these gentlemen appeared so early in its support, when the merits of the discovery must have been equivocal. We shall endeavour, however, to state this question in its different views, with all the impartiality in our power.

Cow-pox is certainly a security to a very considerable extent, and for some, though an indefinite, time. Small-pox has occurred within a few months, but most frequently, if we can say "*frequently*" respecting the few undisputed cases which have occurred, within about three or four years. From the number of recorded cases of subsequent variolæ, we must detract considerably in consequence of the suggestions of prepossession, of ignorance, and, we fear, designed misrepresentation. We must detract too a large proportion from the careless report of the appearances of the vaccination, when the genuine vesicle had not been distinguished, or when it was incuriously observed. If we would establish the position that vaccination secures from a *disease*, and not from a *name*, we must still deduct those cases where the variolæ are inconsiderable in their number, unimportant from the mildness of the inflammation or the attendant fever. We shall still find some authentic cases of small-pox as a violent disease, after the most perfect vaccination; and we are very much inclined to suspect, that some circumstances essential to the security, have yet escaped the attention of the most sagacious observers. But let us for a moment examine our present circumstances in this respect.

Had we been offered, twenty years since, an easy means of guarding against small-pox for an indefinite period, though the security might not in one half of the instances have been unexceptionable, would it not have been received with avidity? would not the pregnant woman have seized on it in her emergency? would not the mother have caught at it while her child was exposed to variolous infection during dentition? would not the hypochondriac, secluded for years from an imaginary apprehension of variola, have gladly accepted a few months only of emancipation? would it not have been a temporary security for the scrofulous infant, till the disease, by advancing years, had lost a portion of its virulence? If we could gain no more, we should have considered mankind as having received an inestimable boon. We have now more. We possess a substitute, which, admitting every possible claim, secures one in 800, and which, within moderate computation, secures from a violent and dangerous disease, one in 20,000. Yet we eagerly continue a contest, because it is not an infallible security.

Supposing we gain only this temporary safety, we do not purchase it at the expense of the child's health, of pain, or of danger. In itself it is the most trifling of complaints: it is not pustular, and conveys no infection. In its consequences it is harmless; for, after all that we have heard of the cow-faced boy, of cow-pox mange, the ridiculous (we ought to use a harsher term) narratives of dreadful consequences, the records of public institutions offer no increase of cutaneous diseases, and no new species. Every person may be in possession of the facts; there can be no delusion; and though anomalous cutaneous complaints have sometimes, though very rarely, occurred after vaccination, every practitioner of experience is too well accustomed to such appearances as, at once, to accuse the preceding disease. Of three children inoculated in one family, two with variolous and one with vaccine matter, the two former were affected with anomalous cutaneous eruptions, and the last escaped. Yet one of the former had experienced the small-pox in a very severe degree. That it is an exciting cause of scrofula we now know to be wholly without foundation.

But we think the advocates for the cow-pox may assume a higher tone, and assert that the variolous disease is, in a great degree, conquered by its substitute. Prevented in a large proportion, disarmed of its violence in a still larger, and in a certain (indeed no inconsiderable) degree a perfect security, its supporters may justly claim a title to the civic crown, *ob servatos cives;* nor will it require any very strong arguments to show, that, admitting the degree of security which its enemies are willing to allow it, could vaccination be universally practised, small-pox must be soon unknown. If actually introduced at a subsequent period, it would spread no more than a putrid epidemic under a well-regulated police. A nurse or an attendant may be affected, and it would then be heard of no more. In a proper place this argument may be more strongly urged, and those who oppose it called on to account for the mischief they are unconsciously and inadvertently guilty of. It may be said that we are now advocating the question, but we are conscious only of having reasoned fairly from undisputed premises, or at least from premises, whose foundations have been generally admitted. If we have erred, it is from no violent, no *early* prepossession in its favour.

Respecting the source of the vaccine poison we need say little. Dr. Jenner has unfortunately attributed it to the greasy heels of the horses, which the milkers had been dressing. We say "unfortunately," since the nauseous idea, which it conveys, disgusts us with the purest of beverages. The question was, at least, unnecessary, and had it the smallest foundation, those who had handled the greasy heels, without milking, would have been affected; and in dairies, where women only are employed, it would be unknown. Neither is the case, and every attempt to produce the cow-pox, from this matter, has failed, except in a solitary and an equivocal instance. Whence then does it proceed? May not the poisonous drop be infused into the vaccine as well as into the human constitution? or to adapt ourselves to the pathology of others, may not the susceptibility of the vaccine teats require as much modification as the human skin? But it is idle to pursue a subject which must mock our investigation, and which certainly admits of no practical application. We know how to obviate the consequences, and this is sufficient.

The inoculation of vaccina is an operation of more delicacy than was at first suspected, and should never be considered as safe, except under the almost daily inspection of a man of experience. The virus is easily deteriorated, and then becomes a common poison, capable of producing a foul sore, an axillary tumour, fever, and its consequences. The same changes appear to have taken place in a less degree at an advanced period of the disease; and though we have the testimony of very respectable authors that it succeeds from the tenth to the twelfth day, it should generally be taken before that period. It is injured by even a slight degree of heat, so as to be in danger from the burning wax with which the packets are sealed, very certainly by being carried in the breeches pocket. To be certain of success the child, from whom it is to be taken, should be present, and the cuticle raised by a clean lancet before introducing the infected one. If on glass, it should be diluted in the minutest drop of cold water, and mixed by the point of the lancet itself. By these precautions failure is very uncommon. In this way we have succeeded at once in a child who had resisted six former attempts, and in another who had not received the infection from five. The puncture should be in a single point, that the round distinguishing form of the vesicle may not be most slightly modified.

Mr. Bryce has offered a satisfactory method of ascertaining whether the constitution is affected when the fever is inconsiderable. This is to inoculate a second time after five or six days, when this second wound, if the constitution is affected, will hasten to maturity, and arrive at it as soon as the first inoculation. Mr. Hugo, a very intelligent and judicious apothecary at Crediton, has followed the same plan with equal success. If this second inoculation is performed later, about the seventh day, the pustule, we are informed by Mr. Pearson, will begin to die away as soon as the efflorescence comes on around the first. A second vaccine infection after the disease has passed, produces either a spurious pustule or only a common inflammation.

Vaga, an erratic kind of intermitting fever, returning at more than ten days from each fit.

Vagina, Vagina Uteri; a membranous tube which begins between the nymphæ, enters the cavity of the pelvis between the bones of the pubis and intestinum rectum, and ascends to the mouth of the uterus. It is composed of three tunics: the first is cellular from the peritonæum, the second muscular, and the third or innermost rugous. Between the two last membranes a number of mucous glands are situated, which secrete the mucus of the vagina.

Vagina of the Nerves, the outer covering of the nerves. By some it is said to be a production of the pia mater only, and by others of the dura mater, because it agrees with it in tenacity, colour, and texture.

Vagina of the Tendons, a loose membranous sheath formed of cellular membrane investing the tendons.

Valeriana Sylvestris, officinal valerian. *Valeriana officinalis* of Linnæus. The root of this plant has been long extolled as an efficacious remedy in epilepsy, which caused it to be exhibited in a variety of other complaints termed nervous, in which it has been found highly serviceable. It is also in very general use as an antispasmodic, and is exhibited in convulsive hysterical diseases. A simple and volatile tincture are directed in the Pharmacopeias.—℈i. to ʒi.

Valves, membranous folds, situated within certain vessels, as arteries, veins, and absorbents, whose office appears to be, to prevent the contents of the vessel from flowing back.

Valvula, a diminutive of *valve;* a little valve.

Valvula Eustachii, a membranous semilunar valve, which separates the right auricle from the inferior vena cava, first described by Eustachius.

Valvulæ Conniventes, the semilunar folds formed of the villous coat of the intestine, and situated in the duodenum and jejunum. Their use appears to be to increase the surface of the intestines.

Valvulæ Mitrales. See *Mitral valves*.

Valvulæ Semilunares. See *Semilunar valves*.

Valvulæ Tricuspidales. See *Tricuspid valves.*

Varicella, the chicken-pox. A genus of disease in the class *pyrexia* and order *exanthemata* of Cullen; known by moderate synocha; pimples bearing some resemblance to small-pox, quickly forming pustles, which contain a fluid matter, and after three or four days from their first appearance desquamate. M. M. Antiphlogistic regimen; cooling laxatives; diaphoretics.

Varicocele, a swelling of the veins in the scrotum, or spermatic cord; hence it is divided into *scrotal varicocele*, which is known by the appearance of livid and tumid veins on the scrotum; and *varicocele of the spermatic cord*, known by feeling hard vermiform vessels in the course of the spermatic cord. M. M. Removal of compression; a suspensory bandage; cold affusion; astringents.

Variola, the small-pox, which see.

Varix, a dilatation of a vein. A genus of disease in the class *locales* and order *tumores* of Cullen; known by a soft tumour on a vein which does not pulsate. M. M. As in aneurism.

Vas Deferens, a duct which arises from the epididymis, and passes through the inguinal ring in the spermatic cord into the cavity of the pelvis, and terminates in the vesiculæ seminales. Its use is to convey the semen secreted in the testicle, and brought to it by the epididymis, into the vesiculæ seminales.

Vasa Brevia, the arteries which come from the spleen, and run along the large arch of the stomach to the diaphragm.

Vasa Vorticosa, the contorted vessels of the choroid membrane.

Vastus Externus, a muscle of the leg, situated on the anterior part of the thigh, which extends the leg. This muscle is called *vastus* from its size.

Vastus Internus, a muscle of the leg, situated on the anterior part of the thigh, which extends the leg.

Veins. Venæ. Long membranous canals, which continually become wider, do not pulsate, and return the blood from the arteries to the heart. All veins originate from the extremities of arteries only, by anastomosis, and terminate in the auricles of the heart; *e. g.* the vena cava in the right, and the pulmonary veins in the left auricle. They are composed, like arteries, of three tunics or coats, which are much more slender than in the arteries, and are supplied with semilunar membranes or folds called valves. Their use is to return the blood to the heart.

Velum Pendulum Palati. Velum palatinum, the soft palate; the soft part of the palate which forms two arches, affixed laterally to the tongue and pharynx.

Vena, from *venio, to come;* because the blood runs through it; a vein. See *Veins.*

Vena Portæ, Vena portarum; the great vein, situated at the entrance of the liver, which receives the blood from the abdominal viscera, and carries it into the substance of the liver. It is so called, *a portando*, because through it things are carried. It is distinguished into the *hepatic* and *abdominal* portion: the former is ramified through the substance of the liver, and carries the blood destined for the formation of bile, which is returned by branches to the trunk of the vena cava; the latter is composed of three branches: viz. the splenic, mesenteric, and internal hæmorrhoidal veins.

Vena sine Pari, or *Vena Azygos*, the vein which brings back to the heart the refluent blood of the intercostal arteries and veins. See *Azygos Vena.*

Venenum, (βελενιον, from βελος, *a dart*, as usually conveyed by darts.) *Poisons* differ from medicines, not in qualities, but in doses; and we usually annex the idea of poison to those things which produce deleterious effects in very small quantities, and of whose action we are imperfectly acquainted. What kills by its mechanical action externally is not styled poison. Medicines of a peculiar nature, which unavoidably kill, but whose bad effects are occasionally relieved by specifics, or for which we have no cure, are commonly called poisons.

In this way, though we speak of the poison of cancer, of variola, and of putrid fever in common language, it forms no part of the present subject; nor indeed when a person, breathing the miasma of pestis confined in fomites, falls down without life, is he properly considered as having been poisoned; for these are causes of disease which, if not violent and sudden in their termination, might be removed by medicines suggested by indications; yet when suffocated by carbone, by azote, &c. a person is said to be poisoned, because no specific disease results from a less degree of the application. The distinction is not perfectly correct and scientific; but it is unnecessary in this place to innovate on popular opinions and common language.

Poisons may be divided into animal, vegetable, and mineral. The volatile animal poisons are the vapours of putrefaction. Those from vaults have proved fatal in France. The vapours of graves, hastily opened and incautiously breathed, have had the same effect; and the highly fetid vapours from numerous persons labouring under dysentery and putrid fever have proved very suddenly fatal. The breath of some serpents is said to prove fatal: but this idea is now left, with the other tales of the nursery, to ignorance and superstition; nor is it even admitted that the breath of the black snake fascinates birds. The more fixed animal poisons are those of serpents, of the scorpion if really poisonous, of fish, and perhaps of the mad dog. The toad is said to be poisonous; but facts are wanting to establish its deleterious quality.

Fishes of many kinds are poisonous; but few at all times, and in every constitution, so that, as in muscles, it seems to depend on their food. The *cancer terrestris* also of the West-Indies is only poisonous in dry seasons, when the deficiency of other food compels it to feed on the bark and leaves of the manchineel tree. The *lobster*, probably from its food, is occasionally poisonous. Fish in the more strict sense, are sometimes dangerous; but the deleterious kinds are chiefly inhabitants of the tropical seas, and, in the fishermen's opinion, may be distinguished by their want of scales. The *yellow-billed sprat* is highly poisonous, while the *black-billed*, scarcely distinguishable from it by sight, is innocent. The *baracuta* is sometimes poisonous, though occasionally eaten without danger. The *cavallee* (the scomber of Brown) is usually poisonous; and the varieties styled bottlenose and ambar are the same, though the greenback is innocent. The *king-fish* (xiphias of Brown) is highly delicious, and only at some seasons injurious. The *smooth bottle-fish* (ostracion glabellum) is at times very dangerous. The *rock-fish* (perca marina of Catesby) is apparently only dangerous when caught in particular situations.

In general, the poison of fish appears to lie in the intestines, as it probably arises from their food; for it is found that if these are immediately taken away, the fish well washed and salted, little danger results from even the baracuta. The symptoms are alarming, but not highly dangerous. Cardialgia and nausea are succeeded by severe vomiting and purging, cold sweats, fainting and vertigo. The face is highly flushed, the eyes inflamed, and agitated by spasmodic contractions. A burning soon comes on in the face and eyes, extending to the extremities, accompanied, or succeeded, by a general efflorescence, with a pricking of the skin; and this affection of the surface attends the injuries received from every kind of fish; in some constitutions from even the most innocent. The skin at last peels off, and shooting pains in the joints often continue for some time, and at intervals for many years. The poison must be soon evacuated, and the vitriolated zinc is recommended for this purpose. The bowels must also be relieved, and after this the warmest cordials of every kind are alone sufficient. The capiscum in large doses is often highly useful, and as a remedy always at hand; when a ready active one is wanted, it is peculiarly advantageous.

The sea insects, the blubbers, and many other inhabitants of the ocean are undoubtedly poisonous; but their effects are little known, for their appearance is too disgusting to allow of their being eaten. Of other insects the meloe vesicatorius (cantharis) is the only poison with which we are distinctly acquainted, but may add from Plenck's Toxicologia a list of the insects supposed to be venomous. Furia infernalis; meloe majalis and proscarabæus; scorpio Africanus; phalangium aranoides; sirex gigas; buprestis; aranea domestica and tarantula; pulex penetrans; culex pipiens; pulicaris and lanio; apis mellifica; vespis vulgaris and crabo. The poisonous worms are, gordius medinensis and marinus; hirudo medicinalis venenatus; tethys marina; urtica marina. Among the poisonous amphibia are, rana bufo; lacerta goeko and salamandra. The poison of many of these, however, consists only in their sting. To the fish formerly mentioned as poisonous we may add, from Plenck, the tetraodon ocellatus and lineatus, perca venenosa and sparus pagurus. Anderson in the Philosophical Transactions, lxv. 544.

Animal substances that have passed through a considerable part of the process of putrefaction are often highly deleterious, and the mildest in its natural state is the most injurious, when putrefied, the egg. It has been doubted whether animals killed with poisoned weapons may be eaten with safety; but we believe the innocence of such food is now well established, though some facts seem to oppose it. It has been alleged that some poisons kill by their aroma, which spreads readily, and adheres tenaciously. This is, however, an apparent refinement of little utility in our inquiries.

The vegetable poisons are very numerous, and may be divided into the volatile and fixed. The former rather refer to medical police than to a practical treatise; but it may be of use to enumerate those vegetable substances which exhale an offensive, possibly an injurious effluvium. The odours which we shall add are sometimes when diluted pleasing, but oftener injurious. These are the

HALITUS.

Anagyridis.
Dracunculi.
Juglandis.
Sambuci.
Santali albi.
Alceæ moscatæ.
Mancinellæ.

Cannabis.
Lini.
Toxicodendri.
Vernicis.
Dracontii polyphylli.
———— fœtidi.
Hellebori albi.

The ODOURS are,

Violarum.
Rosarum.
Liliorum alborum.
Caprifolii.
Polyanthes.
Phaseoli.
Fœni recentis.
Oleandri.

Caryophyllorum.
Asæ fœtidæ.
Ambræ.
Moschi.
Castorei.
Zibethi.
Cantharidum.

Hyosciami.
Stramonii.
Opii.
Croci.
Tabaci.
Lolii temulenti.
Cicutæ.
Conii maculati.
Fungorum venenatorum.

They are divided by Plenck, in which he is followed by almost every author, who is, however, anxious to keep him concealed, into narcotic, narcotico-acrid, mushrooms, acrid, and glutinous poisons. The two first distinctions we cannot perceive, nor do the effects of the poisonous mushrooms appear to us to differ from those of the other narcotics. We shall include them therefore under the general title of narcotics, distinguishing each by the Greek letters α, β, γ.

I. NARCOTIC POISONS.

α Papaver somniferum.
Physalis somnifera.
Solanum lycopersicum.
———— mammosum.
———— insanum.
———— dulcamara.
———— nigrum.
Datura stramonium.
———— metel.
———— ferox.
———— tatula.
Atropa mandragora.
Hyoscyamus niger.
———— albus.
———— physalodes.
———— scopolia.
Azelea pontica.
Antirrhinum orontium.
Actæa spicata.
Lollium temulentum.
Ervum ervilia.
Lathyrus cicera.
Peganum harmela.
Chænopodium hybridum.
Taxus baccata.
Chelidonium glaucium.
Lactuca scariola.
———— virosa.
Prunus laurocerasus.
Paris quadrifolia.

β Hippomane mancinella.
———— biglandulosa.
Menispermum coculus.
Coriaria myrtifolia.
Strychnos nux vomica.
———— colubrina.
Ignatia amara.
Nerium oleander.
Atropa belladonna.
Nicotiana tabacum.
———— rustica.
———— panicula.
———— glutinosa.
Bryonia alba.
Chærophyllum sylvestre.
———— bulbosum.
———— temulentum.
Æthusa cynapium.
Sium latifolium.
Cicuta virosa.
Conium maculatum.

Mercurialis perennis.

γ Agaricus muscarius.
—— integer venenatus.
—— lactifluus venenatus.
—— viscidus.
—— piperatus.
—— fimetarius.
—— pustulatus.
—— necator.
—— sanguineus.
—— viscidus.
—— clypeatus.
Boletus vesicolor.
—— elegans.
Boleti parasitici.
Phallus impudicus.
—— mukusin.
Lycoperdon carcinomalis.

II. ACRID POISONS.

Delphinia staphisagria.
Semen sabadilli.
Rhododendron crysanthemum.
Fritillaria imperialis.
Colchicum autumnale.
Pedicularis palustris.
Digitalis purpurea.
Lobelia siphilitica.
—— longiflora.
Cyclamen europæum.
Plumbago europæa.
Convolvulus scamonea.
Cucumis colocynthis.
Momordica elaterium.
Cambogia gutta.
Cerbera ahovai.
—— manghas.
Cynanchum erectum.
—— vimiale.
Apocynum androsæmifolium.
—— canabinum.
—— venetum.
Asclepias gigantea.
Hydrocotile vulgaris.
Oenanthe fistulosa.
—— crocata.
Scandix infesta.
Thapsia fœtida.
Alisma plantago aquatica.
Clematis vitalba.
—— flamula.
—— erecta.
Clematis integrifolia.
Anemone palmata.
—— pulsatilla.
—— pratensis.
—— narcissiflora.
—— nemorosa.
—— ranunculoides.
Helleborus albus.
—— niger.
—— fœtidus.
Veratrum nigrum.
Caltha palustris.
Aconitum napellus.
—— cammarum.
—— lycoctonum.
—— anthora.
Pastinaca sativa, annosa.
Polygonum hydropiper.
Sælanthus quadragonus.
—— glandulosus.
—— forskalii.
Jatropha curcas.
—— multifida.
—— manihot.
Ricinus communis.
Phytolaca decandra.
Croton tiglium.
Daphne mezereum.
—— thymelæa.
—— laureola.
—— cneorum.
—— gnidium.
Cneorum tricoccum.
Amyris toxifera.
Rhus vernix.
—— radicans.
—— toxicodendron.
Scilla maritima.
Excæcaria agallocha.
Anacardium occidentale.
—— orientale.
Caryota urens.
Arum maculatum.
—— dracunculus.
—— dracontium.
—— colocasia.
—— esculentum.
—— virginicum.
—— arborescens.
—— seguinum.
Calla pallustris.
Euphorbia officinalis.
—— antiquorum.

Euphorbia canariensis.
———— tirucalli.
———— peplus.
———— lathyris.
———— helioscopia.
———— verrucosa.
———— platyphyllos.
———— esula.
———— cyparissias.
———— pallustris.
———— hiberna.
———— characias.
———— amygdaloides.
———— sylvatica.
———— exigua acuta.
———— mauritanica.
———— nerifolia.
Ranunculus sceleratus.
———— thora.
———— flamula.
———— lingua.
———— ficaria.
———— illyricus.
———— bulbosus.
———— alpestris.
———— polyanthemos.
———— acris.
———— arvensis.
———— gramineus.
———— asiaticus.
———— aquatilis.
———— platanifolius.
———— breynius.
———— sardous.
Raphanus raphanistrum.
Secale cornutum.
Ustilago frumenti.
Caries frumenti.
Rubigo frumenti.

III. GLUTINOUS POSIONS.

Gluten aucuparium.
———— visci querni.
Fungus cynosbatos.
Spongia marina.

Mr. Wilmer, in his Observations on the Poisonous Vegetables found in Great-Britain, distinguishes, 1st. Those from which maniacal symptoms are to be expected, or different nervous affections from a vertigo to a fatal apoplexy, including the *Hyoscyamus niger*, *Solanum lethale*, *Aconitum*, *Mercurialis sylvestris*, *Stramonium*, *Cicuta major fœtida*, *Agaricus muscarius*, *Agaricus piperatus*. Secondly, Those which produce epileptic symptoms, a loss of understanding, speech, and all the senses, within a few minutes after they are taken into the stomach: the muscles will be convulsed, and death will close the scene in a few hours: *Œnanthe chærophylli foliis*, *Cicuta aquatica*, and *Laurocerasus*. The danger of the last is very great, as they do not offend the palate, nor produce any sickness in the stomach, so that they are not likely to be discharged without the assistance of art; and are so quickly active, that they scarcely afford an opportunity for assistance.

He adds, that poisonous vegetables appear to act by oppressing the nervous system, rather than by inflaming the stomach and duodenum; and that these vegetable poisons, in different constitutions, will have various and sometimes opposite effects.

The antidotes of the narcotic poisons are said to be the vegetable acids, given by the mouth, or in clysters, and coffee; blisters to the neck, rubefacients, and stimulants of every kind must be added. As the face is full and flushed, bleeding has been generally recommended; but the plethora is venous only from relaxation, and bleeding decidedly injurious.

The effects of the acrid vegetable poisons are relieved chiefly by narcotics and by demulcents. If we know that they are naturally determined to any particular excretory, the discharge from the same organ must be promoted by the mildest means, to dilute the acrimony which will be soon brought there, and every means of soothing general irritation adopted.

Oils, as demulcents, are perhaps inferior to mucilages, and better adapted to mineral poisons; and soap, as containing an alkali, is the appropriated antidote of the latter. We need not add, that the chemical nature of vegetable poisons is too little known to enable us to add an antidote from affinity.

The *mineral* kingdom, as it affords the most active remedies, so it abounds with the most deleterious poisons, which are sometimes fatal in the form of gas, more frequently given with the most wicked designs, or accidentally injurious when prescribed by quacks, or the most undiscriminating inexperience.

The vapour of arsenic is often diffused in smelting houses, and undermines the health of the workmen; of mercury in the quicksilver mines of Almaden and Idria; of lead in various manufactures. Copper is not apparently raised in vapour in an injurious form.

Internal poisons are sometimes mechanical, as the filings of tin, given as anthelmintics, leaden bullets, and quicksilver, the supposed remedy of ileus. The others act by their violent irritation chiefly on the primæ viæ, but occasionally on the secretory organs, or their excretory ducts. We need not, however, be anxious on the latter point, as our chief attention must be directed to them while still retained in the stomach and bowels. They may be divided into alkaline, earthy, acid; neutral alkaline, neutral earthy, neutral metallic; metallic oxides; metals, and inflammables.

The pure *alkalis* are highly caustic; nor can they be swallowed without discovery, so that the victims are the incautious and the suicides. Their obvious antidotes are the acids, and, if the throat is not so much excoriated as to bear them, the vegetable acids soon relieve from immediate danger. Should the excoriation be considerable, water impregnated with fixed air, or diluted acids sheathed with mucilaginous substances, must be taken. The consequences are, however, often highly inconvenient. Digestion is impaired; the stomach seems a cold heavy mass; the bowels are constipated, and the strength decays. For many months these inconveniences have remained, though they gradually recede, and are in a great degree, though not wholly, removed.

The *earthy* poisons are little known. Pure *lime*, by its causticity, may be poisonous if swallowed, and there is much reason to suppose the *barytes* highly dangerous. Of the *strontia*, as a medical agent, we know little, and the effects of the other newly discovered earths on the human body have not been ascertained. The *amianthos*, under the name of plumose alum, is sometimes injurious from its spiculæ, which produce itching on the surface, and may, therefore, be wholly referred to mechanical action.

The poisonous *acids* are the stronger mineral, and the effects are the same, though the antidotes are more ready and easy. Alkalis may not be easily swallowed; but soap diffused in milk, oils combined with water by means of pure alkalis, will always relieve. The effects, like those of alkalis, arise from excessive excitement.

Neutral alkaline salts are seldom injurious, and we have preserved this title only to remark, that *nitre* swallowed in large doses is often poisonous. It seems to act as an indirect stimulus; but is chiefly fatal by producing violent hæmorrhages.

Neutral earthy salts are the *calcareous sulphat* (gypsum) and the *muriated barytes*, perhaps, if incautiously administered, the *muriated lime*. History has recorded the treachery of one of the Byzantine emperors who mixed powdered gypsum with the meal designed for the army of Conrad III. by which the greater part is said to have been destroyed. It sometimes produces inconvenience when found in water, in that proportion which constitutes it *hard*, by bringing on constipation; but it is seldom, in common life, dangerous or fatal.

Neutral metallic salts are highly injurious, and their number is almost as great as that of the metals whose medical power is known. The *vitriolated copper and zinc* are well known; nor is the *vitriolated iron* in large doses innocent. *Nitrated* and *muriated silver* are highly caustic and injurious. Dr. Fordyce remarked, that *gold* is only a cordial in the pocket, so it is only a poison to the mind. It is innocent of all bodily good or harm.

The *muriated antimony* is extremely caustic, and the *oxymuriat of mercury*, the corrosive sublimate, equally so. The other preparations of these metals are not equally active and deleterious, though the saline compounds of each possess considerable acrimony, particularly the *vitriolated* and *nitrated mercury*; and in large doses are often injurious. *Lead* is chiefly offered to us in a saline form as *combined with the vegetable acid*; and so many are the opportunities for this union, that its bad effects are supposed to be extensively diffused. *Copper* is soluble in such a variety of menstrua, that its introduction into the system has been universally dreaded, and we are taught to guard against it in our culinary vessels, our medicines, and our spirit, as well as in the construction of our reservoirs for water. The fears of mankind are sufficiently alive to prevent them from incurring these perils, unless from accident, and the taste of copper is too striking to prevent its incautious introduction. It is discovered by the aqua ammoniæ, which precipitates the copper in a blue colour, except when combined with spirit. In this case soap is the criterion, and it dissolves in the spirit in greenish striæ. The *arsenicated soda* is highly deleterious.

The *oxides of mercury and antimony*, in particular circumstances are highly acrid. The red and white precipitates of mercury are dangerous, and often poisonous: the *crocus metallorum*, the *powder of algaroth*, and the *glass of antimony*, scarcely less so: but the most destructive of the oxides is Arsenic.

The only dangerous metal that we are acquainted with is *lead*, and the only poisonous inflammable *phosphorus*. Copper, if it meets with no acid, is innocent, but from the accidental occurrence of an acid in the stomach may become violently deleterious. There are, however, very few circumstances in which it is likely to be swallowed, and no inconveniences seem to have been observed, where swallowing is almost unavoidable.

The counter-poisons are chiefly sulphur, in different forms; but the power of the metallic salts is weakened by the addition of those acids which have a stronger affinity to the metal than that with which it is combined, and which form a milder combination; or alkalis, which leave the metal in a comparatively inert oxide. Our chief dependance, however, is on emetics and laxatives, first to discharge what may continue to irritate, and afterwards to sheath the bowels by demulcents. Oil with milk, soap dissolved in water, mucilaginous fluids of every kind, often with opium, when the pain is violent, will succeed, if success remains in our power.

Some other poisons remain, of whose composition history has fortunately left us no traces. The aqua toffana was pure and tasteless but certainly fatal, and might be given in any liquid. The "powder of succession" was sweetish, adapted for children, and equally certain. Infernal miscreants, whose poverty rather perhaps than their wills consented, mixed freely in this horrible traffic from the tenth to the fifteenth centuries; but we trust that the formulæ are now lost for ever, and those acquainted with the powers of natural bodies, who may approach the composition, would do well to conceal it. The upas, the celebrated poison tree of Java, is now known to be fabulous; and the ticunas is much less virulent than it has been represented, or it has lost it powers by keeping. The stories told of the formidable preparation of poison in South-America are, we understand, very greatly exaggerated, perhaps wholly invented.

It is necessary to add, that the power of poisons, as we have seen in those of fish, are relative to the habits and constitution of the patient. Like the tyrant of antiquity, who used himself to all kinds of poisons that he might be proof against their attack, some may feed on what would be destruction to others. This immunity is, however, limited. No constitution is proof against the great variety of mineral poisons which we now possess; but we can fortunately trace their symptoms, their progress, and even detect the substance in the stomach of the victims. NO POISONER CAN NOW ESCAPE WITH IMPUNITY.

Animals are singularly exempt from the powers of some medicines highly deleterious to man. A horse can take a dram of arsenic daily, and improve in his coat and condition; and the nux vomica is not peculiarly dangerous to man, except in considerable doses, though it soon destroys brutes. The aloes is a poison to dogs and foxes, and somewhat virulent in the horse; for it is his only certain laxative. The coculus indicus is deleterious to fish and lice; yet it makes, we believe, a very salutary ingredient in the best London porter. The phellandrium aquaticum is fatal to horses and innocuous to oxen: the doronicum kills dogs, but fattens antelopes, thrushes, and swallows. Parsley seed is injurious to birds, and pepper to swine. Bitter almonds kill foxes, cats, and chickens. The seeds of hemlock are eaten without injury by stares, of stramonium by pheasants, of the lollium timulentum by jays, and the roots of henbane by pigs.

We are generally led to suspect the exhibition of a violent and active poison by the sudden attack. If a healthy man, after a plain dinner, a common drink, or an unsuspected medicine, is soon seized with vertigo, cardialgia, colic, vomiting, cholera, spasms, convulsions, great debility, faintings, or coma; or, if the lips, the tongue, the fauces, and the stomach swell, with a sense of heat, we may suspect that poison has been swallowed. If the discharge from the stomach given to a dog or cat kills it, or produces some violent disease, the suspicion will be strengthened. We must, however, keep in view what we have just said, that animals will often safely eat what is deleterious to man.

If death ensues, and we have an opportunity of inspecting the body, the suspicion will be farther confirmed if the stomach is inflated, or spasmodically contracted, gangrened, or spotty, without any previous disease to occasion these changes. If in the contents of the stomach, on dissection, we find any seed, root, leaf, or vegetable powder which we know to be dangerous; or if any such are found in the house of the deceased, the suspicion will almost amount to a certainty. Should the poison be of the mineral kind, modern chemistry has resources to discover it from the smallest quantity, however disguised. The peculiar properties of each occur in the respective articles from which a discovery may be made, and many circumstances will lead to a probable suspicion of what it may have been.

Venerĕa Lues. See *Lues.*

Veneris Oestrum, the heat of love, expresses the utmost ecstacy or desire of enjoyment in coition. And some are of opinion, that infectious women are most apt to communicate the poison to another when they are thus excited with desire; whereas with indifference they might admit the same intercourse without giving the infection.

Venter, signifies any cavity, and is chiefly applied to the head, breast, and abdomen, which are called the *Three Venters.* Hence, also,

Ventricle, is a diminutive of the former, and applied to more contracted divisions, as some particular parts of the *Brain*, *Stomach*, &c. which see.

Verbascum, great broad leaved mullein. *Verbascum thapsus* of Linnæus. Catarrhal coughs and diarrhœas are the complaints for which verbascum has been internally prescribed; which diseases it appears to alleviate by its mucilaginous quality. It is also applied externally in form of fomentation and cataplasm to hæmorrhoidal tumours and glandular indurations.

Vermes, (from *verto*, *to twist about*). WORMS; *elminthes*, most commonly found in the intestinal tube; but occasionally in almost every other part of the body, particularly in the secreted fluids.

With worms were formerly confounded animals, but slightly connected with them, as the laræ of insects, and some other animals; but worms, strictly so called, are divisible into two classes; those which have external organs, and those deprived of them. The latter are the most simple in their structure, and of these the intestinal worms are still more simple than the others. Worms, however, possessing external organs have been found in the bowels, and even the undisputed records of medicine notice the discharge of some singular worms of this kind. It is not improbable that ova may have been swallowed, and as whatever possesses life is unchangeable by the powers of digestion, the animal may have attained its larvated state when the irritation excited has brought on disease, or procured its evacuation. Numerous cases are recorded of peculiar animals, discharged from the bowels, of the most singular shapes. To attempt to describe even the most remarkable kinds would be a tedious and an useless labour; for the forms and shapes are endless. The principal intestinal worms are confined to a few only, and the others must be considered as accidental, changed probably in their external appearance by their new situation and unnatural diet.

The worms of the human body are those which live in the intestines, and those found in other organs. Those of the intestines seem to be coeval with our existence, and a part of our constitution. It is, therefore, as useless to account for their generation as to explain that of the various pediculi or other parasitic animals. If they are more common in children, it is probably from their bowels containing a larger proportion of mucus. Intestinal worms may be divided into the round and flat, each of which forms, according to the strict rules of classification, a genus. The species of the round worm are the lumbricus, the ascaris, and the trichuris, the round, the thread, and the caudated thread-worm. The species of the flat worm are the cucurbutinus and the tænia.

The ascarides are small worms of a yellowish white colour, resembling threads cut in small pieces. The head is obtuse, the tail pointed ; and at the head are three vesicles, between which the mouth of the animal is placed. A little below are two stigmata, apparently the organs of respiration. The sexes are distinct; but the male organs have not been discovered. The female is viviparous, and the young are excluded at an aperture about one-eighth of an inch from the head.

The ascaris generally resides in the rectum, convoluted in mucus and fæces: but it has been styled the maw-worm from its occasionally occurring in the stomach, and it has escaped farther into the colon, or from the rectum, into the pudenda.

Though the ascarides seldom appear but in the rectum, they are very frequently attended with a pain in the stomach, which has probably procured them the name of maw-worms, producing an itching in the anus, which often occasions such uneasiness as to induce faintness, and sometimes to deprive the patient of sleep. The irritation is occasionally so great as to cause a sensible tumour round the anus ; but as these worms are voided in the stools, their presence is always certainly known by seeing them there : for every symptom is wanting in some patients.

The *trichuris* is scarcely specifically distinct from the lumbricus and ascaris, differing only in the tail, which is twice as long as the body, and filiform. The animal has a proboscis, which he can withdraw at pleasure. Goeze considers the proboscis as the male organ ; but the observations are not sufficiently extensive to ascertain these uncertain points. This worm inhabits chiefly the ileum ; but occasionally every portion of the canal.

Strictly speaking, there is but one flat worm, the tænia ; but one of its varieties, the *tænia solium* of Linnæus, t. *osculis marginalibus* of Dr. Hooper, suffers its joints to be readily separated from the parent head, and these are evacuated in separate worms, resembling a gourd seed, possessing, for a time, independent life, often escaping involuntarily per anum. They have been consequently called *cucurbitini ;* but until the whole worm, including the head, is separated, there is no security against their return. The joints themselves, as Dr. Hooper observes, do not increase. This animal is by no means single, as has been represented ; but even a single one occasionally occupies a large portion of the ileum. Their motion is undulatory by the successive contraction of the joints. The food is propelled through the alimentary canal in the same manner, often with considerable rapidity. The tæniæ are hermaphrodite, and the oscula are the apertures for the passage of the ovula. Carlisle in the Linnæan Transactions, ii. 225.

The true *tænia* is that with superficial oscula down one side, and there is a variety with a double row of oscula (Amœnitates Academicæ, ii. 28.) In this species the ovaria are stellated round the oscula. The joints are shorter and flatter, and on this account it is styled the flat tape-worm. Both kinds are whitish; but this of the darker hue. It is always in the small intestines, and seldom exceeds five yards in length.

Worms seem to form a part of a healthy constitution, and are scarcely injurious but from accidental circumstances. This circumstance forms a striking distinction between animals and plants. Parasitic animals attack only debilitated plants; but the healthiest animals are chiefly affected with worms; and the observations which seem to contradict this arise from a neglect of the distinction between the existence of worms and their appearing a source of disease from their accumulation. Their formation is assisted by accumulations of mucus, and consequently in children, sometimes in cachectic patients, they become inconvenient; but are soon destroyed by every kind of fever. Sugar, fruit, and a variety of aliments, have been supposed to contribute to their formation or increase. It is not, however, the existence of worms, but their accumulation, and consequent irritation, that constitute disease. The signs of worms are few and equivocal; a pale complexion, picking the nose, grinding of the teeth during sleep, fœtid breath, a swelled hard belly, a swelling of the upper lip, attend scrofula, and particularly accumulations in the stomach and bowels. There is no decided symptom but the discharge of worms; nor is it then certain but that all the tribe may be removed. Even a lumbricus has been found single.

The remedies of worms we have seen are such as to destroy or evacuate the animals. The male fern root undoubtedly kills the tænia, the helleborus fœtidus the lumbrici; but for the ascarides we have no certain medicine, though many which are of singular utility: oily injections, infusions of tobacco, of hepar sulphuris, solutions of asafœtida, and of aloes, followed by calomel or aloetic purgatives, soon evacuate immense numbers; and, if continued, appear to discharge the whole mass. But, for the reasons assigned, the seminium morbi seems in the stomach; and warm tonics, with occasional aloetic purgatives, are necessary to prevent the return. These, however, will not wholly succeed.

In other parts of the body there is scarcely a cavity or a stagnating fluid which does not occasionally contain worms, nor need we minutely follow the disgusting catalogue. The worms of the intestines are discovered often in the cavity of the abdomen, escape at the navel, into the biliary ducts, or sometimes through the œsophagus; but the indications which such appearances afford are easily followed. The other worms chiefly show the necessity of preventing stagnations of fluids, and the great advantages of the most nice cleanliness. The fasciola sometimes appears in the liver, particularly of sheep, said to be affected with, or die of, the rot; and a similar cause has been supposed to occasion cachexy in the human species. The position, however, is gratuitous; nor, if admitted, would it probably lead to any practical consequence.

Dr. Biss extols the bastard black hellebore as a most certain destroyer of the round worm; but purging, by lessening the slime, always relieves; and probably the worms that are not forced away by this quickened motion of the intestines may, for want of mucus, languish and die. It does not appear that one kind of purge, if active, is preferable to another, let the kind of worms be what they will; the worms being al-

 VE

ways defended from the immediate action of the medicine by the slime ; and, therefore, purges which act briskly, and of which a frequent repetition can be borne, are the best. Of this sort are purging waters, particularly the sulphureous, jalap, &c. Dr. Stork says that he hath destroyed all sorts of worms, viz. the round, ascarides, and the tape-worm, by the following mixture, repeated as here directed. ℞. Sal. polychrest. pulv. rad. jalap. & rad. valer. silv. āā ʒi ox. scillit. ℥iv. m. exhibeatur adultis quater per diem ℥ss. junioribus vero ʒi. aut ʒii.

Vermicular, is applied to many parts of the body, for their resemblance either in shape, or motion, to worms.

Vermicular Pulse, an exceeding small and unequal pulse, a less degree of which is termed by Galen *Formicans Pulsus*.

Vermiform Process of the Brain, *Protuberantia vermiformis;* the substance which unites the two hemispheres of the cerebellum like a ring, forming a process. It is called *vermiform* from its resemblance to the contortions of worms.

Vermifuge, from *vermis*, *a worm*, and *fugo*, *to put to flight ;* is any medicine that destroys or expels worms.

Vernacular, is any thing that is particular to a country. Whence diseases that reign most in any particular country are thus called.

Vernix. Juniperi Gummi. The resin obtained in warmer climates, particularly in Africa, is semi-pellucid, and of a pale yellowish colour ; it is in small masses, resembling mastich, but larger ; the sandaracha of the Arabians, and the gum juniper of the shops. From its use it has been called *vernix*, and the powder is employed to prevent ink running on paper, under the name of *pounce*. This resin hath a light agreeable smell, and not much taste. It dissolves in rectified spirits, if violently shaken in them ; and in oils both expressed and distilled, but is insoluble in water.

Verruca, is a wart : and,

Verrucæ, warts. A genus of disease in the class *locales* and order *tumores* of Cullen. M. M. Caustic ; ligature.

Verrucous, is applied to any excrescences resembling a wart.

Vertebræ, from *verto*, *to turn*. The bones of the spine are so called. Each vertebra has a body and seven apophyses, viz. a spinous process, two superior and two inferior oblique, and four transverse processes. The large cavity in each vertebra concurs to form the passage for the spinal marrow, and the lateral holes for the passage of the spinal nerves. The vertebræ are distinguished into the *cervical*, belonging to the neck, which are seven in number ; *dorsal*, of which there are twelve ; and *lumbar*, which are five in number. The first cervical vertebra is called the *atlas ;* it has no body nor spinous apophysis, but forms an arch which anteriorly surrounds the dentiform process of the second vertebra, and instead of two superior oblique apophyses there are two articular sinuses : the second vertebra, called also *epistropheus* and *dentator*, has an odontoid process at the upper part of the body. The peculiarities of the remaining cervical vertebra are, their being much smaller than the rest ; the spinous processes being bifurcated, and the transverse processes having a peculiar foramen for the passage of the vertebral arteries. The dorsal vertebræ are distinguished from the rest by a depression at the sides of the bodies, and one also in the points of the transverse processes for the attachment of the ribs. The lumbar vertebræ are much larger than the dorsal, and the transverse processes have no depressions. The use of the vertebræ is to form the spine.

Vertebral Artery, a branch of the subclavian, proceeding through the vertebræ to within the cranium, where, with its fellow, it forms the basilary artery, the internal auditory, and the posterior artery of the dura mater.

Vertex, is the crown of the head, situated between the sinciput and occiput: hence also figuratively it is used for the top of any thing.

Vertigo, giddiness. It is mostly symptomatic.

Vesaniæ, the fourth order in the class *neuroses* of Cullen's nosological arrangement; comprehending diseases in which the judgment is impaired without either coma or pyrexia.

Vesica, a diminutive of *vas, a vessel;* a bladder.

Vesicantia, blistering applications.

Vesica Fellis, the gall bladder. See *Gall bladder*.

Vesica Urinaria, the urinary bladder. See *Urinary bladder.*

Vesicatories, from *vesica, a bladder;* because they raise a bladder. See *Epispastics*.

Vesiculæ Pulmonales, a diminutive of *vesica, a bladder;* the air cells which compose the greatest part of the lungs, and are situated at the termination of the bronchia.

Vesiculæ Seminales, two membranous receptacles, situated on the back part of the bladder above its neck. Its excretory ducts are called ejaculatory ducts. They proceed to the urethra, into which they open by a peculiar orifice at the top of the verumontanum. They have vessels and nerves from the neighbouring parts, and are well supplied with absorbent vessels, which proceed to the lymphatic glands about the loins. The use of the vesiculæ seminales is to receive the semen brought into them by the vasa deferentia, to retain, somewhat inspissate, and to excern it *sub coitu* into the urethra, from whence it is propelled into the vagina uteri.

Vestibulum, a round cavity of the internal ear, between the cochlea and semicircular canals, in which are, an oval opening communicating with the cavity of the tympanum, and the orifices of the semicircular canals.

Vestitus, *(a vestiendo)* DRESS. In considering this subject we must first notice the materials, and then the forms, of our garments.—The materials of our dress are, wool, cotton, flax, silk, and fur. Woollen garments are undoubtedly the most salutary in this climate, whose perpetual changes are by its means resisted; and it is remarked that hectics have become incomparably more common in Scotland since the plaid was disused. From their structure, heat penetrates slowly, and the cold air is effectually guarded from the body, so that it preserves the same steady temperature. Another advantage is the affinity of woollen to water, which it retains rather in the form of a vesicular vapour than of a fluid, so attenuated are the fluid particles by its minute fibres, which even the unassisted sight can discover. This quality renders it highly useful when sweating naturally comes on, or is artificially induced. The water is immediately absorded, and its coldness concealed. If no longer in contact with the body, flannel is not cold, nor does it induce any chill.

An inconvenience arises from its warmth, which is debilitating, and this effect is increased by the perspiration which it excites. As its dirt is hid, the excrementitious fluids are allowed to remain; as they are not seen, it is not duly changed. The former inconvenience is lessened by choosing the thinnest flannels, and the latter by frequent washing in a manner which prevents its thickening, viz. by employing water of a very moderate temperature, not exceeding 98°. The constant stimulus which it keeps up on the surface is rather inconvenient than injurious.

Cotton partakes of the advantages of flannel, though in a very inferior degree; yet, if the texture be loose, as in the calicoes, it is often a convenient substitute. But we still want a fabric which shall come near the swanskin (flannel) in substance, and preserve the softness of cotton. Raising the pile on the internal surface, as in the fleecy hosiery, makes it too warm for general purposes, and the common calicoes are neither sufficiently soft nor thick. Cotton is now used as a substitute for linen in shirts, and we think the change highly advantageous; but to accommodate this material to prejudice or fashion, its texture is too compact, and it is wove and finished in a manner too nearly resembling linen. *Thread*, as a material of stockings, holds a middle rank between cotton and silk.

Whatever may be the dictates of health, however wise the voice of the charmer, the comforts of *linen* will always secure a demand for this article. The luxury of a clean shirt of this material was one that the Romans, in the plenitude of their power, could not obtain, and to the healthy it is safe and salutary. To change it at night, and again in the morning is a modern refinement, which merits our commendation. It not only secures cleanliness, but, by renewing the air between the linen and the body, becomes an air bath, which greatly assists insensible perspiration. The advantage of renewing the air is sensibly felt by nurses and all those obliged to sit up a whole night; for they find themselves always relieved by relaxing the ligatures, and even shaking their linen, if they do not change it.

Silk has no affinity to water, and should never be worn next the skin. A silk stocking will indeed keep the feet cool; but the foot is chafed by the perspiration, and, on cooling, a shiver is soon induced. Above the linen it may be worn with safety in hot climates; but the frequent changes of temperature in these regions render it highly dangerous, unless the disadvantages of sudden cold are guarded against by flannel below. Oil silk retains the heat of the body, and keeps up constant perspiration: it is used, however, only as a topical diaphoretic, and not as an article of dress.

Fur is seldom worn next the skin but for the same purpose. It partakes of the disadvantages of flannel, at least those which arise from its stimulus; but does not possess the advantages derived from its affinity to water. It is dirty also; for it does not easily admit of cleaning, and is a harbour, not only for insects, but for infections of the most fatal kinds. It is necessary in the higher latitudes, where the cold is intense, but should be banished from the more temperate. We now allude to its use next the skin, not to its employment as an external ornament and defence.

The changes of dress should be adapted to the seasons, being cautious to wear the winter clothes in this country till summer be fully arrived. Our ancestors thought the limits very extensive, when they advised keeping on "the winter clothes till May be done;" but the seasons are at present later, as is evinced even by the *May-duke* cherries, which seldom ripen in the southern districts of England till the middle of June. The period should, therefore, be extended; but modern refinement has interposed a demi saison, in which the winter dress is partly changed.

This too we consider as highly salutary; for the change is not then too great at once, and the frequent change of clothes admits of their being at least aired, if not washed. We may be considered as advocates for modern fashions; but, in fact, it is a subject which we have for years considered with attention. Within our own remembrance, a man of fifty was sallow, dirty, often diseased. At this time the father and son appear scarcely to differ, and often differ very slightly. Though much may be ascribed to the art of the friseur and dentist, the change which time really makes is inconsiderable in comparison, and we ascribe this slight alteration in a great degree to the frequent changes of dress, on the principles already described. It was not unusual to wear the same suit from the gloss of novelty till it was no longer decent; and to change the linen three times a week was an extraordinary sacrifice to appearance. The other circumstances of cleanliness, particularly in the hair and teeth, undoubtedly contribute to preserve health; but the frequent changes of clothes and linen, with the use of such as require washing, has highly contributed to the prevention of disease and premature old age. The disuse of snuff and tobacco has also had its share in the event. Let us, however, repeat, and strongly inculcate, that the changes of dress should not be sudden, that the first appearance of a sunny day should not draw us from our woollen clothes into nankeens and silks.

Dryness and warmth of the extremities are circumstances of the utmost importance to health; and in gout, any complaint of the head or breast, or a disposition to cutaneous diseases, particular attention should be paid to the feet. The shoes should be carefully guarded, so as to admit no moisture, the stockings warm, and frequently changed, the feet often washed, and daily rubbed. The water employed should be temperate only, and very little exceeding the heat of springs, about 62° of Fahrenheit. The stockings most salutary are of worsted; but cotton may be allowed, if changed daily; silk should not be worn, at least without woollen or cotton socks.

The natural covering of the head is the hair, and, in every view this should be worn, if nature has not denied it. The substitute, a wig, is dirty, unhealthy, and inconvenient. It is not adapted to absorb perspiration, which is consequently confined, and occasionally cold; nor does the discharge really compensate for the natural one of the hair and the mucus of its bulbs. A wig has all the inconvenience of a silk dress, and not a single advantage, except saving a little time and trouble. The hair must be daily combed: the wig is dressed in a shop, though often on the head. In general, the head should be kept cool; for all salutary perspiration is promoted by coolness. Even our common felt black hats are too warm for summer.

The *form* of dress requires some attention. All straight ligatures should be avoided, particularly about the neck; and, in general, the breast should not be exposed to the air. The coat, for we now chiefly attend to the gentlemen, may be cut as fashion dictates, if its tyrannic sway does not order too strict confinement in the arms and a consequent compression on the axillary artery. The waistband of the breeches usually surrounded the ossa ilea, which prevented any injurious pressure on the hypogastric region. We have now exchanged with the softer sex, who have rejected the pressure of the stays on the abdomen, and our breeches are raised to the pit of the stomach. They are, however, wisely supported by braces over the shoulders, and, instead of ligatures, the stockings, if any are worn, (for the constant use of boots renders it doubtful) should be kept up in a similar way. Garters over the knee do not compress any vessel of importance, as the tendons of the flexors of the leg guard them, but below the knee they occasion varices, swelled legs, ulcers, and a train of evils.

Of shoes, much might have been said; but fashion has wisely interposed, and both sexes now tread firm on the foot as nature made it. We follow too the advice of Camper, and have a shoe for each foot. It is fortunate when fashion is content to follow the dictates of health. Boots compress the calf too much and impede the circulation. Nothing can be more inconvenient and unsuitable as a walking dress.

Of female dress, we had intended to speak; but we find little to add, except the application of the principles already laid down. The female form is now permitted to expand luxuriantly; but to give it fulness, the shoulders are forced back so as to impede the circulation in the upper extremities, and the clothes tightly bound around the lower part of the sternum. Much inconvenience is, however, avoided by supporting them over the shoulders by braces. The covering of the bosom is too close by day, and too inconsiderable in the evening; for though the drawing room and the opera-house are warm, carriages and lobbies are cold, and many a victim is thus sacrificed to the shrine of fashion. The custom of wearing drawers is convenient; but we think not salutary. The chief female diseases of those regions are from relaxation, and the free access of cool air is useful. We shall not interfere with the moralist in the reasons which he may adduce in their favour.

Veterinaria, otherwise called *Mulo-Medicina*, is that part of medicine which has the bodies of cattle for its object, and was in good esteem among the ancients: if it were to fall into good hands, it might greatly conduce to the improvement of the art of physic in general. Vegetius has wrote a book upon this subject, under the title of *Mulo-Medicina*. Latterly, both in England and France the veterinary art has been much improved, but in America it is in a very rude condition as yet.

Vibices. The large purple spots which appear under the skin in certain malignant fevers are thus named.

Vibrissæ or *Vibrisci*, hairs growing in the nostrils.

Villi. Anatomists have given this term to those very delicate fibres observable on the internal surface of the intestines, particularly of the duodenum and jejunum, and other parts of the body.

Vinum, (οινος, from the Hebrew term *ion*,) *Wine*, *Bacchus*. The juice of fruits, chiefly applied to the fermented juice of the grape.

Wine generally contains the extractive, tartar, some portion of unchanged saccharine matter, ardent spirit, and the aroma of the fruit. On the proportions of the first, and the different quality of the last, all the variety of wines depends. Wines may be divided into the sweet and dry. In the former is the greatest proportion of extractive and saccharine matter, often the least of the ardent spirit, though, in a few instances, this is rather softened and disguised than absent. Of this kind is the Malmsey Madeira, the Canary wine, the Constantia from the Cape of Good Hope, the vino tinto (tent of Hungary,) Frontignac, some kinds of Florence, many of the Spanish white wines, as the pacherotti, &c. The dry wines are the hock, the Vin de Grave, Madeira, Vidonia, port, both red and white, mountain, sherry, &c. Many of the Portuguese, Spanish, and Italian wines hold a middle rank, as the Buccellos, the Lisbon, some kinds of Florence, &c.

It has been usual to consider an acetous acid as an ingredient in wines; but if it be ever found, the wine is imperfect, and a decomposition must have begun. The smartness, which has suggested the idea, and which led the fabricators of made wines to employ a portion of acid, seems to be owing to an admixture of the carbonic acid air, generated during fermentation. This seems to give the pungency to claret and Burgundy, as it more evidently does, in a more evolved state, to champaigne. We must not indeed deny, that wine may, from the grape, contain some malic or citric acid, as Chaptal informs us (Annales de Chimie, xxxv. &c.) that even the sweetest wine reddens the juice of litmus. He adds, that the remains, after the distillation of brandy, becomes sour, and this cannot be denied to be vinegar; but it is of a posterior production, the effect of the acetous fermentation. The quantity of alcohol varies from one-third to one-sixteenth.

The colouring matter is wholly extraneous, and does not add to the qualities of the wine. It is a resinous substance, soluble in alcohol, and deposited as the quality of the wine is deteriorated by age. It is destroyed also by powdered charcoal.

Wine is highly grateful to the palate and stomach, giving an immediate and agreeable warmth to the whole system, and its peculiarly pleasing stimulus is felt, even at first, in the mouth. It completely answers the idea formed of an analeptic, as it appears immediately restorative. When we pursue its effects farther, we shall find the strength and spirits renewed; the perspiration and other secretions, which may have languished from fatigue, restored; the thoughts follow each other with more freedom, and every motion is carried on with ease and comfort. If we examine this series of symptoms with a marked attention, we shall at once perceive the combination of a stimulant with a sedative power; in other words, an indirect stimulus. The freedom, the serenity rising to hilarity, point out the narcotic influence, and show that wine cannot be considered as strictly and properly a stimulant. When we pursue still farther its effects, we shall find the ideas are irregularly associated; the face, though flushed on the cheeks, is pale round the nose and lips, the hand unsteady, the legs tottering, or spasmodically contracted. After sleep every symptom of debility in a considerable degree follows.

Wine, however, in moderation, is, like tea, salutary, and its noxious portion is guarded by the extractive matter, perhaps the acid, from being, in general, injurious. In this it differs from ardent spirits, which not only want this sheathing, protecting ingredient, but seem to acquire additional deleterious properties from the fire, particularly by the evolution of an acrid, often an empyreumatic, oily principle.

Wines differ in their salubrity from the difference of their properties. The dry strong wines, as old hock, are stimulant, with little mixture of the narcotic; or the austerity which accompanies the ardent spirit seems to correct its injurious properties. Some portion of this is preserved in the Madeira, and a less in Vidonia, sherry, and mountain, successively, of which the last is sometimes sweet. The sweeter wines are cordial and nutritious, especially when they combine, with the saccharine matter, a larger proportion of spirit. The Malmsey Madeira, the vino tinto, and the sweet Florences are of this kind. The Frontignac and Constantia are less nutritious, and cordial in a lower degree. The lighter sweet wines are generally drank with the desert, as the sweetness of its dishes would destroy the flavour of the dryer wines. Port and sherry belong rather to the dry than the sweet wines. The astringency of the former counteracts its narcotic powers, and the latter approaches, in a slight degree, the austerity of the German wines.

Claret, Burgundy, and Hermitage seem to be progressively more generous in the order mentioned. Claret combines, at least, the effect of an acid. The race of Burgundy renders it more generous, and the Hermitage has, in general, a superior body. If the stomach can bear with impunity either, they are highly salutary, as they contain a very inconsiderable degree of ardent spirit, and the malic acid probably, though disguised, in a considerable proportion. The aroma of Hermitage shows it to possess an additional principle, which we suspect renders the acid less injurious. In many cold, flatulent, weak stomachs, each is, however, injurious. Champaigne is more so: for its body is inconsiderable, and the quantity of air evolved renders it often inconvenient in the stomach, not to mention that its effects on the head lead to a suspicion that it combines some more deleterious principle than the carbonic acid gas.

The constant use of wine is "a custom more honoured in the breach than in the observance." Its advantages are lost from habit, and, when we want it as a cordial, we must employ a dose which will render its narcotic powers too sensible. If it be asked, which is the most wholesome wine? we would say, with a few exceptions, that which is the best; in other words, that in which the fermentation has been regularly conducted, in which its spirit is fully evolved, but still sheathed by the remaining extractive, if not some portion of the saccharine, matter. The exceptions are the rich wines in a weak over-loaded stomach; and the thin acid ones in a cold and flatulent habit. Port, in general, unless kept until attenuated, is heavy, injures digestion, and is injurious from the quantity of spirit generally added to make it bear the motion of the ship; and, on this account, the wine which has twice crossed the tropics is preferred. The spirit is, by the voyage, more intimately combined, or evaporated. In our anxiety, however, to procure a generous attenuated wine, we must not wait till its colour be lost. When the brilliant red at the bottom of the glass changes to a brown, even when almost imperceptible, the quality of the wine is injured. Fashion or prejudice in vain insists that it is of a superior kind; for the chemist knows that a decomposition has begun, and the physician that it is no longer the generous cordial it once was.

The good effects of wine are shown by the cheerfulness and hilarity which it excites, by a free perspiration, the mouth not hot or dry; the intellectual functions free and well connected, without rapidity or irregularity. If the quantity is not in excess, the sleep is easy, sound, and undisturbed; the morning not clouded by headach, the mouth not dry, and every occupation, mental, or corporeal, resumed with freedom and alacrity.

In pharmacy the following wines only are ordered: the *vinum album Hispanicum*, or mountain wine; *vinum album Gallicum*, or French white wine; *vinum Canarinum*, Canary or sack; *vinum Rhenanum*, or hock; *vinum Rubrum*, or red port. The qualities of each we have already mentioned; but we do not perceive that the choice of wine, as a menstruum, is regulated by any fixed views, and it is now scarcely employed. As a vehicle for the more convenient division of the doses of metallic salts the mountain is preferable; but, in general, a portion of spirit should be added. Indeed, in every case the dry stronger wines are preferable to the sweet or weak.

As a medicine wine is a most valuable codial in languor and debility, particularly useful in the low stage of typhus, raising the pulse, supporting the strength, promoting a diaphoresis, and resisting putrefaction more quickly and certainly than any other medicine. Delirium, from excessive irritability, and a defect of nervous energy, is often relieved by the judicious use of wine: during the prevalence of an intermittent epidemic, or putrid sore throat, a moderate use of wine has proved a salutary prophylactic. In malignant angina, in the small-pox verging to putrescency, with great debility, in gangrenes and the plague, wine is considered an important remedy, and in almost every case of great prostration of strength, is a most grateful and efficacious cordial. Dietetically it is said to be beneficial to the weak and aged, and to those who are exposed to a warm and moist, or to a corrupted, air. Externally it stimulates, strengthens, and resists putrefaction. Dr. Harris orders ulcers to be washed with warm wine; and external inflammations are said to be sometimes removed by it. In an erysipelas, warm wine and fomentations with the spirit of wine are sometimes useful. Wine, in fevers, is however, often too heating, and to an equal proportion of milk and water, as much wine may then be added as will occasion coagulation. A wine whey, mildly cordial and diaphoretic, is thus formed, and may be given with good effect; or water may be added to wine for the same purposes.

Viola, sweet violet. *Viola odorata* of Linnæus. The recent flowers of this plant are received into the catalogues of the materia medica. They have an agreeable sweet smell, and a mucilaginous bitterish taste. Their virtues are purgative or laxative, and by some they are said to possess an anodyne and pectoral quality. The offieinal preparation of this flower is a syrup, which, to young children, answers the purpose of a purgative; it is also of considerable utility in many chemical inquiries, to detect an acid or an alkali; the former changing the blue colour to a red, and the latter to a green.

Virus, signifies strictly any poison. Hence

Virulent, is used for a distemper attended with dreadful symptoms.

Vis Insita. This property is defined by Haller to be that power by which a muscle, when wounded, touched, or irritated, contracts, independent of the will of the animal that is the object of the experiment, and without its feeling pain.

Vis Medicatrix, the healing power, or the plastic power employed in extinguishing disease, and restoring health. This is often expressed by the words *Nature*, and *Natural Cure*.

Vis Nervosa. This property is considered by Whytt to be another power of the muscles by which they act when excited by the nerves.

Viscus, any organ or part which has an appropriated use, as the viscera of the abdomen, &c.

Vision, is the act of seeing or of perceiving external objects by the organ of sight. As every point of an object sends out rays in all directions, some rays from every point on the side next the eye will fall upon the cornea, and by passing on through the humours and pupil of the eye, they will be converged to as many points on the retina, or bottom of the eye, and will thereon form a distinct inverted picture of the object; although it must be owned that the method by which the sensation is carried from the eye by the optic nerve to the common sensory in the brain, and there discerned, is above the reach of our conception. That vision is effected in this manner may be demonstrated experimentally. Take a bullock's eye, while it is fresh, and having cut off the three coats from the back part, quite to the vitreous humour, put a piece of white paper over that part, and hold the eye towards any bright object, and you will see an inverted picture of the object upon the paper. The diameters of images at the bottom of the eye are proportional to the angles which the objects subtend at the eye, the same as in a lens, and are reciprocally as the distances of the same object viewed in different places. The eye is in reality no more than a camera obscura, for the rays of light flowing from all the points of an object, through the pupil of the eye, do by the refraction of its humours, paint the image thereof in the bottom of the eye: just so it is in the camera obscura, where all the rays refracted by a lens in the window-shutter, or passing through a small hole in it, paint the image on the opposite wall. Some properties of the eye are these: the eye can only see a very small part of an object distinctly at once. For the collateral parts of an object are not represented distinctly in the eye; and therefore the eye is forced to turn itself successively to the several parts of the object it wants to view, that they may fall near the axis of the eye, where alone distinct vision is performed. When any point of an object is seen distinctly with both eyes, the axis of both eyes are directed to that point, and meet there; and then the object appears single, though looked at with both eyes; for the optic nerves are so framed, that the correspondent parts in both eyes lead to the same place in the brain, and give but one sensation, and the image will be twice as bright with both eyes as with one. But if the axis of both eyes be not directed to the object, that object will appear double, as the pictures in the two eyes do not fall upon correspondent or similar parts of the retina. The best eye can hardly distinguish any object that subtends at the eye an angle less than half a minute, and very few can distinguish it when it subtends a minute. If the distance of two stars in the heavens be not greater than this, they will appear as one. Though men may see distinctly at different distances, by altering the position and figure of the crystalline, yet they can only see distinctly within certain limits, and nearer than that, objects appear confused. But these limits are not the same in different people. A good eye can see distinctly when the rays fall parallel upon it, and then the principal focus is at the bottom of the eye; a man can judge at a small distance, with a single eye, by frequently observing how much variation is made in the eye to make the object distinct, and from this a habit of judging is acquired. But this cannot be done at great distances, because, though the distance be varied, the change in the eye becomes then insensible. But a man can judge of greater distances with both eyes, than he can with one. For the eyes being at a distance from one another, as long as that distance has a sensible proportion to the distance of the object, one gets a habit of judging by the position of the axis of the eyes, which are always directed to that point. For different distances require different positions of the axis, which depend on the motions of the eyes, which we feel. But in very great distances no judgment can be made from the motion of the eyes, or their internal parts. Therefore we can only guess at the distances from the magnitude, colour, and the position of interjacent bodies. Dimness of sight generally attends old people, and this may arise from two causes. 1. By the eyes growing flat, and not uniting the rays at the retina, which causes indistinctness of vision; or, 2. By the opacity of the humours of the eye, which in time lose their transparency, in some degree; from whence it follows that a great deal of the light that enters the eye is stopped and lost; and every object appears faint and dim. Hence the necessity of spectacles.

If objects are seen through a perfectly flat glass, the rays of light pass through it from them to the eye, in a straight direction, and parallel to each other, and consequently the objects appear very little either diminished or enlarged, or nearer, or further off, than to the naked eye; but if the glass they are seen through have any degree of convexity, the rays of light are directed from the circumference towards the centre, in an angle proportional to the convexity of the glass, and meet in a point, at a greater or lesser distance from the glass, as it is more or less convex. This point, where the rays meet, is called the focus, and this focus is nearer or further off, according to the convexity of the glass; for as a little convexity throws it to a considerable distance, so when the convexity is much, the focus is very near. Its magnifying power is also in the same proportion to the convexity; for as a flat glass scarcely magnifies at all, the less a glass departs from flatness, the less of course it magnifies; and the more it approaches towards the globular figure, the nearer its focus is, and the more its magnifying power. People's different length of sight depends on the same principle, and arises from more or less convexity of the cornea and crystalline humour of the eye; the rounder these are, the nearer will the focus or point of meeting rays be, and the nearer an object must be brought to see it well. The case of short-sighted people is only an over-roundness of the eye, which makes a very near focus; and that of old people is a sinking and flattening of the eye, whereby the focus is thrown to a great distance, so that the former may properly be called eyes of too short, and the latter eyes of too long a focus. Hence, too, the remedy for the last is a convex glass, to supply the want of convexity in the eye itself, and brings the rays to a shorter focus; whereas a concave glass is needful for the first to scatter the rays and prevent their coming to a point too soon. The nearer any object can be brought to the eye, the larger will be the angle under which it appears, and the more it will be magnified. Now, that distance from the naked eye, where the generality of people are supposed to see small objects best, is about six inches; consequently, when such objects are brought nearer than six inches, they will become less distinct; and if to four or three, they will scarce be seen at all. But by the help of convex glasses we are enabled to view things clearly at much shorter distances than these: for the nature of a convex lens is to render an object distinctly visible to the eye at the distance of its focus; wherefore the smaller a lens is, and the more its convexity, the nearer is it focus, and the more its magnifying power. If either the cornea, or crystalline humour, or both of them, be too flat, their focus will not be on the retina, where it ought to be, in order to render vision distinct, but beyond the eye. Consequently those rays which flow from the object, and pass through the humours of the eye, are not sufficiently converged to unite, and therefore the observer can have but a very indistinct view of the object. This is remedied by placing a convex glass, of a proper focus, before the eye, which makes the rays converge sooner, and imprints the image duly on the retina. If either the cornea or crystalline humour, or both of them, be too convex, the rays that enter in from the object will be converged to a focus in the vitreous humour, and by diverging from thence to the retina, will form a very confused image thereon, and so of course the observer will have as confused a view of the object as if his eye had been too flat. This inconvenience is remedied by placing a concave glass before the eye, which glass, by causing the rays to diverge between it and the eye, lengthens the focal distance, so that if the glass be properly chosen, the rays will unite at the retina, and form a distinct picture of the object upon it.

Vita, life, the effect produced by stimuli acting upon the excitability of bodies. Thus, the capability of being acted upon is *excitability*. Heat, food, light, drink, &c. are *stimulants:* and sensation, articulation, voluntary motion, &c. are the effects or functions. This state is called excitement. See the *Elements of Medicine*, by John Brown, *Experiments on the living Principle*, by John Hunter, and *Jones's Inquiry into the present state of Medicine*.

Vital Functions, vital actions; those actions of the body upon which life immediately depends, as the circulation of the blood, respiration, heat of the body, &c. See *Function*.

Vitiligo, from *vitio*, *to infect*; a disease of the skin. See *Alphus*.

Vitis, the common vine. *Vitis vinifera* of Linnæus. Vine leaves and the tendrils have an astringent taste, and were formerly used in diarrhœas, hæmorrhages, and other disorders requiring refrigerant and styptic medicines. The juice or sap of the vine, called *lachryma*, has been recommended in calculous disorders, and it is said to be an excellent application to weak eyes and specks of the cornea. The unripe fruit has a harsh, rough, sour taste; its expressed juice, called *verjuice*, was formerly much esteemed, but is now superseded by the juice of lemons: for external use however, particularly in bruises and pains, verjuice is still employed, and considered to be a very useful application. See also *Uva Passa*, *Wine*, and *Acetum*.

Vitreous Humour, the pellucid body which fills the whole bulb of the eye behind the crystalline lens. The whole of the vitreous substance is composed of small cells which communicate with each other.

Viviparous, from *vivus*, *alive*, and *pario*, *to bring forth*; are all such creatures as bring forth their young living and perfect.

Volvulus, i. e. iliac passion, or twisting of the guts.

Vomer, so called from its resemblance to a plough-share: a bone of the nose, situated in the cavity of the nostrils, which it divides into two parts.

Vomica Pulmonum, is used indifferently for a polypus, or any collection of foreign matter in the lungs; but in strictness signifies an ulcer therein, which discharges a concreted matter sometimes mixed with blood from a corrosion of the vessels. In an open ulcer, the pus exposed to the air, according to Mitchill, Drake, and Darwin, becomes oxygenated, and is thereby venomous, and capable of stirring up that form of quotidian intermittent called *hectic fever*.

Vox, the voice. The gift of speech is the peculiar privilege of the human race, while sounds are common apparently to every animal that breathes with lungs. The subject is, therefore, divided naturally into *tones* and *articulation* ; the former possessed by animals, the latter peculiar to man. The organs by which they are produced are also different ; for tones depend on the form and structure of the larynx, articulation on the muscles of respiration, on the tongue, the palate, and the lips.

Vulnus, a wound. Boerhaave describes a wound to be a recent bloody solution of continuity in the soft parts made by a hard sharp instrument.

Vulva. Pudendum muliebre. The parts of generation proper to women.

Vulva Cerebri, an oblong furrow in the brain, so called from its likeness in figure to the vulva.

W

WATER, a transparent fluid, without colour, smell, or taste, in a very small degree compressible ; when pure, not liable to spontaneous change ; liquid in the common temperature of our atmosphere, assuming the solid form at 32° Fahrenheit, and the gaseous at 212°, but returning unaltered to its liquid state on resuming any degree of heat between these points, capable of dissolving a greater number of natural bodies than any other fluid whatever, especially of those known by the name of the saline ; performing the most important functions in the vegetable and animal kingdoms, and entering largely into their composition as a constituent part. Water is formed of hydrogen, combined with oxygen, in the proportion of 14.42 to 85.58. Water is assumed as the standard, or unity, in all tables of specific gravity. A cubic inch of it weighs, at thirty inches of the barometer, and 60° thermometer, 252,422 grains. Water does not enter the list of materia medica of any of the colleges, but it is so important, both as an article of diet, and as an agent in the cure of diseases, that a brief account of its varieties and properties cannot but be proper in this place. The purest natural water is melted snow, or rain, collected in the open fields. That which falls in towns, or is collected from the roofs of houses, is contaminated with soot, animal effluvia, and other impurities ; although, after it has rained for some time, the quantity of these diminishes so much, that Morveau says, it may be rendered almost perfectly pure by means of a little barytic water and exposure to the atmosphere. Rain water, after it falls, either remains on the surface of the earth, or penetrates through it until it meets with some impenetrable obstruction to its progress, when it bursts out at some lower part, forming a spring or well. The water on the surface of the earth either descends along its declivities in streams, which, gradually wearing channels for themselves, combine to form rivers, which at last reach the sea ; or it remains stagnant in cavities of considerable depth, forming lakes or ponds, or on nearly level ground forming marshes. Although the varieties of spring waters are exceedingly numerous, they may be divided into, 1. The soft, which are sufficiently pure to dissolve soap, and to answer the purposes of pure water in general. 2. The hard, which contain earthy salts, decompose soap, and are unfit for many purposes, both in domestic economy and in manufactures. 3. The saline, which are strongly impregnated with soluble salts. When spring waters possess any peculiar character, they are called mineral waters. See WATERS, *mineral*.

River water is in general soft, as it is formed of spring water, which by exposure becomes more pure: and running surface water, which although turbid from particles of clay suspended in it, is otherwise very pure. Lake water is similar to river water. The water of marshes, on the contrary, is exceedingly impure, and often highly fetid, from the great proportion of animal and vegetable matters constantly decaying in them.

So early as the year 1776, an experiment was made by Macquer to ascertain what would be the product of the combustion of inflammable air, or hydrogen gas. He accordingly set fire to a bottle full of it, and held a saucer over the flame, but no soot appeared upon it as he expected, for it remained quite clean, and was bedewed with drops which were found to be pure water. Various conjectures were now formed about the nature of the product of the combustion of oxygen and hydrogen gases. By some it was supposed the carbonic acid gas; by others it was conjectured it would be the sulphureous or sulphuric acid. The latter was the opinion of Mr. Lavoisier. Such were the experiments and opinions of the French chemists previously to the year 1781. About the beginning of that year, Mr. Warltire, a lecturer in natural philosophy, had long entertained an opinion that the combustion of hydrogen gas with atmospheric air, might determine the question, whether heat be a heavy body. Apprehensive of danger in making the experiment, he had for some time declined it, but was at last encouraged by Dr. Priestley, and accordingly prepared an apparatus for the purpose. This was a copper vessel properly fitted, and filled with atmospherical air and hydrogen gas, which was exploded by making the electric spark pass through it. A loss of weight of two grains was observed after the combustion. A similar experiment was repeated in close glass vessels, which, though clean and dry before the combustion, became immediately wet with moisture, and lined with a sooty matter. This sooty matter, Dr. Priestley afterwards supposed, proceeded from the mercury which had been employed in filling the vessel. During the same year Mr. Cavendish repeated the experiments of Mr. Warltire and Dr. Priestley. He performed them several times with atmospheric air and hydrogen gas, in a vessel which held 24,000 grains of water, and he never could perceive a loss of weight more than one-fifth of a grain, and often none at all. In all these experiments not the least sooty matter appeared in the inside of the glass. To examine the nature of the dew which appeared in the inside of the glass, he burnt 500,000 grain measures of hydrogen gas, with about two and a half times that quantity of common air; and in this combustion he obtained one hundred and thirty-five grains of water, which had neither taste nor smell, and when it was evaporated, left no sensible sediment. It seemed to be pure water. In another experiment, he exploded, in a glass globe, 19,500 grain measures of oxygen gas, and 37,000 of hydrogen gas, by means of the electric spark. The result of the experiment was thirty grains of water, which contained a small quantity of nitric acid. The experiments of Mr. Cavendish were made in the year 1781, and they are undoubtedly conclusive with regard to the composition of water. It would appear that Mr. Watt entertained the same ideas on this subject. When he was informed by Dr. Priestley of the result of these experiments, he observes, "Let us consider what obviously happens in the deflagration of hydrogen and oxygen gases. These two kinds of air unite with violence, they become red hot, and when cooling totally disappear. When the vessel is cooled, a quantity of water is found in it equal to the weight of the air employed. The water is then the only remaining product of the process; and water, light, and heat are all the products, unless there be some other matter set free, which escapes our senses. Are we not then authorised to conclude, that water is composed of oxygen and hydrogen gases, deprived of part of their latent or elementary heat; that oxygen gas is composed of water, deprived of its hydrogen, and united to elementary heat and light; and that the latter are contained in it in a latent state, so as not to be sensible to the thermometer or to the eye? And if light be only a modification of heat, or a circumstance attending it, or a component part of the hydrogen gas, then oxygen gas is composed of water deprived of its hydrogen, and united to elementary heat." Thus it appears that Mr. Watt had a just view of the composition of water, and of the nature of the process by which its component parts pass to a liquid state from that of an elastic fluid. Towards the end of the same year, M. Lavoisier had made some experiments, the result of which surprised him; for the product of the combustion of the oxygen and hydrogen gases, instead of being sulphuric or sulphureous acid, as he expected it, was pure water. This led him to procure an apparatus, with which the experiment might be performed on a large scale, and with more accuracy and precision. Accordingly the experiments were performed on the twenty-fourth of June, 1783, in presence of several academicians, and also of sir Charles Blagden, who was at that time in Paris. A similar experiment was afterwards performed by M. Monge, with the same result; and it was repeated again by Lavoisier and Meusnier, on a scale so large as to put the matter beyond a doubt. The conclusion, therefore, from the whole was, that water is composed of oxygen and hydrogen. Water exists in three different states; in the solid state, or state of ice, in the liquid, and in the state of vapour or steam. It assumes the solid form when it is cooled down to the temperature of 32°. In this state it increases in bulk, by which it exerts a prodigious expansive force, which is owing to the new arrangement of its particles, which assume a crystalline form, the crystals crossing each other at angles of 60° or 120°. The specific gravity of ice is less than that of water. When ice is exposed to a temperature above 32° it absords caloric, which then becomes latent, and is converted into the liquid state, or that of water. At the temperature of 42½°, water has reached its maximum of density. According to the experiments of Lefevre Gineaux, a French cubic foot of distilled water, taken at its maximum of density, is equal to 70 pounds, 223 grains French, equal 529,452.9492 troy grains. An English cubic foot at the same temperature weighs 437,102.4946 grains troy. By Professor Robinson's experiments it is ascertained that a cubic foot of water, at the temperature of 55°, weighs 998.74 avoirdupois ounces, of 437.5 grains troy each, or about 1¼ ounce less than 1000 avoirdupois ounces. When water is exposed to the temperature of 212°, it boils; and if this temperature be continued, the whole is converted into an elastic invisible fluid, called vapour or steam. This, as has been already shown, is owing to the absorption of a quantity of caloric, which is necessary to retain it in the fluid form. In this state it is about 1800 times its bulk when in the state of water. This shows what an expansive force it must exert when it is confined, and hence its application in the steam engine, of which it is the moving power.

Waters, mineral. The complete and accurate analysis of mineral waters is one of the most difficult subjects of chemical research, and requires a very extensive acquaintance with the properties and habitudes of a numerous class of substances. Such minuteness, however, is scarcely ever required in the experiments that are subservient to the ordinary purposes of life; a general knowledge of the composition of bodies being sufficient to assist in directing the most useful applications of them. Instead therefore of giving a very ample detail of all the methods pointed out by Kirwan and others, we shall describe the means which are most generally useful in researches of this kind.

Before any proceeding is made in the analysis of a water, it is proper to inquire into its natural history, and to examine attentively its physical characters. The temperature of the water must be carefully observed, and the quantity inquired into, which it yields in a given time. The sensible qualities of taste, smell, degree of transparency, &c. are also best ascertained at the fountain-head. The specific gravity of the water must also be found.

The readiest way of judging of the contents of mineral waters are by applying tests or re-agents, the chief of which are the following.

Infusion of litmus is a test of most uncombined acids.

If the infusion redden the unboiled, but not the boiled water, we may infer, that the acid is volatile, and most probably the carbonic. Sulphuretted hydrogen gas, dissolved in water, also reddens litmus, but not after boiling.

To ascertain whether the change be produced by carbonic acid, or by sulphuretted hydrogen, when experiment shows that the reddening cause is volatile, add barytic water. This, if carbonic acid be present, will occasion a precipitate, which will dissolve, with effervescence, on adding a little muriatic acid. Sulphuretted hydrogen may also be contained, along with carbonic acid, in the same water; which will be determined by the tests hereafter to be described. Paper tinged with litmus is also reddened by the presence of carbonic acid, but regains its blue colour on drying.

Infusion of Litmus reddened by Phosphoric Acid—Tincture of Brazil-wood—Tincture of Turmeric, and Paper stained with each of these three Substances—Tincture of Red Cabbage.—All these different tests have one and the same object.

Infusion of litmus, reddened by phosphoric acid, or litmus paper reddened by it, has its blue colour restored by alkalies and earths, and by carbonated alkalies and carbonated earths. Turmeric paper and tincture are changed to a reddish brown by alkalies, whether freed from carbonic acid or not; by earths, freed from carbonic acid, but not by carbonated earths.

The red infusion of Brazil-wood, and paper stained with it, become blue by alkalies and earths, and even by the latter, when dissolved by an excess of carbonic acid. In the last mentioned case, however, the change will either cease to appear, or will be much less remarkable when the water has been boiled.

Tincture of cabbage is, by the same causes, turned green; as is also paper stained by the juice of the violet, or with the scrapings of radishes.

Tincture of galls.—Tincture of galls is employed for discovering iron, with which it produces a black tinge. The iron, however, in order to be detected by this test, must be in the state of a red oxide, or, if oxydized in a less degree, its effects will not be apparent, unless after standing some time in contact with the air. By applying this test before and after evaporation, or boiling, we may know whether the iron be held in solution by carbonic acid, or by a fixed acid; for,

1. If it produce its effect before the application of heat, and not afterward, carbonic acid is the solvent.

2. If after, as well as before, a fixed and vulgarly called mineral acid is the solvent.

3. If, by the boiling, a yellowish powder be precipitated, and yet galls continue to strike the water black, the iron, as often happens, is dissolved both by carbonic acid gas and by a fixed acid.

Sulphuric Acid.—Sulphuric acid discovers by a slight effervescence the presence of carbonic acid, whether uncombined or united with alkalies or earths.

2. If lime be present, the addition of sulphuric acid occasions, after a few days, a white precipitate.

3. Barytes is precipitated instantly, in the form of a white powder.

4. Nitric or muriatic salts, in a dry state, or dissolved in very little water, on adding sulphuric acid, and applying heat, are decomposed: and if a stopper, moistened with solution of ammonia, be held over the vessel, white clouds will appear. For distinguishing whether nitric or muriatic acid be the cause of this appearance, rules will be given hereafter.

Oxalic Acid and Oxalates.—This acid is a most delicate test of lime, which it separates from all its combinations.

1. If a water, which is precipitated by oxalic acid, become milky on adding a watery solution of carbonic acid, or by blowing air through it from the lungs, by means of a quill or glass tube, we may infer that lime (or barytes which has never yet been found pure in waters) is present in an uncombined state.

2. If the oxalic acid occasion a precipitate before, but not after boiling, the lime is dissolved by an excess of carbonic acid.

3. If after boiling, by a fixed acid, a considerable excess of any of the mineral acids, however, prevents the oxalic acid from occasioning a precipitate, even though lime be present; because some acids decompose the oxalic, and others, dissolving the oxalate of lime, prevent it from appearing.

The oxalate of ammonia, or of potash, are not liable to the above objection, and are preferable, as reagents to the uncombined acid. Yet even these oxalates fail to detect lime when supersaturated with muriatic or nitric acids; and, if such an excess be present, it must be saturated, before adding the test, with ammonia. A precipitate will then be produced.

The quantity of lime contained in the precipitate may be known, by first igniting it with access of air, which converts the oxalate into a carbonate; and by expelling from this last the carbonic acid, by a strong heat, in a covered crucible. According to Dr. Marcet, 117 grains of sulphate of lime give 100 of oxalate of lime, dried at 160° Fahrenheit.

Fluate of ammonia is also a most delicate test of lime.

Barytic Water.—1. Barytic water is a very effectual test for detecting the presence of carbonic acid, with which it forms a precipitate, which is soluble with effervescence in dilute nitric, or better in muriatic acid.

2. Barytic water is also a most sensible test of sulphuric acid and its combinations, which it indicates by a precipitate not soluble in muriatic acid.

Metals.—Of the metals, silver, bismuth, and mercury, are tests of the presence of hydro-sulphurets, and of sulphuretted hydrogen gas. If a little quicksilver be put into a bottle, containing water impregnated with either of these substances, its surface soon acquires a black film, and, on shaking the bottle, a blackish powder separates from it. Silver leaf and bismuth are speedily tarnished by the same cause.

Sulphate, Nitrate, and Acetate of Silver.—These solutions are all, in some measure, applicable to the same purpose.

They are peculiarly adapted to the discovery of muriatic acid and of muriates, with which they form a white precipitate. A precipitation, however, may arise from other causes, which it may be proper to state. The solutions of silver in acids are precipitated by carbonated alkalies and earths. The agency of the alkalies and earths may be prevented, by previously saturating them with a few drops of the same acid in which the silver is dissolved. The nitrate and acetate of silver are decomposed by the sulphuric and sulphureous acids; but this may be prevented by adding, previously, a few drops of nitrate or acetate of barytes, and, after allowing the precipitate to subside, the clear liquor may be decanted, and the solution of silver added. Should a precipitate now take place, the presence of muriatic acid, or some of its combinations, may be suspected. To obviate uncertainty, whether a precipitate be owing to sulphuric or muriatic acid, a solution of sulphate of silver may be employed, which, when no uncombined alkali, or earth, is present, is affected only by the latter acid.

The solutions of silver are also precipitated by sulphuretted hydrogen, and by hydro-sulphurets; but the precipitate is then reddish, or brown, or black; or it may be at first white, and afterwards become speedily brown or black. It is soluble, in great part, in dilute nitrous acid, which is not the case if occasioned by muriatic or sulphuric acid.

The solutions of silver are precipitated by extractive matter; but in this case also the precipitate has a dark colour, and is soluble in nitrous acid.

Acetate of Lead.—Acetate of lead is a test of sulphuretted hydrogen and of hydro-sulphurets of alkalies, which occasion a black precipitate; and if a paper, on which characters are traced with a solution of acetate of lead, be held over a portion of water containing sulphuretted hydrogen gas, they are soon rendered visible, especially when the water is a little warmed.

Muriate, Nitrate, and Acetate of Barytes.—These solutions are all most delicate tests of sulphuric acid and of its combinations, with which they give a white precipitate, insoluble in dilute muriatic acid. They are decomposed, however, by carbonated alkalies; but the precipitates, occasioned by carbonates, is soluble in dilute muriatic or nitric acid, with effervescence, and may even be prevented by adding previously a few drops of the same acid as that contained in the barytic salt, which is employed.

One hundred grains of dry sulphate of barytes contain (according to Klaproth, vol. i. p. 168.) about 45½ of sulphuric acid, of the specific gravity 1850; according to Clayfield, (Nicholson's Journal, 4to. iii. 38.) 33 of acid, of specific gravity 2240; according to Thevnard, after calcination, about 25; and according to Mr. Kirwan, after ignition, 23.5 of real acid. The same chemist states, that 170 grains of ignited sulphate of barytes denote 100 of dried sulphate of soda; while 136.36 of the same substance indicate 100 of dry sulphate of potash; and 100 parts result from the precipitation of 52.11 of sulphate of magnesia.

From Klaproth's experiments, it appears that 1000 grains of sulphate of barytes indicate 595 of desiccated sulphate of soda, or 1416 of the crystallized salt. The same chemist has shown, that 100 grains of sulphate of barytes are produced by the precipitation of 71 grains of sulphate of lime.

Prussiates of Potash and of Lime.—Of these two, the prussiates of potash is the most eligible. When pure, it does not speedily assume a blue colour, on the addition of an acid, nor does it immediately precipitate muriate of barytes.

Prussiate of potash is a very sensible test of iron, with the solutions of which in acids it produces a Prussian blue precipitate, in consequence of a double elective affinity. To render its effects more certain, however, it may be proper to add, previously, to any water suspected to contain iron, a little muriatic acid, with a view to the saturation of uncombined alkalies or earths, which, if present, prevent the detection of very minute quantities of iron.

1. If a water, after boiling and filtration, does not afford a blue precipitate, on the addition of prussiate of potash, the solvent of the iron may be inferred to be a volatile one, and probably the carbonic acid.

2. Should the precipitation ensue in the boiled water, the solvent is a fixed acid, the nature of which must be ascertained by other tests.

In using the prussiate of potash for the discovery of iron, considerable caution is necessary, in order to attain accurate results. The prussiate should, on all occasions, be previously crystallized; and the quantity of oxide of iron essential to its constitution, or at least an invariable accompaniment, should be previously ascertained in the following manner: Expose a known weight of the crystallized salt to a low red heat in a silver crucible. After fusing and boiling up, it will become dry, and will then blacken. Let it cool; wash off the soluble part; collect the rest on a filter; dry it, and again calcine it with a little wax. Let it be again weighed, and the result will show the proportion of oxide of iron present in the salt which has been examined. This varies from 22 to 30 and upwards per cent. When the test is employed for discovering iron, let a known weight of the salt be dissolved in a given quantity of water; add the solution gradually; and observe how much is expended in effecting the precipitation. Before collecting the precipitate, warm the liquid, which generally throws down a further portion of Prussian blue. Let the whole be washed and dried, and then ignited with wax. From the weight of the oxide obtained, deduct that quantity, which, by the former experiment, is known to be present in the prussiate that has been added; and the remainder will denote the quantity of oxide of iron present in the liquor which is under examination.

Succinate of Soda and Succinate of Ammonia are also tests for iron.

In applying these agents, it is necessary not to use more than is sufficient for the purpose; because an excess of them re-dissolves the precipitate. The best mode of proceeding is to heat the solution containing iron, and to add gradually the solution of succinate, until it ceases to produce any effect. A brownish precipitate is obtained, consisting of succinate of iron. This, when heated with a little wax, in a low red heat, gives an oxide of iron containing about seventy per cent. of the metal.

The succinates, however, precipitate alumine, provided there be no considerable excess of acid in the aluminous salt. On magnesia they have no action, and hence they may be successfully employed in the separation of these two earths.

Phosphate of Soda.—An easy and valuable method of precipitating magnesia has been suggested by Dr. Wollaston. It is founded on the property which fully neutralized carbonate of ammonia possesses, first to dissolve the carbonate of magnesia formed, when it is added to the solution of magnesian salt. For this purpose a solution of carbonate of ammonia, prepared with a portion of that salt which has been exposed, spread on a paper, for a few hours to the air, is to be added to the solution of the magnesian salt sufficiently concentrated; or to a water suspected to contain magnesia, after being very much reduced by evaporation. No precipitate will appear, till a solution of phosphate of soda is added, when an abundant one will fall down. Let this be dried in a temperature not exceeding 100° Fahrenheit. One hundred grains of it will indicate nineteen of magnesia, or about sixty-four of muriate of magnesia.

Muriate of Lime.—Muriate of lime is principally of use in discovering the presence of alkaline carbonates, which, though they very rarely occur, have sometimes been found in mineral waters. Of all the three alkaline carbonates, muriate of lime is a sufficient re-agent; for those salts separate from it a carbonate of lime, soluble, with effervescence, in muriatic acid.

With respect to the discrimination of the different alkalies, potash may be detected by muriate of platina. Carbonate of ammonia may be discovered by its smell; and by its precipitating a neutral salt of alumine, while it has no action apparently on magnesian salts.

To estimate the proportion of an alkaline carbonate present in any water, saturate its base with sulphuric acid, and note the weight of real acid which is required. Now 100 grains of real sulphuric acid saturate 121.48 potash, and 78.32 soda.

Analysis of Waters by Evaporation.—The reader who may wish for rules for the complete and accurate analysis of mineral waters, will find in almost every chemical work a chapter allotted to this subject. He may consult Kirwan's "Essay on the Analysis of Mineral Waters," London, 1799.

Before evaporation, however, the gaseous products of the water must be collected, which may be done by filling with it a large glass bottle, or retort, capable of holding about fifty cubic inches, and furnished with a ground stopper and bent tube. The bottle is to be placed up to its neck in a kettle filled with brine, which must be kept boiling for an hour or two, renewing, by fresh portions of hot water, what is lost by evaporation. The disengaged gas is conveyed, by a bent tube, into a graduated jar, filled with, and inverted in, mercury, where its bulk is to be determined. On the first impression of the heat, however, the water will be expanded, and portions will continue to escape into the graduated jar till the water has obtained its maximum of temperature. This must be suffered to escape, and its quantity to be deducted from that of the water submitted to experiment.

In determining, with precision, the quantity of gas, it is necessary to attend to the state of the barometer and thermometer.

The gases most commonly found in mineral waters, are *carbonic acid; sulphuretted hydrogen; nitrogen; oxygen gas;* and, in the neighbourhood of volcanoes only, *sulphureous acid gas.*

To determine the proportion of the gases, constituting any mixture obtained from a mineral water in the foregoing manner, the following experiments may be made. If the use of re-agents has not detected the presence of sulphuretted hydrogen, and there is reason to believe, from the same evidence, that carbonic acid forms a part of the mixture, let a graduated tube be nearly filled with it over quicksilver; pass up a small portion of solution of potash; and agitate this in contact with the gas; the amount of the diminution will show how much carbonic acid has been absorbed; and, if the quantity submitted to experiment was an aliquot part of the whole gas obtained, it is easy to infer the total quantity present in the water. The unabsorbable residuum consists, most probably, of oxygen and azotic gases; and the proportion of these two is best learned by the use of Dr. Hope's eudiometer.

If sulphuretted hydrogen be present, along with carbonic acid, the separation of these two is a problem of some difficulty. Mr. Kirwan recommends, that a graduated glass vessel, completely filled with the mixture, be removed into a vessel containing nitrous acid. This instantly condenses the sulphuretted hydrogen, but not the carbonic acid gas. It seems to be a more eligible mode to condense the sulphuretted hydrogen by oxymuriatic acid gas, (obtained from muriatic and hyperoxymuriate of potash,) adding the latter gas very cautiously, as long as it produces any condensation. Or, perhaps, a better plan of effecting the separation is the following, recommended by Mr. Henry: Half fill a graduated phial with the mixed carbonic acid and sulphuretted hydrogen gases, and expel the rest of the water by oxymuriatic acid gas. Let the mouth of the bottle be then closed with a well ground stopper, and let the mixture be kept twenty-four hours. Then withdraw the stopper under water, a quantity of which fluid will immediately rush in. Allow the bottle to stand half an hour without agitation. The redundant oxymuriatic acid gas will thus be absorbed; and very little of the carbonic acid will disappear. Supposing that to ten cubic inches of the mixed gases, ten inches of oxymuriatic gas have been added, and that after absorption, by standing over water, five inches remain, the result of this experiment shows, that the mixture consisted of equal parts of sulphuretted hydrogen and carbonic acid gases.

Whenever this complicated admixture of gases occurs, as in the Harrowgate, and in some of the Cheltenham waters, it is advisable to operate separately on two portions of gas, with the view to determine, by the one, the quantity of carbonic acid and sulphuretted hydrogen; and that of azote and oxygen by the other. In the latter instance, remove both the absorbable gases by caustic potash, and examine the remainder in the manner already directed.

Nitrogen gas sometimes occurs in mineral waters, almost in an unmixed state. When this happens, the gas will be known by the characters already described as belonging to it. Sulphureous acid gas may be detected by its peculiar smell of burning sulphur, and by its discharging the colour of an infusion of roses, which has been reddened by the smallest quantity of any acid adequate to the effect.

(*a*) The water should next be evaporated to dryness. The dry mass, when collected and accurately weighed, is to be put in a bottle, and highly rectified alcohol poured on it, to the depth of an inch. After having stood a few hours, and been occasionally shaken, pour the whole on a filter, wash it with a little more alcohol, and dry and weigh the remainder.

(*b*) To the undissolved residue add nine times its weight of cold distilled water; shake the mixture frequently; and, after some time, filter; ascertaining the loss of weight.

(*c*) Boil the residuum, for a quarter of an hour, in sometimes more than five hundred times its weight of water, and afterwards filter.

(*d*) The residue, which must be dried and weighed, is no longer soluble in water or alcohol. If it has a brown colour, denoting the presence of iron, let it be moistened with water, and exposed to the sun's rays for some weeks.

I. The solution in alcohol, (*a*) may

contain one or all of the following salts: muriats of lime, magnesia, or barytes, nitrates of the same earths. Sometimes, also, the alcohol may take up sulphate of iron, in which the metal is highly oxydized, as will appear by its reddish brown colour.

1. In order to discover the quality and quantity of the ingredients, evaporate to dryness; weigh the residuum; add above half its weight of strong sulphuric acid; and apply a moderate heat. The muriatic or nitric acid will be expelled, and will be known by the colour of their fumes; the former being white, and the latter orange-coloured.

2. To ascertain whether lime or magnesia be the basis of the salts, let the heat be continued till no more fumes arise, and let it then be raised to expel the excess of sulphuric acid. To the dry mass, add twice its weight of distilled water. This will take up the sulphate of magnesia, and leave the sulphate of lime. The two sulphates may be separately decomposed, by boiling with three or four times their weight of carbonate of potash. The carbonates of lime and magnesia, thus obtained, may be separately dissolved in muriatic acid, and evaporated. The weight of the dry salts will inform us how much of each the alcohol had taken up. Lime and magnesia may also be separated by the use of phosphate of soda.

II. The watery solution (*b*) may contain a variety of salts, the accurate separation of which from each other is a problem of considerable difficulty.

1. The analysis of this solution may be attempted by crystallization. For this purpose let one half be evaporated by a very gentle heat, not exceeding 80° or 90°. Should any crystals appear on the surface of the solution, while hot, in the form of a pellicle, let them be separated and dried on bibulous paper. These are muriate of soda, or common salt. The remaining solution, on cooling very gradually, will perhaps afford crystals distinguishable by their form and other qualities. When various salts, however, are contained in the same solution, it is extremely difficult to obtain them sufficiently distinct to ascertain their kind.

2. The nature of the saline contents must therefore be examined by tests, or re-agents.

The presence of an uncombined alkali, as well as uncombined acids, will be discovered by the stained papers, and tests already pointed out. The vegetable alkali, or potash, may be distinguished from the mineral, or soda, by muriate of platina.

If neutral salts be present in the solution, we have to ascertain both the nature of the acid, and that of the base. This may be done by attention to the rules already given, for the application of tests, which it is unnecessary to repeat in this place.

III. The solution by boiling water contains scarcely any thing besides sulphate of lime.

IV. The residuum (*d*) is to be digested in distilled vinegar, which takes up magnesia and lime, but leaves, undissolved, alumine and highly oxydized iron. Evaporate the solution to dryness. If it contain acetate of lime only, a substance will be obtained which does not attract moisture from the air; if magnesia be present, the mass will deliquesce. To separate the lime from the magnesia, proceed as in I.

The residue, insoluble in acetous acid, may contain alumine, iron, and silex. The two first may be dissolved by muriatic acid, from which the iron may be precipitated, first by prussiate of potash, and the alumine afterwards by a fixed alkali.

Water-brash. So the *Pyrosis* is called in Scotland.

Wen, a soft, insensible, and moveable tumour under the skin. Dr. Cullen calls it *Lupia*, and places it as a genus of disease in the class *Locales*, and order *Tumores*. Dr. Aitkin describes it as a swelling that is cold, humoral, circumscribed, colourless, for the most part indolent, slow in its formation and progress, its contained matter more or less pultaceous: he divides it into species, first, from its contents, as the *Atheroma*, *Meliceris*, and *Steatoma*; secondly, from its situation, as a *Mole*, a *Stye*, and a *Bronchocele*.

White Swelling, a painful swelling of a joint, with wasting of the muscles of the lower part of the limb. The skin covering the tumour retains, for some time, its natural colour; but, at length, inflames and suppurates. It has two species: 1. In *the rheumatic white swelling*, the pain and tumour extend, from the beginning, over the whole joint. 2. In *the scrophulous white swelling* the pain and tumour are, at first, confined to a small extent. M. M. The antiphlogistic regimen; local blood letting; cooling laxatives; a blister kept open on the joint; mercurial ointment; friction; pouring on warm water from a considerable height; amputation. 2. Amputation.

Whitlow, i. e. *Paronychia*.

Wind, is defined to be the *Stream* or *Current* of the *Air*; and where such current is perpetual and fixed in its course, it is necessary that it proceed from a permanent unintermitting cause. Wherefore some have been inclined to propose the diurnal rotation of the earth upon its axis, by which, as the globe turns eastward, the loose and fluid particles of the air, being so exceeding light as they are, are left behind, so that in respect of the earth's surface they move westwards, and become a constantly easterly wind. This opinion seems confirmed, in that these winds are found only near the equinoctial, in those parallels of latitude where the diurnal motion is swiftest: but the constant calms in the Atlantic sea, near the equator, the westerly winds near the coast of Guinea, and the periodical westerly monsoons under the equator, in the Indian seas, seemingly declare the insufficiency of that hypothesis. Besides, the air being kept to the earth by the principle of gravity, would in time acquire the same degree of velocity that the earth's surface moves with, as well in respect to the diurnal rotation as of the annual about the sun, which is about 30 times swifter. It remains therefore to substitute some other cause, capable of producing a like constant effect, not liable to the same objections, but agreeable to the known properties of the elements of air and water, and the laws of the motion of fluid bodies. Such an one is the action of the sun's beams upon the air and water, as he passes every day over the oceans, considered together with the nature of the soil, and the situation of the adjoining continents. Therefore, according to the *Laws of Statics*, the air, which is less rarefied or expanded by heat, and, consequently, more ponderous, must have a motion round those parts thereof, which are more rarefied and less ponderous, to bring it to an equilibrium; also the presence of the sun continually shifting to the westward, that part towards which the air tends, by reason of the rarefaction made by his greatest meridian heat, is with him carried westward, and, consequently, the tendency of the whole body of the lower air is that way. Thus a general easterly wind is formed, which being impressed upon all the air of a vast ocean, the parts impel one another, and so keep moving till the next return of the sun, whereby so much of the motion as was lost, is again restored: and thus the easterly wind is made perpetual. From the same principle it follows, that this easterly wind should on the north side of the equator be to the northward of the east, and in south latitudes to the southward thereof; for near the line the air is much more rarefied than at a greater distance from it, because the sun is twice in a year vertical there, and at no time distant above 23 degrees $\frac{1}{2}$; at which distance the heat being at the sine of the angle of incidence, is but little short of that of the perpendicular ray. Whereas, under the tropics, though the sun stays long vertical, yet he is a long time 47 degrees off; which is a kind of winter, wherein the air so cools, as that the summer-heat cannot warm it to the same degree with that under the equator. Wherefore the air towards the northward and southward being less rarefied than that in the middle, it follows, that from both sides it ought to tend towards the equator. This motion compounded with the former easterly wind, answers all the phenomena of the general trade-winds; which, if the whole surface of the globe were sea, would undoubtedly blow all round the world, as they are found to do in the Atlantic and Ethiopic oceans. But since so great continents do interpose and break the continuity of the oceans, regard must be had to the nature of the soil, and the position of the high mountains, which are the two principal causes of the several variations of the wind from the former general rule; for if a country lying near the sun prove to be flat, sandy, and low land, such as the deserts of Libya are usually reported to be, the heat occasioned by the reflection of the sun's beams and the retention thereof in the sand, is incredible to those that have not felt it: whereby the air being exceedingly rarefied, it is necessary that this cooler and more dense air should run thitherwards to restore the equilibrium. This is supposed to be the cause why, near the coast of Guinea, the wind always sets in upon the land, blowing westerly instead of easterly, there being sufficient reason to believe, that the inland parts of Africa are prodigiously hot, since the northern borders thereof were so intemperate as to give the ancients cause to conclude, that all beyond the tropics was made uninhabitable by excess of heat. From the same cause it happens, that there are such constant calms in that part of the ocean, called the *Rains*; for this tract being placed in the middle, between the westerly winds blowing on the coast of Guinea, and the easterly trade-winds blowing to the westward thereof, the tendency of the air here is indifferent to either, and so stands in equilibrio between both; and the weight of the incumbent atmosphere, being diminished by the continual contrary winds blowing from hence, is the reason that the air here holds not the copious vapour it receives, but lets it fall in such frequent rains. But as the cool and dense air, by reason of its greater gravity, presses upon the hot and rarefied, it is demonstrative, that this latter must ascend in a continual stream as fast as it rarefies; and that being ascended, it must disperse itself to preserve the equilibrium; that is, by a contrary current the upper air must move from those parts where the greatest heat is; so by a kind of circulation, the north-east trade-wind below will be attended with a south-westerly above, and the south-easterly with a north-west wind above. That this is more than a bare conjecture, the almost instantaneous change of the wind to the opposite point, which is frequently found in passing the limits of the trade-winds, seems to assure us: but that which above all confirms this hypothesis is, the phenomenon of the monsoon, by this means most easily solved, and without it hardly explicable. Supposing, therefore, such a circulation as above, it is to be considered, that to the northward of the Indian ocean, there is every where land within the usual limits of the latitude of 30, viz. Arabia, Persia, India, &c. which, for the same reason as the Mediterranean parts of Africa, are subject to insufferable heats, when the sun is to the north, passing nearly vertical; but yet are temperate enough when the sun is removed towards the other tropic, because of a ridge of mountains at some distance within the land, said to be frequently in winter covered with snow, over which the air, as it passes, must needs be much chilled. Hence it comes to pass, that the air coming according to the general rule, out of the north-east in the Indian sea, is sometimes hotter, sometimes colder, than that by which this circulation is returned out of the south-west: and by consequence sometimes the under current, or wind, is from the north-east, sometimes from the south-west. That this has no other cause, is clear from the times wherein these winds set in, viz. in April: when the sun begins to warm those countries to the north, the south-west monsoons begin, and blow during the heats till October; when the sun being retired, and all things growing cooler northward, and the heat increasing to the south, the north-east enters, and blows all the winter till April again. And it is undoubtedly from the same principle, that to the southward of the equator, in part of the Indian ocean, the north-west winds succeed the south-east, when the sun draws near the tropic of Capricorn.

On the Atlantic coast of America, north-east storms begin in the south-west, and proceed thence to windward, at the rate sometimes of about one hundred miles an hour. It has been remarked long ago by Dr. Franklin, that storms from the north-east, on the eastern side of this continent, begin in the opposite point, or to leeward. Whether this rule universally obtains may perhaps as yet admit of some doubt. But during the uncommonly mild winter of 1801—2, there was a strong confirmation of it.

On the 21st, 22d, and 23d of February, 1802, there was one of the most remarkable and long continued snow-storms that had been known for twenty years. It raged with extreme violence on the land, and was the cause of several shipwrecks along the sea-coast. Many lives, and much property were lost. The movements in the atmosphere were felt first to the southward, and gradually progressed northward, so as to be sensible there; but not until after some hours.

The facts were collected by Dr. Mitchill, at Washington, the seat of the National Government, during the session of Congress, when they could be ascertained with the greatest expedition, correctness and care, and are as follow:

After a fine, warm and clear morning, the air, toward evening, grew cloudy, and it became rainy and stormy. The time of its commencement near the capitol, on the banks of the Potowmack, as observed by Gen. Smith, was about *half an hour past five* in the afternoon; and before eight the rain was excessive, and the wind boisterous. Here the weather did not become cold enough for snow until towards morning.

The city of New-York, which is situated rather more than 240 miles to the N. E. did not feel this commotion of the atmosphere until about *eleven*. Then the city-watchmen observed that the weather was changed from clear to cloudy, and that snow began to fall; and at twelve, Mrs. Mitchill, who opened a window and looked out, observed that the ground was already white with snow. The tempest was brewing, and, properly speaking, was formed at two.

That night Mr. Humphrey Wood was on board a sloop bound from Newport (R. I.) to New-York. The tempest drove the vessel ashore, before morning, on Mount-Misery Neck, upon Long-Island. They sailed from Fisher's Island, where they had been waiting for a fair wind, at 10 o'clock at night, with a wind at E. S. E. and warm and pleasant weather. But *by midnight* it hauled E. N. E. and blew a gale, with snow. Fisher's Island may be computed to be about 140 miles E. N. E. of New-York.

Mr. Webster observed some of the phenomena of this change of weather in its beginning, at New-Haven. This place is 89 miles from New-York, or 331 from Washington. Here the weather was clear in the early part of the evening, but was overcast by nine. The stormy commotion of the atmosphere seems to have begun *about twelve*.—At Boston it was rather more than an hour later.

Mr. Blair, an officer who was on board one of three ships from Salem in Massachusetts, that were lost on Cape-Cod during the storm, related, after his escape, that the weather, on the day of their sailing, Sunday, Feb. 21, was remarkably fine and favourable. At sun set they were about four leagues from Cape-Ann lighthouse, with a light breeze from S.E. *After midnight* the weather grew very threatening; and at *half past two in the morning* of the 22d the wind veered to the N. E. and it snowed so fast that the ships could hardly discern each other.—The shipwrecks during this storm were numerous and dreadful. Many persons were frozen to death. Salem is distant from Washington 499 miles, or 257 from New-York; so that this latter place is about midway between the two places.

At Portland, in Maine, distant 603 miles from Washington, the snow began between day-light and sun rise. It was observed by young Mr. Vaughan, who was travelling on the morning of the 22d. At 8 A. M. the wind blew violently.

The storm began still later at Hallowell, on the Kennebeck River. This place is 683 miles from Washington. There the sun rose clear on the morning of the 22d. The air became cloudy in about a quarter of an hour. The snow began about eleven, and the storm had become furious within two hours after. Professor Waterhouse and Benjamin Vaughan, Esq. have particularly attended to these curious meteorological facts.

At Poughkeepsie, 82 miles N. of New-York, and situated beyond the first range of mountains, the storm began about 4 o'clock on the morning of the 22d. And at Albany, 165 miles N. of New-York, it did not begin until a little before day-break on the morning of the 22d.

At Providence (R. I.) Dr. Wheaton observed the evening of the 21st to be clear and pleasant. The watchmen informed him "the weather changed before twelve o'clock, and continued cloudy, with variable winds, until the violence of the storm began, which was at half past three on the morning of the 22d." Providence is 439 miles from Washington.

Accounts from Charleston (S.C.) state that it began there on the 21st, between two and three o'clock in the afternoon.—The distance of Charleston from Washington is 550 miles.—By the newspapers it appears to have been felt in the Bahama Islands.

It will be found, on calculation, that between Charleston and Cape-Ann, along the coast, this stormy movement proceeded to windward at the rate of nearly one hundred miles an hour: for, as it began at Charleston, say at three o'clock, at New-York at eleven, and off Cape-Ann at two the next morning, there is a difference of eight hours between Charleston and New-York, and of three hours between the latter city and Salem, making in the whole eleven hours. Now, computing the distance from Charleston to New-York at about 800 miles, and from New-York to Cape-Ann more than 250, there will be a sea-coast of almost 1100 miles swept over by this storm in somewhat more than eleven hours. But this computation applies only to the sea-coast: for if we take any given point, as the city of New-York for example, and instead of N. E. reckon due N. it will be found that the progress is considerably slower; for it took all the time between eleven at night and day break next morning to reach Albany, only 165 miles distant in that direction.

Now, these remarks explain some meteorological facts, which, though of common observation, have hitherto seemed paradoxical or unaccountable: for mariners know, that to form a good judgment of wind and weather, they must keep a look out for clouds and changes of atmosphere to *leeward*. In New-York, the rain or snow which accompanies a N. E. storm can be seen, by labourers along the docks and wharves, in the S. W. at Staten-Island, ten or eleven miles distant, for some time before it begins in the city, so as frequently to break off work, and put away their tools. And it is confirmed, by long observation among the farmers in that vicinity, that snow-banks, as they term them, are to be seen in the S. W. many hours before the atmosphere where the observers are is clouded in the smallest degree, or any current of air perceptible. They remark, further, that a judgment can be formed of the weather by noting whether the gathered clouds lowering in the distant horizon are visible to the northward or southward of the setting sun. If at sunset they are to the S. of the sun, they predict a north-east storm, with snow; if to the N. a south-east storm with sleet or rain.

Wine. See *Vinum*.

Winterana, Winter's bark-tree, called also *Winterana aromatica*: the bark is called *Cortex Magellanicus*, as well as *Cortex Winteranus*. Most writers have confounded the bark of this tree with the *Cortex Canella Alba*. But Dr. Fothergill gives a description of the *Winter's Bark-tree*. See Lettsom's edition of *Fothergill's Works*, vol. ii. p. 163, &c.

X

XANTHORHIZA *Tinctoria*, yellow dying root; a fine shrub growing in Carolina. Its qualities as a medicine and a drug have been written by Dr. Woodhouse. It is agreeably bitter, and affords a delicate stain. See *Med. Repository*, vol. v. p. 159, where there is a plate and a description of it.

Xerasia, from ξηρος, *dry*, a species of *Alopecia*, consisting in a dryness of the hairs for want of due nourishment, whence they fall off.

Xerodes, ξηρωδης, expresses any tumour attended with the property of dryness.

Xerophthalmia, ξηροφθαλμια, is a *Lippitudo Sicca*, where the eye-lids turn out red and dry; and so of many other things from the same foundation.

Xiphia, ξιφιας, or ξιφος, *ensis*, *a sword*: whence some parts having resemblance thereunto are compounded; as

Xiphoides, the same as *Cartilago Ensiformis*, which see.

Y

YAWS, a distemper frequent on the coast of Africa and the West-Indies among the negroes. See *Frambœsia*. The people have it only once in their lives.

Yellow Fever, a name given to an acute disease, which, during hot weather, particularly in August, September and October, prevails among human beings on the continent of North-America, and the West-India Islands. It also occurs in the south of Europe, on the coast of Africa, and towards the tropical regions of Asia. In a particular manner it originates and prevails in ships and sea-vessels of all kinds, which are suffered to become nasty with excrements and other corrupting animal matter.

The term "yellow" is given to the disease, because many who are invaded by it become tinged, or even deeply tinctured with that colour. This change of complexion is no sign of the fatality of the disease, since many persons recover after having become remarkably yellow. In many cases the yellowness increases or comes on after death: But frequently, too, it happens, that persons who undergo severe attacks have little or no yellowness. The word, therefore, being employed to express a symptom which many cases of the disease do not possess, is very improper. It is sufficiently clear that the yellowness is not owing to absorbed or regurgitated bile. It is, therefore, wholly different from the hue which prevails in jaundice.

It has been called a "fever" too, though many persons have undergone it, without the preceding chill, augmentation of heat, or increased frequency of pulse, which the nosologists consider as necessary forerunners. Persons have often died of what is called yellow fever, without having had either *yellowness*, or the diagnostic signs of *fever*. So imperfect and improper is the name of this distemper.

The malady has also been distinguished by the appellation of "black vomit," because, in some of the worst forms of it, the sick eject from the stomach a dark-coloured or blackish liquid. This, however, is only a symptom of certain violent cases, but by no means a characteristic of the disease in all instances.

Some of the French writers have called it the "disease of Siam," from an erroneous notion that it was imported into America from that part of Asia.

Yellow fever (for we must call it so, notwithstanding the impropriety of the phrase) seems to have an immediate connection with an atmosphere locally vitiated. The common mischievous agent is septic acid vapour, formed from such animal and vegetable substances as contain its radical azote or septon. This acidifiable basis becoming oxygenated, is highly active and deleterious, exciting a multitude of bad effects upon constitutions predisposed to be acted upon by it.

The places where this mischievous agent is most readily formed, and most highly concentrated, is on board sea-vessels which contain corrupting fish, beef, and hides. These articles constitute a large proportion of the cargoes with which the vessels are loaded which pass between the United States and the West-India Islands. They frequently get into a putrefactive state on board, and then the exhalations, pent up in a tight vessel, become very thick and venomous. Hence it happens that so many of our seamen are cut off in this trade. They are killed by the poison engendered in their own vessels, and that not unfrequently when they are outward bound, but more commonly while they lie in foreign harbours, or are returning home, because there has been longer time given for the septic matter to turn to poison, and insinuate itself through every space within her. Hence the crew are thrown into yellow fever.

Next to sea-vessels, cities and towns are most unhealthy; because many of them are built upon low grounds, are inhabited by intemperate and nasty people, and are governed by a wretched police. Beef, fish, hides, and other corrupting things, are usually stored and kept indiscriminately within them, and often vitiate the atmosphere to a noxious degree. In many places, the foundation of the streets, houses, and yards, is a mere collection of putrid mud, corrupting recrements, and animal offal, hardened by commixture with some sand by pressure and by paving. And in addition to these abundant and alarming causes, it is the fashion in the American cities to collect and retain all the excrements of the inhabitants from year to year and from century to century. In New-York and Philadelphia this precious material is preserved with great care and expense. The proprietors of lots dig deep pits into the earth, and these they surround with walls of brick and stone, and cover with strong timbers and planks, that nobody may have access to it and steal it away. Here the owners flatter themselves it lies safe and dormant. But they are mistaken; already has this accumulated excrement poisoned their water; and annually when the weather is hot enough, does it rise in pestiferous steams, infect the atmosphere, and sicken or destroy those from whose bodies it was discharged, as well as others. Hence, next to ships, cities are the most frequent manufactories of this kind of poison, and undergo most inconvenience from the pestilential distempers which that offspring of nastiness and corruption excites.

From the like materials which poisen ships and cities, may particular tracts of country, individual houses, single rooms in a house, or even particular parts of a chamber, become charged with materials that may turn to pestilence, kindle up "yellow fever," and end in "black vomit." Hence we hear of this distemper now and then in the interior parts of the land, far away from ships and seaport towns.

Its exciting cause may even be engendered in the human stomach and bowels, from the septic materials of our food. Hence sporadic cases of yellow fever have occurred to individuals who had never visited a ship or a city, and who lived in a healthy neighbourhood and in a clean house. It is possible for such a person to be thrown into yellow fever from septic acid engendered within his own alimentary canal.

Yellow fever has been said to be *imported* from foreign places into the United States. And with this opinion many of our citizens console themselves. They are positive that the distemper originates solely in the West-Indies, and is merely derivative to them. To these persons it is a sufficient reply that the West-Indians are quite as positive that it never arose spontaneously in their towns or habitations, but in all cases, without exception, is *imported* to them from New-York, Philadelphia, Baltimore, and our other Atlantic settlements. The truth is, that it does in some degree arise from local and domestic causes in all these places, and, more especially, is locally engendered on ship-board. Nasty, and poisonous ships, the manufactories, the nurseries and vehicles of yellow fever, thus sail from port to port, and give colour to the unhappy and pernicious notion, that the place from whence they last came is sickly; whereas, there is in fact no more connection between the sickliness of a crew, and the state of health in the place whence the vessel sailed, than there is between the corrupting of a cargo of provisions, and the latitude of the place at which they were salted.

Though the exciting cause of yellow fever may be on board a ship from a West-India port, that port or place has nothing to do with it, for it was bred on board the vessel. The way to destroy it is to cleanse the vessel: and vessels, when nasty, may be rendered clean, by the same means that houses are purified; to wit, by ley, alkaline salts, and lime.

The exciting cause of yellow fever is, therefore, locally produced *within ships*, and not imported *from foreign countries*. It is, consequently, *not contagious*, as some have mistakenly supposed.

Yellow Root. See *Xanthorhiza*.

Z

ZAARA, pervigilium, or watching in fevers

Zaibac, and *Zibach*, terms for quicksilver.

Zail, a disease about the pubes, endemical in Ethiopia.

Zarnich, arsenic.

Zaruthan, a species of cancer in the breast.

Zea, maize, or Indian corn, one of the most nutritious and wholesome of the grains employed for the good of man. See Count Rumford's panegyric upon it in his *Economical Essays*.

Zedoaria, zedoary. The roots of this plant, *Kæmpheria rotunda* of Linnæus, are brought to us in pieces about the thickness of the little finger, two or three inches in length, bent, rough, and angular; or in roundish pieces, about an inch in diameter, of an ash colour on the outside, and white within. They have both an agreeable camphoraceous smell, and a bitterish aromatic taste. Though formerly much esteemed against rheumatic affections, they are at present thought to possess very little medicinal power, although they have a place in the *confectio aromatica* of the London Pharmacopeia. Grs. 10 to ʒss.

Zema, and *Zomus*, signify a decoction; broth.

Zinc, *Zincum*; a brilliant, blueish, white, semi-metallic substance, crystallized in narrow plates, without taste and smell. Native zinc is very rare, but is mostly found in the state of calx or calamine stone. (See *Calamine stone.*) The preparations of zinc are much employed medicinally. The flowers of zinc are used as antispasmodic in convulsions and epileptic fits, and the sulphate of zinc possesses extraordinary properties in removing intermittent affections, certain species of dropsies, &c. Calcined gr. ½ to viij. sometimes to ʒss. Sulphate of grs. ij. to ʒss.

Zingiber, narrow leaved ginger. *Amomum zingiber* of Linnæus. The white and black ginger are both the produce of the same plant, the difference depending upon the mode of preparing them. Ginger is generally considered as an aromatic, and less pungent and heating to the system than might be expected from its effects upon the organ of taste. It is used as an antispasmodic and carminative. The cases in which it is more immediately serviceable, are, flatulent colics, debility and laxity of the stomach and intestines; and in torpid and phlegmatic constitutions, to excite brisker vascular action. It is seldom given but in combination with other medicines. In the Pharmacopeias it is directed in the form of a syrup and condiment, and in many compositions it is ordered as a subsidiary ingredient—Grs. v. to ʒi.

Zona, from ζωννυω, *to surround;* a species of herpetic eruption surrounding the body; the shingles.

Zoology, from ζωον, *an animal*, and λογος, *a discourse;* that part of natural history which treats on animals.

Zoonomia, the laws of organic life; from ζωον, *an animal*, and νομος, *a law*.

Zootomy, the dissection of animals; from ζωον, *an animal*, and τεμνω, *to cut*.

Zoster erysipelas, and *Zoster herpes*, erysipelas with small vesications.

Zygoma, the cavity formed by the zygomatic process of the temporal bone; from ζυγος, *a yoke*, because it transmits the tendon of the temporal muscle like unto a yoke.

Zygomaticus Musculus, is a muscle that comes from the zygoma, and passing obliquely, is inserted near the angle of the lips. It helps to draw the lips obliquely aside.

Zygomatic Process. An apophysis of the os jugale and another of the temporal bone are so called.

Zythogala, posset drink, composed of beer and milk.

ZZ. myrrh; ginger.

APPENDIX.

CALLIDUM *Innatum* is an expression borrowed from the Stoical philosophy to express the natural heat of animals, which, as connected with life, has been also called βιολυχνιον, *the lamp of life*. By the ancient philosophers in general, heat was considered as connected with life, as the peculiar distinguishing property of living animals, or as the effect of divine interposition:

Est Deus in nobis, agitante calescimus ipso.

The ideas of Hippocrates on this subject were not very different; and, though Galen deviated somewhat from his master, no attempts were made to explain its source, till the chemical schools attributed it to effervescence and fermentation; the mechanical philosophers to friction—either of the particles of the blood on each other; of these on the vessels; or of the solid parts themselves. Each of these theories is however wholly inconsistent with the appearances, or with the functions, of the animal economy; nor need we in this place enter into arguments to refute opinions which no one at present adopts.

Dr. Franklin supposed that fire, or, in modern language, caloric, was combined with our aliments; and in the progress of the circulation, when the alimentary substances were decompounded, again separated in an active state: an idea simple and ingenious, in reality, the basis of more modern systems. When phlogiston was in fashion, Dr. Black supposed that the air acting on the blood, separated the inflammable principle; and since it was apparently changed in the same manner as it would have been by a burning body, a similar process probably occasioned the change. Dr. Duguid Leslie, in his Thesis, afterwards published separately, opposed this idea; and suggested an opinion not very different from Dr. Franklin's, that the phlogiston contained in all our fluids was separated during the circulation; and, as in every other circumstance where this principle was separated, heat ensued. This doctrine was, we believe, taught by Dr. Duncan in his class about that time; at least we have good reasons to attribute it to him. Yet each of these opinions must fall with phlogiston; but, though terms alter, we shall find that the principle of each has been retained, and that the same or similar ideas, in different forms, approach very nearly the solution of the problem.

The facts, however, have not been ascertained with accuracy. The heat seems to be almost uniform in every part of the body; and a thermometer under the tongue, in the axilla, in the rectum, in the urethra, and in a sinous ulcer, has pointed to nearly the same degree.

There is, undoubtedly, a difference in the degrees of heat of different persons, and probably in different parts. The earlier observations, as the construction of the thermometer was less correct, we shall omit; but, in general, the heat appears to vary from 96° to 98°. Dr. Martine and Dr. Hales found the urine to be 99° and 103° when the skin was 97°. Mr. Hunter observed the heat of the rectum to be 98°, and that of the bulb of the urethra 97°. A thermometer, two inches within the rectum of a dog, was at 100°, in the left ventricle of the heart 101°, in the substance of the liver 100¾°, and in the stomach 101°.

De Haen however remarks, that if a thermometer be applied under the arm for half a quarter of an hour, its height is 95° or 96°; if for a quarter of an hour, 97°, 98°, and 99°; if for half an hour, 100° and 101°; if for an hour, 101° and 102°. This passage has been little noticed, though we suspect it is alluded to by an author, who remarks, that the irritation produced by any body confined so long to a part, must increase the heat above its natural standard. To ascertain the fact, the author of this article put a very accurate and sensible thermometer, made by Dr. Wilson of Glasgow, under his arm, when in perfect health; and, confining the humerus loosely so as not to produce the slightest inconvenience, sat down to read. The pulse, as usual with him when sitting still for some hours, sunk to 56°, were the same in both arms, and the feelings in each arm continued the same for three hours, during which the experiment lasted. In a quarter of an hour the thermometer was 97°, in about an hour, 98°, and in two hours after, 99°. It never rose higher. We must add, that in other trials when the author's heat has been compared with that of different persons, it has always been found at least a degree lower; so that perhaps the real heat of the human body should be considered as 100°. This fact is, we think, of importance, when, with the accuracy of modern chemists, the capacity of the blood for heat in different situations is estimated.

Another fact, for which we are indebted to De Haen, is, that in putrid fevers the heat at the moment of death has been considerably increased, and that it even continued to increase after death, till, if we recollect rightly, it amounted to 104°. To this meagre catalogue of facts we can only add one other, which we think should be again examined, viz. that the venous blood of the internal organs is hotter than the arterial.

Observation, which ought to have preceded theory, should have furnished many additional circumstances to assist our inquiries; and it would have been of advantage to have ascertained the comparative capacity of heat of the blood in the vena portæ and the hepatic veins, perhaps of the blood in the splenic artery and the vasa brevia; nor would it have been wholly useless to have determined the capacity of heat of the different component parts of the vital fluid, with more accuracy than has yet been attempted. We must proceed, however, to explain the modern theories of Dr. Crawford and M. Lavoisier, taking the liberty of changing the language of the former; for, though phlogiston is no more, the language only, so far his theory extends, is changed.

We must anticipate a little the doctrines of an approaching article (Caloric), by explaining some terms essentially necessary to the proper comprehension of Dr. Crawford's system. If we suppose at this moment the existence of heat as a separate principle admitted, *absolute heat* is the real quantity of this principle; *relative heat* that quantity only which is obvious to the senses, or can be measured by a thermometer. Thus, according to the common instance, a pound of water and as much calx of antimony have the same temperature to the thermometer; but the water contains four times as much heat as the calx. The capacities of heat for retaining this principle, are also different, and measured by the degrees of sensible heat in each, after being exposed to the same temperature. Thus, if water and mercury are exposed to the same heat for a given time, while the temperature of the water is raised one degree, that of the mercury is raised 28°. The capacity of water then to that of mercury is as 28 to 1. These two qualities, absolute heat, and capacity for heat, are often confounded, and particularly by Dr. Crawford, who was not aware, that in the diaphoretic antimony the heat was really a component part of the calx.

In pursuance of the general distinction between absolute and relative heat, Dr. Crawford examined the arterial blood compared with water, and found it to be as 1.03 to 1.00. He consequently suspected, that the blood absorbed heat from the air in the lungs; and this idea was confirmed by the intimate connection between the increase of temperature and the frequency of respiration, as well as the extent of the respiratory organs. On pursuing the inquiry, he found that the absolute heat of atmospheric air was changed by passing through the lungs; and, in general, air contained absolute heat in the same proportion that it was adapted for respiration. On examining the state of the blood in the pulmonary vein and artery, he found the heat greater in the former than in the latter. The colour of the venous blood resembles more nearly that of arteries in a warm than in a cold atmosphere, for less heat is of course absorbed; and, in general, the heat absorbed by air is nearly the quantity produced by burning a wax taper, for the air is vitiated in nearly the same proportion by both processes. The absolute heat of different animal substances he ascertained to be as follows. Supposing water 1.0000, inflammable air was 21.4000, oxygen gas 4.7490, atmospherical air 1.7900, aqueous vapour 1.5500, carbonic acid gas 1.0454, azote 0.7936, arterial blood 1.0300, venous blood 0.8928, fresh cows' milk 0.9999, hide of an ox with the hair 0.7870, lungs of a sheep 0.7690, lean beef 0.7400.

To apply these facts to the subject before us, he found that the absolute heat of pure air at the common temperature of the atmosphere, was equal to 1550°. The heat of fixed air and aqueous vapour being one-third less, pure air changed to the two latter, would give out $3 \times 1550° = 4650°$. Many causes concur to reduce this quantity, but it will be evident that a large proportion of heat must be absorbed by the blood, as so little sensible heat is produced.

The capacity of the heat in venous blood appears to that of arterial as about 23 : 20. If venous blood be therefore converted to arterial, there will be this proportional loss of heat; but venous blood contains 1580°, and consequently the loss from the change of venous into arterial blood, would be very nearly 200°, if the deficiency were not supplied from the air. We now know also more clearly than at the period Dr. Crawford wrote, that oxygen contains a considerable proportion of caloric, and its abstraction is of course connected with a diminution of this principle. As oxygen therefore disappears in respiration, heat is lost to our senses, but recovered again in the increased capacity of the blood, after it has circulated through the lungs. The blood in circulation becomes replete with azote, and of course its attraction for oxygen is diminished. Heat therefore escapes in every part of the circulating system, and supports an equable warmth; till the blood returning to the lungs, again absorbs a fresh proportion of oxygen from the air, to be again partly separated for the support of animal life: we say partly, for the capacity of the remaining fluids being increased, a portion is absorbed, and becomes of these a component part.

This doctrine is recommended by its simplicity, its conformity to other appearances, and the ready application it affords to different phenomena; particularly the connection of animal heat with the extent of the respiratory organs, and the frequency of respiration. It explains also some other facts which require a more ample consideration.

The heat of animals, at whatever degree it may be placed, is uniform. We see that the lower the surrounding temperature is, the separation of the oxygen from the air will be more complete, and, of course, the separation of heat in the circulation. The arterial and venous blood will, as we have said, differ nearly in the same proportion in their colour. Thus the changes balance each other; and in warm countries, where putrefaction powerfully vitiates the air, breathing has a proportionably less effect.

This balance of the effects of heat in the air, and of the production of animal heat, goes further; for, when heat is increased beyond its due bounds, the same principle produces cold. Mr. Tillet found that a girl could live for some time in an oven heated to 220°; and Dr. Fordyce observed that a dog could live with little inconvenience in a heat of 260°; and he himself endured the heat of 230° for fifteen minutes, while the thermometer under his tongue pointed only to 100°. Dr. Crawford proved, that when a living and a dead frog were exposed to a great degree of heat, in air or water, the former acquired the heat of the surrounding temperature more slowly than the latter. These facts are readily explained from our author's system. It appears, from what we have observed, that the blood brings with it to the lungs such an increased capacity for containing heat, that if its temperature was not supported by the oxygen of the air, it would sink 200°: but in great heats, this capacity is supplied, and a small proportion only is absorbed; in very high degrees of temperature, probably none: and when, from the changes produced by the circulation, this extraordinary proportion of heat is separated, as it will be by the more rapid increase of the animal process, the superabundant heat is lost in the aqueous vapour, and in the evaporation, or rather the change of that vapour into air. Thus we see, also, why the heat in putrid fevers is so considerable, and why it may even increase after death; for the putrid fluids having a less capacity of heat, lose whatever they contained in consequence of their former capacity, and putrefaction hastening on rapidly after death, indeed more rapidly than the heat can be carried off, occasions its apparent increase.

The opinion of MM. Lavoisier and Seguin is more simple, but by no means meets so satisfactorily the phenometha, as the theory of Dr. Crawford. They consider respiration as a kind of combustion, in which pure is converted into fixed air, and the heat separated as the cause of animal heat. This, however, establishes a focus of heat in the lungs. This part must be the warmest, and the extremities the coldest, in the body, while the heat of the intervening parts must vary in proportion to their distance from the centre of inflammation. They avoid this difficulty, however, by alleging the rapidity of the circulation; and they elude the consequence of extraordinary heat in the lungs, by its diminution in consequence of evaporation; but if examined, neither would be found equal to the effects. Lavoisier however adopts part of the idea of Crawford; and when we recollect that the work of this latter author appeared in 1779, and the improved system of Lavoisier in 1780, we shall not doubt to whom this addition is owing. On the whole, the system of Dr. Crawford is apparently the true one. In the first edition there were some errors both in the experiments and calculations; nor is the second perhaps, though much more perfect, wholly free. Modern discoveries have indeed added to Dr. Crawford's system, and confirmed it; for, whether we consider the formation of carbonic acid gas from the addition of carbon, or that of water by the union of hydrogen, we shall find that in each change the vital air must lose a part of its specific heat. Yet it may be alleged, that Dr. Crawford, by ascertaining the capacity of aqueous vapour and of venous blood, has given a solution, though not so particular, equally satisfactory.

Various modifications of these opinions have been published. M. Girtanner, in the Journal de Physique for the year 1790, has suggested an opinion, that a part of the oxygen of the atmosphere unites with the arterial blood; a part with the carbon in the carbonated hydrogenous gas, which escapes from venous blood, forming carbonic acid gas; a part with the mucus, which is constantly decomposing; a part with the hydrogen gas of the blood to form water; and a part only remains in the blood to supply the animal heat. The effects of respiration will, therefore, be very numerous and different; but when the products are examined, they will, he thinks, be found the same with those of combustion. If Dr. Crawford's system be considered with attention, it will not, we suspect, be found to require such a complicated process.

De la Grange adopts the opinion of Dr. Duguid Leslie, or rather of Dr. Duncan, putting it only into a modern dress; and Hassanfretz does not greatly differ.

Dr. Gren, in the Annales de Chimie, supposes that no oxygen is communicated to the blood; but that the change from the venal to the arterial is owing to the separation of carbon and hydrogen, with which the oxygen forms carbonic acid, and the water expired in respiration. M. Matheric, in the Journal de Physique, will admit only of the combination of oxygen as *one* cause of animal heat, recurring as assistants to muscular motion and fermentation. Respiration, he thinks, conducts the electrical fluid to the blood, as the air of an apartment in which a person has long breathed, is electrified negatively; but this proves nothing, as all our excrementitious fluids possess a negative electricity. Linnæus hints at a similar cause of the heat of animals, when he observes, in his concise energetic language, *Flagrat electrico pulmonibus hausto.*

Dr. Menzies' experiments are connected rather with the subject of respiration than with animal heat; and we need only remark, that he thinks all the heat observed in the animal system may be explained from the quantity of pure air vitiated in the lungs; thus referring the heat of animals, like Lavoisier, to a species of combustion. The conclusion is, however, more correct in a chemical than in a physiological view. It will undoubtedly explain the heat of the blood in the lungs; and if Mr. Hunter's experiments, formerly mentioned, be admitted, for a little increase of the heat in those organs; but it will not explain the nearly uniform temperature in different parts. Indeed we know of no system which so readily meets all the physiological and pathological facts as that of Dr. Crawford, and it is, we believe, generally adopted.

To this system, however, one objection remains, viz. the heat, which the embryos of animals, and particularly of oviparous ones, possess independent of the parent. As the blood however of the fœtuses of vivaparous animals passes regularly through the lungs of the mother, it may be supposed to convey sufficient heat for the embryo; and, in confirmation of this idea, the blood of pregnant women seems to be highly oxygenated. No blood from the mother, however, can reach the embryo enclosed in an egg; and, though nature has provided a reservoir of air at one end, it is too inconsiderable to supply the young animal with warmth. It is singular, however, that the nature of this air has not been examined, nor has it been ascertained, though the quantity is known to be diminished in the progress of incubation, whether it undergoes any chemical change. Yet, as the yolk by which the chick is nourished, and the albumen itself, contain oxygen, this may be gradually evolved and impart its caloric; nor is this change merely imaginary, for we know that the mild fluids of the egg are gradually changed to azotic ones, whose capacity for heat is of course diminished.

There are however many arguments, which lead to Dr. Cullen's opinion, that the warmth of animals is connected with their life, and the effect of the principle which distinguishes them as living beings. It is certain, also, that vegetables which possess life, possess also some innate heat; though the change respecting the air, the inhale and exhale, is reversed; for they expire oxygen as an excrementitious fluid, while they draw in carbon at the radical fibres, and absorb hydrogen probably from the leaves. At present, however, we know too little of the vegetable economy to suffer a system, otherwise highly probable, to be disturbed by its apparent anomalies; and, while we thus put our readers in possession of all the facts, we shall leave the ultimate decision for the result of further investigation.

Caloricum, from *calor*, *heat*; Caloric. To what is said under the article *Caloric* in the body of this work, it may be useful to add the following, extracted from Dr. Parr's Dictionary.—"Lavoisier, in giving his reasons for the adoption of this term, says, "All bodies are either *solid*, *liquid*, or *in a state of aeriform vapour*, according to the proportion which takes place between the attractive force inherent in their particles, and the repulsive power of the heat acting upon them; or in proportion to the degree of heat to which they are exposed. It is difficult to comprehend the phenomena, without admitting them as the effects of a great and material substance, or very subtile fluid, which, insinuating itself between the particles of bodies, separates them from each other. This substance, whatever it is, being the *cause of heat*; or, in other words, the sensation, which we call *warmth*, being caused by the accumulation of this substance; we cannot, in strict language, distinguish it by the term *heat*, because the same name would very improperly express both cause and effect." He therefore gave it the names of *igneous fluid* and *matter of heat*. These periphrastic expressions however lengthen physical language, render it more tedious, less distinct and correct, so that the cause of heat, or that fluid which produces it, has been distinguished by the term *Caloric*, *considered as the respective cause, whatever that may be, which separates the particles of matter from each other.*

There is however an intermediate state of water in air, or rather approaching the form of air, which M. Lavoisier has not considered, viz. *vesicular vapour*. It contains a greater degree of specific heat than water, and less than either of the permanent elastic gases. Its form however does not seem wholly to depend on its heat, but on its electricity; by which it is repelled from the higher regions and does not descend in rain. This is the state of water in fogs and in clouds; but as this subject admits of no application to medicine, we need not pursue it in this place.

We have anticipated the distinction of absolute and relative heat in our article on *Callidum Innatum*, and shall now pursue its other effects.

When we speak of heat and its effects, we measure a very small part of an extensive scale. It is computed, though on no very secure foundation, that at about 1500° below the scale of Fahrenheit, it no longer exists; and we have in our power a degree equal to 32277° of that scale, the highest heat measured by Wedgewood's pyrometer. *Our* limits are between the 32d and the 120th degree of Fahrenheit, scarcely 88 degrees, yet even the effects of these changes are interesting.

Expansion is one of the first and most striking effects. So far as it is applicable to the human body, we have noticed it under the article of *Balneum*. We there mentioned the blood as one of the least expansile fluids; but, as in the experiment some gas must escape, a little inaccuracy might be suspected. We had then in our view the experiments by Lavoisier, Prony, Guyton, and Prieur, on the expansility of different gases; of the considerable and equable expansility of carbonic acid gas; and the very great expansility of azotic gas in high temperatures. We find, however, from a Memoir of an ingenious chemist, Guy Lassac, an abstract of which occurs in the Annales de Chimie, for 1802, (Thermidor, an. X.) that when every cause of error is removed, particularly the presence of water, atmospheric air, oxygen, hydrogen, azote, nitrous, ammoniacal, carbonic, sulphureous, and muriatic acid gases, as well as the vapour of sulphuric æther, are dilated equally by the same degrees of heat; and that in the centigrade thermometer, from 0 to 80°, each dilated about $\frac{1}{213}$ of its bulk for each degree. Of the fluids the most expansile is nitric acid, then linseed oil, sulphuric acid, alcohol, water, and mercury, in their order. Of the metals, the expansility is nearly in the order of their fusibility, viz. zinc, lead, tin, pewter, brass, copper, bismuth, iron, steel, antimony, and platina. Of liquids the expansion is different, but few expand equably, viz. in equal degrees with equal increments of heats. Those which approach nearest to an equable expansion are mercury and alcohol, and are consequently preferred for filling thermometers. This effect of heat admits but of little application in the practice of medicine. Cold applications in hernia, and in topical inflammations, are the principal remedies which act in this way; though the latter admit of a somewhat different explanation.

Another effect of caloric, is the equilibrium which it affects; but this admits of modifications which we have already explained. The heat which raises one body a given degree, very slightly affects another; but to the touch and the thermometer the heat is in time the same. This law of heat chemists have found it difficult to explain. The popular idea, though not a correct one, may be the usual allusion of a sponge, which suffers the superabundant fluid to escape when its pores are filled. This allusion also explains another effect, viz. when any body is dilated, heat is absorbed, when compressed, it escapes. Thus in an exhausted receiver, if the air is humid, a cloud is formed on exhaustion. In a condensing engine we find heat escape sometimes rapidly; and, when suddenly dilated before the air can again absorb the free heat, even inflammation has taken place. We must repeat, however, that this allusion to the sponge is by no means correct. The equilibrium of heat depends rather on affinity, though apparently subject to some peculiar laws, and is little connected with physiology, as it relates to free caloric, and not to absolute or specific heats.

The laws of heat, most interesting to the chemical physiologist, relate to the powers of different substances in conducting heat. The motion of heat is slow, particularly when the conductors are fluids. Some authors, confounding heat with light, have given the former the velocity of the latter. They are however essentially distinct; and when air and water are interposed between small filaments of a solid, its motion is peculiarly slow. This renders feathers, eiderdown, and boiled mashed apples, bad conductors of heat; metals of every kind are, for the opposite reason, good conductors. We preserve the heat of the body by fur and eiderdown, and apply rasped potatoes to burns, which keep the part constantly cool. Count Rumford endeavoured to show that water was a non-conductor of heat, and that it boiled in a vessel over the fire by successive currents coming in contact with the bottom. Such currents evidently exist, and explain the common paradox of the bottom of a kettle being cold while the water boils; but that water is a non-conductor of heat, can be by no means concluded from the experiment. On the contrary, Dr. Thomson has shown in Nicholson's Journal, vol. iv. p. 159, that water really conducts heat. Metals we have said are good, indeed they are the best conductors. Of these, silver is better than gold, and this last metal excels copper and tin, which do not greatly differ. Platina, iron, steel, and lead, are greatly inferior, and nearly in this order. Next follows stones, then glass, and afterwards dried woods, fine sand, charcoal (Annales de Chimie, xxvi. 225), feathers, silk, and wool, in the inverse ratio of their fineness. Of fluids, Dr. Thomson found an equal bulk of mercury to be twice as good a conductor of heat as water; and linseed oil somewhat better. It is highly probable, that the conducting power of bodies is in the ratio of their affinity for heat.

Bodies of different colours convey heat also differently. The difference between white and black is well known; and the more intense colours, as red, orange, &c. convey it more readily than the blue or indigo. If heat and light are distinct bodies, as is now generally supposed, and light only excites the action of caloric, we can easily understand why bodies which reflect all, or the greater proportion of light, excite little heat. Count Rumford, in the Philosophical Transactions for 1804, has shown, that blackening a cylinder expedited the cooling of water in it: in fact, the communication of heat from bodies to air is slow, and an intermede of less density, if no air is interposed between its particles, facilitates it. Another reason of this unexpected effect, is the destruction of the polish. Polished surfaces communicate heat slowly; and this is an additional reason for the warmth of furs, whose fibres possess a high polish. For this reason silk clothes are cold; and even black clothes, in this author's opinion, *in the shade*, are cooler than those of other colours."

Cortext Peruvianus. In addition to the article under this head in the body of this work, we conceive Mr. Parr's account of it in the appendix to his Dictionary, well worthy of insertion in this place.—" Since this article was printed we have received the experiments of Vauquelin on the different species of bark, of which we shall add an abstract from the fifty-ninth volume of the Annales de Chimie. It is difficult to ascertain, our author remarks, the real goodness of this medicine by its sensible qualities. M. Seguin proposed, as a criterion, the precipitation of tanin, while the bad kinds precipitate a solution of animal jelly; but there are many species of true bark which do not precipitate tanin, though they cure intermittents.

A superior kind of yellow bark, styled royal, infused for twenty-four hours in water, communicated a yellow colour, a very bitter and slightly astringent taste. It formed a copious flocculent precipitate, with a solution of isinglass; a green one of a bilious hue, by a solution of sulphat of iron; and a yellowish white sediment, by tartarised antimony. Oxalate of ammonia, precipitated oxalate of lime, and the solution sensibly reddened the tincture of turnsol.

After the precipitation by the isinglass, when filtered, it was colourless, scarcely astringent, though the bitter taste was sensibly preserved. It gave a green tinge to the solution of iron, as before, though with a yellower hue, and precipitated also the tartarised antimony; but the precipitate was whiter.

Another portion of the same infusion, precipitated by tartarised antimony, and filtered, still rendered an infusion of isinglass and of vitriolated iron turbid. The precipitate, first formed by the antimony, was rendered slightly green by the addition of some drops of sulphat of iron. It would seem, therefore, that the principle which precipitates tartarised antimony, isinglass, and the sulphat of iron was the same; and if the property still remains after precipitation with tartarised antimony, it is apparently owing to the combination of this principle with the antimony remaining in the solution. This supposition, however, is scarcely reconcileable with the very abundant precipitation of isinglass by some barks, which do not precipitate tartarised antimony, so that they seem rather to depend on two different principles. The decoctions afforded the same appearances; but the precipitates were more abundant, and were deposited more quickly. The decoction, as well as the infusion, precipitated solutions of sulphat of copper of a reddish yellow, and of acetat of lead of a yellowish white.

The *Santa Fé bark*, though lately introduced, has been found very efficacious. It is grey externally, red within, thick, slightly curled, with a taste strongly astringent, but an inconsiderable bitterness. Its infusion is much redder than that of the former species; it precipitates a solution of isinglass in red flocculi, and an infusion of yellow bark itself in a very copious red sediment. Though the effect on a solution of tartarised antimony is considerable, it precipitates a solution of iron in a beautiful deep green, sensibly reddens the tincture of turnsol, is precipitated by oxalate of ammonia in oxalate of lime, though less copiously than the infusion of yellow bark. It precipitates the acetat of lead and sulphat of copper in a reddish brown sediment; so that the principle which precipitates the antimony is probably different from that which precipitates the other salts; and, therefore, this species wants some component parts which the other possesses. If, too, they were the same, they would not render each other turbid.

The decoction of this species does not differ from the infusion; but it was not turbid on cooling, and does not possess a sufficient quantity of the principle which precipitates the antimonial and other metallic solutions; for M. Vauquelin is confident that the depositions formed by the decoction of bark, on cooling, are the same which in the bark of Santa Fé precipitates the iron of a green colour, lead yellow, and copper brown, without affecting the salts of antimony. We may, therefore, at least, in his opinion, presume that this species is a weaker bark than the yellow.

The third species was the *grey cincona, styled superior*. The infusion is colourless; but the taste bitter and astringent. It produces a copious white precipitate from a solution of isinglass, of red from tanin, of white from tartarised antimony, and of a beautiful emerald green from vitriolated iron, but induces no change in the infusion of yellow bark.

Grey canella cincona produces an infusion of a deep red colour, a bitter and astringent taste; precipitates in a fawn colour a solution of isinglass, and communicates a green colour to a solution of sulphat of iron; but does not precipitate a solution of the antimonial salt, and occasions no change in the infusion of the superior grey bark, or the infusion of tanin, though it throws down a copious fawn-coloured precipitate from the infusion of yellow bark.

These vegetable infusions, precipitated one by the other most completely, no longer produce any effect on tartarised antimony; from whence it is probable that the principle which, in the yellow bark, precipitates the antimonial, is combined with some substance of the grey canella bark and of tan; but these infusions thus mutually precipitated, still copiously throw down the isinglass from its solution, so that the principle which precipitates the latter is not the same that decomposes the antimonial. What confirms this opinion is, that the infusion of yellow bark precipitated most completely by a solution of isinglass still decomposes the antimonial, though certainly in a less proportion. The precipitation of the metallic salt is not occasioned by the isinglass, which produces no effect on it. The mutual precipitates of the yellow and grey canella barks is brown, dries readily, bubbles when heated, exhales a smoke void of acrimony, and shows some analogy to animal matters, by leaving a light, spongy coal.

The *red bark* has been improperly called the *pitton bark;* for the latter is a different substance. The infusion is of a red colour, with a light tint of the orange, a bitter and astringent taste. The precipitate, with isinglass, is copious and of a red colour; with emetic tartar, of a yellowish white; with the infusion of the grey canella, brown; with the sulphat of iron, green. It acts on the other metallic solutions as the former species.

The *grey cincona* was put into our author's hands by M. Bouillon la Grange. The pieces are thin, curled, apparently from the branches or very young trees, apparently of the kind of the quinquina of Loxa, which will be soon noticed. The infusion of this bark, in colour, resembled the red Malaga wine, with an astringent and bitter taste: precipitated isinglass of a white colour, tanin of a yellowish red; infusion of a yellow bark grey; emetic tartar in flakes of a yellowish white; sulphat of iron green, and the acetat of lead white. It did not precipitate the sulphat of copper, nor the infusion of the Santa Fé bark. This bark is seemingly an active medicine.

The *dead grey bark* is apparently the white Santa Fé bark, brought home by Humbolt, which will be soon described. The infusion is of the colour of Malaga wine, without astringency or bitterness, producing a copious precipitate of yellow bark, in brown flocculi, and giving a solution of red sulphat of iron a beautiful green, which soon forms a similar precipitate. Emetic tartar, isinglass, and the canella cincona produce no change in it; so that, if a species of bark, it is a very inert one.

The *yellow bark, cincona pubescens* of Whal, macerated for twenty-four hours in distilled water, yielded a transparent fluid of a golden colour, very bitter, and frothing by agitation. Gallic alcohol threw down a copious precipitate re-dissolved by an excess of alcohol and again precipitated by adding water, which proves that the matter separated by the tanin is not purely animal. It precipitates the solutions of tartar emetic and nitrated silver of a yellowish white, gives the sulphat of iron a decided green colour, without precipitating any thing. A solution of isinglass produced no change, and the tincture of turnsol was not reddened. The fluid, during evaporation, deposited a rose-coloured substance on the sides of the capsule; when reduced to the consistence of a syrup, a precipitate was still formed of a brown marron colour; the fluid, when filtered, was coloured, and contained the salt peculiar to the bark. The brown substance, washed with a small quantity of cold water, is chiefly soluble in hot water and alcohol, very sparingly in cold: the taste is very bitter.

In the watery solution of this deposition galls form a copious precipitate. Tartar emetic and nitrat of mercury produce the same effects as in the maceration: sulphat of iron is changed to a green; oxygenated muriatic acid loses its smell, and forms, with the solution of this substance, a flocculent precipitate. Isinglass produces the same effect as in the maceration. The sulphuric and acetic acids produce no change, and, when diluted with caustic potash, no ammoniacal odour is exhaled.

Two hundred and twenty-five grammes of this substance dried, and submitted to distillation, yielded much water, a sensible quantity of ammonia, and a purplish oil, which loses its colour by a solution in alcohol; but recovers it when its menstruum is evaporated. A small proportion of charcoal was left in the retort, which, by combustion, gave about one eleventh of ashes, soluble in muriatic acid, and which consisted of lime and iron.

The bitter coloured substance evidently produces all the phenomena just described; apparently holds a middle rank between vegetable and animal matter; and seems to M. Vauquelin to be the efficacious principle in the cure of agues. The fluid, separated from this substance, was triturated with alcohol, which took up the colouring part, and seemed only a portion of the same substance which had been retained by water. The portion which the alcohol would not dissolve resembled a thick mucilage, with scarcely colour or taste. It dissolved copiously in water, yielding, by evaporation, lamellated crystals of a salt, to be soon noticed, which were slightly coloured.

The seventh maceration of the same bark still precipitated a solution of galls, and it was supposed that cold water could not wholly dissolve the principle which produced this effect. The remaining bark was consequently boiled, and the decoction resembled in every respect the cold infusion, except that it did not dissolve tartarised antimony, probably because its principle was too much diluted.

Eighty-four grammes of the *Cincona officinalis*, treated like the last species, yielded a fluid equally bitter, but of a lighter colour and more mucilaginous. The infusion slightly reddened the tincture of turnsol, and, with re-agents, the appearances were the same as with the cincona pubescens. All the infusions were inspissated by evaporation; but the remaining water, containing the *essential salt of the bark*, was evaporated separately, and crystallised. After separating "the colouring matter by means of alcohol, it furnished crystals in a few days." We have thus two species of bark which do not precipitate isinglass, and consequently do not possess the principle which produces this effect "in the other species; these then, according to M. Seguin, should be styled the best kinds."

Cold water, repeatedly effused, still furnished a precipitate with galls, and the residuum was consequently boiled. The decoction was less bitter than the infusion, but more mucilaginous than that of the cincona pubescens: precipitated gall-nuts, and nitrated mercury, rendered the sulphat of iron green; but produced no precipitation with solutions of emetic tartar and isinglass. This species differs, therefore, from the *superior grey bark*.

The next kind examined was the *cincona magnifolia*. One hundred grammes of this bark, reduced to a fine powder, macerated for twenty-four hours in water, gave a solution which passed the filter with difficulty, was of a ruby red, slightly mucilaginous, and bitter; but with a decided astringency. The tincture of turnsol was not reddened, galls and tartarised antimony not precipitated by it, though a copious precipitate appeared on adding a solution of isinglass; and on infusion of the two last species the sulphat of iron was changed to a light green, which the oxygenated muriatic acid rendered of a dirtier hue. The second infusion no longer precipitated isinglass.

The infusions, evaporated, were digested in warm alcohol, which acquired a very beautiful colour, and when diluted with water, and tried by the re-agents employed in the first maceration, produced the same effects; so that the principle on which these depend is soluble in alcohol. The portion, not soluble in alcohol, was of an ochry red, blackened by the access of air, and was soluble again in water. The solution neither precipitated isinglass, nor galls, though it precipitated nitrat of mercury and emetic tartar, and rendered sulphat of iron green. This substance, insoluble in alcohol, yielded, by distillation, ammonia and one twenty-fifth of coal.

A *kind of bark sold without a name*, but with all the characters of the *c. magnifolia*, yielded, however, a solution of a less deep colour, though more bitter and less astringent. This solution sensibly reddened the tincture of turnsol, precipitated neither galls nor tartar emetic, but rendered sulphat of iron green, and precipitated nitrat of mercury. In general, it agreed with the *c. magnifolia*; but a decoction of the residuum did not precipitate tartarized antimony.

The *true pitton bark* resembles in colour, form, and bitter taste, the St. Domingo bark, analysed by M. Fourcroy. The infusion communicated to water the colour of venous blood. The taste is more bitter and disagreeable than that of others. Tincture of galls, emetic tartar, nitrat of mercury, sulphat of iron, and oxygenated muriatic acid, produced with it copious precipitations. Solutions of isinglass were unchanged. The infusion left, on evaporation, a residuum, which partly dissolved in alcohol, communicating to it a beautiful red: the portion insoluble in alcohol was grey, and appeared like earth. The solution resembled the infusions: the residuum gave out, on distillation, ammonia.

Some specimens of bark brought by Humbolt and Bonpland were next examined. The first was the *cincona of Loxa*, proceeding from branches of two years old, and destined for the repository of the king of Spain. The colour externally is grey; within yellow; in quills, with a bitter and astringent taste. The infusion was of a yellowish red, slightly coloured, with an inconsiderable smell of mould, a bitter taste, precipitating galls, tartar emetic, and acetat of lead of a yellowish white; iron of a blueish green; oxalate of ammonia, white; and solutions of isinglass in large, glutinous, white flocculi. The precipitates formed by isinglass and the antimonial salts were re-dissolved by an excess of the warm infusion. From these qualities M. Vauquelin supposes that it must be a very active medicine.

The *white bark of Santa Fé* is of a rusty yellow externally, and of a deeper colour within. The pieces are flat and thick, with a granulated fracture; the taste neither bitter nor astringent. The infusion is of a deeper yellow than that of the last species, precipitating neither galls, emetic tartar, nor isinglass; but rendering a solution of iron green, and precipitating acetat of lead of a brownish yellow. This is consequently not a species of cincona.

The *orange cincona of Santa Fé* of the yellow colour of canella, without an epidermis, thick, of a very fibrous fracture. The thinnest pieces are in quills, the thickest flat, without astringency. The infusion is scarcely coloured, the bitter taste decided, precipitating copiously tanin and tartarized antimony of a white colour, rendering a solution of iron slightly green, without injuring the transparency of the infusion of the Loxa bark. We can, therefore, scarcely expect any decided febrifuge virtues from this bark.

The *common bark of Peru* is grey without, and of an ochry red within. The surface is wrinkled; the bark itself in quills of different thickness; the taste bitter and astringent. The infusion is slightly yellow, with a bitter and astringent taste, precipitating tartar emetic, isinglass, and tanin of a yellowish white, and sulphat of iron green. It reddens the turnsol, and appears to resemble the grey (*superior*) bark.

The *red bark of Santa Fé* seems to resemble that called the Santa Fé bark, without any distinction. It yields an infusion, resembling in colour Malaga wine, with a taste slightly bitter, but astringent, precipitating isinglass of a brown colour; but not emetic tartar, nor tanin; rendering the sulphat of iron green, and slightly reddening the turnsol.

The *yellow bark of Cuenza* was taken from branches of from four to six years old; but it seemed to have been damaged. It was covered with a white moss, of a yellowish brown internally, with a fibrous fracture, and no taste. Its infusion is neither bitter nor astringent, precipitating neither tartarized antimony, isinglass, nor tanin; rendering the sulphat of iron green, and precipitating the acetat of lead.

To elucidate the nature of the principles of the bark, M. Vauquelin next examines some analogous vegetable substances better known. The first of these is the *galls*. The infusion of galls precipitates copiously the solution of isinglass white, iron blue, emetic tartar of a yellowish white, the infusion of yellow cincona in dirty white flocculi, copper of a yellow brown, and lead of a yellowish white, without affecting the infusions of the Santa Fé bark or of tan. Galls appear, therefore, to approach in properties the yellow bark. They differ, however, in their action on tan and iron, as well as in precipitating each other.

The *infusion of tan* precipitated the solution of isinglass yellow, iron blue, copper brown, without affecting the infusion of the Santa Fé bark, or a solution of emetic tartar. It reddens the tincture of turnsol, and is precipitated by the oxalat of ammonia. An essential difference is, therefore, perceiveable in its want of influence on the antimonial salt. The *bark of the cherry-tree*, sometimes mixed with the Peruvian bark, has only one common property, viz. precipitating the sulphat of iron green. The *centaury and chamædrys* are exactly similar to the cherry-tree bark.

The *white willow bark* certainly possesses some of the properties of cincona, and precipitates, on infusion, isinglass, sulphat of iron green, and acetat of copper brown: uniting, therefore, the bitter and astringent principles, it is probably a febrifuge.

An infusion of *Angustura bark* does not precipitate isinglass, but throws down a copious precipitate from an infusion of galls and of yellow bark, rendering that of the Santa Fé very slightly turbid. Iron, emetic tartar, copper, lead, and tanin, are all precipitated yellow. Angustura bark, therefore, differs from the Peruvian from its want of astringency, and the principle which occasions the precipitations is not probably the same, as their colour is different.

Those infusions and decoctions which precipitate neither the infusion of tan nor tartarized antimony communicate to water a red colour, often a yellowish, sometimes a brown, red; froth by agitation; are bitter, with more or less astringency. Left to the air in a vessel not quite full, they mould rapidly, and are covered with a greenish pellicle; some of these sensibly redden the tincture of turnsol, showing an acid at liberty. Alcohol, mixed in the proportion of two parts to one, precipitates a greyish matter, which, on drying, is black. The liquor then becomes clear and of a purer red: these appearances show the presence of a mucous matter.

A small quantity of pure alkali in the acid infusions throws down a red precipitate, approaching the violet; but a larger quantity redissolves the precipitate, adding to the intensity of the colour. When evaporated, the colour becomes deeper; and on cooling, after concentration, a brown, very bitter, matter is deposited, dissolved, especially with the assistance of heat, in alcohol, and again precipitated in water, if the solution is sufficiently concentrated. Water itself dissolves this matter, which it has abandoned during the evaporation; but it requires a much larger proportion than when the other principles of the cincona were present, which seems to prove that these principles assist the solution.

If the infusions of bark are allowed to cool frequently before they are reduced to dryness, they deposit, at each cooling, a matter similar to that just spoken of, and this has been supposed to have become insoluble by its union with oxygen;

but is really deposited from the want of a sufficient proportion of water. This apparently resinous matter gives the infusions their bitter taste; for if mixed with the same proportion of water, after the separation the degree of bitterness is nearly the same. The whole of this portion is not, however, separated; the other principles retain a part of it in solution. If, however, these soft extracts are treated with alcohol, so as to separate the "*resiniform*" matter, a brown viscid substance only remains, which is not bitter to the taste, and which dissolves in water, without separating when cold. There are consequently, in these kinds of bark, two distinct substances, one bitter and astringent, soluble in alcohol, and scarcely soluble in water; the other insoluble in alcohol, of a sweet mucilaginous taste, wholly taken up by water.

The former of these substances in a dry state is of a red brown colour, intensely bitter, soluble in part only in cold water; while the other is dispersed in the fluid in the form of reddish flocculi. If heated, however, the latter dissolves also, and the liquor is clear, of a deep brown, turbid on cooling, but leaving only a slight deposit. It is singular that with a small proportion of water this substance dissolves wholly in a clear liquor; it becomes turbid if more water is added, and again clear, with a still larger proportion. It seems, therefore, accompanied with another principle, which, when concentrated, favours its solution; but this substance loses its property by dilution.

This is the matter which renders the decoctions of bark on cooling, and the infusions, evaporated to a certain degree, turbid: authors have styled it the resin. When dissolved in water it grows mouldy in a few days, forming little mushrooms, like a solution of gum, which shows that it is not a true resin; for this never grows mouldy.

The watery solution of this substance recently prepared is coagulated by ammonia, in a whitish, thick matter, which becomes brown in the air, and soon hardens considerably; but it is softened, and rendered ductile by heat, assuming the brilliant silkiness of turpentine, when moulded in the hands. Nearly the same phenomena are produced by mild alkalis; but the acids produce no sensible change. The oxygenated muriatic acid renders it yellow, without occasioning any precipitation; though, if ammonia is then added, a greyish white, light, flocculent deposit is thrown down. Animal jelly does not precipitate it; yet the infusion of these kinds of bark precipitate the solutions of animal glue: the principle which produces this effect is consequently altered by the evaporation. Muriat, or any other salt, of iron produces a deep green colour, and soon afterwards a precipitate of the same shade. Tartar emetic forms no precipitation, so that the substance is not the same which decomposes this metallic salt in some species of barks. It reddens very sensibly the tincture of turnsol.

The acidity of this peculiar principle, and the effects of acids, led to a suspicion, that part of its solubility was owing to a free acid; and the suspicion was confirmed on finding that, when first combined with an alkali, washed and dried, the remainder was scarcely soluble in water. To ascertain this fact, our author put some of this insoluble substance into water, sharpened with different acids, and he found the solubility and the bitter taste restored. A portion of the alkali, however, employed in the precipitation is apparently retained; for, after precipitating the infusion by ammonia, and repeatedly washing it pure, potash produced a very sensible smell of ammonia; an effect which it had not before the precipitation. This matter, then, seems sometimes to act as an alkali, sometimes as an acid, since it unites to both, neutralizing a part of their properties. If, after having precipitated this matter by acids, they are added in excess, it is re-dissolved, and the fluid assumes a brown red colour.

The solubility of this substance in alcohol increases in a peculiar degree by heat. When the menstruum is saturated it has a red brown colour, and a very bitter taste. The addition of water throws down a copious precipitate of a beautiful red, approaching a rose colour. This alcoholic solution exposed to the air in an open vessel, crystallizes in needles like a salt. The solution thus precipitated by water preserves a portion of the matter, which gives it a rose colour inclining to an orange, and a sensibly bitter taste. It deposits this substance in the form of plates of a red brown, by spontaneous evaporation.

The portion of cincona, insoluble in water, filtered and evaporated spontaneously in a warm place, thickens like syrup, and crystallizes in laminæ, sometimes in hexaedra, sometimes in rhomboids, occasionally in squares, slightly coloured, of a reddish brown. A thick liquor incapable of crystallization remains, which must be separated by decantation. By successive solutions and crystallizations this salt may be obtained white and pure, in which state its properties will be soon explained. What may be styled the mother water is wholly mucilaginous, yet it contains some of the salt, which will not admit of crystallization.

The species of cincona of which the author has been treating, though exhausted by water, and even by alcohol, still *furnish somewhat to acids*. They all operate by simple solution, without changing sensibly the nature of the barks. If, however, reduced to a fine powder, and submitted repeatedly to the action of alcohol, assisted by heat, little remains for the acids, since the portion which the latter dissolve is similar to that taken up by the alcohol, as will soon be explained. The nitric acid acquires, by this combination, a red colour, bordering on the rose, sometimes on the orange; but the shades vary in proportion to the concentration of the acid; for they are of a yellower hue when the concentration is greater. The acid loses a part of its acidity by taking up some lime, which the oxalate of ammonia discovers. If to this nitric solution a saturated, carbonated, alkali be added, a beautiful red precipitate is formed: if the common carbonat is added in excess, the colour of the precipitate passes to a violet and a blue. Thus alkalis turn to a blue those barks which are naturally red.

The metallic solutions form precipitates of different colours, in proportion as the nitric acid contains more or less vegetable matter; but, in saturating the excess of acid, the metallic salts produce copious precipitates, and the liquor is discoloured. Thus muriat of tin produces a rose or a flesh-coloured precipitate; sulphat of iron a grey; of copper a marron brown; sulphat of titanium, assisted with a little carbonat of soda, an orange red, not unlike that produced by galls in solutions of this metal. Alum produces no change; but, with the assistance of a little alkali, throws down the colouring part, and the liquor becomes clear. In the country where these barks grow a solid red marron dye for linen or cotton might be prepared from them, which would become a rose colour by soap.

The sulphuric and muriatic acids dissolve the supposed resin of these barks, and may be saturated with it, like the nitric acid. The colour verges less on the yellow, and is of a more decided red. The precipitates formed by adding alkalis to these combinations are also of a purer red, and an excess of the alkali gives a stronger blue. The residue of these barks appear to contain a large quantity of lime, at least after adding the sulphuric acid much sulphat of lime may be obtained. If it be ever proved that this resiniform substance is the salutary medicinal ingredient, much advantage might be gained by joining acids or wine to the bark. In fact, in infusion and in slight decoctions, little of this matter is obtained, and of that little a part is deposited. It is well known that the salt of bark is not efficacious in fevers, in proportion to the quantity of powder from which it is extracted; which proves that something is left in the mock, the dried residuum, useful in these complaints. It is injurious then in making the essential salt of bark to evaporate the infusion till the resiniform deposition falls down, and to repeat this operation till the fluid remains clear; for a very small proportion of the supposed resin then remains in the water; but the principal ingredients are a gum and a calcareous salt, whose medicinal utility is very doubtful.

Is there any vegetable principle, then, to which this supposed resin can be referred? It is true that various substances have been styled so which have few common properties; but, in strict chemical language, this and many similar substances do not deserve the name. If it resembles resins by solubility in alcohol, it differs by its solubility in water, acids, and alkalis, particularly its property of precipitating metallic salts, and fixing as a dye on stuffs. This substance, then, is a peculiar vegetable principle, whose properties are not yet well known; nor is it, as we have seen, the same in every kind of bark; in those, for instance, which precipitate tanin and emetic tartar, and in those which precipitate isinglass only. The principle on which the bitter taste of vegetables depends is probably very analogous to it.

Racapitulation.—Barks may be divided into three classes from their chemical properties: 1. Those which precipitate tanin and not animal glue; 2. Those which precipitate the latter, and not the former; 3. Those which precipitate both, as well as tartarized antimony. Every vegetable substance, therefore, which does not possess one of these properties is probably not a cincona; and, in proportion to the greater number or degree of these, the febrifuge effects will be more striking. The property of precipitating tanin is not common to all the species, and on this, therefore, the febrifuge virtue does not depend; but all the more powerful kinds agree in precipitating an infusion of oak bark and of galls. This, however, is not the only febrifuge principle; for some barks have not this property.

The principle which precipitates the infusion of tan and of galls is brown, bitter, less soluble in water than in alcohol, and precipitates also tartarized antimony, but not isinglass. It has some analogy with resins, though it furnishes ammonia by distillation. The precipitations are formed by its union with tan and galls; but yet, as it exists in some species of cincona, which precipitate also isinglass, it is doubtful whether an union really takes place, or whether the principle which in other species of bark precipitates isinglass be truly tanin. One or other of these suppositions must, however, be true, since these infusions precipitate each other. The principle which precipitates isinglass has a bitter and astringent taste, is more soluble in water than that which in the other species precipitates the infusion of tan, is soluble also in alcohol, and does not precipitate emetic tartar. The substance which precipitates tanin seems the same which decomposes the antimonial salt. Much, therefore, still remains to ascertain on what principle the cure of fevers by the bark depends.

M. Vauquelin next examines the essential salt of cincona, prepared by the younger Deschamps. It is white, in square crystals, sometimes rhomboidal or truncated at the solid angles; the laminæ occasionally unite in groups. The taste is inconsiderable, the salt bends between the teeth, requiring five parts of water at the temperature of 10° of the centigrade thermometer. It swells on burning coals like tartar, which it then resembles in smell, leaving a greyish matter, which effervesces with acids, and appears to be a mixture of carbonat of lime with charcoal. The solution does not change the colour of turnsol, and the salt is wholly insoluble in alcohol. The lime is precipitated pure or carbonated by alkalis in either state; but ammonia produces no decomposition. The sulphuric and oxalic acids throw down, from solutions slightly concentrated, either sulphat or oxalat of lime; but acetat of lead or nitrat of silver produces no apparent change. The concentrated sulphuric acid, poured on the dry powder, renders it blackish; but separates no poignant vapours, as from acetats. It is remarkable that the infusion of tan, and of some kinds of bark, particularly of the Santa Fé species, occasions a yellow, flocculent precipitate from the solution of this salt, so that it appears to be composed of a vegetable acid and lime. When our author endeavoured to separate the acid by the oxalic he found the lime in a very small proportion, and the remaining fluid, evaporated in the open air, was thick like syrup; but produced crystals only after a slight accidental agitation. These quickly formed a solid mass by the union of numerous laminæ, diverging from different centres of crystallization. The colour was a light brown, the taste very sour, and slightly bitter, as the acid was not perfectly purified.

This acid is neither deliquescent nor efflorescent, melts readily on burning coals, boils, blackens, and exhales white poignant vapours, leaving a slight coaly residuum, forming, with alkalis and earths, salts both soluble and crystallizable, precipitating neither the nitrats of silver, mercury, nor lead, like the greater number of other vegetable acids. It will be obvious, therefore, that it differs from the other vegetable acids; for the oxalic acid forms an insoluble salt with lime, and decomposes the union of this acid with lime; the citric and tartarous acids form also, with lime, insoluble compounds, and decompose the acetat of lead; the malic acid does not crystallize, and decomposes the saturnine salt; the benzoic acid is scarcely soluble in cold water, and is volatile, without being decomposed; the gallic acid is equally insoluble in cold water, and blackens the solution of iron; and the acetous acid does not crystallize, but rises by heat without any change. M. Vauquelin, therefore, styles it the *kinic acid*, and this, when united with lime, the physicians at Lyons have found, it is said, such a powerful febrifuge, that no intermittent fever can resist two doses of thirty-six grains each: about a dram of this salt is contained in five or six ounces of the common grey bark. Our author adds some very judicious doubts on this subject, on which we need not fully enlarge. The effects of the infusion and extract of bark prepared by Garaye, he observes, are by no means proportional to the quantity of bark from which they are taken, though they contain this salt; and tinctures which retain no portion of it are powerful febrifuges. Some kinds of bark, with very little of this salt, and vegetables, wholly without it, are found to cure fevers. If it has succeeded, M. Vauquelin suspects that the bitter principle has not been wholly separated.

We must apologize for this long abstract; but we are unwilling to omit a single fact of this very curious specimen of vegetable analysis, especially as foreign works now reach us irregularly, and this paper has only appeared in one journal not extensively circulated among physicians, viz. Mr. Nicholson's. From this analysis many of the phenomena which attend the pharmaceutical preparations of bark are fully understood, particularly the effects of alkalis and magnesia in heightening the colour; and the mode of preparing the salt of bark is sufficiently obvious."

Craniology. The brain has been considered as the material organ of an immaterial principle; as the instrument rather than the agent. The faculties of the soul are found only in animals which have a brain, are generally proportioned in their extent and variety to the size of the brain, are injured or destroyed by the lesion or destruction of this organ.

We find also the intellectual faculties independent of each other; and, even when they exist apparently in the same perfection in one individual, they are exercised with different degrees of activity at different times. This independence of the faculties is a position of considerable importance in Dr. Gall's system, our chief object at present; because he at once draws a consequence from it, that faculties, thus independent in their nature, are not connected in the organ, and that the evolution of the organs is in the direct ratio of the corresponding faculties. We doubt whether the conclusion is correct; nor, indeed, do we see, if it be admitted, how the author can refuse to allow of the division of what is immaterial, a solecism in physics, or separate independent powers acting in different parts; in fact, of as many souls as there are faculties. Dr. Gall thinks, however, that the evolution of different faculties is the cause or effect of distinct protuberances of the cranium, and that the peculiar mental power of the individual may be ascertained by inspecting the skull.

With these views he has compared the skulls of animals and those of men, whose faculties are analogous, or contracted. His inquiries have, it is said, not only ascertained the facts to be hereafter mentioned, but proved that the faculties called instinctive in animals, as attachment, cunning, circumspection, &c. are found equally in man; that the bulk of the organ determines the genus, while the reciprocal proportion characterizes the individual; that the disposition to every faculty, given originally by nature, may be expanded by exercise or favourable circumstances, sometimes even by diseases; but that it can never be created where nature has not originally given it. The accumulation of the organs, he remarks, is made in a regular manner from behind forward, and from below upwards; so that animals, in their approach to man, in the variety of their faculties, have the superior and anterior parts of the brain more expanded. In the most perfect animal, man, there are, in the author's opinion, organs in the anterior and superior parts of the frontal and parietal bones, destined for the faculties, which belong exclusively to him. In this view Gall's system entirely corresponds to the observations of Camper on the facial line.

But though we have spoken of the bulk of the brain, as distinguishing the possession of intellectual faculties in their greatest variety and extent, yet bulk alone does not more furnish the criterion of intellect, than the size of the body does that of strength. Many large unwieldy men are much weaker than those of a smaller size, whose limbs are firmly knit, and whose muscles display, by their swell, the effects of frequent and spirited exertion. A large round head, in the same way, shows a feeble intellect; while the varied bold projections of the cranium display, it is supposed, varied and active mental powers.

Dr. Gall, who first promulgated the system at Vienna, has been since travelling through Germany, to increase his collection of skulls, and to improve the nice arrangement of faculties from a view of the cranium. We lately heard of him in Saxony; where he is said, by Professor Boetiger, who accompanied him, to have been very successful in ascertaining the qualities of the mind by this new kind of physiognomy. He has never published his lectures; but we are led to expect a full account of his system from Dr. Bishoff and Dr. Hufeland, translated into English. We shall, however, give at present the outline.

In conformity with his opinions, he considers the medulla oblongata as the seat of the *organ of the tenacity of life*. The bulk of this part is proportional to the size of the occipital hole; and he finds it larger in women than in men, proportionally very large in the cat, the beaver, the weasel, &c.

The organ of lasciviousness is, in his opinion, at the basis of the skull, behind the medulla oblongata. It is only conspicuous about the age of puberty, and in castrated animals is never observed. In the ape, the rabbit, and the cock, this part of the skull is very large. It is peculiarly large in pigeons and sparrows, so as almost to form an epiphysis; and in some human skulls of idiots distinguished for lasciviousness, this part was very protuberant.

The organ of attachment is peculiarly large in spaniels, and less visible in greyhounds.

The organ of courage, contiguous to those of "parental affection and attachment," explains, in our author's opinion, the exertions of courage from animals and human beings, in defence of their young or their particular friends. This organ is very inconsiderable in the hare, the sheep, and the greyhound; but very conspicuous in the hyena, the lion, the wolf, and particularly in the bull-dog. M. Gall adduces, as a proof of the existence of the organ of courage, the coward, when affrighted, "scratching the back part of his head behind his ears, as if he wished to excite its action!"

The organ of cunning is nearly connected with that of pillage. We mean not to be ludicrous when we add, that our author found it in poets (Journal de Physique, vol. lv. p. 206, note.) It is very conspicuous in the heads of Calmucs, in foxes, cats, pies, &c.

The organ of the sense of locality constitutes, with respect to places formerly seen, local memory; with respect to future objects, combinations of new localities. This organ is particularly conspicuous in birds of passage, in landscape painters, and in the skull of the great Frederick. It is fainter from age. The frontal sinus enlarges inwardly, and diminishes this portion of the brain.

The organ of the sense for collecting or remembering facts is subject to a similar change from age. Among animals, it is chiefly conspicuous in the elephant. "Among men (we now employ Dr. Gall's own words) I have found this organ not only in those who have a retentive memory for facts and things, but in those who have what are called systematic heads; who arrange their facts, and draw conclusions from them: in those who possess a quick perception, and are distinguished by an anxiety of knowing every thing. It even appears that the operation of combining facts, to draw conclusions from them, is the chief action of this organ; at least the elephant, who conceals the water in his trunk to pour on the person who offended him the day before, arranges many facts, and draws from them a truly logical conclusion; nor is there any other organ in the elephant's head to which we can refer this power. The involuntary motion of a man, who perceives that he has reasoned incorrectly, supports these suppositions: he strikes the middle of his forehead."

The organ of painting and the distinction of colours Gall has found in many great painters, and has particularly noticed it in a head of Raphael.

The organ of the musical sense and articulate sounds is very distinguishable in singing birds, in the jay and parrot, but does not exist in those whose notes are harsh and inharmonious. He found it very conspicuous in the heads of Gluck, Mozart, Haydn, and Pleyel. *The organ of verbal memory* is distinguished by remarkable projections of the eyes.

The organ of liberality lessens as a man grows old; in fact, he then becomes avaricious. It is very near the organ of painting and music; and this, he thinks, is the reason why men of such talents are generally prodigal. We wish he could have examined the head of Gainsborough!

The organ of the metaphysical spirit is found in the heads of the ancient philosophers, particularly Socrates; among the moderns in Kant.

The organ of goodness forms that oblong elevation found constantly in the heads of Christ and the Virgin, painted by Raphael and Corregio; and contributes to convey the ideas of gentleness and goodness, which are so attractive. It is found in the skulls of all who are naturally good, and is wanting in those who are wicked. Animals of prey have no vestige of this organ.

The organ of music and of theatrical talents Gall has found in all the great singers and actors. In those who are born deaf, and are consequently dumb, it is very conspicuous; as they are obliged to depend on gestures for the conveyance of their ideas.

The organ of religious veneration is on the top of the frontal bone; and it is this, observes M. Gall, which has probably induced all races of mankind to look for their divinities in the superior regions, since "there is no philosophical reason why we should not place them below as well as above ourselves."

The organs described by Dr. Gall are thirty-three in number. Those are some of the most singular of his remarks; and from them our readers may form a judgment of his abilities, and the probability of his system.

Debilitas, (from *debilis*, *weak*). *Weakness*. Debility is a term often employed in medicine with little discrimination. It will be obvious that it is sometimes general, at others local; and we constantly see a weak arm, or a defective digestion, with health otherwise unimpaired. But even general debility admits of various modifications, or perhaps rather some kinds of local debility from sympathy appear general. In cases of chlorosis or amœnorrhæa there appears to be a peculiar debility of the extreme vessels communicated to the stomach and to the brain: in fever there is a debility of the sensorial power, from which the stomach and circulation seem to suffer, though in the latter case the debility is soon general from the extensive influence of the functions of the brain. After apoplectic attacks the debility is general in the whole system; but peculiarly felt in the voluntary muscles, and not particularly in the sensorial power; for the circulation is carried on at least equably, if not freely. From the depressing passions, from plethora, and fatigue, the debility is also general, and the sensorial power suffers more than in apoplexy; for evening paroxysms of fever are often produced, and the body is very susceptible of fever from infection, cold, or any irregularities of diet. The debility from poisons introduced, as from lues or cancer, from impending lepra, infarctions of the viscera, as of the liver, &c. appears of a different kind. It seems to undermine the vital power; but does not produce any very striking effect on any one function, except that of nutrition. The debility from hectic paroxysms is still different, and appears not to influence the mental energy, except in a few instances; but chiefly the sensorial power, and the circulation in the extreme vessels. We have thought that we could distinguish these different kinds of debility by the sight, and have brought the suspicion to the test of experience, by forming an opinion of the disease from the appearance of the patient, before hearing the case. It is not surprising that we should have been oftener right than in error, since many of the diseases mentioned, arising from these different species of debility, are sufficiently obvious. Yet in equivocal cases we have been, we think, often able to correct misinformation from the exercise of this faculty, and we would strongly recommend its constant exertion to the younger practitioner. He must be cautious, however, not to trust to it too confidently. These distinctions, though forming only the outline of what might be adduced on the subject, will frequently correct confusion, and obviate many difficulties. Had they occurred to Dr. Brown, much of the confusion, and we may add much of the mischief, which have arisen from the application of his system to practice would have been avoided.

The cure of debility must depend, therefore, on its cause; but in every instance a free open air, regular exercise, an appropriated diet, early hours, and a due regulation of what are styled the non-naturals, is of much greater importance than tonics.

Digitalis. In addition to the notice of this article in the body of this work, we insert in this place the following, taken from the appendix to Dr. Parr's Dictionary.—"Since this article was written numerous publications have announced the happy effects of digitalis, particularly in hydrothorax, and other dropsies, while many authors have confessed their disappointment at its failure. Whether owing to our timidity in the dose, or to the cases not being properly adapted to the remedy, we have not been among the fortunate practitioners who have succeeded with this medicine, and consequently can only report the success of others. A late author, Dr. Sanders, has endeavoured to show that the digitalis is a stimulant. This is a verbal dispute, worthy only of the disputing societies in the schools. We know that it makes the pulse often fuller, and apparently stronger; but it has this effect in common with every other narcotic, in consequence of its relaxing the arterial system, while the diminished frequency of the pulse is owing to the diminution of the irritability. When given in large doses it excites a discharge of saliva, produces vomiting, with very considerable anxiety, heart-burn, hiccough, great coldness in the hands and feet. Given to turkeys it produced bloody discharges, with emaciation and death. These are not the effects of stimulants, and we have no instance, though so often asserted, of a medicine being stimulant at first, and sedative in its subsequent operation. This apparent stimulus is unequal excitement. In scrofula, it has been given internally with advantage, (Haller Historia Stirpium Helveticarum, 330.) The decoction has been preferred; sometimes the expressed juice in warm beer.

Maranta Arundinacea, Lin. Sp. Pl. 2. The plant whose starch forms the arrow root. To procure this fecula, roots of a year old are well washed, then beat to a pulp: this is thrown into a pail of water, and the fibrous part carefully separated. The milky liquor, passed through a coarse cloth, is allowed to settle, and the starch which subsides is dried in the sun. It is reckoned a mild, nutritious aliment, and much used in fevers and hectics, indeed in every case of debility where the digestion is weak.

Matter. Under the article *Corpus* reference is made to *Matter*, which being omitted in its proper place, we insert in this part of our work what Mr. Nicholson says of *Matter* in his British Encyclopœdia —" By the term *Matter*, in physiology, may be understood whatever is extended and capable of making resistance: hence, because all bodies, whether solid or fluid, are extended, and do resist, we conclude that they are material, or made up of matter. That matter is one and the same thing in all bodies, and that all the variety we observe arises from the various forms and shapes it puts on, seems very probable, and may be concluded from a general observation of the procedure of nature in the generation and destruction of bodies. Thus, for instance, water, rarified by heat, becomes vapour; great collections of vapours form clouds; these condensed descend in the form of hail or rain; part of this collected on the earth constitutes rivers; another part mixing with the earth enters into the roots of plants, and supplies matter to, and expands itself into various species of vegetables. In each vegetable it appears in one shape in the root, another in the stalk, another in the flowers, another in the seeds, &c. From hence various bodies proceed; from the oak, houses, ships, &c. from hemp and flax we have thread; from thence our various kinds of linen; from thence garments; these degenerate into rags, which receive from the mill the various forms of paper; hence our books.

According to Sir Isaac Newton, it seems highly probable, that God in the beginning formed matter into solid, massy, impenetrable, moveable particles, or atoms, of such sizes and figures, and with such other properties, and in such proportion to space, as most conduced to the end for which he formed them; and that these primitive particles being solids, are incomparably harder than any porous bodies compounded of them, even so hard as never to wear or break in pieces; no ordinary power being able to divide what God himself made one in the first creation. While these particles continue entire, they may compose bodies of one and the same nature and texture in all ages; but should they wear away, or break in pieces, the nature of things depending on them may be changed. Water and earth, composed of old worn particles and fragments of particles, would not be of the same nature and texture now, with water and earth composed of entire particles in the beginning; and therefore, that nature may be lasting, the changes of corporeal things are to be placed only in the various separations and new associations of motions of these permanent particles, compound bodies being apt to break, not in the midst of solid particles, but where these particles are laid together, and only touch in a few points.

Dr. Berkeley argues against the existence of matter itself; and endeavours to prove that it is a mere *ens rationis*, and has no existence out of the mind. Some late philosophers have advanced a new hypothesis concerning the nature and essential properties of matter.

The first of these who suggested, or at least published an account of this hypothesis, was M. Boscovich, in his "Theoria Philosophiæ Naturalis." He supposes, that matter is not impenetrable, but that it consists of physical points only, endued with powers of attraction and repulsion, taking place at different distances, that is, surrounded with various spheres of attraction and repulsion; in the same manner as solid matter is generally supposed to be. Provided therefore that any body move with a sufficient degree of velocity, or have sufficient momentum to overcome any power of repulsion that it may meet with, it will find no difficulty in making its way through any body whatever. If the velocity of such a body in motion be sufficiently great, Boscovich contends, that the particles of any body through which it passes, will not even be moved out of their place by it.

With a degree of velocity something less than this, they will be considerably agitated, and ignition might perhaps be the consequence, though the progress of the body in motion would not be sensibly interrupted; and with a still less momentum it might not pass at all. Mr. Michell, Dr. Priestley, and some others of our own country, are of the same opinion. See Priestley's "History of Discoveries relating to Light," p. 390. In conformity to this hypothesis, this author maintains, that matter is not that inert substance that it has been supposed to be; that powers of attraction or repulsion are necessary to its very being, and that no part of it appears to be impenetrable to other parts. Accordingly, he defines matter to be a substance, possessed of the property of extension, and of powers of attraction or repulsion, which are not distinct from matter, and foreign to it, as it has been generally imagined, but absolutely essential to its very nature and being: so that when bodies are divested of these powers, they become nothing at all. In another place, Dr. Priestley has given a somewhat different account of matter; according to which it is only a number of centres of attraction and repulsion; or more properly of centres, not divisible, to which divine agency is directed; and as sensation and thought are not incompatible with these powers, solidity, or impenetrability, and consequently a vis inertiæ only having been thought repugnant to them, he maintains, that we have no reason to suppose that there are in man two substances absolutely distinct from each other. See "Disquisitions on Matter and Spirit."

But Dr. Price, in a correspondence with Dr. Priestley, published under the title of "A Free Discussion of the Doctrines of Materialism and Philosophical Necessity," 1778, has suggested a variety of unanswerable objections against this hypothesis of the penetrability of matter, and against the conclusions that are drawn from it. The vis inertiæ of matter, he says, is the foundation of all that is demonstrated by natural philosophers concerning the laws of the collision of bodies. This, in particular, is the foundation of Newton's philosophy, and especially of his three laws of motion. Solid matter has the power of acting on other matter by impulse; and this is the only way in which it is capable of acting, by any action that is properly its own. If it be said, that one particle of matter can act upon another without contact and impulse, or that matter can, by its own proper agency, attract or repel other matter which is at a distance from it, then a maxim hitherto universally received must be false, that "nothing can act where it is not." Newton, in his letters to Bentley, calls the notion, that matter possesses an innate power of attraction, or that it can act upon matter at a distance, and attract and repel by its own agency, an absurdity into which he thought no one could possibly fall. And in another place he expressly disclaims the notion of innate gravity, and has taken pains to show that he did not take it to be an essential property of bodies. By the same kind of reasoning pursued, it must appear, that matter has not the power of attracting and repelling; that this power is the power of some foreign cause, acting upon matter according to stated laws; and consequently that attraction and repulsion, not being actions, much less inherent qualities of matter, as such it ought not to be defined by them. And if matter has no other property, as Dr. Priestley asserts, than the power of attracting and repelling, it must be a non-entity; because this is a property that cannot belong to it. Besides, all power is the power of something; and yet if matter is nothing but this power, it must be the power of nothing; and the very idea of it is a contradiction.

Medinensis Vena. This article having been referred to from *Gordius*, we introduce it here merely to note that it is the *Medena Vena;* a worm called *vena* before it was known to be an animal. It was frequent at *Medina*, whence its name is derived.

Rarefaction. We give this article a place in our appendix, because reference is made to it from *Expansion*, and because it is omitted in its regular course in the body of the work. It signifies the act by which the bulk of the parts of any body is enlarged without the addition of new matter.

Sago. To what is said of this simple in its proper place, the following account of it may not unprofitably be added.—"Sago and salop are vegetable fecula. The former is the produce of the cycas circinalis, and is extracted from the pith of the stem and branches, by maceration in water; it is washed, passed through a perforated copper plate, so as to reduce it to grains, which are dried. Salop is the produce of the orchis mascula. The lately introduced arrow-root powder is said to be the produce of the maranta arundinacea. Cassava is prepared from the tuberose root of the manise (jatropha manihot). With the fecula of this root, there is associated an acrid and poisonous juice, which is, however, completely separated by washing, in the process by which it is extracted. The roots of the bryonia alba, and the arum maculatum, are likewise composed principally of fecula, associated with acrid matter, which is separated in the process by which the fecula is extracted from them. These two were formerly prepared for medicinal use. Wheat affords, perhaps, a larger quantity of fecula than any other vegetable substance, and in a state of perfect purity. A very pure fecula, in large quantity, is also extracted from the potatoe, the root being peeled, well cleansed, and rasped, the pulp placed on a hair sieve, and water poured on it until the fecula is extracted, which, after being deposited, is washed and dried."

Saliva. This article occupies its proper station; but what follows respecting it may not be without its use.—" The saliva which is secreted by peculiar glands, and which flows into the mouth, is a clear viscid fluid, without taste or smell. It has generally a frothy appearance, being mixed with a quantity of air. Saliva has a strong attraction for oxygen, which by trituration it communicates to some metallic substances, as mercury, gold, and silver. When saliva is boiled in water, albumen is precipitated, and when it is slowly evaporated, muriate of soda is obtained. A vegetable gluten remains behind, which burns with the odour of prussic acid. Saliva becomes thick by the action of acids. Oxalic acid precipitates lime. Saliva is also inspissated by alcohol. It is decomposed by the alkalies; and the nitrates of lead, of mercury, and the silver, precipitate muriatic and phosphoric acids. By distillation in a retort, it froths up, affords nearly four-fifths of its quantity of water almost pure, a little carbonate of ammonia, some oil, and an acid. What remains behind consists of muriate of soda, phosphate of soda and of lime."

Strength. Reference having been made to this term under the article *Corroborate*, some notice of it seems necessary; and it having been omitted in its appropriate place, we here insert such description of it as we find in Mr. Nicholson's Encyclopœdia.—" In physiology, *strength* imports the same as force.—Men may apply their strength several ways in working a machine. A man of ordinary strength, turning a roller by the handle, can act for a whole day against a resistance equal to thirty pounds weight; and if he works ten hours a day, he will raise a weight of thirty pounds through three feet and a half in a second of time; or if the weight be greater, he will raise it so much less in proportion. But a man may act, for a small time, against a resistance of fifty pounds or more. If two men work at a windlass, or roller, they can more easily draw up seventy pounds, than one man can thirty pounds, provided the elbow of one of the handles be at right angles to that of the other. And with a fly, or heavy wheel, applied to it, a man may do one-third part more work; and for a little while he can act with a force, or overcome a continual resistance, of eighty pounds; and work a whole day when the resistance is but forty pounds. Men used to bear loads, such as porters, will carry some one hundred and fifty pounds, others two hundred or two hundred and fifty pounds, according to their strength. A man can draw but about seventy or eighty pounds horizontally; for he can but apply about half his weight. If the weight of a man be one hundred and forty pounds, he can act with no greater force in thrusting horizontally, at the height of his shoulders, than twenty seven pounds.

As to horses: a horse is, generally speaking, as strong as five men. A horse will carry two hundred and forty or two hundred and seventy pounds. A horse draws to greatest advantage when the line of direction is a little elevated above the horizon, and the power acts against his breast; and he can draw two hundred pounds for eight hours a day, at two miles and a half an hour. If he draw two hundred and forty pounds, he can work but six hours, and not go quite so fast. And in both cases, if he carries some weight, he will draw the better for it. And this is the weight a horse is supposed to be able to draw over a pulley out of a well. But in a cart, a horse may draw one thousand pounds, or even double that weight, or a ton weight, or more. As the most force a horse can exert, is when he draws a little above the horizontal position; so the worst way of applying the strength of a horse is to make him carry or draw up hill; and three men on a steep hill carrying each one hundred pounds, will climb up faster than a horse with three hundred pounds. Also, though a horse may draw in a round walk of eighteen feet diameter, yet such a walk should not be less than twenty-five or thirty feet diameter."

Substances, simple. In the language of modern chemistry, the term simple substances has a different signification from that attached to it in ancient philosophy. By elements, or simple substances, was formerly understood primary principles, which were essentially simple and indestructible, which, by modification of form, or by mutual combination, formed the different substances which compose the material world. Modern philosophy pursues a different mode of investigation: it analyses substances, and endeavours to decompose them, or separate them into their constituent parts; and when it arrives at any which it cannot decompose, and beyond which analysis cannot be carried, and whose properties can only be changed by causing them to combine with others, then such substances are denominated simple. This term does not imply their absolute simplicity, because new experiments, or new agents, may be able to reduce certain bodies that at present have not been decomposed, into others that are more simple. Till very lately the fixed alkalies, the boracic, fluoric, and muriatic acids were reckoned among the simple substances: to these may be added the metals, the several earths, sulphur, phosphorus and the diamond.

By the Voltaic battery, in the hands of Mr. Davy, Professor of Chemistry at the Royal Institution, many of these substances, which were deemed simple a few months since, have been decomposed. And on Saturday, Dec. 17, 1808, he announced in his public lecture, that he had decomposed sulphur and phosphorus, the component parts of which are oxygen and hydrogen, and a metallic base; that charcoal he had found to consist of hydrogen and the carbonaceous principle, and that diamond was a compound of the carbonaceous principle and oxygen; that he had succeeded in obtaining the metallic base of ammonia, which, when combined with mercury, in the proportion of only $\frac{1}{12000}$th part, rendered the mercury solid, and reduced the specific gravity from 13 to 3. The professor likewise informed his audience, that he had decomposed the boracic and fluoric acids, and had enjoyed a glympse of their metallic bases; and that he had fully ascertained, that lime, magnesia, strontites, and barytes, are compound bodies, each having a metallic substance as a base. Hence the number of simple substances, which, but three years ago, was estimated by Dr. Thomson at 38, is in a very short space of time considerably reduced. Chemistry, indeed, as a science, will probably undergo a complete renovation: the discoveries of Mr. Davy promise a total overthrow to the beautiful, and as it was formerly deemed, simple and almost perfect system of Lavoisier. The English professor assumes electricity as a general agent of decomposition; that different bodies are naturally in different electrical states; that by altering these states their affinities are altered. In justification of ning of April. At this season part of their leaves have attained their full growth, and the rest are not above half their size. This difference does not, however, prevent them from being all gathered indiscriminately. They are afterwards picked and assorted into different parcels, according to their age and size. The youngest, which are carefully separated from the rest, are often sold for leaves of the first crops, or for imperial tea. Tea gathered at this season is called Chinese tea, because the people of Japan infuse it, and drink it after the Chinese manner.

The third crop is gathered in the end of May, or in the month of June. The leaves are then very numerous and thick, and have acquired their full growth. This kind of tea is the coarsest of all, and is reserved for the common people. Some of the Japanese collect their tea only at two seasons of the year, which correspond to the second and third already mentioned: others confine themselves to one general gathering of their crop, towards the month of June: however, they always form afterwards different assortments of their leaves.

In this country teas are generally divided into three kinds of green, and five of bohea: the former are, 1. Imperial, or bloom tea, with a large loose leaf, light green colour, and a faint delicate smell. 2. Hyson, so called from the name of the merchant who first imported it; the leaves of which are closely curled and small, of a green colour, verging to a blue. 3. Singlo tea, from the name of the place where it is cultivated. The boheas are, 1. Souchong, which imparts a yellow-green colour by infusion. 2. Cambo, so called from the place where it is made; a fragrant tea, with a violet smell; its infusion pale. 3. Congo, which has a larger leaf than the preceding, and its infusion somewhat deeper, resembling common bohea in the colour of the leaf. 4. Pekoe tea; this is known by the appearance of small white flowers mixed with it. 5. Common bohea, whose leaves are of one colour. There are other varieties, particularly a kind of green tea, done up in roundish balls, called gunpowder tea.

THE END.

George Long, printer.

losophical Society, and corresponding Member of the Historical Society of Massachusetts.

A Classical Dictionary, containing a copious Account of all the Proper Names mentioned in ancient Authors; with the Value of Coins, Weights, and Measures, used among the Greeks and Romans; and a Chronological Table By J. Lempriere, D.D First American, from the sixth London Edition

The Life and Posthumous Writings of William Cowper, Esq. With an Introductory Letter to the Right Honourable Earl Cowper. By William Hayley, Esq.

The Domestic Encyclopædia; or, a Dictionary of Facts and useful Knowledge; comprehending a concise View of the latest Discoveries, Inventions, and Improvements, chiefly applicable to Rural and Domestic Economy, &c. Illustrated with numerous Engravings and Cuts. In five Volumes. By A. F. M. Willich, M D. First American Edition, with Additions, applicable to the present Situation of the United States. By James Mease, M. D &c.

First Lines of the Practice of Physic. By William Cullen, M D. late Professor of the Practice of Physic in the University of Edinburgh, &c. &c. With Practical and Explanatory Notes, by John Rotheram, M. D. Two Volumes in one.

A Treatise of the Materia Medica. By William Cullen, M. D &c.

Sold by T. & J. Swords, No. 160 Pearl-street.

ZOONOMIA; or Laws of Organic Life. In three Parts By Erasmus Darwin, M. D. F. R. S. Author of the Botanic Garden, &c. 2 vols.

Elements of Physiology. By J. Fred. Blumenbach, M. D. &c.

An Abridgement of Mr. Heath's Translation of Baudelocque's Midwifery. With Notes, by William P. Dewees, M. D. &c.

The American Dispensatory. By John Redman Coxe, &c.

A System of Surgery. Extracted from the Works of Benjamin Bell, of Edinburgh. By N. Waters, M. D. &c.

An Introduction to the Practice of Midwifery. By T. Denman, M. D.

An Epitome of Chemistry. By William Henry.

The First Lines of the Practice of Surgery. By Samuel Cooper.

A View of the Nervous Temperament. By Thomas Trotter, M D. &c.

Medical Inquiries and Observations. By Benj. Rush, M. D. &c. 4 vols.

Elements of Therapeutics; or Guide to Health. By the Rev. Joseph Townsend, M. A. &c.

Lectures on the Elements of Chemistry. By Joseph Black, M. D. &c.

Lavoisier's Chemistry.

Accum's Chemistry.

Medical Reports on the Effects of Water, cold and warm, as a remedy in Fever and other Diseases. By James Currie, M. D. F. R. S. &c.

Dr. Barton's Medical and Physical Journal.

Dr. Coxe's Medical Museum.

Caldwell's Collection of Medical Theses, 2 vols.

Wilson on Febrile Diseases.

Rush's Edition of Cleghorn's Diseases of Minorca.

Rush's Edition of the Works of Sydenham.

Coxe's and Hooper's Medical Dictionaries.

The Edinburgh Dispensatory, by Dr. Duncan.

Saunders on the Liver, &c. &c. &c.

Aralia Spinosa, English Prickly-ash,
Acorus Calamus S. Flag.
Aristolotchia Serpentaria Do. 20 to 30 grs Dia Dis
Arum Arumamprianum 30 or 40 grs [illegible] Rum
Do. triphilium S Turnip Vir. tinea Capitis
Asarum europium Asaribacca ½ to 1 ʒ. Em. Cat. Sternuatory
Astragalus Tragacantha Demulcent.
Atropa Belladonna Dedly night-shade [illegible]
Bismuth 5 or 6 grs 2. 3 a day Gastrodinia [illegible]
Bubon Galbanum do. 10 grs to 1 ʒ. Ex. White swelling
Capsicum Annuum Cockspur Pepper
Cassia Senna Do. 2 or 3 ʒ. infused in 4 or 6 oz of wa
Do. Fistula several ʒ. Laxative
Castor Fiber Beaver. Cera Wax Flava alba
Cinchona Officinalis Do. in Powder 10 grs 2 ʒ.
Cocos Butyracea Machaw tree palm Oil Chilbla
Canella Alba Arromatic
Convolvulus Scamonia Purgat 3 to 12 grs
Convolvulus Jalapa Jalap 1 Ↄ 2 gr ½ 10 grs Calomel Jalap
Croton Eleutheria Cascarilla Sub Peruv Bal. 10 to 30 grs
Datura Stramonium Thorn Apple Ep. 1 to 10 grs
Digitalis Purpurea Fox glove, ½ grs Tincture 15 drops
Ferula assa Foetida 5 to 20 grs
Dolicos Pruriens Cowage 12 pods to a garb Dropsy
Gambogia Purgative Geum Urbanum [illegible]
Guaicum Officinalis Lignum Vite Stimu Diuretic
Hamamelis Virginiana Witch hazel inner bark to Eyes
Hirudo Medicinalis Leech, Hyssopus Officinalis Bruises
Ipecacuanha 15 grs 20 or 30
Lobelia Inflata Emetic weed Dos 10 to 20 grs Asthma

Marrubium Vulgare White Horehound Check Sallivation
Mellaluca Leucadendron Cajeput tree
Mimosa Catue 10 to 40 grs Relaxations Visera
Myroxylon Peruiferum Peruvian balsam healing wounds ulsers
Olea Europaea Olive oil Bite of Serpents
fistula lusky malls rumatism ulcers
Phytolacca Decandra American Nightshade gorget
Polypodium Filix Mas Male fern Tania 60 grs 2 ʒ.
Prunus Cerasus Virginiana Wild Cherry jaundice inflamation
Scutellaria Latifolia Blew Sculcap Hooded willow
Anta-Canine madness strong infusion of the leaves morning fasting
Secale Cornutum Ergot parturition 5 to 10 or 15 grs dearkies
1/2 ʒ. of the powdered Boiled in a 1/2 pt of water 1/3 given very 20 minuts
Statice Limonium Marsh Rosemary Caker
Sub Borus Soda 1/2 ʒ promotes delivery astringent
Sulphuretum Antimonium Sulphate of antimony eye wash
Valerian Officinalis Valerian 1 ℈ to 1 ʒ. antispasmodic
Lavendula Spica Oil of Spike Stimulating aromatic

Anto Emetica. English.
Lattin
Anthemis. Nobillis. Camomile.
Citrus Medica Lemmontree by the
interposition of Carbonat of Potash Dos
1 ℈ of the Carbonate 8 ʒ. of Water 1 ʒ. of Lemmon juice
Moscus Moschiferus Musk Deer 6 to 20 grs powers of thought increased chlera
Myristica Moscata Nutmeg applied to the region of the heart
Sanguinaria Canadensis Bite of Serpents Cough 1 to 10 grs abortion dos
Aqua acidi carbonici Water of carbonic and anti-emetic
Tinttura Columba Oleum Mentha Viridis oil of
Spearmint

Glass of Antimony Oxidum Antimonii cum Sulphure Vitrificatum.

Cerated glass of antimony Oxidum antimonii Vitrificatum cum Cera emetick Cathartic 12 20 grs

Oxid of Antimony with Phosphate of Lime

James' powder 5 to 6 grs 6 or 6 hour

Tartris Antimonii tartrite of antimony

Emetic tartar dos 1 to 8 grs --

Murias Hydrargery Corrosive Sublimate

Lues Venera to 15 grs of Corrosive Sublimate add the samequantity Muriate of ammonia 1 dram of water stale wheat Bread to absorb all the fluid 120 pills 1 night ~~morning~~

Sub-Murias Hydrargyri Calomel.
6 or 8 grs to 20 or 30 Cathartic

Tinctura Saponis et Opii, Stimulant
Sprains local pains

Pulvis Asari Compositus compound powder of Asarabaca errhine ophthalmia headach

Pillule Assa foetida Compositus, Compound pills of assafoetida ata-hysterics emmenagogue

Cataplasm Alluminis inflamed eyes

Æther Sulphuricus Vitriolic Ether Sea sickness

Spirit of Nitrous Ether Strangury

Oil Succini Purissimum Amber with lim